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Technical Report

City of Plano
Monumentation
GPS Geodetic Control Survey

Submitted to:

City of Plano
Texas

Contract Reference Number: 5843

G&AI Project Number: 0901-3510

Submitted June 2009

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Section

1

Introduction

City of Plano – Geodetic Monumentation Survey – Collin & Denton County, Texas – June 2009

Gorrondona & Associates, Inc. (G&AI) was contracted by the City of Plano on November 25, 2008 to provide Professional Surveying Services in connection with the City's Project No. 5843 – Geodetic Monumentation. In 1999, there were a total of 90 geodetic control monuments that had been established by Albert H. Halff (HALFF) in 1986/87 and updated by Analytical Surveys, Inc. (ASI) in 1999. The City of Plano stated that a total of 48 stations remained and that they wanted to update the network and check/validate the existing network integrity. In addition, some of the monuments that remain will be either destroyed by known future construction or the quality of the monument is such that it is not desirable to keep as a part of the primary network of City monuments. In this work effort, a total of 53 monuments were recovered and validated via GPS RTK VRS technology and 39 new stations were established via GPS Static Survey technology.

G&AI reviewed the following documents prior to commencement of this survey:

1. The map entitled "City of Plano Geodetic Monument Locations";
2. The Geodetic Monumentation Sheets;
3. Albert H. Halff Associates, Inc. June 1987 Technical Report;
4. Analytical Surveys, Inc. March 1999 Technical Report;
5. City of Plano Geodetic Monumentation – June 2005 Data Sheets with City comments.

This Geodetic Control survey was performed under my direct supervision.

Michael D. McGuinness, R.P.L.S.
Registered Professional Land Surveyor
Texas Registration Number 1965

Section

2

Scope Of Work

City of Plano – Geodetic Monumentation Survey – Collin & Denton County, Texas – June 2009

G&AI established 39 new monuments in accordance with the City of Plano Geodetic Monumentation Locations map dated January 25, 2007 and meetings with the City on May 13, 2008 and March 10, 2009. In addition, the City authorized additional work to be done consisting of searching for all of the City's monuments again and tying all found monuments with GPS RTK VRS technology plus producing new GPS data sheets for all of the City's 92 geodetic control monuments.

a. Projects Standards

This survey was performed utilizing dual frequency, full-wavelength Global Positioning System (GPS) receivers. The methods and procedures for collecting GPS data for this survey conformed generally to the NOAA Technical Memorandum NOS NGS-58, Guidelines for Establishing GPS-Derived Ellipsoid Heights, v4.3, November 1997, 2cm Standard for the vertical standard, and the horizontal standard generally conformed to the NGS Second Order, Class I standard as published in the Federal Geodetic Control Committee (FGCC) document entitled Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques, August 1, 1989. This network substantially meets the new National Geodetic Survey Accuracy Standard for Range VI positions. Range VI indicates that these positions meet the 0.02m-0.05m Accuracy Standard for Horizontal Position, Ellipsoidal Height, and Orthometric Height (elevation) at the 95% confidence level (m=meters).

b. Monumentation Construction

For the 39 new control monuments, G&AI set City of Plano domed 3 ¼" diameter aluminum disks stamped "City of Plano Survey Marker, Station xxx By G&AI 2009". Their locations were determined by a proposed location defined by the City of Plano, a field investigation, and established in concrete structures such as bridge abutments, curb inlets, curbs, sidewalks, and/or concrete paving. Each disk was set by drilling out a hole in concrete and epoxy cementing the disk in place. A detailed sketch has been made of each new location and three ties were made to each monument as a guide to recover the station at a future point in time.

c. Survey Control Basis

This survey has been tied to the following National Geodetic Survey (NGS) stations that served as the basis for the previous survey.

- NEWSOME PID DN0376 H - FIRST Order, V - 2nd Order Class 0
- M 1495 PID DN1023 H - B Order, V – 1st Class II, E – 1st Order
- C 263 PID DN0276 V - 2nd Order Class 0
- R 924 PID DN0436 V - 2nd Order Class 0

The following station was not found due to new construction activity. This NGS station was used in the previous survey as a basis for the adjusted positions of the City's Network.

- ARP2 ADS PID AB2786 H - B Order

In absence of the NGS Station ARP2 ADS, a new NGS station in close proximity to the lost station was recovered in good condition and utilized in this survey. This station is listed as follows:

- ADS D PID AH7852 H – 1st Order, E – 1st Order

This network was also constrained to the following Continuously Operating Reference Stations close to the project area:

- DENTON CORS ARP PID DF8986 H – A Order
- ARLINGTON RRP2 CORS ARP PID DF5387 H – A Order
- DALLAS CORS ARP PID DF8984 H – A Order
- COLLIN CORS ARP PID DF8982 H – A Order

Nineteen (19) existing City of Plano stations were also occupied to validate the previous surveys (individually as well as collectively) and provide network ties to the new stations. Network consistencies were found to be very good so the previously published horizontal and vertical positions for all of these stations were accepted and fixed for the final fully constrained adjustment.

Following is a list of the occupied stations: 106, 123, 124, 126, 131, 135-138, 211, 214, 216, 217, 219, 301, 310, 317, 318 and 505.

H – Horizontal
E – Ellipsoid Height
V – Elevation
PID – Permanent Identifier
ARP – Antenna Reference Point (Physical bottom of antenna)
CORS – Continuously Operating Reference Stations

See Appendix A – NGS Control Station Descriptions for a detailed description of all control used.

d. Issues That Were Addressed In This Survey

1. New City of Plano Geodetic Monumentation Sheets have been created for all 92 stations and have been updated with the correct coordinate system which is Texas North Central Zone [Zone 4202].
2. Aerial photography views of the stations were updated with new photography provided by the City of Plano. Metadata statements have been included in this Report to define the specifics of how the NAD83, NAD27, NAVD88 and SLD29 (NGVD29) data were developed. The new position information has been added depicting the findings of the new survey.

e. Metadata Statements

NAD83 (HARN 1993) – North American Datum of 1983 High Accuracy Reference Network 1993 Adjustment

Coordinates and geodetic positions for the NAD83 Datum are based on NAD83/1993 Adjustment (HARN) and constrained to the following NGS Stations: ADS D (PID AH7852 – FIRST Order), NEWSOME (PID DN0376 – FIRST Order), M 1495 (PID DN1023 – B Order) DENTON CORS ARP (PID DF8986 H – A Order), ARLINGTON RRP2 CORS ARP (PID DF5387 H –A Order), DALLAS CORS ARP (PID DF8984 H – A Order), COLLIN CORS ARP (PID DF8982 H – A Order. In addition, nineteen of the existing City of Plano Stations were held fixed.

NAD83 (NSRS2007) - North American Datum of 1983 National Spatial Reference System 2007 Adjustment

Coordinates and geodetic positions for the NAD83 Datum are based on the published NSRS2007 constrained to the following NGS Stations: ADS D (PID AH7852 – FIRST Order) and M 1495 (PID DN1023 – B Order). Since there is a very minor difference between the NSRS2007 and HARN position a simple translation was applied that amounts to 0.02' in the Grid Northings and 0.02' in the Grid Eastings.

NAD83 (NSRS2007) Surface Coordinates

The City of Plano has established a Surface Adjustment Factor (SAF) for the geographical limits of their City. The City of Plano SAF is 1.00015421. The Surface Coordinates for any station may be calculated by multiplying the grid northing by 1.00015421 and multiplying the grid easting by 1.00015421.

NAD27 – North American Datum of 1927

Coordinates for the NAD27 Datum are based on converting the NAD83 HARN values to NAD27 utilizing the freeware program Corpscon 6.0.1 written by the U.S. Army Corps of Engineers, Engineer Research and Development Center, Topographic Engineering Center, Alexandria, Virginia. It was initially thought that these values could be derived by holding the original NAD27 values produced by HALFF in 1986 and published in their Final Report to the City of Plano in June 1987. Due to inconsistencies found in that data, it was decided to use the above defined approach.

NAVD88 – North American Vertical Datum of 1988

Elevations that are referenced to NAVD88 Vertical Datum and have been constrained to NGS Station C 263 (PID DN0276 – 2nd Order Class 0) and M 1495 (PID DN1023 - 1st Order, Class II. In addition, nineteen (19) City of Plano Stations were held fixed since they were found to fit well with the NGS stations listed above. R 924 (PID DN0436 – 2nd Order Class 0 was found to differ from all of the other stations fixed by approximately 0.63 feet. Therefore, this station was not included in the vertical constraints for this network.

Since all survey data for the new stations is based on GPS observations only, the NAVD88 elevations for these new stations were computed by applying the GEOID03 geopotential modeled geoid heights to the adjusted GPS derived ellipsoid heights.

SLD29 or NGVD29 – Sea Level Datum of 1929 or National Geodetic Vertical Datum of 1929

Elevations that are referenced to Sea Level Datum of 1929 (SLD29 or NGVD29) are based on converting the NAVD88 values to NGVD29 (SLD29) utilizing the freeware program Corpscon 6.0.1 written by the U.S. Army Corps of Engineers, Engineer Research and Development Center, Topographic Engineering Center, Alexandria, Virginia. It was initially thought that these values could be derived by holding the original SLD29 values produced by HALFF in 1986 and published in their Final Report to the City of Plano in June 1987. Due to inconsistencies found in that data, it was decided to use the above defined approach.

Section

3

Summary of Methodology To Perform This Survey

City of Plano – Geodetic Monumentation Survey – Collin & Denton County, Texas – June 2009

a. Equipment Used

- Four (4) Dual Frequency, full wavelength Global Positioning System receivers
  - Trimble 5700 SN 0220311819
  - Trimble R8 SN 4438138574
  - Trimble R8 SN 4841159115
  - Trimble R8 SN 4849161043

- GPS Antennae with Groundplanes and/or multipath mitigation technology
  - Trimble Zephyr Geodetic Antenna SN 12422982
  - Trimble R8 SN 4438138574
  - Trimble R8 SN 4841159115
  - Trimble R8 SN 4849161043

- 2.0-Meter Fixed Height Tripods

b. Data Collection Standards

- Vertical Dilution of Precision < 6 for 90% or longer for 30-minute sessions
- Primary Control Ties – Two 2 to 5-hour sessions separated by one day and 3 to 9 hours (Stations ADS D, NEWSOME, M 1495, C 263 and R 924).
- Remainder of station ties were a minimum of two 30-minute sessions
- All stations were occupied a minimum of two times with a separation of a minimum of one day and 3 to 9 hours
- Epoch data recording interval was 15-seconds for primary control and 5-seconds for secondary control
- Tracked satellites down to 10-degrees above the horizon

c. GPS Data Processing Standards

- Repeat baselines compared less than or equal to 2.5cm.
- Processed Data Against Rapid Ephemeris
- Performed a Free Adjustment
- Performed a Minimally Constrained Adjustment
- Computed differences between published values and measured values
- Performed a Fully Constrained Horizontal & Vertical Adjustment

Section

4

Schedule of Events

City of Plano – Geodetic Monumentation Survey – Collin & Denton County, Texas – June 2009

a. Project Kickoff Meeting

After the contract was signed on January 28, 2009 and the Notice to Proceed had been given, the G&AI Project Manager met with the City of Plano staff on March 10, 2009 to obtain the following:

1. Latest aerial photography on DVD;
2. Map showing location of new control;
3. Contact names and numbers for Police and other agencies that should be notified prior to commencement of field investigations;
4. Any safety issues that G&AI needs to follow (if none exist, G&AI will follow normal procedures defined by TxDOT).

b. Presurvey Planning and Reconnaissance

The Project Manager took the information from the Planning meeting and designed the steps for the field crew to recover the existing control and set the new control stations. After the plan was designed, one two-person field crew was sent to the project area to perform the following tasks: recover the existing control identified by the Project Manager; set the new stations; make multiple GPS RTK VRS ties to each of the recovered and new stations; take photos and make field sketches of all of the locations; make three ties to natural or artificial features to enable future recovery of the stations; write “To Reach” descriptions; and note any GPS skyward obstructions. This process commenced on April 1, 2009 and was completed on April 23, 2009. (See Appendix E – Field Notes for Reconnaissance And GPS Observations.)

After the reconnaissance had been completed, G&AI checked the GPS Static Survey equipment to be utilized; checked the mechanical condition of the fixed height tripods to be utilized; and verified the heights of the fixed height tripods.

The following Table lists the City of Plano control stations that G&AI searched for and were not found. New stations were placed in close proximity to some of these stations. The replacement station number is listed in the last column of this Table.

Stations Searched for and Not Found April 2009

Point #	NAD83 HARN Grid Northing	NAD83 HARN Grid Easting	NAVD88 Elevation	Designation (Stamping)	Replacement Station Number
102	7056151.69	2495220.15	705.23	G2	836
104	7054316.57	2504795.30	685.62	J2	837
108	7060996.86	2509820.35	655.38	K4	840
109	7060873.81	2503689.22	711.47	I3	383
110	7060849.91	2498694.35	730.27	H3	821
112	7071606.79	2492575.17	688.27	F6	825
116	7077232.61	2497696.21	724.45	H8	826
117	7076746.00	2491742.97	680.42	F8	824
119	7082438.33	2497794.88	757.93	H9	----------
120	7087863.91	2504291.48	745.41	J10	828
125	7082639.84	2514653.91	679.38	L9	844
130	7072351.11	2523550.44	637.81	N6B	845
134	7067238.12	2536156.61	578.76	R5	846
204	7091146.66	2504111.27	749.84	I12	829
208	7070480.44	2480027.14	690.12	C6	820
212	7051663.22	2499549.39	691.54	H10	822
218	7054226.01	2525515.29	613.03	O2	841
302	7082827.53	2482175.18	695.85	D9 az mk	823
303	7086698.06	2489997.15	718.96	F10 az mk	827
304	7093661.68	2504060.58	702.14	I12 az mk	830
306	7077083.05	2479905.74	701.89	D8 az mk	----------
307	7075762.84	2486699.15	704.77	E7 az mk	----------
308	7068067.25	2480166.49	685.79	C6 az mk	----------
313	7066132.06	2506491.96	707.81	I5 az mk	----------
314	7075093.25	2508617.90	692.86	K8 az mk	----------
315	7071896.36	2516725.68	674.17	L6 az mk	843
319	7055302.47	2537941.23	543.13	S2 az mk	847
401	7096226.54	2508074.45	658.24	401	831
501	7080747.27	2473074.53	639.11	501	----------
502	7073639.21	2471710.54	554.00	502	----------
503	7055631.72	2482865.54	643.40	503	835
504	7053603.89	2546870.45	570.25	504	848
506	7082683.60	2508578.66	688.38	506	834
507	7087771.79	2509375.42	705.94	507	833
508	7093484.85	2509292.61	649.59	508	832
701	7041232.32	2478813.60	641.89	701	----------
703	7057754.33	2539909.59	518.20	703	849
704	7058905.95	2520508.45	707.81	704	842

Following is a Table listing the City of Plano Stations found; their NAD83(NSRS 2007) GPS RTK VRS measured location; and the difference between the published location and the measured location.

NAD83 NSRS2007 GPS RTK VRS Measured Location								
Point #	Grid Northing	Grid Easting	NAVD88 Elev.	Designation (Stamping)		Pub - Meas Delta Northing	Pub - Meas Delta Easting	Pub - Meas Delta Elev.
100	7060204.09	2476138.21	707.99	221 C3B		-0.07	0.02	0.00
101	7060767.17	2478570.09	690.09	222 C3A		-0.11	0.06	-0.08
103	7054815.31	2500434.26	716.02	H-2		-0.05	0.08	0.07
105	7055720.87	2509851.40	656.01	K-2		-0.09	0.08	0.05
106	7055641.56	2515363.75	621.18	L-2		-0.06	0.13	0.10
107	7060954.67	2515110.16	639.99	L-4		-0.11	0.11	0.04
111	7066382.66	2495004.45	732.02	G-5		-0.07	0.09	0.08
113	7071445.36	2498352.14	735.26	H-6		-0.09	0.08	0.02
114	7072212.46	2504476.55	704.96	J-6		-0.09	0.08	-0.01
115	7074858.19	2495727.01	708.38	G-7		-0.05	0.06	-0.05
118	7081375.00	2491163.23	686.52	F 9		-0.05	0.05	-0.01
121	7082598.41	2504464.85	736.62	J-9		-0.05	0.10	-0.06
123	7055807.84	2534121.93	591.31	Q-2		-0.16	0.12	0.20
124	7061435.45	2535995.48	566.37	Q-4		-0.09	0.13	0.17
126	7077331.78	2515228.75	643.77	L-8		-0.06	0.14	0.01
127	7066171.46	2509796.51	674.94	K-5		-0.09	0.08	0.06
128	7066253.42	2515078.68	655.15	L-8		-0.07	0.07	0.07
129	7076213.34	2520349.21	660.47	N-7		-0.10	0.10	0.02
131	7078154.73	2526863.84	607.70	O 8		-0.08	0.13	0.12
132	7078044.38	2530178.02	630.45	P 8		-0.06	0.11	0.11
133	7069258.03	2532948.28	594.26	Q 6		-0.06	0.06	-0.01
135	7062913.28	2530790.47	543.97	P-4		-0.09	0.11	0.12
136	7062879.03	2525626.78	619.27	O-4		-0.13	0.11	0.23
137	7058699.27	2531163.35	585.48	P-3		-0.12	0.12	0.23
138	7053860.20	2531039.33	586.55	P-2		-0.11	0.19	0.15
201	7079975.16	2476391.37	667.14	1999 B8		-0.05	0.03	-0.11
202	7081115.45	2481565.82	722.59	1999 D9		-0.07	0.06	-0.05
203	7084748.83	2490010.79	697.44	1--- --		-0.06	-0.01	0.02
205	7087502.94	2497702.71	731.91	1999 H10		-0.03	0.06	0.00
206	7077096.67	2481263.49	710.93	1999 D8		-0.07	0.05	-0.04
207	7074841.61	2487860.38	674.83	1999 E7		-0.07	0.02	-0.05
209	7066468.17	2485773.38	653.79	D6		-0.07	0.03	-0.04
210	7066898.13	2473122.42	589.87	1999 B5		-0.04	0.09	0.04
211	7055718.88	2490969.27	692.25	1999 F2		-0.12	0.04	0.14
213	7066181.37	2503611.51	713.65	1999 I5		-0.11	0.10	-0.07
214	7077246.69	2508625.35	700.54	1999 K8		-0.10	0.15	0.02
215	7071992.03	2514220.39	681.22	1999 L6		-0.05	0.10	0.00
216	7065675.35	2520387.41	651.76	1999 N5		-0.15	0.14	0.03

NAD83 NSRS2007 GPS RTK VRS Measured Location (Continued)								
Point #	**Grid Northing**	**Grid Easting**	**NAVD88 Elev.**	**Designation (Stamping)**		**Pub - Meas Delta Northing**	**Pub - Meas Delta Easting**	**Pub - Meas Delta Elev.**
217	7053220.68	2520383.41	623.53	1999 N2		-0.02	0.09	0.14
219	7055662.29	2541121.19	529.74	1999 S2		-0.09	0.18	0.25
220	7061049.57	2485511.67	624.83	1999 E3		-0.11	0.10	0.00
301	7080387.90	2477696.80	699.01	1999 B8 AZ MK		-0.06	0.02	-0.22
305	7083851.88	2497774.35	765.67	1999 H10 AZ MK		-0.03	0.07	0.02
309	7068869.81	2485416.31	672.69	1999 D6 AZ MK		-0.08	0.04	-0.02
310	7067258.44	2474337.98	614.53	1999 B5 AZ MK		-0.09	0.10	-0.16
311	7057909.99	2491055.37	691.97	1999 F2 AZ MK		-0.12	0.07	0.09
312	7048847.39	2499528.62	675.82	1999 H1 AZ MK		-0.12	0.04	0.04
316	7063632.00	2520361.78	649.65	1999 N5 AZ MK		-0.01	0.09	0.05
317	7055407.33	2520422.37	640.88	1999 N2 AZ MK		-0.21	0.16	0.10
318	7054200.41	2527763.02	602.22	1999 O2 AZ MK		-0.17	0.09	0.10
320	7060993.92	2487574.15	649.66	1999 E3 AZ MK		-0.11	0.02	0.04
321	7060946.25	2480705.43	675.91	223D3		-0.09	0.02	-0.05
505	7065044.98	2484018.60	668.76	505		-0.14	0.04	-0.15
1001	7043042.57	2477532.04	637.22	ADS D 1999		0.01	0.04	-0.03
1002	7105712.46	2479816.74	651.61	C 263 1934		---------	---------	-0.22
1003	7110425.25	2532624.96	697.95	NEWSOME 1935		0.11	-0.12	-0.03
1004	7068035.89	2660953.02	534.89	M 1495 1986		-0.02	-0.05	-0.08
1005	7071011.38	2566115.32	561.87	R 924 1946		---------	---------	0.63

c. Field Investigations and Data Collection

On completion of the reconnaissance, the Project Manager assembled and reviewed the field data and created a GPS observation session plan consisting of a GPS observing schedule spreadsheet and drawing (See Appendix D – GPS Observations Schedule and Appendix J – Control Map). On May 18, 2009, GPS Static Survey observations commenced. Four one (1) person GPS field crews were utilized to complete the field investigations and data collection. Each crew was equipped with a Trimble GPS dual frequency receiver and geodetic or multipath mitigation antenna; a 2.000 meter fixed height tripod; a digital camera; a dry erase board to write the station number, date and time for the photos; vehicle and personnel safety equipment; redundant power for the GPS equipment; a cell phone; a map of the project; GPS observation forms; and the session observation plan.

The four (4) GPS crews observed the new and existing control a minimum of two times to insure quality results.

There were a total of 53 monuments located in the City of Plano that exist and were surveyed via GPS RTK VRS Technology to verify the integrity of the previously published positions. Out of these 53 stations, 19 stations were included in the GPS

Static Survey to determine the locations of the 39 new stations established. A summary report of the VRS locations of the 53 monuments is included in Section 4.b above of this Technical Report.

The GPS Static Survey observations were completed on May 26, 2009.

After review by the City of Plano, it was determined that G&AI stations 832 and 849 outside the Plano City Limits. The City asked for those stations to be moved inside the City Limits. The new stations were established the end of October 2009 and the old stations were removed in early November so that there would not be a conflict in the field. For this resurvey, three adjacent stations were occupied twice such that three pair of independent GPS vectors were observed to determine the revised locations of stations 832 and 849. It should be noted here that any data in this report depicting geographic, coordinate or vertical position data for these two stations reflect the old positions. However, Appendix B - NAD83 NSRS2007 Station Listing does list the revised position data for these two stations.

d. Data Processing and Analysis

On completion of the field survey, the GPS data and field notes were be reduced and checked by the Project Manager. All GPS data were processed with Trimble Geomatics Office™ . Rapid Ephemeris orbit files were used to maximize the quality of the GPS observations. There were a sufficient number of checks built into the project to validate the quality of the original network. All baselines were analyzed (See Appendix F – Baseline Processing Report). Redundant baselines were compared (See Appendix G – Redundant Baselines Report). Loop closure tests were performed on all of the vectors collected in the project network (See Appendix H – Loop Closures Summary Report).

e. Network Adjustments

On completion of the baseline processing and analysis, several network adjustments were made. They are as follows:

1. WGS84 Free Adjustment (no stations fixed)
2. NAD83/HARN-NAVD88 Minimally constrained adjustment (one station fixed horizontally and vertically)
3. NAD83/HARN Fully Constrained Horizontal Adjustment
4. NAVD88 Fully Constrained Vertical Adjustment

The network adjustments were evaluated and the data was compared with the previous survey. Comparison reports were generated and are included for review purposes. Due to the volume of material only the Free Adjustment Report has been included with this Technical Report (See Appendix I).

f. Datum Conversions, Technical Report and Deliverables

All data have been converted to the specified datum's (e.g. NAD83/HARN, NSRS2007, NAD27, NAVD88, NGVD29[SLD1929]). Accompanied with this Technical Report is a Control Diagram Map (See Appendix I); the individual Geodetic Control Station Diagrams (See Appendix C); and a CD of all of the digital data generated for this project. The report, map and data sheets are presented in their native form (e.g. .doc, .dwg, etc.) as well as in pdf format. Field notes generated for this project have been scanned and saved as pdf files and included with the final deliverables (See Appendix E – Field Notes for Reconnaissance And GPS Observations).

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE =  ,PROGRAM = datasheet, VERSION = 7.67
1         National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DN0376 ***********************************************************************
 DN0376  DESIGNATION -  NEWSOME
 DN0376  PID         -  DN0376
 DN0376  STATE/COUNTY-  TX/COLLIN
 DN0376  USGS QUAD   -  MC KINNEY WEST (1973)
 DN0376
 DN0376                        *CURRENT SURVEY CONTROL
 DN0376  ___________________________________________________________________
 DN0376* NAD 83(1993)-  33 09 41.11438(N)    096 39 23.03404(W)     ADJUSTED
 DN0376* NAVD 88     -       212.744  (meters)     697.98   (feet)  ADJUSTED
 DN0376  ___________________________________________________________________
 DN0376  LAPLACE CORR-           1.80  (seconds)                    DEFLEC99
 DN0376  GEOID HEIGHT-         -25.74  (meters)                     GEOID03
 DN0376  DYNAMIC HT  -         212.512 (meters)     697.22  (feet)  COMP
 DN0376  MODELED GRAV-     979,544.2   (mgal)                       NAVD 88
 DN0376
 DN0376  HORZ ORDER  -  FIRST
 DN0376  VERT ORDER  -  SECOND    CLASS 0
 DN0376
 DN0376.The horizontal coordinates were established by classical geodetic methods
 DN0376.and adjusted by the National Geodetic Survey in February 1996.
 DN0376
 DN0376.The orthometric height was determined by differential leveling
 DN0376.and adjusted in June 1991.
 DN0376
 DN0376.The Laplace correction was computed from DEFLEC99 derived deflections.
 DN0376
 DN0376.The geoid height was determined by GEOID03.
 DN0376
 DN0376.The dynamic height is computed by dividing the NAVD 88
 DN0376.geopotential number by the normal gravity value computed on the
 DN0376.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DN0376.degrees latitude (g = 980.6199 gals.).
 DN0376
 DN0376.The modeled gravity was interpolated from observed gravity values.
 DN0376
 DN0376;                    North         East     Units Scale Factor Converg.
 DN0376;SPC TXNC     - 2,167,261.916   771,945.666   MT  0.99987445   +1 00 19.8
 DN0376;SPC TXNC     - 7,110,425.14  2,532,625.07   sFT  0.99987445   +1 00 19.8
 DN0376;UTM  14      - 3,671,628.109   718,554.638   MT  1.00018897   +1 16 56.8
 DN0376
 DN0376!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DN0376!SPC TXNC     -   0.99997064  x   0.99987445  =   0.99984509
 DN0376!UTM  14      -   0.99997064  x   1.00018897  =   1.00015961
 DN0376
 DN0376:                Primary Azimuth Mark                     Grid Az
 DN0376:SPC TXNC     -  VAN ALSTYNE MUNICIPAL TANK               013 21 12.7
 DN0376:UTM  14      -  VAN ALSTYNE MUNICIPAL TANK               013 04 35.7
 DN0376
 DN0376|---------------------------------------------------------------------|
 DN0376| PID    Reference Object                     Distance      Geod. Az  |
 DN0376|                                                           dddmmss.s |
 DN0376| DN1133 VAN ALSTYNE MUNICIPAL TANK          APPROX.30.0 KM 0142132.5 |
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DN0376| DN1143 MC KINNEY FIRST ME CHURCH TWR       APPROX. 5.6 KM 0395809.6 |
DN0376| DN1147 MC KINNEY FIRST PRESB CH SPIRE      APPROX. 5.7 KM 0413325.2 |
DN0376| DN1145 MC KINNEY NEWSOME BLDG CUPOLA       APPROX. 5.5 KM 0441912.7 |
DN0376| DN1144 MC KINNEY COMP AND WHSE CO TK       APPROX. 6.3 KM 0471522.2 |
DN0376| DN1152 MC KINNEY MUN STANDPIPE             APPROX. 5.1 KM 0493135.5 |
DN0376| DN1148 MC KINNEY TEX TEXTILE MILL STK      APPROX. 4.9 KM 0583556.5 |
DN0376| DN1149 MC KINNEY TEX TEXTILE SHORT TK      APPROX. 4.9 KM 0591608.1 |
DN0376| DN1150 MC KINNEY TEX TEXTILE TALL TK       APPROX. 4.9 KM 0591707.2 |
DN0376| DN1121 PRINCETOWN MUNICIPAL TANK           APPROX.15.2 KM 0815247.7 |
DN0376| DN0378 NEWSOME RM 1                         27.380 METERS 09858     |
DN0376| DN0379 NEWSOME AZ MK                                      1112540.4 |
DN0376| DN1153 WYLIE MUNICIPAL TANK                APPROX.19.7 KM 1462106.5 |
DN0376| DN0377 NEWSOME RM 2                         33.601 METERS 35947     |
DN0376|-----------------------------------------------------------------------|
DN0376
DN0376                          SUPERSEDED SURVEY CONTROL
DN0376
DN0376  NAD 83(1993)-  33 09 41.11646(N)    096 39 23.02846(W) AD(       ) 1
DN0376  NAD 83(1986)-  33 09 41.12099(N)    096 39 23.02045(W) AD(       ) 1
DN0376  NAD 27      -  33 09 40.70200(N)    096 39 22.04400(W) AD(       ) 1
DN0376  NGVD 29 (??/??/92)  212.772  (m)          698.07   (f) ADJ UNCH    2 0
DN0376
DN0376.Superseded values are not recommended for survey control.
DN0376.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DN0376.See file dsdata.txt to determine how the superseded data were derived.
DN0376
DN0376_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB1855571628(NAD 83)
DN0376_MARKER: DS = TRIANGULATION STATION DISK
DN0376_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DN0376_SP_SET: SET IN TOP OF CONCRETE MONUMENT
DN0376_STAMPING: NEWSOME 1935
DN0376_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DN0376+STABILITY: SURFACE MOTION
DN0376_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
DN0376+SATELLITE: SATELLITE OBSERVATIONS - October 31, 2005
DN0376
DN0376  HISTORY     - Date     Condition        Report By
DN0376  HISTORY     - 1935     MONUMENTED       CGS
DN0376  HISTORY     - 1937     GOOD             TXHD
DN0376  HISTORY     - 1938     GOOD             TXGS
DN0376  HISTORY     - 1946     GOOD             CGS
DN0376  HISTORY     - 1950     GOOD             CGS
DN0376  HISTORY     - 1954     GOOD             CGS
DN0376  HISTORY     - 1954     GOOD             NGS
DN0376  HISTORY     - 1985     GOOD             USPSQD
DN0376  HISTORY     - 1988     GOOD             USPSQD
DN0376  HISTORY     - 19910707 GOOD             USPSQD
DN0376  HISTORY     - 20051031 GOOD             BOHAN
DN0376
DN0376                          STATION DESCRIPTION
DN0376
DN0376'DESCRIBED BY COAST AND GEODETIC SURVEY 1935 (CAS)
DN0376'STATION IS ABOUT 3 MILES SW OF MC KINNEY, ABOUT 10 MILES E
DN0376'OF FRISCO, ON PROPERTY OWNED BY MR. NEWSOME AND RENTED BY MR.
DN0376'MAYNARD.  IT IS 0.15 MILE N OF STATE HIGHWAY 24, AT THE NW
DN0376'CORNER OF ORCHARD WHICH IS JUST N OF MR. MAYNARDS HOUSE, AT
DN0376'THE SW CORNER OF PASTURE FIELD, ABOUT 60 YARDS N OF HOUSE,
DN0376'36 FEET E OF THE CENTER LINE OF DIRT ROAD, 18 FEET E OF FENCE
DN0376'CORNER AT SW CORNER OF PASTURE, 9.6 FEET E OF FENCE CORNER
DN0376'AT NW CORNER OF ORCHARD, 2 FEET N OF FENCE LINE AT N SIDE
DN0376'OF ORCHARD.  THE MARK PROJECTS 4 INCHES.
DN0376'
DN0376'SURFACE, UNDERGROUND AND REFERENCE MARKS ARE STANDARD BRONZE
DN0376'DISKS SET IN CONCRETE.
DN0376'
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DN0376'REFERENCE MARK NO. 1 IS E OF THE STATION, 1-1/2 FEET NW OF
DN0376'FENCE CORNER AT NE CORNER OF ORCHARD.  MARK PROJECTS 2 INCHES.
DN0376'
DN0376'REFERENCE MARK NO. 2 IS N OF THE STATION, 24 FEET E OF THE
DN0376'CENTER LINE OF DIRT ROAD, 1-1/2 FEET E OF FENCE LINE AT W SIDE
DN0376'OF PASTURE.  MARK PROJECTS 2 INCHES.
DN0376'
DN0376'AZIMUTH MARK IS SE OF THE STATION ALONG RIGHT-OF-WAY OF STATE
DN0376'HIGHWAY 24, ABOUT 100 YARDS W OF CURVE IN ROAD, ABOUT 75
DN0376'YARDS W OF YELLOW FARMHOUSE, 42 FEET S OF CENTER LINE OF ROAD,
DN0376'12 FEET W OF FENCE CORNER AT NE CORNER OF FIELD, 2 FEET N
DN0376'OF S RIGHT-OF-WAY FENCE LINE, 3 FEET E OF CONCRETE POST
DN0376'RIGHT-OF-WAY MARKER.  MARK PROJECTS 3 INCHES.
DN0376'
DN0376'BENCH MARK M 264 1934 IS APPROXIMATELY 0.15 MILE S OF THE
DN0376'STATION, AT THE NW CORNER OF INTERSECTION OF STATE HIGHWAY
DN0376'24, AND DIRT ROAD TO THE N, 40 FEET N OF CENTER LINE OF STATE
DN0376'HIGHWAY 24, 12 FEET W OF CENTER LINE OF DIRT ROAD, 16 FEET
DN0376'N OF W END OF SMALL WOODEN BRIDGE.  MARK PROJECTS 1 INCH
DN0376'AND IS A STANDARD BRONZE DISK SET IN A SQUARE BLOCK OR POST
DN0376'OF CONCRETE.
DN0376'
DN0376'TO REACH THE STATION FROM THE SE CORNER OF THE SQUARE IN
DN0376'MC KINNEY, GO S ON STATE HIGHWAY 24, 2.95 MILES TO JUNCTION
DN0376'WITH U.S. HIGHWAY 75.  THENCE W ON STATE HIGHWAY 24, 1.5 MILES
DN0376'TO T-INTERSECTION WITH DIRT ROAD.  THENCE N ON DIRT ROAD,
DN0376'0.15 MILE TO N SIDE OF ORCHARD AND STATION.
DN0376'
DN0376'ALL LIGHTS COME INTO VIEW AT 20 FEET.
DN0376
DN0376                          STATION RECOVERY (1937)
DN0376
DN0376'RECOVERY NOTE BY TEXAS HIGHWAY DEPARTMENT 1937
DN0376'STATION RECOVERED AS DESCRIBED IN GOOD CONDITION.  NO ATTEMPT
DN0376'MADE TO RECOVER REFERENCE MARKS.
DN0376
DN0376                          STATION RECOVERY (1938)
DN0376
DN0376'RECOVERY NOTE BY TEXAS GEODETIC SURVEY 1938
DN0376'STATION RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (1946)
DN0376
DN0376'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1946 (RAM)
DN0376'STATION RECOVERED IN GOOD CONDITION.  ALL MARKS WERE RECOVERED.
DN0376'THE PROPERTY IS NOW OWNED BY MR. W.R.E. SUTHERLAND.  THERE
DN0376'IS NO TENANT IN THE FARM BUILDINGS AND THE HOUSE HAS BEEN
DN0376'TORN DOWN.  IT IS REPORTED THAT IT WILL BE REBUILT AT A
DN0376'FUTURE DATE.
DN0376
DN0376                          STATION RECOVERY (1950)
DN0376
DN0376'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950 (CL)
DN0376'THE STATION WAS RECOVERED AS DESCRIBED BY C.A.S. IN 1935,
DN0376'AND ALL MARKS WERE FOUND IN GOOD CONDITION.  A DIFFERENCE WAS
DN0376'FOUND IN THE DISTANCE TO BOTH REFERENCE MARKS.  A COMPLETE
DN0376'NEW DESCRIPTION FOLLOWS.
DN0376'
DN0376'THE STATION IS LOCATED ABOUT 4 MILES SOUTHWEST OF MC KINNEY
DN0376'IN AN OPEN PASTURE.  IT IS 37 FEET EAST OF THE CENTERLINE
DN0376'OF A NORTH-SOUTH DIRT ROAD, 18 FEET EAST OF A FENCELINE
DN0376'AND ABOUT 80 YARDS NORTH OF AN OLD HOUSE FOUNDATION.  THE
DN0376'DISK IS STAMPED NEWSOME 1935 AND IS SET FLUSH.
DN0376'
DN0376'REFERENCE MARK NO. 1 IS IN THE PASTURE, EAST OF THE STATION.
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DN0376'THE DISK IS STAMPED NEWSOME NO 1 1935 AND PROJECTS 2 INCHES.
DN0376'
DN0376'REFERENCE MARK NO. 2 IS 2 FEET NORTH OF A WITNESS POST, 1
DN0376'FOOT EAST OF THE FENCELINE AND 19 FEET EAST OF THE CENTERLINE
DN0376'OF THE ROAD.  THE DISK IS STAMPED NEWSOME NO 2 1935 AND
DN0376'PROJECTS 3 INCHES.
DN0376'
DN0376'THE AZIMUTH MARK IS 40 FEET SOUTH OF THE CENTERLINE OF FARM
DN0376'ROAD 720, 10 FEET WEST OF A T FENCE CORNER, 2 FEET EAST OF
DN0376'A WITNESS POST, AND 1 FOOT NORTH OF A FENCELINE.  THE DISK
DN0376'IS STAMPED NEWSOME AZIMUTH 1935 AND PROJECTS 4 INCHES.
DN0376'
DN0376'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 75
DN0376'AND FARM ROAD 720, 3 MILES SOUTH OF THE SQUARE IN MC KINNEY,
DN0376'GO WEST ON FARM ROAD 720 FOR 1.2 MILES TO THE AZIMUTH MARK
DN0376'ON THE LEFT.  CONTINUE WEST FOR 0.4 MILE TO A SIDE ROAD RIGHT.
DN0376'TURN RIGHT AND GO NORTH, ON A DIRT ROAD, FOR 0.2 MILE TO
DN0376'THE STATION ON THE RIGHT AS DESCRIBED.
DN0376'
DN0376'A 47 FOOT SIGNAL AT HEARD 1935 IS VISIBLE FROM THE GROUND.
DN0376'
DN0376'A 100 FOOT SIGNAL AT LUCAS IS VISIBLE FROM THE GROUND.
DN0376'
DN0376'A 47 FOOT SIGNAL AT WETSEL IS VISIBLE FROM THE GROUND.
DN0376'
DN0376'AN 87 FOOT SIGNAL AT GUMBO IS VISIBLE AT 20 FEET.
DN0376'
DN0376'A 4 FOOT SIGNAL AT FOOT IS VISIBLE AT 20 FEET.
DN0376'
DN0376'A 74 FOOT SIGNAL AT ADAMS 1935 IS VISIBLE AT 20 FEET.
DN0376'
DN0376'OBSERVATIONS MADE FROM A 77 FOOT TOWER.
DN0376
DN0376                          STATION RECOVERY (1954)
DN0376
DN0376'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1954
DN0376'1.25 MILES SOUTH ALONG OLD U.S. HIGHWAY 75 FROM THE COURTHOUSE
DN0376'AT MC KINNEY, THENCE 1.85 MILES SOUTH ALONG U.S. HIGHWAY 75,
DN0376'THENCE 0.8 MILE WEST ALONG STATE HIGHWAY 121, THENCE 0.7
DN0376'MILE WEST ALONG FARM ROAD 720, THENCE 0.15 MILE NORTH ALONG
DN0376'A DIRT ROAD, 36 FEET EAST OF THE CENTER LINE OF THE ROAD, IN
DN0376'THE SOUTHWEST CORNER OF A PASTURE, ON TOP OF A SMALL HILL,
DN0376'A TRIANGULATION STATION DISK SET IN THE TOP OF A CONCRETE
DN0376'POST WHICH PROJECTS 0.7 FOOT ABOVE THE GROUND, STAMPED NEWSOME
DN0376'1935.
DN0376'
DN0376'NEWSOME R.M. 1 IS 88.9 FEET EAST OF TRIANGULATION STATION
DN0376'NEWSOME 1935, 126 FEET EAST OF THE CENTER LINE OF THE ROAD,
DN0376'A REFERENCE MARK DISK SET IN THE TOP OF A CONCRETE POST WHICH
DN0376'PROJECTS 0.8 FOOT ABOVE THE GROUND, STAMPED NEWSOME NO 1 1935.
DN0376'
DN0376'NEWSOME R.M. 2 IS 110.5 FEET NORTH OF TRIANGULATION STATION
DN0376'NEWSOME 1935, 24 FEET EAST OF THE CENTER LINE OF THE ROAD,
DN0376'1 FOOT EAST OF A FENCE, A REFERENCE MARK DISK SET IN THE TOP
DN0376'OF A CONCRETE POST WHICH PROJECTS 0.6 FOOT ABOVE THE GROUND,
DN0376'STAMPED NEWSOME NO 2 1935.
DN0376'
DN0376'NEWSOME 1935 AZIMUTH IS 0.65 MILE SOUTHEAST OF TRIANGULATION
DN0376'STATION NEWSOME 1935, 42 FEET SOUTH OF THE CENTER LINE OF
DN0376'FARM ROAD 720, 12 FEET WEST OF A FENCE CORNER, 120 FEET WEST
DN0376'OF THE CENTER LINE OF A PRIVATE DRIVEWAY, 1 FOOT NORTH OF
DN0376'A FENCE, 2.7 FEET EAST OF A WITNESS POST, A REFERENCE MARK
DN0376'DISK SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS 0.6
DN0376'FOOT ABOVE THE GROUND, STAMPED NEWSOME AZIMUTH 1935.
DN0376
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DN0376                          STATION RECOVERY (1954)
DN0376
DN0376'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1954
DN0376'4.75 MI SW FROM MCKINNEY.
DN0376'1.25 MILES SOUTH ALONG OLD U.S. HIGHWAY 75 FROM THE COURTHOUSE AT
DN0376'MCKINNEY, THENCE 1.85 MILES SOUTH ALONG U.S. HIGHWAY 75, THENCE 0.8
DN0376'MILE WEST ALONG STATE HIGHWAY 121, THENCE 0.7 MILE WEST ALONG FARM
DN0376'ROAD 720, THENCE 0.15 MILE NORTH ALONG A DIRT ROAD.  36 FEET EAST OF
DN0376'THE CENTER LINE OF THE ROAD, IN THE SOUTHWEST CORNER OF A PASTURE, ON
DN0376'TOP OF A SMALL HILL, SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS
DN0376'0.7 FOOT ABOVE THE GROUND.
DN0376
DN0376                          STATION RECOVERY (1985)
DN0376
DN0376'RECOVERY NOTE BY US POWER SQUADRON 1985 (JCM)
DN0376'RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (1988)
DN0376
DN0376'RECOVERY NOTE BY US POWER SQUADRON 1988 (JCM)
DN0376'RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (1991)
DN0376
DN0376'RECOVERY NOTE BY US POWER SQUADRON 1991 (JCM)
DN0376'RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (2005)
DN0376
DN0376'RECOVERY NOTE BY BOHANNAN HUSTON INCORPORATED 2005 (CRF)
DN0376'RECOVERED IN GOOD CONDITION.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
DN1023 ***********************************************************************
DN1023  PACS        -  This is a Primary Airport Control Station.
DN1023  DESIGNATION -  M 1495
DN1023  PID         -  DN1023
DN1023  STATE/COUNTY-  TX/HUNT
DN1023  USGS QUAD   -  GREENVILLE SW (1962)
DN1023
DN1023                        *CURRENT SURVEY CONTROL
DN1023  ___________________________________________________________________
DN1023* NAD 83(2007)-  33 02 16.95220(N)    096 14 24.39684(W)     ADJUSTED
DN1023* NAVD 88     -       163.060  (meters)     534.97   (feet)  ADJUSTED
DN1023  ___________________________________________________________________
DN1023  EPOCH DATE  -        2002.00
DN1023  X           -    -581,768.837 (meters)                     COMP
DN1023  Y           -  -5,320,579.414 (meters)                     COMP
DN1023  Z           -   3,457,571.328 (meters)                     COMP
DN1023  LAPLACE CORR-          -0.39  (seconds)                    DEFLEC99
DN1023  ELLIP HEIGHT-         137.637 (meters)          (02/10/07) ADJUSTED
DN1023  GEOID HEIGHT-         -25.42  (meters)                     GEOID03
DN1023  DYNAMIC HT  -         162.881 (meters)     534.39  (feet)  COMP
DN1023
DN1023  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
DN1023  Type    PID    Designation                      North   East  Ellip
DN1023  ------------------------------------------------------------------
DN1023  NETWORK DN1023 M 1495                             0.67   0.61   1.49
DN1023  ------------------------------------------------------------------
DN1023  MODELED GRAV-     979,540.8   (mgal)                       NAVD 88
DN1023
DN1023  VERT ORDER  -  FIRST     CLASS II
DN1023
DN1023.This mark is at Caddo Mills Muni (7F3) Airport (7F3)
DN1023
DN1023.The horizontal coordinates were established by GPS observations
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DN1023.and adjusted by the National Geodetic Survey in February 2007.
DN1023
DN1023.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
DN1023.See National Readjustment for more information.
DN1023.The horizontal coordinates are valid at the epoch date displayed above.
DN1023.The epoch date for horizontal control is a decimal equivalence
DN1023.of Year/Month/Day.
DN1023
DN1023.The orthometric height was determined by differential leveling
DN1023.and adjusted in June 1991.
DN1023
DN1023.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DN1023
DN1023.The Laplace correction was computed from DEFLEC99 derived deflections.
DN1023
DN1023.The ellipsoidal height was determined by GPS observations
DN1023.and is referenced to NAD 83.
DN1023
DN1023.The geoid height was determined by GEOID03.
DN1023
DN1023.The dynamic height is computed by dividing the NAVD 88
DN1023.geopotential number by the normal gravity value computed on the
DN1023.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DN1023.degrees latitude (g = 980.6199 gals.).
DN1023
DN1023.The modeled gravity was interpolated from observed gravity values.
DN1023
DN1023;                     North         East     Units Scale Factor Converg.
DN1023;SPC TXNC     - 2,154,341.656   811,060.121   MT  0.99987265   +1 13 57.1
DN1023;SPC TXNC     - 7,068,035.92  2,660,953.08   sFT  0.99987265   +1 13 57.1
DN1023;UTM  14      - 3,658,890.351   757,747.435   MT  1.00041920   +1 30 19.8
DN1023
DN1023!             -  Elev Factor  x  Scale Factor =   Combined Factor
DN1023!SPC TXNC     -   0.99997839  x   0.99987265  =   0.99985104
DN1023!UTM  14      -   0.99997839  x   1.00041920  =   1.00039758
DN1023
DN1023                          SUPERSEDED SURVEY CONTROL
DN1023
DN1023  ELLIP H (10/24/00)  137.640  (m)                        GP(       ) 4 2
DN1023  NAD 83(1993)-  33 02 16.95205(N)    096 14 24.39661(W) AD(       ) B
DN1023  ELLIP H (02/20/96)  137.696  (m)                        GP(       ) 1 1
DN1023  NAVD 88 (02/20/96)  163.06   (m)          535.0    (f) LEVELING    3
DN1023
DN1023.Superseded values are not recommended for survey control.
DN1023.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DN1023.See file dsdata.txt to determine how the superseded data were derived.
DN1023
DN1023_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB5774758890(NAD 83)
DN1023_MARKER: I = METAL ROD
DN1023_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
DN1023_SP_SET: STAINLESS STEEL ROD
DN1023_STAMPING: M 1495 1986
DN1023_MARK LOGO: NGS
DN1023_PROJECTION: RECESSED 2 CENTIMETERS
DN1023_MAGNETIC: N = NO MAGNETIC MATERIAL
DN1023_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DN1023_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DN1023+SATELLITE: SATELLITE OBSERVATIONS - June 02, 2001
DN1023_ROD/PIPE-DEPTH: 7.60 meters
DN1023
DN1023  HISTORY     - Date     Condition        Report By
DN1023  HISTORY     - 1986     MONUMENTED       NGS
DN1023  HISTORY     - 19940422 GOOD             USPSQD
DN1023  HISTORY     - 19941220 GOOD             NGS
DN1023  HISTORY     - 20010602 GOOD             NGS
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DN1023
DN1023                          STATION DESCRIPTION
DN1023
DN1023'DESCRIBED BY NATIONAL GEODETIC SURVEY 1986
DN1023'4.4 KM (2.75 MI) SW FROM CADDO MILLS.
DN1023'1.5 KM (0.95 MI) SOUTHWESTERLY ALONG STATE HIGHWAY 66 FROM ITS
DN1023'JUNCTION WITH STATE HIGHWAY 66 IN CADDO MILLS, THENCE 2.3 KM (1.45 MI)
DN1023'SOUTHERLY ALONG FARM ROAD 1565, THENCE 0.6 KM (0.35 MI) WESTERLY ALONG
DN1023'A PAVED ROAD, AT THE CADDO MILLS AIRPORT, 38.0 M (124.7 FT) SOUTHWEST
DN1023'OF A UTILITY POLE WITH A LIGHT AND TRANSFORMER, 29.3 M (96.1 FT)
DN1023'NORTHWEST OF THE MOST NORTHEASTERLY 1 OF 2 DOORS LEADING TO THE
DN1023'AIRPORT OFFICE, AND 0.5 M (1.6 FT) NORTHEAST OF THE SOUTHWEST END OF A
DN1023'FENCE.  NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.
DN1023'THE MARK IS 0.3 METERS  SE FROM  A WITNESS POST AND FENCE
DN1023'THE MARK IS ABOVE LEVEL WITH A PARKING LOT.
DN1023
DN1023                          STATION RECOVERY (1994)
DN1023
DN1023'RECOVERY NOTE BY US POWER SQUADRON 1994
DN1023'RECOVERED IN GOOD CONDITION.
DN1023
DN1023                          STATION RECOVERY (1994)
DN1023
DN1023'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (AJL)
DN1023'THE STATION IS LOCATED ABOUT 3 KM (1.85 MI) SOUTHWEST OF CADDO MILLS
DN1023'AT THE CADDO MILLS MUNICIPAL AIRPORT, AT A THE END OF A FENCE ON THE
DN1023'NORTHWEST SIDE OF THE AIRPORT OFFICE AND HANGAR.  OWNERSHIP--CITY OF
DN1023'CADDO MILLS.  AIRPORT MANAGER IS MARY WILLIAMS, P.O.  BOX 460, CADDO
DN1023'MILLS, TX 75135.  PHONE 214-933-5842 OR 903-527-3124.  TO REACH FROM
DN1023'THE WEST JUNCTION OF STATE HIGHWAY 66 AND FARM ROAD 36 IN CADDO MILLS,
DN1023'GO SOUTHWEST ON STATE HIGHWAY 66 FOR 1.45 KM (0.90 MI) TO FARM ROAD
DN1023'1565 ON THE LEFT.  TURN LEFT, SOUTHERLY FOR 2.3 KM (1.40 MI) TO THE
DN1023'AIRPORT ENTRANCE ROAD ON THE RIGHT.  TURN RIGHT, WESTERLY, ON THE
DN1023'ENTRANCE ROAD FOR 0.6 KM (0.35 MI) TO THE AIRPORT OFFICE ON THE LEFT
DN1023'AND THE STATION ON THE RIGHT.  THE STATION IS A PUNCH HOLE TOP CENTER
DN1023'OF A STAINLESS STEEL ROD ENCASED IN A 12.7 CM PVC PIPE WITH A LOGO CAP
DN1023'SURROUNDED BY CONCRETE SET FLUSH WITH THE GROUND.  IT IS 37.6 M (123.4
DN1023'FT) SOUTHWEST OF A UTILITY POLE WITH A LIGHT AND A TRANSFORMER, 30.0 M
DN1023'(98.4 FT) NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE OFFICE AND
DN1023'HANGAR, AND 0.4 M (1.3 FT) NORTHEAST OF A PLASTIC WITNESS POST.
DN1023'DESCRIBED BY D.G.  AUG NOTE--ACTUAL ROD DEPTH IS UNKNOWN.
DN1023
DN1023                          STATION RECOVERY (2001)
DN1023
DN1023'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001 (KRN)
DN1023'THE STATION IS LOCATED ABOUT 1.85 MILES SOUTHWEST OF CADDO MILLS
DN1023'AT THE CADDO MILLS MUNICIPAL AIRPORT ON THE NORTHWEST SIDE OF THE
DN1023'AIRPORT OFFICE IN A GRASSY AREA BETWEEN THE AIRPORT OFFICE AND
DN1023'BUILDING B.
DN1023'OWNERSHIP--CITY OF CADDO MILLS.  AIRPORT MANAGER--MIKE SALANO.  P.AP
DN1023'BOX 460, CADDO MILLS TEXAS, 75135.  PHONE--903-527-3124.TO REACH THE
DN1023'STATION FORM THE UNDERPASS AT THE JUNCTION OF INTERSTATE 30 AND
DN1023'FARM ROAD 1565 NORTH AT EXIT 83, TO NORTH ON FARM ROAD 1565  FOR 2.4
DN1023'MILES TO THE AIRPORT ENTRANCE ROAD ON THE LEFT.  TURN LEFT AND GO
DN1023'SOUTHWEST ON THE PAVED THEN GRAVELED ROAD FOR 0.35 MILES TO THE
DN1023'AIRPORT OFFICE ON THE LEFT, AND THE STATION ON THE RIGHT.
DN1023'THE STATION IS A PUNCH HOLE IN THE TOP CENTER OF A DATUM CAP
DN1023'CRIMPED ONTO A STAINLESS STEEL ROD ENCASED IN A 12.7 CM PVC PIPE
DN1023'WITH A LOGO CAP SURROUNDED BY CONCRETE SET FLUSH WITH THE
DN1023'GROUND.  IT IS 124.8 FT SOUTH-SOUTHEAST OF THE SOUTHWEST CORNER
DN1023'OF BUILDING B.  123.4 FT SOUTHWEST OF A UTILITY POLE WITH A LIGHT AND
DN1023'TRANSFORMER.  98.4 FT NORTH-NORTHWEST OF THE NORTWEST CORNER
DN1023'OF THE OFFICE.  3.1 FT SOUTHEAST OF A WHITE TXDOT FIBERGLASS
DN1023'WITNESS POST, AND 0.7 FT EAST OF A NGS CARSONITE WITNESS POST.
DN1023'
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1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DN0276 ***********************************************************************
 DN0276  DESIGNATION -  C 263
 DN0276  PID         -  DN0276
 DN0276  STATE/COUNTY-  TX/COLLIN
 DN0276  USGS QUAD   -  FRISCO (1981)
 DN0276
 DN0276                        *CURRENT SURVEY CONTROL
 DN0276  ___________________________________________________________________
 DN0276* NAD 83(1986)-  33 09 03.     (N)    096 49 44.     (W)     SCALED
 DN0276* NAVD 88     -       198.679  (meters)     651.83   (feet)  ADJUSTED
 DN0276  ___________________________________________________________________
 DN0276  GEOID HEIGHT-         -26.12  (meters)                     GEOID03
 DN0276  DYNAMIC HT  -         198.459 (meters)     651.11  (feet)  COMP
 DN0276  MODELED GRAV-     979,525.5   (mgal)                       NAVD 88
 DN0276
 DN0276  VERT ORDER  -  SECOND    CLASS 0
 DN0276
 DN0276.The horizontal coordinates were scaled from a topographic map and have
 DN0276.an estimated accuracy of +/- 6 seconds.
 DN0276
 DN0276.The orthometric height was determined by differential leveling
 DN0276.and adjusted in June 1991.
 DN0276
 DN0276.The geoid height was determined by GEOID03.
 DN0276
 DN0276.The dynamic height is computed by dividing the NAVD 88
 DN0276.geopotential number by the normal gravity value computed on the
 DN0276.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DN0276.degrees latitude (g = 980.6199 gals.).
 DN0276
 DN0276.The modeled gravity was interpolated from observed gravity values.
 DN0276
 DN0276;                    North         East    Units  Estimated Accuracy
 DN0276;SPC TXNC     - 2,165,820.      755,880.      MT  (+/- 180 meters Scaled)
 DN0276
 DN0276                          SUPERSEDED SURVEY CONTROL
 DN0276
 DN0276  NGVD 29 (??/??/92)  198.692  (m)          651.88   (f) ADJ UNCH    2 0
 DN0276
 DN0276.Superseded values are not recommended for survey control.
 DN0276.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DN0276.See file dsdata.txt to determine how the superseded data were derived.
 DN0276
 DN0276_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB024701(NAD 83)
 DN0276_MARKER: DB = BENCH MARK DISK
 DN0276_SETTING: 30 = SET IN A LIGHT STRUCTURE
 DN0276_SP_SET: CONCRETE BASE
 DN0276_STAMPING: C 263 1934
 DN0276_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
 DN0276_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DN0276+SATELLITE: SATELLITE OBSERVATIONS - October 31, 2005
 DN0276
 DN0276  HISTORY     - Date     Condition        Report By
 DN0276  HISTORY     - 1934     MONUMENTED       CGS
 DN0276  HISTORY     - 1950     GOOD             NGS
 DN0276  HISTORY     - 19940707 GOOD             USPSQD
 DN0276  HISTORY     - 20051031 GOOD             BOHAN
 DN0276
 DN0276                          STATION DESCRIPTION
 DN0276
 DN0276'DESCRIBED BY NATIONAL GEODETIC SURVEY 1950
 DN0276'IN FRISCO.
 DN0276'AT FRISCO, 151 FEET SOUTH OF THE SOUTHEAST CORNER OF THE ST. LOUIS,
 DN0276'SAN FRANCISCO AND TEXAS RAILROAD STATION, 12.7 FEET WEST OF THE WEST
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 DN0276'RAIL OF THE MAIN TRACK, 1.4 FEET ABOVE THE TOP OF THE RAILS, SET IN
 DN0276'THE TOP OF THE EAST SIDE OF THE NORTHEAST CONCRETE BASE OF AN
 DN0276'ABANDONED WATER TOWER.
 DN0276
 DN0276                          STATION RECOVERY (1994)
 DN0276
 DN0276'RECOVERY NOTE BY US POWER SQUADRON 1994
 DN0276'RECOVERED IN GOOD CONDITION.
 DN0276
 DN0276                          STATION RECOVERY (2005)
 DN0276
 DN0276'RECOVERY NOTE BY BOHANNAN HUSTON INCORPORATED 2005 (CRF)
 DN0276'RECOVERED IN GOOD CONDITION.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DN0436 ***********************************************************************
 DN0436  DESIGNATION -  R 924
 DN0436  PID         -  DN0436
 DN0436  STATE/COUNTY-  TX/COLLIN
 DN0436  USGS QUAD   -  WYLIE (1973)
 DN0436
 DN0436                        *CURRENT SURVEY CONTROL
 DN0436  ______________________________________________________________________
 DN0436* NAD 83(1986)-  33 03 04.     (N)    096 32 56.     (W)     SCALED
 DN0436* NAVD 88     -       171.066  (meters)     561.24   (feet)  ADJUSTED
 DN0436  ______________________________________________________________________
 DN0436  GEOID HEIGHT-         -25.63  (meters)                     GEOID03
 DN0436  DYNAMIC HT  -         170.881 (meters)     560.63  (feet)  COMP
 DN0436  MODELED GRAV-     979,548.2   (mgal)                       NAVD 88
 DN0436
 DN0436  VERT ORDER  -  SECOND    CLASS 0
 DN0436
 DN0436.The horizontal coordinates were scaled from a topographic map and have
 DN0436.an estimated accuracy of +/- 6 seconds.
 DN0436
 DN0436.The orthometric height was determined by differential leveling
 DN0436.and adjusted in June 1991.
 DN0436
 DN0436.The geoid height was determined by GEOID03.
 DN0436
 DN0436.The dynamic height is computed by dividing the NAVD 88
 DN0436.geopotential number by the normal gravity value computed on the
 DN0436.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DN0436.degrees latitude (g = 980.6199 gals.).
 DN0436
 DN0436.The modeled gravity was interpolated from observed gravity values.
 DN0436
 DN0436;                    North         East    Units  Estimated Accuracy
 DN0436;SPC TXNC     - 2,155,210.      782,200.      MT  (+/- 180 meters Scaled)
 DN0436
 DN0436                          SUPERSEDED SURVEY CONTROL
 DN0436
 DN0436  NGVD 29 (??/??/92)  171.075  (m)          561.27   (f) ADJ UNCH    2 0
 DN0436
 DN0436.Superseded values are not recommended for survey control.
 DN0436.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DN0436.See file dsdata.txt to determine how the superseded data were derived.
 DN0436
 DN0436_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB288596(NAD 83)
 DN0436_MARKER: DB = BENCH MARK DISK
 DN0436_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 DN0436_SP_SET: SET IN TOP OF CONCRETE MONUMENT
 DN0436_STAMPING: R 924 1946
 DN0436_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 DN0436+STABILITY: SURFACE MOTION
 DN0436
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DN0436  HISTORY     - Date     Condition        Report By
DN0436  HISTORY     - 1946     MONUMENTED       CGS
DN0436  HISTORY     - 19940712 GOOD             USPSQD
DN0436  HISTORY     - 20051031 POOR             BOHAN
DN0436
DN0436                          STATION DESCRIPTION
DN0436
DN0436'DESCRIBED BY COAST AND GEODETIC SURVEY 1946
DN0436'3.2 MI N FROM WYLIE.
DN0436'3.2 MILES NORTH ALONG A GRAVEL ROAD FROM THE CITY WATER TOWER AT
DN0436'WYLIE.  THE MARK IS SET AT A JUNCTION OF THE GRAVEL ROAD AND A T ROAD
DN0436'LEADING SOUTH.  71 FEET SOUTH OF TELEPHONE POLE NUMBER 6050, 47.4 FEET
DN0436'EAST OF THE CENTER LINE OF THE ROAD LEADING SOUTH, 41.5 FEET SOUTH OF
DN0436'THE CENTER LINE OF THE EAST AND WEST ROAD, 3.6 FEET WEST OF A WHITE
DN0436'4X4 MARKER POST.  A BRONZE DISK SET IN THE TOP OF A CONCRETE POST.
DN0436
DN0436                          STATION RECOVERY (1994)
DN0436
DN0436'RECOVERY NOTE BY US POWER SQUADRON 1994
DN0436'RECOVERED IN GOOD CONDITION.
DN0436
DN0436                          STATION RECOVERY (2005)
DN0436
DN0436'RECOVERY NOTE BY BOHANNAN HUSTON INCORPORATED 2005 (CRF)
DN0436'MARK RECOVERED IN POOR CONDITION.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
AH7852 ***********************************************************************
AH7852  SACS        -  This is a Secondary Airport Control Station.
AH7852  DESIGNATION -  ADS D
AH7852  PID         -  AH7852
AH7852  STATE/COUNTY-  TX/DALLAS
AH7852  USGS QUAD   -  ADDISON (1981)
AH7852
AH7852                         *CURRENT SURVEY CONTROL
AH7852  ___________________________________________________________________
AH7852* NAD 83(2007)-  32 58 43.54081(N)    096 50 23.61988(W)     ADJUSTED
AH7852* NAVD 88     -       194.19   (meters)     637.1    (feet)  GPS OBS
AH7852  ___________________________________________________________________
AH7852  EPOCH DATE  -        2002.00
AH7852  X           -    -637,862.441 (meters)                     COMP
AH7852  Y           -  -5,317,779.124 (meters)                     COMP
AH7852  Z           -   3,452,074.245 (meters)                     COMP
AH7852  LAPLACE CORR-           5.13  (seconds)                    DEFLEC99
AH7852  ELLIP HEIGHT-         167.722 (meters)          (02/10/07) ADJUSTED
AH7852  GEOID HEIGHT-         -26.51  (meters)                     GEOID03
AH7852
AH7852  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
AH7852  Type    PID    Designation                     North   East  Ellip
AH7852  ------------------------------------------------------------------
AH7852  NETWORK AH7852 ADS D                             0.82   0.71   1.39
AH7852  ------------------------------------------------------------------
AH7852
AH7852.This mark is at Addison (ADS) Airport (ADS)
AH7852
AH7852.The horizontal coordinates were established by GPS observations
AH7852.and adjusted by the National Geodetic Survey in February 2007.
AH7852
AH7852.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AH7852.See National Readjustment for more information.
AH7852.The horizontal coordinates are valid at the epoch date displayed above.
AH7852.The epoch date for horizontal control is a decimal equivalence
AH7852.of Year/Month/Day.
AH7852
AH7852.The orthometric height was determined by GPS observations and a
AH7852.high-resolution geoid model.
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AH7852
AH7852.GPS derived orthometric heights for airport stations designated as
AH7852.PACS or SACS are published to 2 decimal places.  This maintains
AH7852.centimeter relative accuracy between the PACS and SACS.  It does
AH7852.not indicate centimeter accuracy relative to other marks which are
AH7852.part of the NAVD 88 network.
AH7852
AH7852.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AH7852
AH7852.The Laplace correction was computed from DEFLEC99 derived deflections.
AH7852
AH7852.The ellipsoidal height was determined by GPS observations
AH7852.and is referenced to NAD 83.
AH7852
AH7852.The geoid height was determined by GEOID03.
AH7852
AH7852;                    North         East     Units Scale Factor Converg.
AH7852;SPC TXNC     - 2,146,723.664   755,153.265   MT  0.99987343   +0 54 19.5
AH7852;SPC TXNC     - 7,043,042.55  2,477,532.00   sFT  0.99987343   +0 54 19.5
AH7852;UTM  14      - 3,651,004.238   701,856.032   MT  1.00010242   +1 10 34.3
AH7852
AH7852!             -  Elev Factor  x  Scale Factor =   Combined Factor
AH7852!SPC TXNC     -   0.99997367  x   0.99987343  =   0.99984710
AH7852!UTM  14      -   0.99997367  x   1.00010242  =   1.00007609
AH7852
AH7852                          SUPERSEDED SURVEY CONTROL
AH7852
AH7852  ELLIP H (08/08/01)  167.732  (m)                        GP(       ) 4 1
AH7852  NAD 83(1993)-  32 58 43.54051(N)    096 50 23.61981(W) AD(       ) 1
AH7852  ELLIP H (03/08/99)  167.814  (m)                        GP(       ) 4 1
AH7852
AH7852.Superseded values are not recommended for survey control.
AH7852.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AH7852.See file dsdata.txt to determine how the superseded data were derived.
AH7852
AH7852_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB0185651004(NAD 83)
AH7852_MARKER: DH = HORIZONTAL CONTROL DISK
AH7852_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AH7852_STAMPING: ADS D 1999
AH7852_MARK LOGO: NGS
AH7852_PROJECTION: FLUSH
AH7852_MAGNETIC: N = NO MAGNETIC MATERIAL
AH7852_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AH7852+STABILITY: SURFACE MOTION
AH7852_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AH7852+SATELLITE: SATELLITE OBSERVATIONS - 1999
AH7852
AH7852  HISTORY     - Date     Condition        Report By
AH7852  HISTORY     - 1999     MONUMENTED       NGS
AH7852
AH7852                          STATION DESCRIPTION
AH7852
AH7852'DESCRIBED BY NATIONAL GEODETIC SURVEY 1999 (AJL)
AH7852'THE STATION IS LOCATED ABOUT 3 KM (1.85 MI) NORTH OF INTERSTATE
AH7852'HIGHWAY 625, ON THE NORTH SIDE OF DALLAS, IN ADDISON AND AT THE
AH7852'ADDISON AIRPORT, ABOUT 122 M (400.3 FT) NNE OF THE CENTERLINE END OF
AH7852'RUNWAY 15 AT THE NORTH END OF THE AIRFIELD.  OWNERSHIP--CITY OF
AH7852'DALLAS, ADDISON AIRPORT OF TEXAS, INC.  4505 CLAIRE CHENNAULT, DALLAS,
AH7852'TX 75248.  CONTACT MR ZANE RYAN, OPERATIONS MANAGER FOR PERMISSION TO
AH7852'OCCUPY THIS STATION.  PHONE 214-248-7733 EXT.  105.  TO REACH THE
AH7852'STATION FROM THE OVERPASS AT THE JUNCTION OF INTERSTATE HIGHWAY 635
AH7852'AND STATE HIGHWAY 289, PRESTON ROAD, EXIT 21, ON THE NORTH SIDE OF
AH7852'DALLAS, GO NORTH ON PRESTON ROAD FOR 2.56 KM (1.60 MI) TO A CROSSROAD.
AH7852'TURN LEFT, WEST, ON BELT LINE ROAD FOR 2.42 KM (1.50 MI) TO A PAVED
AH7852'ROAD RIGHT.  TURN RIGHT, NORTH, ON ADDISON ROAD FOR 1.32 KM (0.80 MI)
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 AH7852'TO THE INTERSECTION OF AIRPORT PARKWAY, CONTINUE NORTHERLY ON ADDISON
 AH7852'ROAD FOR 1.12 KM (0.70 MI) TO THE INTERSECTION OF WEST GROVE DRIVE.
 AH7852'TURN LEFT, WEST ON WEST GROVE DRIVE FOR 0.24 KM (0.15 MI) TO CLAIRE
 AH7852'CHENNAULT DRIVE ON THE LEFT. TURN LEFT, SOUTH ON CLAIRE CHENNAULT
 AH7852'DRIVE FOR 0.32 KM (0.20 MI) TO A PAVED ROAD RIGHT LEADING TO THE
 AH7852'TERMINAL.  TURN RIGHT, NORTHWEST AND WEST, ON THE ROAD FOR 0.16 KM
 AH7852'(0.10 MI) TO A GATE ON THE NORTH SIDE OF THE TERMINAL.  PASS THROUGH
 AH7852'THE GATE AND GO WESTERLY ACROSS TERMINAL APRON TO TAXIWAY ALPHA.  TURN
 AH7852'RIGHT, NORTHERLY ON TAXIWAY ALPHA FOR 0.81 KM (0.50 MI) TO RUN UP AREA
 AH7852'AT THE NORTH END OF TAXIWAY ALPHA AND THE STATION JUST NORTH OF A
 AH7852'ASPHALT SERVICE ROAD. THE STATION IS LOCATED 79.9 M (262.1 FT) WEST OF
 AH7852'THE NORTH SOUTH PERIMETER FENCE, 20.2 M (66.3 FT) WEST-NORTHWEST FROM
 AH7852'THE FIRST TAXIWAY LIGHT EAST OF THE NORTHWEST CORNER OF THE RUN UP
 AH7852'AREA, 19.0 M (62.3 FT) NORTH OF THE NORTHWEST CORNER OF THE RUN UP
 AH7852'AREA AND 18.0 M (59.1 FT) NORTHEAST OF THE TAXIWAY LIGHT WEST OF THE
 AH7852'NORTHWEST CORNER OF THE RUN UP AREA AND SET FLUSH WITH THE GROUND.
 AH7852'THIS STATION IS DESIGNATED AS A SECONDARY AIRPORT CONTROL STATION.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DF8986 ***********************************************************************
 DF8986  CORS         -  This is a GPS Continuously Operating Reference Station.
 DF8986  DESIGNATION -  DENTON CORS ARP
 DF8986  CORS_ID      -  TXDE
 DF8986  PID          -  DF8986
 DF8986  STATE/COUNTY-  TX/DENTON
 DF8986  USGS QUAD    -  DENTON WEST (1960)
 DF8986
 DF8986                        *CURRENT SURVEY CONTROL
 DF8986  ___________________________________________________________________
 DF8986* NAD 83(CORS)-  33 12 37.61290(N)    097 09 45.97082(W)     ADJUSTED
 DF8986* NAVD 88      -              **(meters)            **(feet)
 DF8986  ___________________________________________________________________
 DF8986  EPOCH DATE   -        2002.00
 DF8986  X            -    -666,070.910 (meters)                     COMP
 DF8986  Y            -  -5,300,189.189 (meters)                     COMP
 DF8986  Z            -   3,473,608.415 (meters)                     COMP
 DF8986  ELLIP HEIGHT-         179.979 (meters)          (11/??/03) ADJUSTED
 DF8986  GEOID HEIGHT-         -26.69  (meters)                     GEOID03
 DF8986  HORZ ORDER   -  SPECIAL (CORS)
 DF8986  ELLP ORDER   -  SPECIAL (CORS)
 DF8986
 DF8986.ITRF positions are available for this station.
 DF8986.The coordinates were established by GPS observations
 DF8986.and adjusted by the National Geodetic Survey in November 2003.
 DF8986.The coordinates are valid at the epoch date displayed above.
 DF8986.The epoch date for horizontal control is a decimal equivalence
 DF8986.of Year/Month/Day.
 DF8986
 DF8986
 DF8986.The PID for the CORS L1 Phase Center is DJ5444.
 DF8986
 DF8986.The XYZ, and position/ellipsoidal ht. are equivalent.
 DF8986
 DF8986.The ellipsoidal height was determined by GPS observations
 DF8986.and is referenced to NAD 83.
 DF8986
 DF8986.The geoid height was determined by GEOID03.
 DF8986
 DF8986;                    North         East     Units Scale Factor Converg.
 DF8986;SPC TXNC      - 2,171,983.328   724,652.182   MT  0.99987645   +0 43 45.5
 DF8986;SPC TXNC      - 7,125,915.30  2,377,463.03   sFT  0.99987645   +0 43 45.5
 DF8986
 DF8986!              -  Elev Factor  x  Scale Factor =   Combined Factor
 DF8986!SPC TXNC      -   0.99997174  x   0.99987645  =   0.99984820
 DF8986
 DF8986                          SUPERSEDED SURVEY CONTROL
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 DF8986
 DF8986.No superseded survey control is available for this station.
 DF8986
 DF8986_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SPB7123076122(NAD 83)
 DF8986_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
 DF8986
 DF8986                          STATION DESCRIPTION
 DF8986
 DF8986'DESCRIBED BY NATIONAL GEODETIC SURVEY 2003
 DF8986'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
 DF8986'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
 DF8986'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
 DF8986'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
 DF8986'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DF5387 ***********************************************************************
 DF5387  CORS        -  This is a GPS Continuously Operating Reference Station.
 DF5387  DESIGNATION -  ARLINGTON RRP2 CORS ARP
 DF5387  CORS_ID     -  TXAR
 DF5387  PID         -  DF5387
 DF5387  STATE/COUNTY-  TX/TARRANT
 DF5387  USGS QUAD   -  EULESS (1981)
 DF5387
 DF5387                        *CURRENT SURVEY CONTROL
 DF5387  ______________________________________________________________________
 DF5387* NAD 83(CORS)-  32 45 32.49974(N)    097 03 36.99029(W)     ADJUSTED
 DF5387* NAVD 88     -              **(meters)            **(feet)
 DF5387  ______________________________________________________________________
 DF5387  EPOCH DATE  -        2002.00
 DF5387  X           -    -659,934.989 (meters)                     COMP
 DF5387  Y           -  -5,328,392.082 (meters)                     COMP
 DF5387  Z           -   3,431,593.074 (meters)                     COMP
 DF5387  ELLIP HEIGHT-         144.020 (meters)          (11/??/07) ADJUSTED
 DF5387  GEOID HEIGHT-         -27.21  (meters)                     GEOID03
 DF5387  HORZ ORDER  -  SPECIAL (CORS)
 DF5387  ELLP ORDER  -  SPECIAL (CORS)
 DF5387
 DF5387.ITRF positions are available for this station.
 DF5387.The coordinates were established by GPS observations
 DF5387.and adjusted by the National Geodetic Survey in November 2007.
 DF5387.The coordinates are valid at the epoch date displayed above.
 DF5387.The epoch date for horizontal control is a decimal equivalence
 DF5387.of Year/Month/Day.
 DF5387
 DF5387
 DF5387.The PID for the CORS L1 Phase Center is DJ5440.
 DF5387
 DF5387.The XYZ, and position/ellipsoidal ht. are equivalent.
 DF5387
 DF5387.The ellipsoidal height was determined by GPS observations
 DF5387.and is referenced to NAD 83.
 DF5387
 DF5387.The geoid height was determined by GEOID03.
 DF5387
 DF5387;                    North         East     Units Scale Factor Converg.
 DF5387;SPC TXNC     - 2,122,056.115   734,891.819   MT  0.99988558   +0 47 06.8
 DF5387;SPC TXNC     - 6,962,112.44  2,411,057.58   sFT  0.99988558   +0 47 06.8
 DF5387
 DF5387!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DF5387!SPC TXNC     -   0.99997739  x   0.99988558  =   0.99986297
 DF5387
 DF5387                          SUPERSEDED SURVEY CONTROL
 DF5387
 DF5387  NAD 83(CORS)-  32 45 32.49966(N)    097 03 36.99077(W) AD(2002.00) c
 DF5387  ELLIP H (05/??/03)  144.030  (m)                       GP(2002.00) c c
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 DF5387
 DF5387.Superseded values are not recommended for survey control.
 DF5387.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DF5387.See file dsdata.txt to determine how the superseded data were derived.
 DF5387
 DF5387_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SPB8170626238(NAD 83)
 DF5387_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
 DF5387
 DF5387                          STATION DESCRIPTION
 DF5387
 DF5387'DESCRIBED BY NATIONAL GEODETIC SURVEY 2007
 DF5387'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
 DF5387'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
 DF5387'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
 DF5387'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
 DF5387'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DF8984 ***********************************************************************
 DF8984  CORS        -  This is a GPS Continuously Operating Reference Station.
 DF8984  DESIGNATION -  DALLAS CORS ARP
 DF8984  CORS_ID     -  TXDA
 DF8984  PID         -  DF8984
 DF8984  STATE/COUNTY-  TX/DALLAS
 DF8984  USGS QUAD   -  WHITE ROCK LAKE (1973)
 DF8984
 DF8984                        *CURRENT SURVEY CONTROL
 DF8984  ___________________________________________________________________
 DF8984* NAD 83(CORS)-  32 47 59.92727(N)    096 40 22.45388(W)     ADJUSTED
 DF8984* NAVD 88     -              **(meters)            **(feet)
 DF8984  ___________________________________________________________________
 DF8984  EPOCH DATE  -        2002.00
 DF8984  X           -    -623,611.455 (meters)                     COMP
 DF8984  Y           -  -5,330,304.699 (meters)                     COMP
 DF8984  Z           -   3,435,421.255 (meters)                     COMP
 DF8984  ELLIP HEIGHT-         161.907 (meters)          (11/??/03) ADJUSTED
 DF8984  GEOID HEIGHT-         -26.05  (meters)                     GEOID03
 DF8984  HORZ ORDER  -  SPECIAL (CORS)
 DF8984  ELLP ORDER  -  SPECIAL (CORS)
 DF8984
 DF8984.ITRF positions are available for this station.
 DF8984.The coordinates were established by GPS observations
 DF8984.and adjusted by the National Geodetic Survey in November 2003.
 DF8984.The coordinates are valid at the epoch date displayed above.
 DF8984.The epoch date for horizontal control is a decimal equivalence
 DF8984.of Year/Month/Day.
 DF8984
 DF8984
 DF8984.The PID for the CORS L1 Phase Center is DJ5443.
 DF8984
 DF8984.The XYZ, and position/ellipsoidal ht. are equivalent.
 DF8984
 DF8984.The ellipsoidal height was determined by GPS observations
 DF8984.and is referenced to NAD 83.
 DF8984
 DF8984.The geoid height was determined by GEOID03.
 DF8984
 DF8984;                    North         East     Units Scale Factor Converg.
 DF8984;SPC TXNC     - 2,127,160.813   771,103.457   MT  0.99988221   +0 59 47.4
 DF8984;SPC TXNC     - 6,978,860.10  2,529,861.93   sFT  0.99988221   +0 59 47.4
 DF8984
 DF8984!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DF8984!SPC TXNC     -   0.99997458  x   0.99988221  =   0.99985679
 DF8984
 DF8984                          SUPERSEDED SURVEY CONTROL
 DF8984
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 DF8984.No superseded survey control is available for this station.
 DF8984
 DF8984_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB1790231511(NAD 83)
 DF8984_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
 DF8984
 DF8984                           STATION DESCRIPTION
 DF8984
 DF8984'DESCRIBED BY NATIONAL GEODETIC SURVEY 2003
 DF8984'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
 DF8984'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
 DF8984'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
 DF8984'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
 DF8984'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
1        National Geodetic Survey,   Retrieval Date = JUNE 24, 2009
 DF8982 ***********************************************************************
 DF8982  CORS        -  This is a GPS Continuously Operating Reference Station.
 DF8982  DESIGNATION -  COLLIN CORS ARP
 DF8982  CORS_ID     -  TXCO
 DF8982  PID         -  DF8982
 DF8982  STATE/COUNTY-  TX/COLLIN
 DF8982  USGS QUAD   -  MC KINNEY WEST (1973)
 DF8982
 DF8982                         *CURRENT SURVEY CONTROL
 DF8982  ______________________________________________________________________
 DF8982* NAD 83(CORS)-  33 09 54.92706(N)    096 37 40.57169(W)     ADJUSTED
 DF8982* NAVD 88     -              **(meters)            **(feet)
 DF8982  ______________________________________________________________________
 DF8982  EPOCH DATE  -        2002.00
 DF8982  X           -    -616,882.507 (meters)                     COMP
 DF8982  Y           -  -5,308,886.877 (meters)                     COMP
 DF8982  Z           -   3,469,404.631 (meters)                     COMP
 DF8982  ELLIP HEIGHT-         163.093 (meters)          (11/??/07) ADJUSTED
 DF8982  GEOID HEIGHT-         -25.70  (meters)                     GEOID03
 DF8982  HORZ ORDER  -  SPECIAL (CORS)
 DF8982  ELLP ORDER  -  SPECIAL (CORS)
 DF8982
 DF8982.ITRF positions are available for this station.
 DF8982.The coordinates were established by GPS observations
 DF8982.and adjusted by the National Geodetic Survey in November 2007.
 DF8982.The coordinates are valid at the epoch date displayed above.
 DF8982.The epoch date for horizontal control is a decimal equivalence
 DF8982.of Year/Month/Day.
 DF8982
 DF8982
 DF8982.The PID for the CORS L1 Phase Center is DJ5442.
 DF8982
 DF8982.The XYZ, and position/ellipsoidal ht. are equivalent.
 DF8982
 DF8982.The ellipsoidal height was determined by GPS observations
 DF8982.and is referenced to NAD 83.
 DF8982
 DF8982.The geoid height was determined by GEOID03.
 DF8982
 DF8982;                    North         East     Units Scale Factor Converg.
 DF8982;SPC TXNC     - 2,167,734.275   774,592.325   MT  0.99987458   +1 01 15.6
 DF8982;SPC TXNC     - 7,111,974.87  2,541,308.32   sFT  0.99987458   +1 01 15.6
 DF8982
 DF8982!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DF8982!SPC TXNC     -   0.99997440  x   0.99987458  =   0.99984898
 DF8982
 DF8982                           SUPERSEDED SURVEY CONTROL
 DF8982
 DF8982  NAD 83(CORS)-  33 09 54.92691(N)    096 37 40.57221(W) AD(2002.00) c
 DF8982  ELLIP H (11/??/03)  163.098  (m)                       GP(2002.00) c c
 DF8982
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DF8982.Superseded values are not recommended for survey control.
DF8982.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DF8982.See file dsdata.txt to determine how the superseded data were derived.
DF8982
DF8982_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB2120072113(NAD 83)
DF8982_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DF8982
DF8982                          STATION DESCRIPTION
DF8982
DF8982'DESCRIBED BY NATIONAL GEODETIC SURVEY 2007
DF8982'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DF8982'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DF8982'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DF8982'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DF8982'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.

*** retrieval complete.
Elapsed Time = 00:00:01
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		NAD83 NSRS2007			NAD83 NSRS 2007			
Station Name	**Designation (Stamping)**	**Grid Northing**	**Grid Easting**	**NAVD88 Elevation**	**North Latitude**	**West Longitude**	**Ellipsoid Height**	**Geoid Height**
C3b	221 C3B	7060204.14	2476138.16	707.99	33°01'33.55456"N	96°50'36.80510"W	621.17	-86.82
C3a	222 C3A	7060767.27	2478570.00	690.16	33°01'38.74581"N	96°50'08.13840"W	603.44	-86.72
H2	H-2	7054815.34	2500434.16	715.95	33°00'36.35748"N	96°45'52.49769"W	629.94	-86.01
K2	K-2	7055720.94	2509851.30	655.96	33°00'43.76440"N	96°44'01.73650"W	570.28	-85.68
L2	L-2	7055641.60	2515363.60	621.08	33°00'42.05778"N	96°42'57.02180"W	535.58	-85.50
L4	L-4	7060954.76	2515110.03	639.95	33°01'34.66743"N	96°42'58.94004"W	554.50	-85.46
G5	G-5	7066382.71	2495004.33	731.93	33°02'31.68614"N	96°46'54.03711"W	645.87	-86.06
H6	H-6	7071445.44	2498352.03	735.24	33°03'21.23217"N	96°46'13.73247"W	649.37	-85.87
J6	J-6	7072212.53	2504476.45	704.97	33°03'27.81814"N	96°45'01.62781"W	619.31	-85.66
G7	G-7	7074858.22	2495726.93	708.43	33°03'55.42402"N	96°46'43.91741"W	622.53	-85.90
F9	F-9	7081375.03	2491163.16	686.53	33°05'00.63651"N	96°47'36.29829"W	600.60	-85.93
J9	J-9	7082598.44	2504464.73	736.67	33°05'10.57530"N	96°44'59.73254"W	651.19	-85.49
Q2	Q-2	7055807.98	2534121.78	591.11	33°00'40.49763"N	96°39'16.71487"W	506.20	-84.91
Q4	Q-4	7061435.53	2535995.33	566.19	33°01'35.84837"N	96°38'53.54954"W	481.37	-84.82
L8	L-8	7077331.82	2515228.59	643.76	33°04'16.67717"N	96°42'54.27921"W	558.50	-85.26
K5	K-5	7066171.54	2509796.42	674.88	33°02'27.16926"N	96°44'00.31709"W	589.31	-85.57
L5	L-5	7066253.47	2515078.58	655.08	33°02'27.09677"N	96°42'58.25248"W	569.68	-85.40
N7	N-7	7076213.43	2520349.08	660.44	33°04'04.74737"N	96°41'54.33504"W	575.31	-85.13
O8	O-8	7078154.79	2526863.70	607.59	33°04'22.84246"N	96°40'37.39068"W	522.65	-84.93
P8	P-8	7078044.42	2530177.89	630.34	33°04'21.17979"N	96°39'58.46858"W	545.49	-84.85
Q6	Q-6	7069258.07	2532948.19	594.27	33°02'53.77165"N	96°39'27.72605"W	509.42	-84.85
P4	P-4	7062913.35	2530790.35	543.85	33°01'51.37305"N	96°39'54.37752"W	458.89	-84.96
O4	O-4	7062879.14	2525626.65	619.04	33°01'51.92290"N	96°40'55.03394"W	533.93	-85.11
P3	P-3	7058699.37	2531163.20	585.25	33°01'09.61695"N	96°39'50.86319"W	500.27	-84.98
P2	P-2	7053860.29	2531039.12	586.40	33°00'21.76225"N	96°39'53.31333"W	501.39	-85.01
B8	1999 B8	7079975.18	2476391.32	667.25	33°04'49.12745"N	96°50'30.16597"W	580.79	-86.46
D9	1999 D9	7081115.51	2481565.73	722.64	33°04'59.59736"N	96°49'29.14156"W	636.39	-86.25
F10	1--- --	7084748.87	2490010.78	697.42	33°05'34.20149"N	96°47'49.19886"W	611.52	-85.89
H10	1999 H10	7087502.95	2497702.63	731.91	33°06'00.20669"N	96°46'18.25825"W	646.31	-85.60
D8	1999 D8	7077096.72	2481263.42	710.97	33°04'19.88386"N	96°49'33.44729"W	624.62	-86.35
E7	1999 E7	7074841.66	2487860.34	674.88	33°03'56.52590"N	96°48'16.35420"W	588.71	-86.17
D6	D6	7066468.22	2485773.33	653.83	33°02'34.01305"N	96°48'42.45826"W	567.45	-86.38
B5	1999 B5	7066898.15	2473122.31	589.83	33°02'40.25375"N	96°51'10.99363"W	503.00	-86.82
F2	1999 F2	7055718.98	2490969.22	692.10	33°00'46.83131"N	96°47'43.47050"W	605.76	-86.34
I5	1999 I5	7066181.46	2503611.39	713.72	33°02'28.29064"N	96°45'12.96950"W	627.95	-85.77
K8	1999 K8	7077246.78	2508625.18	700.51	33°04'16.93924"N	96°44'11.89143"W	615.06	-85.46

Prepared By:
Gorrondona and Associates, Inc.

		NAD83 NSRS2007			NAD83 NSRS 2007			
Station Name	**Designation (Stamping)**	**Grid Northing**	**Grid Easting**	**NAVD88 Elevation**	**North Latitude**	**West Longitude**	**Ellipsoid Height**	**Geoid Height**
L6	1999 L6	7071992.06	2514220.26	681.22	33°03'24.01667"N	96°43'07.19193"W	595.86	-85.36
N5	1999 N5	7065675.48	2520387.25	651.73	33°02'20.48197"N	96°41'56.00966"W	566.48	-85.24
N2	1999 N2	7053220.68	2520383.30	623.39	33°00'17.25844"N	96°41'58.56357"W	538.03	-85.36
S2	1999 S2	7055662.36	2541120.99	529.49	33°00'37.83288"N	96°37'54.55619"W	444.79	-84.70
E3	1999 E3	7061049.65	2485511.54	624.83	33°01'40.44404"N	96°48'46.55584"W	538.36	-86.47
B8 AZ MK	1999 B8 AZ MK	7080387.94	2477696.76	699.22	33°04'53.00707"N	96°50'14.74740"W	612.82	-86.40
H10 AZ MK	1999 H10 AZ MK	7083851.89	2497774.26	765.65	33°05'24.07261"N	96°46'18.12238"W	679.98	-85.67
D6 AZ MK	1999 D6 AZ MK	7068869.87	2485416.26	672.71	33°02'57.83138"N	96°48'46.19969"W	586.36	-86.35
B5 AZ MK	1999 B5 AZ MK	7067258.51	2474337.86	614.68	33°02'43.63033"N	96°50'56.64747"W	527.91	-86.77
F2 AZ MK	1999 F2 AZ MK	7057910.08	2491055.29	691.87	33°01'08.49595"N	96°47'42.04213"W	605.56	-86.31
H1 AZ MK	1999 H1 AZ MK	7048847.50	2499528.56	675.78	32°59'37.46047"N	96°46'04.28761"W	589.67	-86.11
N5 AZ MK	1999 N5 AZ MK	7063631.99	2520361.67	649.60	33°02'00.26866"N	96°41'56.72166"W	564.34	-85.26
N2 AZ MK	1999 N2 AZ MK	7055407.52	2520422.19	640.78	33°00'38.88786"N	96°41'57.66676"W	555.45	-85.34
O2 AZ MK	1999 O2 AZ MK	7054200.56	2527762.91	602.11	33°00'25.69332"N	96°40'31.71331"W	517.00	-85.11
E3 AZ MK	1999 E3 AZ MK	7060994.01	2487574.11	649.62	33°01'39.56515"N	96°48'22.34112"W	563.23	-86.40
D3	223D3	7060946.33	2480705.39	675.95	33°01'40.18195"N	96°49'43.02444"W	589.31	-86.64
505	505	7065045.11	2484018.54	668.91	33°02'20.21154"N	96°49'03.33983"W	582.45	-86.46
800	800 2009 BY G&AI	7058242.99	2525596.26	636.63	33°01'06.05951"N	96°40'56.33315"W	551.48	-85.15
801	801 2009 BY G&AI	7067350.98	2525356.75	595.63	33°02'36.21197"N	96°40'57.29528"W	510.55	-85.08
802	802 2009 BY G&AI	7067399.69	2529858.59	551.62	33°02'35.92017"N	96°40'04.40217"W	466.67	-84.95
803	803 2009 BY G&AI	7060645.82	2491073.77	686.22	33°01'35.56002"N	96°47'41.30356"W	599.95	-86.27
804	804 2009 BY G&AI	7056816.94	2485082.65	620.68	33°00'58.63419"N	96°48'52.39090"W	534.13	-86.54
805	805 2009 BY G&AI	7075847.97	2474775.41	620.37	33°04'08.54541"N	96°50'49.91965"W	533.77	-86.60
806	806 2009 BY G&AI	7071788.53	2486767.05	663.65	33°03'26.49318"N	96°48'29.77834"W	577.39	-86.26
807	807 2009 BY G&AI	7078901.17	2486679.77	698.94	33°04'36.87821"N	96°48'29.45790"W	612.81	-86.13
808	808 2009 BY G&AI	7071207.60	2532092.36	577.34	33°03'13.20791"N	96°39'37.37892"W	492.48	-84.86
809	809 2009 BY G&AI	7077476.57	2504382.56	707.38	33°04'19.91458"N	96°45'01.70085"W	621.80	-85.58
820	820 2009 BY G&AI	7070143.17	2480024.87	688.16	33°03'11.28152"N	96°49'49.30027"W	601.64	-86.52
821	821 2009 BY G&AI	7061018.82	2498698.93	727.63	33°01'38.01682"N	96°46'11.67440"W	641.63	-86.00
822	822 2009 BY G&AI	7051540.56	2499550.44	690.45	33°00'04.10165"N	96°46'03.50929"W	604.37	-86.08
823	823 2009 BY G&AI	7082727.72	2482243.49	699.29	33°05'15.44124"N	96°49'20.87368"W	613.09	-86.20
824	824 2009 BY G&AI	7076648.36	2491824.51	681.49	33°04'13.76555"N	96°47'29.42913"W	595.49	-86.00
825	825 2009 BY G&AI	7071606.99	2492301.46	686.55	33°03'23.81051"N	96°47'24.78881"W	600.48	-86.07
826	826 2009 BY G&AI	7076770.08	2497896.20	725.08	33°04'13.98711"N	96°46'18.05866"W	639.29	-85.79
827	827 2009 BY G&AI	7086747.63	2489995.03	719.98	33°05'53.97934"N	96°47'49.00310"W	634.13	-85.85
828	828 2009 BY G&AI	7088003.33	2504233.91	747.24	33°06'04.08758"N	96°45'01.38729"W	661.84	-85.40

Prepared By:
Gorrondona and Associates, Inc.

		NAD83 NSRS2007			NAD83 NSRS 2007				
Station Name	**Designation (Stamping)**	**Grid Northing**	**Grid Easting**	**NAVD88 Elevation**	**North Latitude**	**West Longitude**	**Ellipsoid Height**	**Geoid Height**	
829	829 2009 BY G&AI	7091155.19	2504121.75	749.81	33°06'35.28948"N	96°45'02.08869"W	664.47	-85.34	
830	830 2009 BY G&AI	7093397.82	2504062.64	708.39	33°06'57.48701"N	96°45'02.34452"W	623.09	-85.30	
831	831 2009 BY G&AI	7096124.39	2508303.41	652.78	33°07'23.76114"N	96°44'11.94873"W	567.65	-85.14	
832	832 2009 BY G&AI	7093393.93	2509168.08	648.35	33°06'56.60332"N	96°44'02.32192"W	563.18	-85.17	Revised 11-09
833	833 2009 BY G&AI	7088267.29	2509362.51	704.78	33°06'05.84992"N	96°44'01.04958"W	619.53	-85.25	
834	834 2009 BY G&AI	7082252.67	2508464.56	684.49	33°05'06.49260"N	96°44'12.79153"W	599.11	-85.38	
835	835 2009 BY G&AI	7056880.17	2482581.77	632.12	33°00'59.65583"N	96°49'21.74843"W	545.48	-86.63	
836	836 2009 BY G&AI	7056131.53	2495178.22	704.79	33°00'50.23454"N	96°46'53.96429"W	618.60	-86.18	
837	837 2009 BY G&AI	7054408.97	2504675.14	687.61	33°00'31.64096"N	96°45'02.77664"W	601.74	-85.87	
838	838 2009 BY G&AI	7060953.31	2503900.18	711.70	33°01'36.51707"N	96°45'10.59855"W	625.87	-85.82	
840	840 2009 BY G&AI	7060905.90	2509923.93	654.35	33°01'35.05112"N	96°43'59.85957"W	568.73	-85.63	
841	841 2009 BY G&AI	7054236.47	2525509.83	613.39	33°00'26.43501"N	96°40'58.16200"W	528.20	-85.18	
842	842 2009 BY G&AI	7059471.91	2520408.43	662.11	33°01'19.10213"N	96°41'57.01013"W	576.81	-85.30	
843	843 2009 BY G&AI	7072003.76	2516666.01	674.45	33°03'23.72116"N	96°42'38.45490"W	589.17	-85.29	
844	844 2009 BY G&AI	7082723.22	2514225.67	679.25	33°05'10.18626"N	96°43'04.98959"W	594.03	-85.22	
845	845 2009 BY G&AI	7072361.40	2523648.40	636.05	33°03'26.07529"N	96°41'16.34793"W	550.96	-85.08	
846	846 2009 BY G&AI	7067325.67	2536126.30	580.46	33°02'34.10026"N	96°38'50.79130"W	495.68	-84.77	
847	847 2009 BY G&AI	7055061.24	2537951.23	547.90	33°00'32.44181"N	96°38'31.90214"W	463.11	-84.80	
848	848 2009 BY G&AI	7053643.65	2546888.67	569.90	33°00'16.84061"N	96°36'47.25499"W	485.36	-84.54	
849	849 2009 BY G&AI	7057853.71	2540435.71	543.63	33°00'59.63377"N	96°38'02.14601"W	458.92	-84.71	Revised 11-09

GPS Observations Schedule

GPS Crew	City of Plano	GPS-1	GPS-2	GPS-3	GPS-4
Team Color	Geodetic Monumentation				
PC	Project Number - 0901-3510	Luke Stolenberg	L. Piepkorn	James Walston	Matt Hammett
Phone #		817-739-3552			
	Supervisor - Mike McGuinness	281-686-7607 Cell	281-419-2453 Off.		
UNIT	All Trimble Equipment	5700	R8	R8 Model 2	R8
SERIAL #		0220311819	4438138574	4841159115	4849161043
Antenna	Measured to Bottom of Ant Mount	Zephyr Geodetic	R8 Internal	R8 GNSS Internal	R8 Internal
Tripod	SECO Fixed Height	6.556	6.560	6.560	6.553
Session	Obs Period	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID
5/18/2009	Julian Day = 138 (15321) Monday				
1	1200-1400 120-minutes 10 Degree Mask - 5-second epoch	1002 NGS - C 263	1003 NGS - NEWSOME	1004 NGS - M-1495	HI=4.912 1005 NGS - R 924
2	1515-1545 30-minutes 10 Degree Mask - 5-second epoch	838	837	840	106 L2
3	1625-1655 30-minutes 10 Degree Mask - 5-second epoch	822	211 F2	836	821
4	1725-1755 30-minutes 10 Degree Mask - 5-second epoch	803	804	835	505 505
5/19/2009	Julian Day = 139 (15322) Tuesday				
5	0930-1130 120-minutes 10 Degree Mask - 5-second epoch	1001 NGS - ADS D	310 B5 az mk	848	131 O8
6	1230-1300 30-minutes 10 Degree Mask - 5-second epoch	310 B5 az mk	820	806	825
7	1345-1415 30-minutes 10 Degree Mask - 5-second epoch	805	301 B8 az mk	823	807

GPS Observations Schedule

GPS Crew	City of Plano	GPS-1	GPS-2	GPS-3	GPS-4
Team Color	Geodetic Monumentation				
PC	Project Number - 0901-3510	Luke Stolenberg	L. Piepkorn	James Walston	Matt Hammett
Phone #		817-739-3552			
	Supervisor - Mike McGuinness	281-686-7607 Cell	281-419-2453 Off.		
UNIT	All Trimble Equipment	5700	R8	R8 Model 2	R8
SERIAL #		0220311819	4438138574	4841159115	4849161043
Antenna	Measured to Bottom of Ant Mount	Zephyr Geodetic	R8 Internal	R8 GNSS Internal	R8 Internal
Tripod	SECO Fixed Height	6.556	6.560	6.560	6.553
Session	Obs Period	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID
8	1445-1515 30-minutes 10 Degree Mask - 5-second epoch	824	827	830	831
9	1545-1615 30-minutes 10 Degree Mask - 5-second epoch	828	829	833	832
10	1640-1710 30-minutes 10 Degree Mask - 5-second epoch	826	809	834	844
11	1735-1805 30-minutes 10 Degree Mask - 5-second epoch	214 K8	126 L8	843	845
5/20/2009	Julian Day = 140 (15323) Wednesday				
12	1005-1035 30-minutes 10 Degree Mask - 5-second epoch	126 L8	131 O8	845	808
13	1120-1150 30-minutes 10 Degree Mask - 5-second epoch	216 N5	801	808	846
14	1225-1255 30-minutes 10 Degree Mask - 5-second epoch	135 P4	136 O4	802	124 Q4
15	1415-1445 30-minutes	317	842	800	137

GPS Observations Schedule

GPS Crew	City of Plano	GPS-1	GPS-2	GPS-3	GPS-4
Team Color	Geodetic Monumentation				
PC	Project Number - 0901-3510	Luke Stolenberg	L. Piepkorn	James Walston	Matt Hammett
Phone #		817-739-3552			
	Supervisor - Mike McGuinness	281-686-7607 Cell	281-419-2453 Off.		
UNIT	All Trimble Equipment	5700	R8	R8 Model 2	R8
SERIAL #		0220311819	4438138574	4841159115	4849161043
Antenna	Measured to Bottom of Ant Mount	Zephyr Geodetic	R8 Internal	R8 GNSS Internal	R8 Internal
Tripod	SECO Fixed Height	6.556	6.560	6.560	6.553
Session	Obs Period	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID
	10 Degree Mask - 5-second epoch	N2 az mk			P3
16	1520-1550 30-minutes 10 Degree Mask - 5-second epoch	217 N2	841	318 O2 az mk	138 P2
17	1620-1650 30-minutes 10 Degree Mask - 5-second epoch	123 Q2	847	219 S2	849
18	1725-1755 30-minutes 10 Degree Mask - 5-second epoch	836	822	837	106 L2
5/21/2009	Julian Day = 141 (15324) Thursday				
19	0915-1000 45-minutes 10 Degree Mask - 5-second epoch	1001 NGS - ADS D	835	804	211 F2
20	1030-1100 30-minutes 10 Degree Mask - 5-second epoch	310 B5 az mk	835	805	806
21	1150-1220 30-minutes 10 Degree Mask - 5-second epoch	211 F2	803	821	838
22	1300-1330 30-minutes 10 Degree Mask - 5-second epoch	820	505 505	825	803
	1355-1425				

GPS Observations Schedule

GPS Crew	City of Plano	GPS-1	GPS-2	GPS-3	GPS-4
Team Color	Geodetic Monumentation				
PC	Project Number - 0901-3510	Luke Stolenberg	L. Piepkorn	James Walston	Matt Hammett
Phone #		817-739-3552			
	Supervisor - Mike McGuinness	281-686-7607 Cell	281-419-2453 Off.		
UNIT	All Trimble Equipment	5700	R8	R8 Model 2	R8
SERIAL #		0220311819	4438138574	4841159115	4849161043
Antenna	Measured to Bottom of Ant Mount	Zephyr Geodetic	R8 Internal	R8 GNSS Internal	R8 Internal
Tripod	SECO Fixed Height	6.556	6.560	6.560	6.553
Session	Obs Period	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID
23	30-minutes 10 Degree Mask - 5-second epoch	807	301 B8 az mk	824	826
24	1500-1545 45-minutes 10 Degree Mask - 5-second epoch	1002 NGS - C 263	805	823	827
25	1625-1655 30-minutes 10 Degree Mask - 5-second epoch	809	828	831	832
26	1715-1745 30-minutes 10 Degree Mask - 5-second epoch	830	829	833	834
5/22/2009	Julian Day = 142 (15325) Friday				
27	0945-1030 45-minutes 10 Degree Mask - 5-second epoch	832	1003 NGS - NEWSOME	844	131 O8
28	1105-1135 30-minutes 10 Degree Mask - 5-second epoch	809	126 L8	214 K8	844
29	1200-1230 30-minutes 10 Degree Mask - 5-second epoch	824	825	843	840
30	1310-1340 30-minutes 10 Degree Mask - 5-second epoch	822	106 L2	317 N2 az mk	217 N2

GPS Observations Schedule

GPS Crew	City of Plano	GPS-1	GPS-2	GPS-3	GPS-4
Team Color	Geodetic Monumentation				
PC	Project Number - 0901-3510	Luke Stolenberg	L. Piepkorn	James Walston	Matt Hammett
Phone #		817-739-3552			
	Supervisor - Mike McGuinness	281-686-7607 Cell	281-419-2453 Off.		
UNIT	All Trimble Equipment	5700	R8	R8 Model 2	R8
SERIAL #		0220311819	4438138574	4841159115	4849161043
Antenna	Measured to Bottom of Ant Mount	Zephyr Geodetic	R8 Internal	R8 GNSS Internal	R8 Internal
Tripod	SECO Fixed Height	6.556	6.560	6.560	6.553
Session	Obs Period	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID	Sta ID/Name/PID
31	1405-1435 30-minutes 10 Degree Mask - 5-second epoch	841	842	216 N5	845
5/26/2009	Julian Day = 146 (15332) Tuesday				
32	0910-0940 30-minutes 10 Degree Mask - 5-second epoch	318 O2 az mk	800	136 O4	801
33	1010-1040 30-minutes 10 Degree Mask - 5-second epoch	137 P3	135 P4	802	808
34	1115-1200 45-minutes 10 Degree Mask - 5-second epoch	1005 NGS - R 924	848	124 Q4	846
35	1245-1315 30-minutes 10 Degree Mask - 5-second epoch	848	124 Q4	849	137 P3
36	1345-1415 30-minutes 10 Degree Mask - 5-second epoch	219 S2	123 Q2	137 P3	138 P2
37	1435-1635 120-minutes 10 Degree Mask - 5-second epoch	847	1003 NGS - NEWSOME	1004 NGS - M-1495	848

4-1-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

DAILY REPORT

S. PIEPKORN
M. McGUINNESS

①

STA	BEG	AM/PM	END	AM/PM
OFFICE	7:00	AM	11:00	AM
DRIVE	11:00	AM	12:45	PM
M-1495	12:45	PM	1:19	PM
C3B-(101)	2:30	PM	2:55	PM
C3A (100)	3:05	PM	3:39	PM
D3 (321)	3:54	PM	4:32	PM
DRIVE	4:32	PM	5:45	PM
OFFICE	5:45	PM	6:00	PM

①

PREPARED FOR JOB. (COMPUTER WORK, LOAD SUPPLIES, ETC.)

DRIVE TO CADDO MILLS AIRPORT.

✓

✓

✓

✓

DRIVE TO OFFICE.

END OF DAY.

4-3-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

DAILY REPORT

S. PIEPKORN
J. WALSTON

①

STA	BEG.	AM/PM	END	AM/PM
OFFICE	7:00	AM	8:10	AM
DRIVE	8:10	AM	9:53	AM
E3 (220)	10:03	AM	10:32	AM
E3 AZ MK (320)	10:35	AM	10:59	AM
505	11:04	AM	11:35	AM
D6 (209)	11:4	AM	12:06	PM
D6 AZ MRK (309)	12:10	PM	12:30	PM
C6 (208)	12:46	PM	1:12	PM
C6 AZ MRK (308)	1:18	PM	1:27	PM
B5 AZ MRK (310)	1:33	PM	2:03	PM
B5 (210)	2:08	PM	2:35	PM
S02 (502)	2:52	PM	3:04	PM

①

PREPARING FOR JOB, PRINTING MAPS, ETC.

DRIVE TO PLANO. PICKED UP SUPPLIES ON THE WAY.

✓

✓

✓

✓

✓

RESET AS 820. NEED TO GO BACK TO LOCATE.

DID NOT FIND OR REPLACE.

✓

✓

DID NOT FIND OR REPLACE.

②

STA	BEG	AM/PM	END	AM/PM
501 (501)	3:14	PM	3:25	PM
B8 AZ MRK (301)	3:29	PM	3:52	PM
B8 (201)	3:57	PM	4:20	PM
DRIVE	4:20	PM	5:50	PM
OFFICE	5:50	PM	6:00	PM

②

DID NOT FIND OR REPLACE.

✓

✓

DRIVE TO OFFICE.

END OF DAY.

4-6-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

DAILY REPORT

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
Ft WORTH	9:10	AM	10:53	AM
H3 (110)	10:53	AM	11:36	AM
H2 (103)	11:48	AM	12:25	PM
H1 (212)	12:34	PM	1:15	PM
H1 A2 MRK (312)	1:34	PM	3:00	PM
F2 A2 MRK (311)	3:15	PM	4:00	PM
F2 (211)	4:20	PM	5:04	PM
OFFICE	5:04	PM	6:32	PM

①

HAD TO RESET AS 821.

✓

HAD TO RESET AS 822.

✓ BASE STATION KEPT CLOSING ???

✓

✓

DRIVE TO OFFICE, UNLOAD, ETC.

4-7-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

DAILY REPORT

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
ALLEN	2:30	PM	2:45	PM
08 (131)	2:45	PM	3:21	PM
P8 (132)	3:25	PM	3:44	PM
NOB (130)	3:48	PM	3:55	PM
808	4:10	PM	4:42	PM
Q6 (133)	4:50	PM	5:10	PM
R5 (134)	5:17	PM	5:29	PM
OFFICE	5:30	PM	7:00	PM

①

✓

✓

REMOVED. LOCATED A2 MRK. NEED TO GO BACK.

SET NEW MONUMENT.

✓

HAVE TO GO BACK & RESET BATTERY DIED.

DRIVE TO OFFICE, UNLOAD, ETC.

4-8-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

DAILY REPORT

S. PREPKORN

STA	BEG.	AM/PM	END	AM/PM
FT WORTH	7:00	AM	8:48	AM
805	8:48	AM	9:47	AM
C6 (208)	9:53	AM	10:27	AM
D8 (206)	10:43	AM	11:20	AM
D8 AZ MRK (306)	11:23	AM	11:28	AM
D9 (202)	11:35	AM	12:00	PM
D9 AZ MRK (302)	12:10	PM	1:00	PM
E7 AZ MRK (307)	1:12	PM	1:19	PM
E7 (207)	1:26	PM	2:07	PM
F9 (118)	2:30	PM	3:15	PM
F10 (203)	3:32	PM	4:17	PM
OFFICE	4:17	PM	6:00	PM

DRIVE TO JOB.

SET NEW MONUMENT.

RESET AS 820.

✓

BEEN KNOCKED OUT. DID NOT RESET.

✓

RESET AS 823

DID NOT FIND OR RESET.

✓

✓

✓

DRIVE TO OFFICE, UNLOAD, ETC.

4-13-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
OFFICE	7:00	AM	9:50	AM
807	9:50	AM	11:12	AM
806	11:31	AM	12:16	PM
807	12:24	PM	12:45	PM
F8 (117)	1.06	PM	1:40	PM
F6 (112)	1:47	PM	2:18	PM
G5 (111)	2:26	PM	2:56	PM
H6 (113)	3:10	PM	3:38	PM
H8 (116)	3:54	PM	4:40	PM
G7 (115)	4:48	PM	5:11	PM
OFFICE	5:11	PM	6:30	PM

①

DRIVE TO PLANO, HAD TO LOAD GENERATOR.

SET MONUMENT. NO BASE DATA.

SET MONUMENT

CAN ONLY GET 1 SHOT.

RESET AS 824.

RESET AS 825.

✓

✓

RESET AS 826

✓

DRIVE TO OFFICE.

4-14-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
OFFICE	7:00	AM	8:37	AM
F10 A2 MRK (305)	8:37	AM	9:00	AM
H10 (205)	9:09	AM	9:29	AM
H10 A2 MRK (305)	9:33	AM	9:58	AM
H9 (119)	10:00	AM	10:04	AM
J9 (121)	10:08	AM	10:35	AM
J10 (120)	10:50	AM	11:35	AM
I12 (204)	11:50	AM	12:40	PM
I12 A2 MRK (304)	12:47	PM	1:30	PM
401	2:10	PM	2:50	PM
508	3:00	PM	3:30	PM
507	3:47	PM	4:28	PM

①

DRIVE TO PLANO.

RESET AS 827.

✓

✓

DID NOT FIND OR RESET.

✓

RESET AS 828.

RESET AS 829.

RESET AS 830.

RESET AS 831.

RESET AS 832.

RESET AS 833.

②

STA	BEG	AM/PM	END	AM/PM
506	4:31	PM	5:20	PM
OFFICE	5:20	PM	6:30	PM

②

RESET AS 934.

DRIVE TO OFFICE.

4-15-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

STA	BEG	AM/PM	END	AM/PM	
OFFICE	7:00	AM	8:35	AM	
503	8:35	AM	9:12	AM	RESET AS 835.
804	9:19	AM	10:00	AM	SET MONUMENT.
803	10:15	AM	10:50	AM	SET MONUMENT.
G2 (102)	10:55	AM	11:20	AM	RESET AS 836.
J2 (104)	11:35	AM	12:10	PM	RESET AS 837.
I3 (109)	12:30	PM	1:08	PM	RESET AS 838.
I5 (213)	1:15	PM	1:50	PM	✓
J6 (114)	2:00	PM	2:40	PM	✓
I5 AZ MRKR (313)	2:55	PM	3:10	PM	DID NOT FIND OR RESET.
K8 AZ MRKR (314)	3:20	PM	3:33	PM	DID NOT FIND OR RESET.
K8 (214)	3:44	PM	4:20	PM	✓

②

STA	BEG	AM/PM	END	AM/PM
809	4:30	PM	5:10	PM
OFFICE	5:10	PM	6:30	PM

②

SET NEW MONUMENT.

DRIVE TO OFFICE.

4-16-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855T

S. PIEPKORN
T. WALSTON

①

STA	BEG.	AM/PM	END	AM/PM	
OFFICE	7:00	AM	8:50	AM	
K2 (105)	8:50	AM	9:15	AM	✓
K4 (108)	9:20	AM	9:50	AM	RESET AS 840.
K5 (127)	10:07	AM	10:42	AM	✓
L5 (128)	10:50	AM	11:22	AM	✓
L4 (107)	11:30	AM	12:00	PM	✓
L2 (106)	12:05	PM	12:50	PM	✓
800	1:09	PM	1:58	PM	SET NEW MONUMENT.
O2 AZ MRK (318)	2:03	PM	2:25	PM	✓
O2 (218)	2:30	PM	3:15	PM	SET AS 841
N2 (217)	3:20	PM	3:55	PM	✓
N2 AZ MRK	4:10	PM	5:00	PM	✓
OFFICE	5:00	PM	6:00	PM	DRIVE TO OFFICE.

①

4-20-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM	
OFFICE	7:00	AM	9:00	AM	DRIVE TO PLANO
704	9:00	AM	9:29	AM	RESET AS 842.
N5 AZ MRK (316)	9:35	AM	10:00	AM	✓
N5 (216)	10:15	AM	10:45	AM	✓
801	10:53	AM	11:25	AM	SET NEW MONUMENT.
802	11:30	AM	11:50	AM	SET NEW MONUMENT.
P4 (135)	11:58	AM	12:36	PM	✓
04 (136)	12:45	PM	1:30	PM	✓
L6 AZ MRK (315)	1:50	PM	2:28	PM	RESET AS 843.
L6 (215)	2:35	PM	2:54	PM	NEED TO GO BACK (BAD SAT.)
L8 (126)	3:00	PM	3:33	PM	✓
L6 (215)	3:45	PM	3:55	PM	✓
OFFICE	3:55	PM	5:30	PM	DRIVE TO OFFICE, UNLOAD, ETC.

①

4-21-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
OFFICE	7:00	AM	9:00	AM
L9 (125)	9:00	AM	9:35	AM
N7 (129)	9:41	AM	10:05	AM
N6B (130)	10:28	AM	11:23	AM
R5 (134)	11:38	AM	12:15	PM
Q4 (124)	12:18	PM	12:32	PM
P3 (137)	12:37	PM	12:59	PM
P2 (138)	1:11	PM	1:39	PM
Q2 (123)	1:52	PM	2:30	PM
S2 A2 MRK (319)	2:40	PM	3:15	pm
S2 (219)	3:20	PM	3:50	PM
OFFICE	3:50	PM	5:30	PM
OFFICE	6:00	PM	7:00	PM

①

DRIVE TO PLANO.

RESET AS 844.

✓

RESET AS 845.

RESET AS 846.

✓

✓

✓

✓

RESET AS 847

✓

✓

DOWNLOAD.

4-22-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
OFFICE	7:00	AM	8:40	AM
504	8:40	AM	9:22	AM
703	9:25	AM	10:10	AM
R 924	10:30	AM	11:16	AM
NEWSOME	12:09	PM	12:47	PM
C 263	1:10	PM	2:10	PM
ADDISON AIRPORT	2:20	PM	4:30	PM
OFFICE	4:30	PM	6:00	PM

①

DRIVE TO OFFICE.

RESET AS 848.

RESET AS 849.

✓

✓

✓

RESCHEDULE

DRIVE TO OFFICE, UNLOAD, ETC.

4-23-09

0901-3510
CITY OF PLANO
GEODETIC MONUMENTATION
CIP 37855

S. PIEPKORN
J. WALSTON

①

STA	BEG	AM/PM	END	AM/PM
OFFICE	7:00	AM	9:00	AM
ADS D	9:00	AM	10:30	AM

①

DRIVE TO JOBSITE.

3 5/8 X 2 7/8 (H)

Station Location Sketch and Visibility Diagram

100

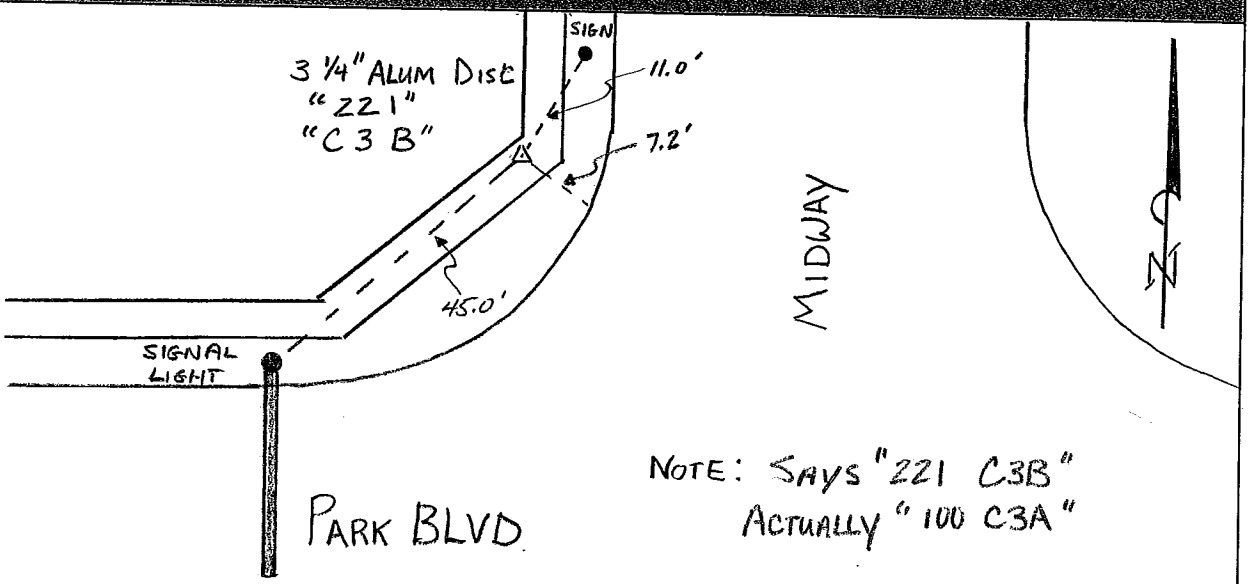
Location / ~~Airport Name~~ and ID PARK BLVD & MIDWAY Project 0901-3510

Station Designation 221 C 3 B PID N/A Date 4-1-09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization McGUINNESS / G&AI

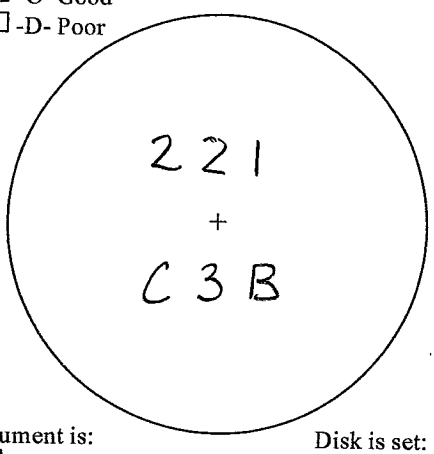
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor

☒ Photos Available



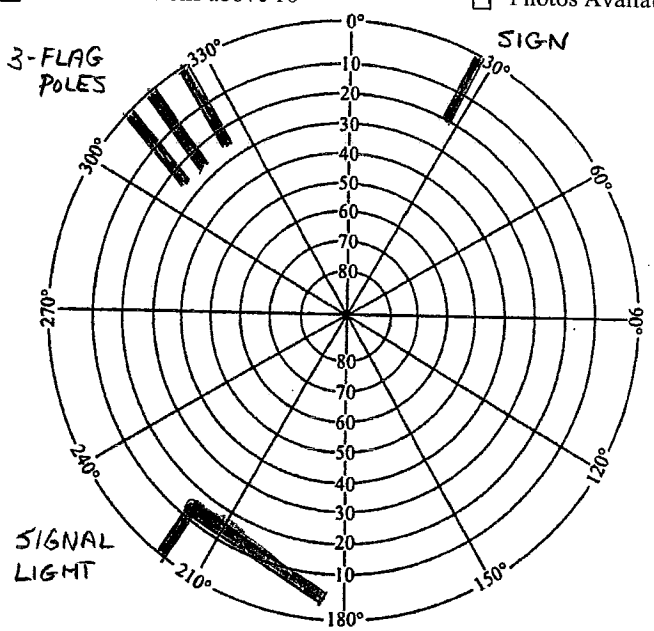
Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☒ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☐ Photos Available



Station Location Sketch and Visibility Diagram

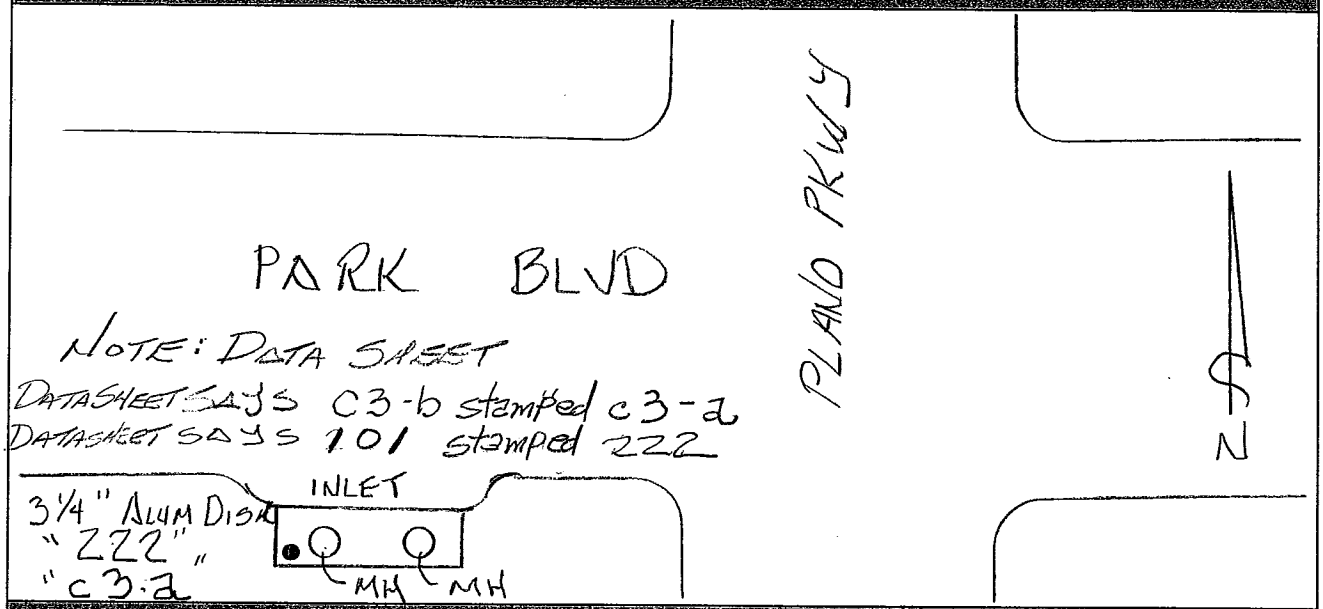
Location / ~~Airport Name~~ and ID PARK BLVD @ PLANO PKWY Project 0901-3510

Station Designation C3-a 101 PID N/A Date 4-1-09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization MCGUINNESS - G&AI

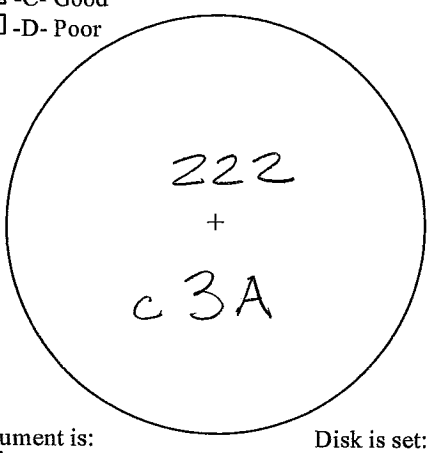
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor

☒ Photos Available



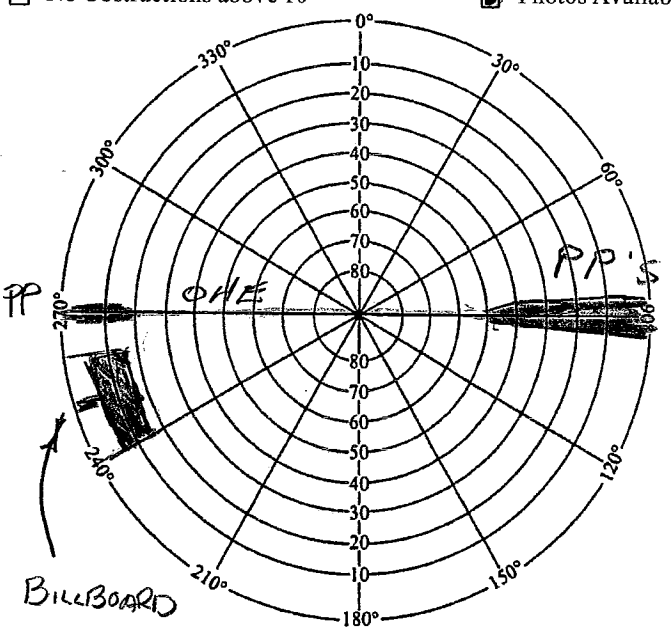
Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☒ in concrete.
- ☒ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☒ Photos Available



103

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: COIT RD. & PLANO PKWY

Project: 0901-3510

Station Designation: H-2

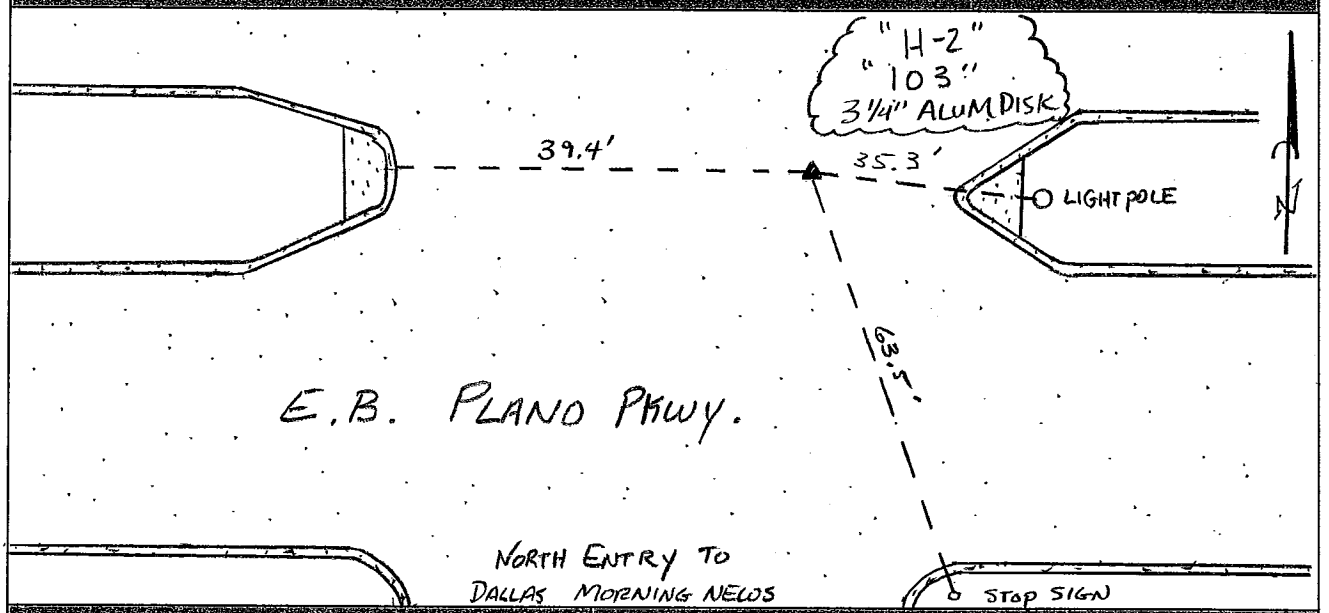
PID: N/A

Date: 4/6/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

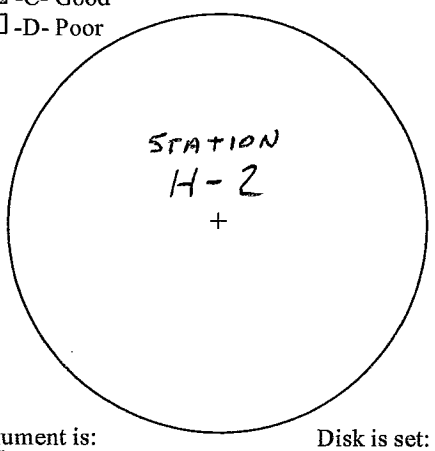
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

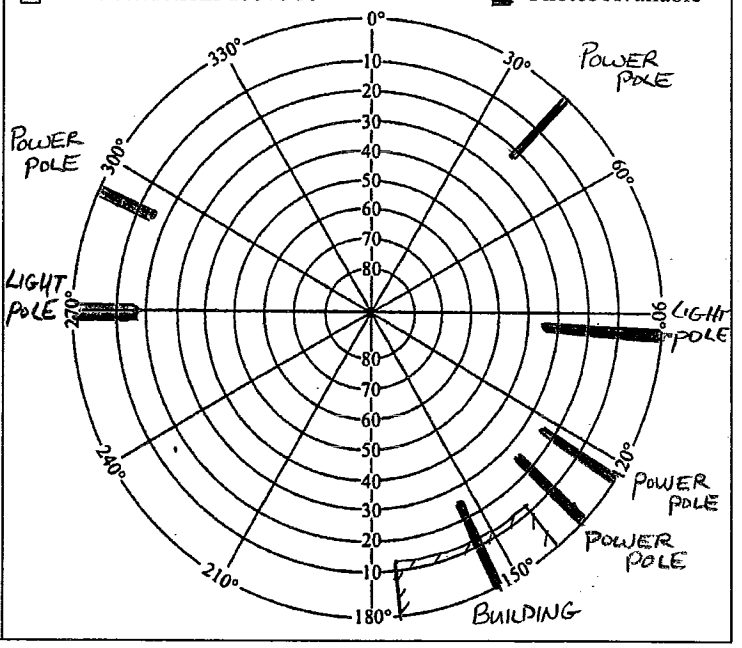
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



105

Station Location Sketch and Visibility Diagram

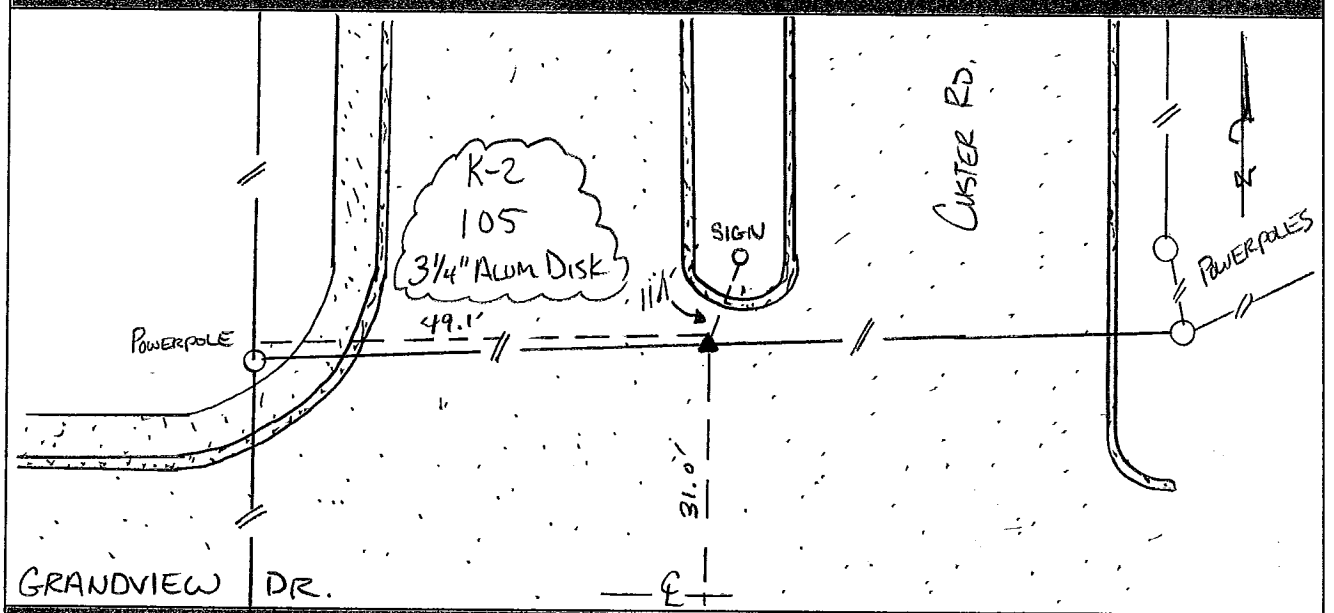
Location / Airport Name and ID CUSTER RD. & GRANDVIEW DR. Project 0901-3510

Station Designation K-2 PID N/A Date 4/16/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

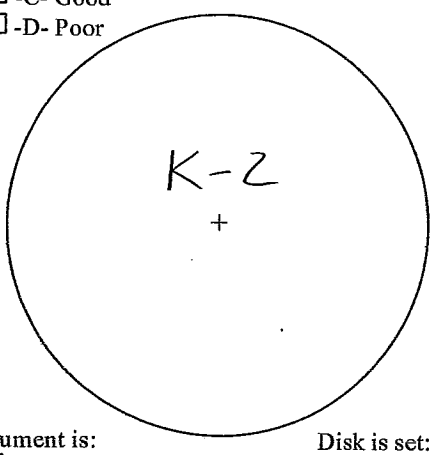
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

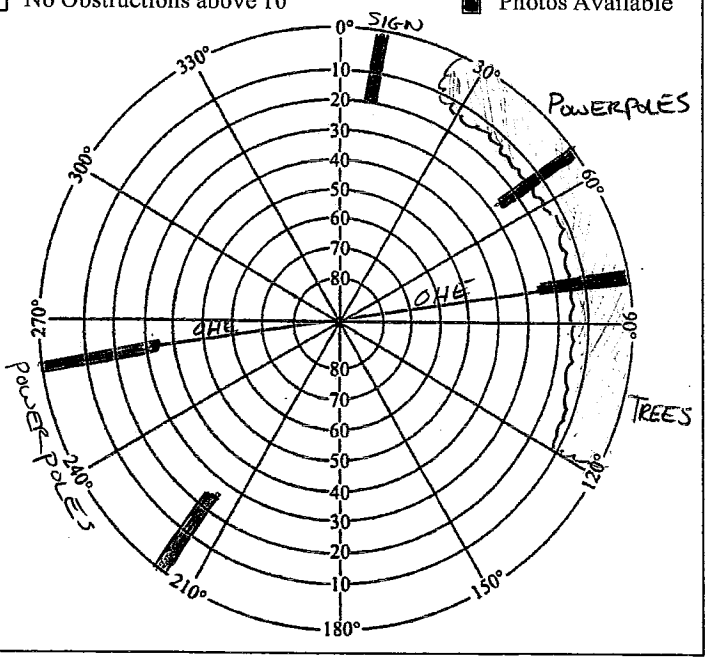


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



106

Station Location Sketch and Visibility Diagram

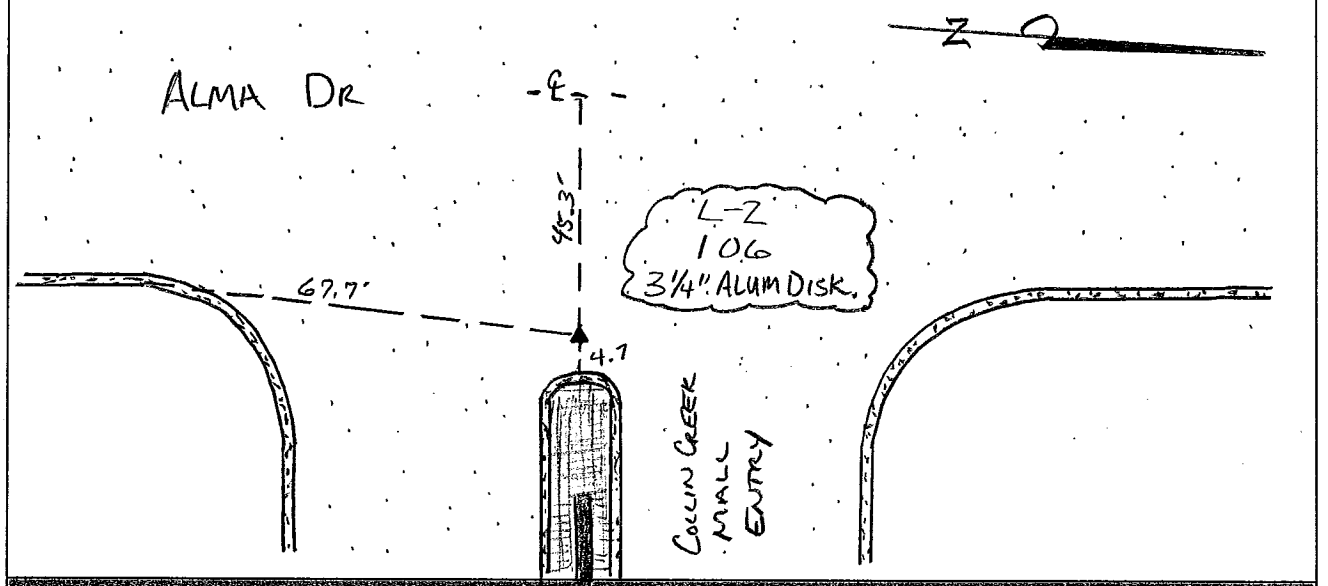
Location / Airport Name and ID ALMA DR. Project 0901-3510

Station Designation L2 PID N/A Date 4/16/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

Station Location Sketch

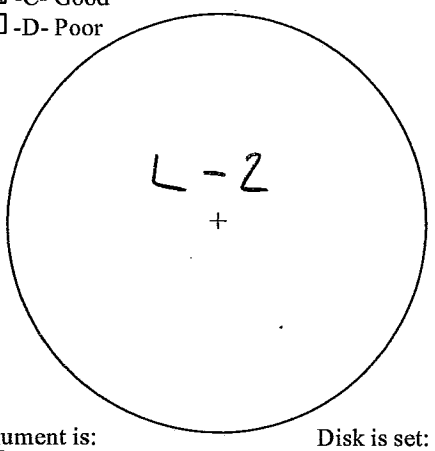


112

Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

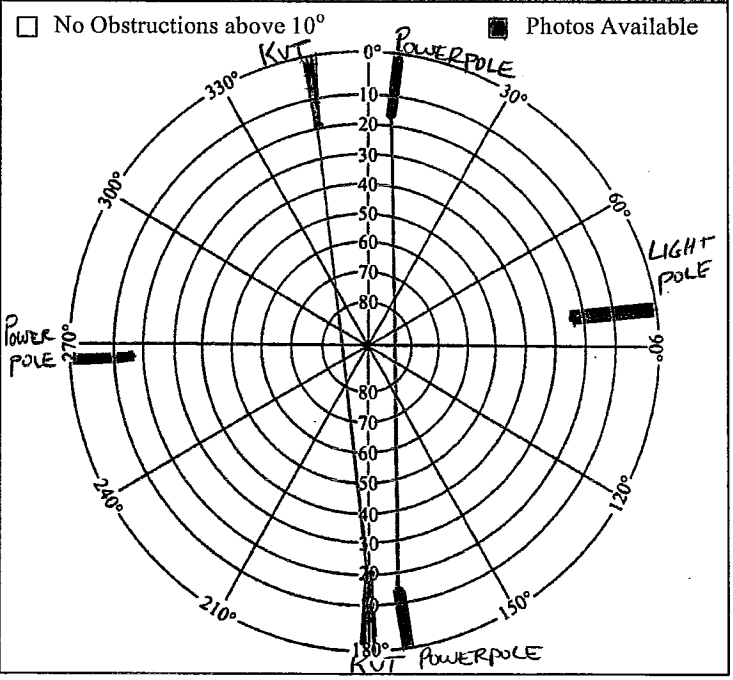


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



107

Station Location Sketch and Visibility Diagram

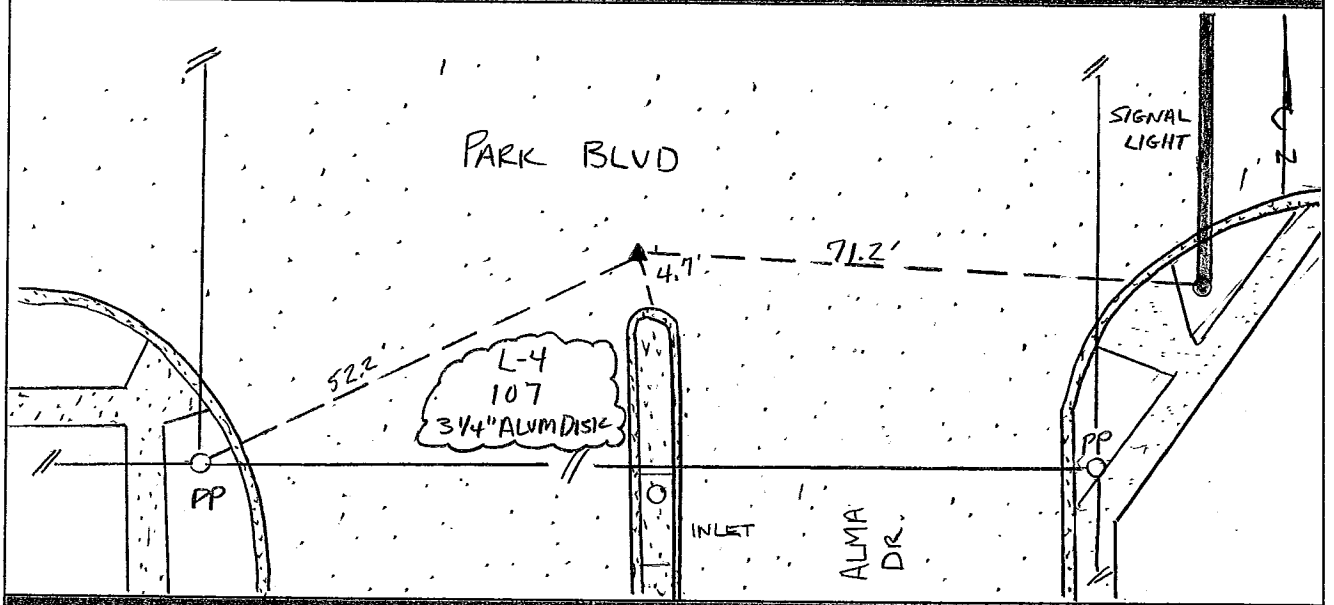
Location / Airport Name and ID PARK BLVD. & ALMA DR. Project 0901-3510

Station Designation L-4 PID N/A Date 4/16/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

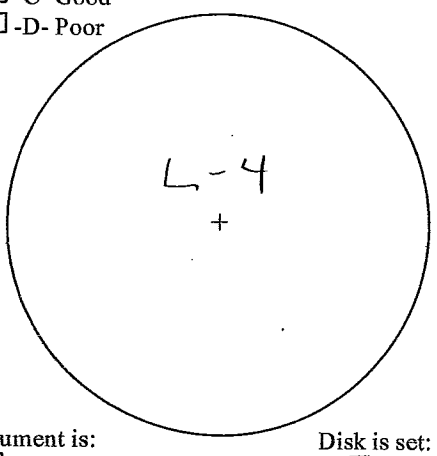
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



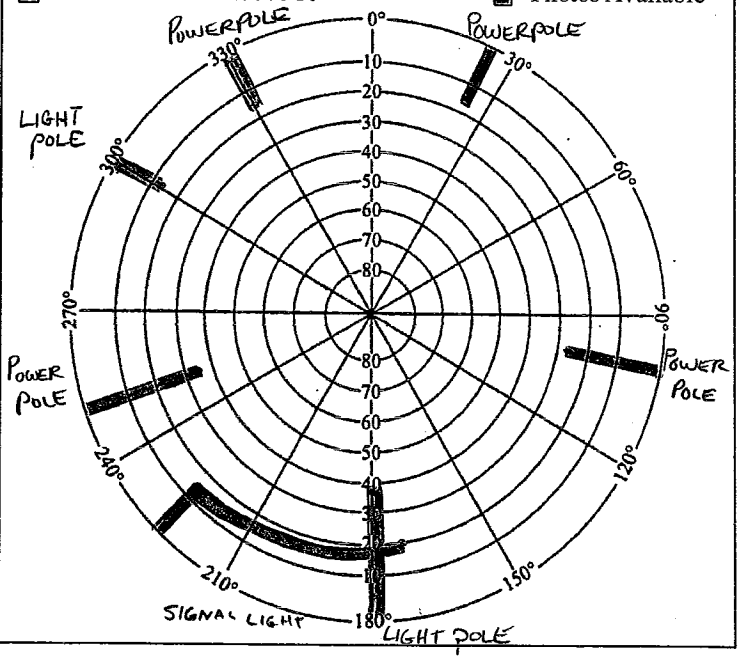
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



Station Location Sketch and Visibility Diagram

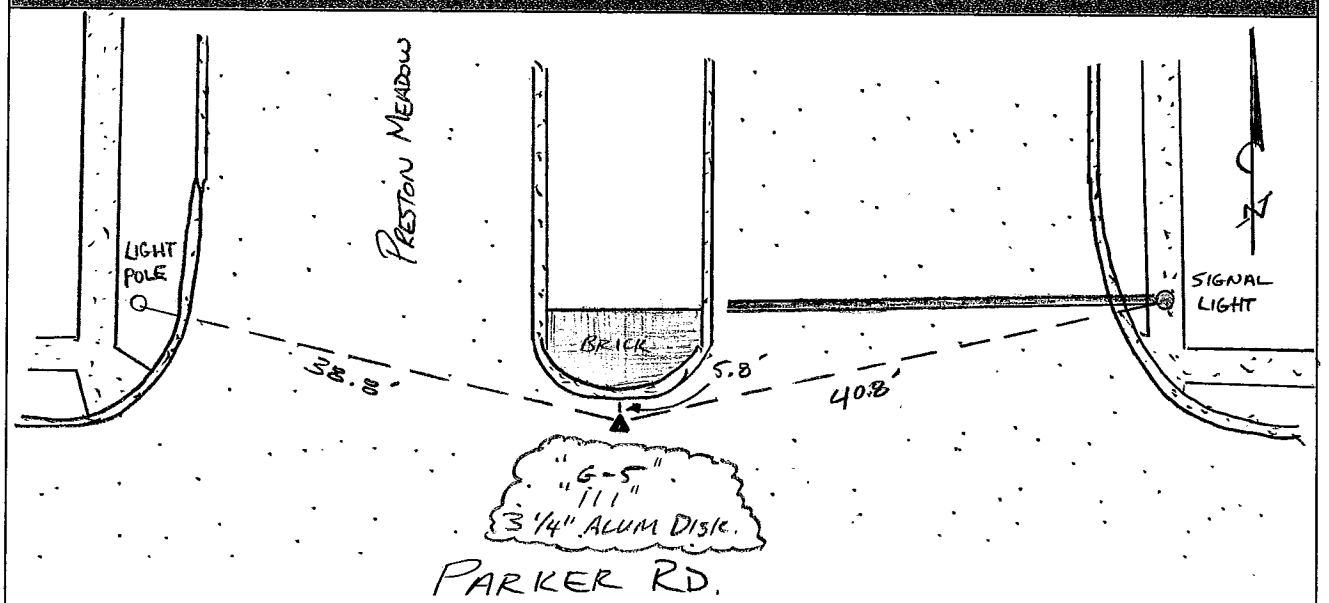
Location / Airport Name and ID PARKER RD. & PRESTON MEADOW Project 0901-3510

Station Designation G-5 PID N/A Date 4/13/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

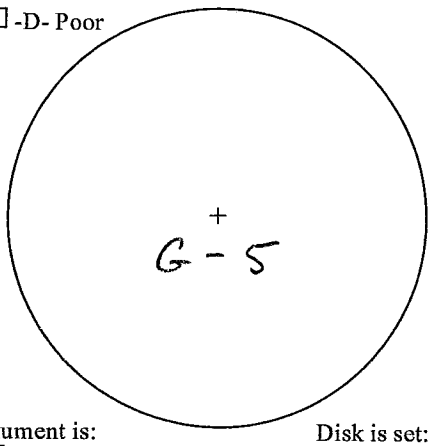
Observer & Organization S. PIEPKORN

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

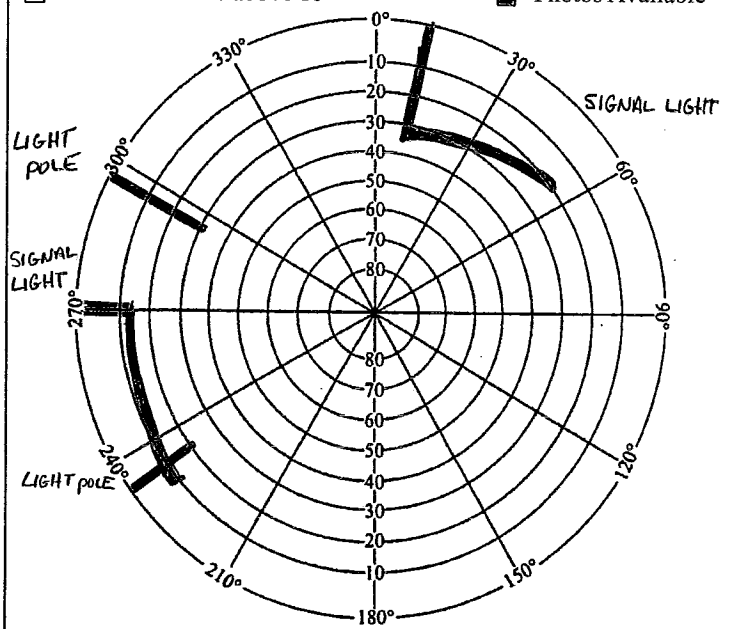


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



113

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: SPRING CREEK PKWY & COIT RD

Project: 0901-3510

Station Designation: H6

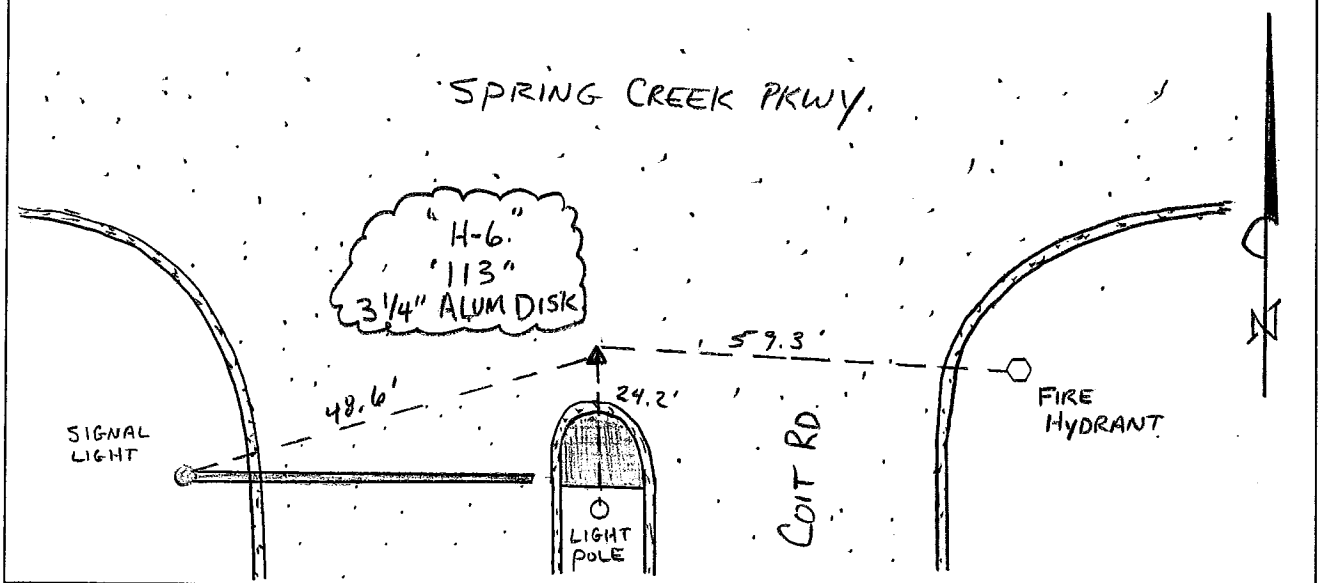
PID: N/A

Date: 4/13/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPHORN, GAI

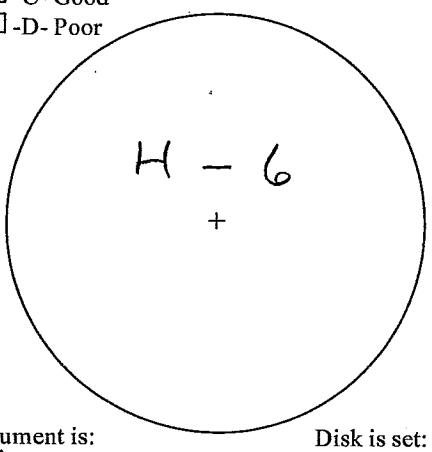
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor

☒ Photos Available



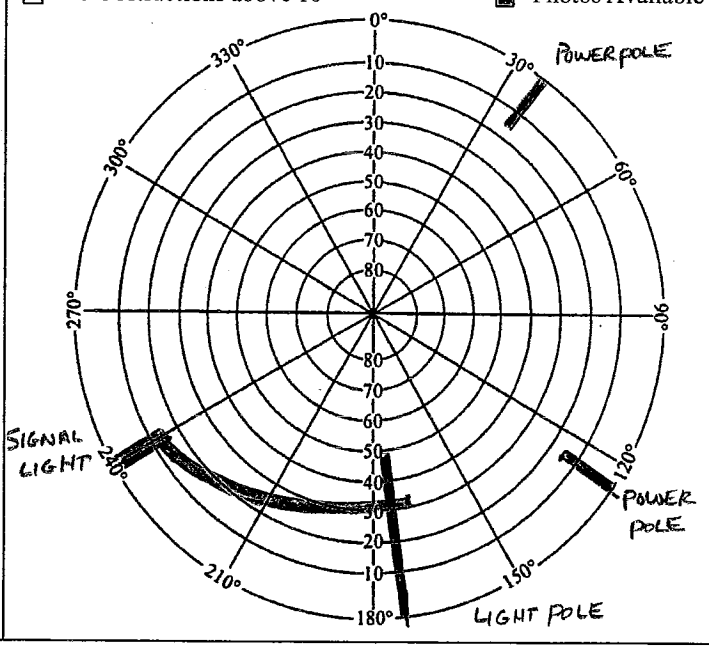
Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☒ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☒ Photos Available



114

Station Location Sketch and Visibility Diagram

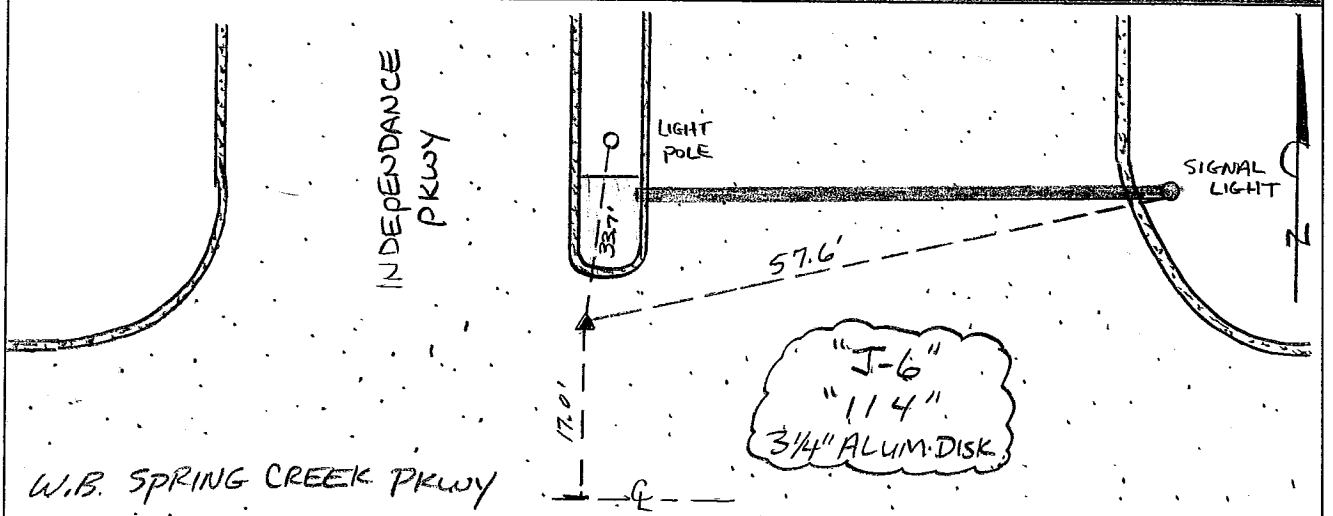
Location / Airport Name and ID SPRING CREEK PKWY & INDEPENDANCE PKWY. Project 0901-3510

Station Designation J-6 PID N/A Date 4/15/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

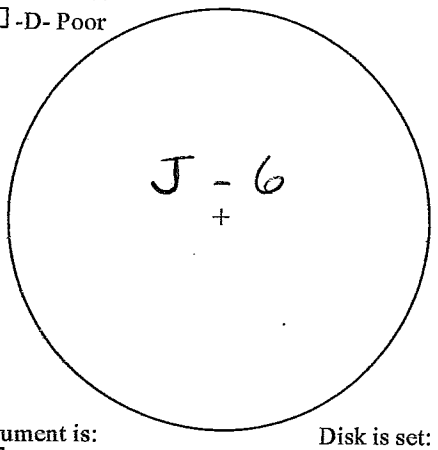
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

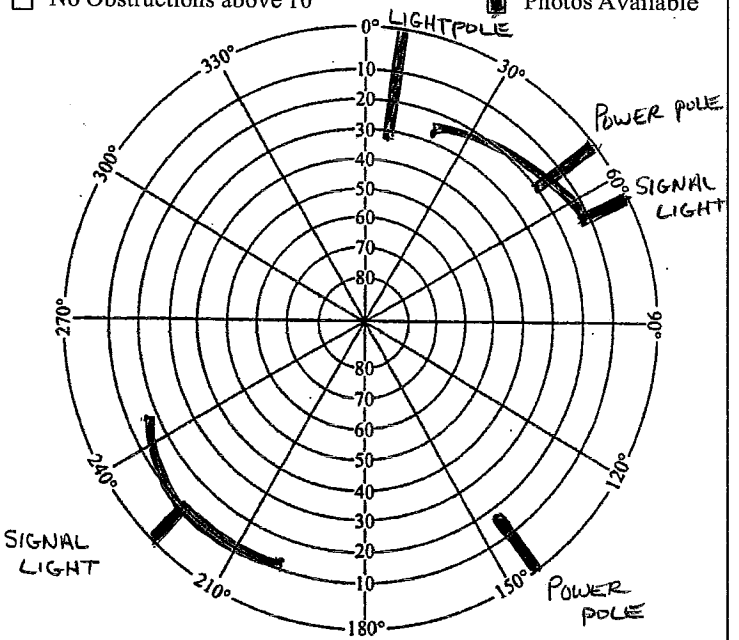
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



Station Location Sketch and Visibility Diagram

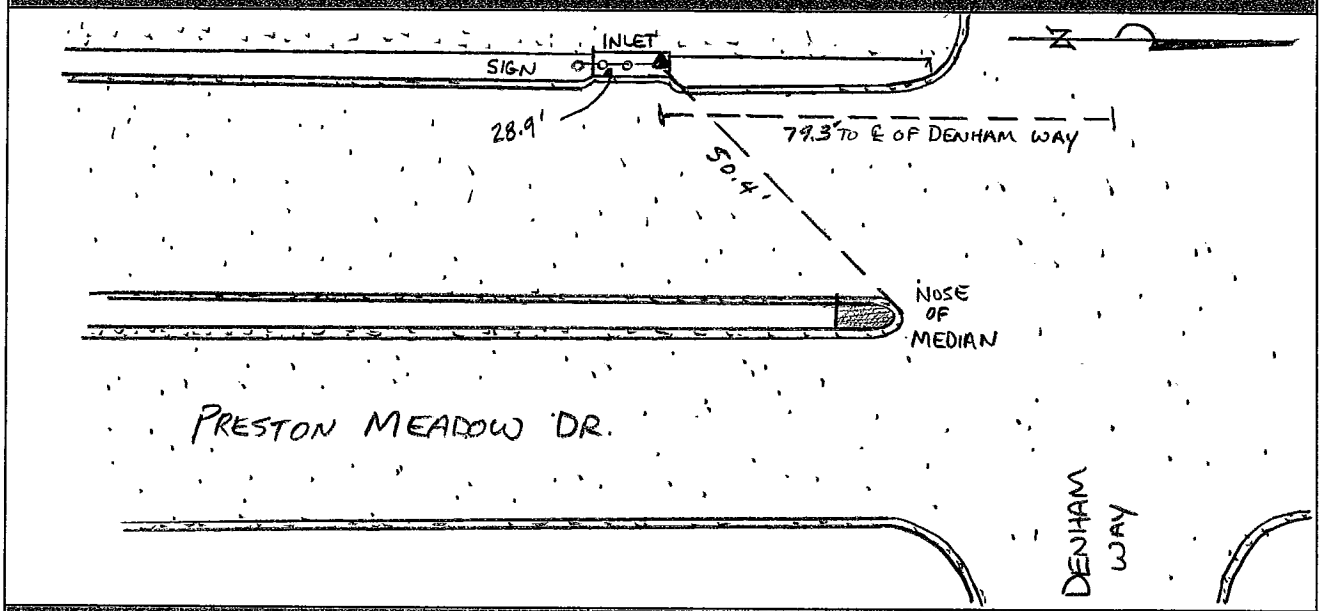
Location / Airport Name and ID PRESTON MEADOW DR. & DENHAM WAY Project 0901-3510

Station Designation G7 PID N/A Date 4/13/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

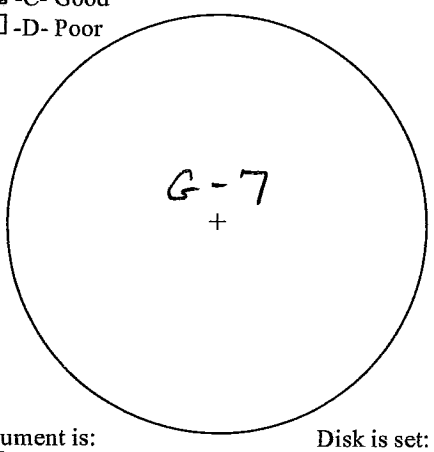
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

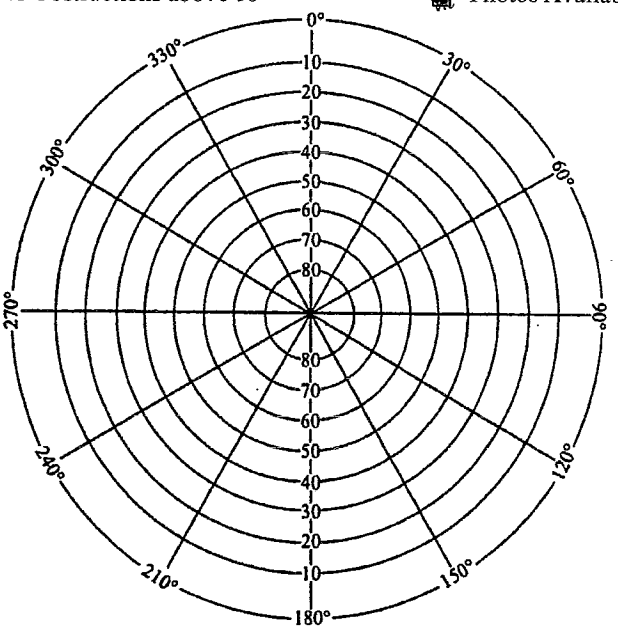
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

■ No Obstructions above 10° ■ Photos Available



Station Location Sketch and Visibility Diagram

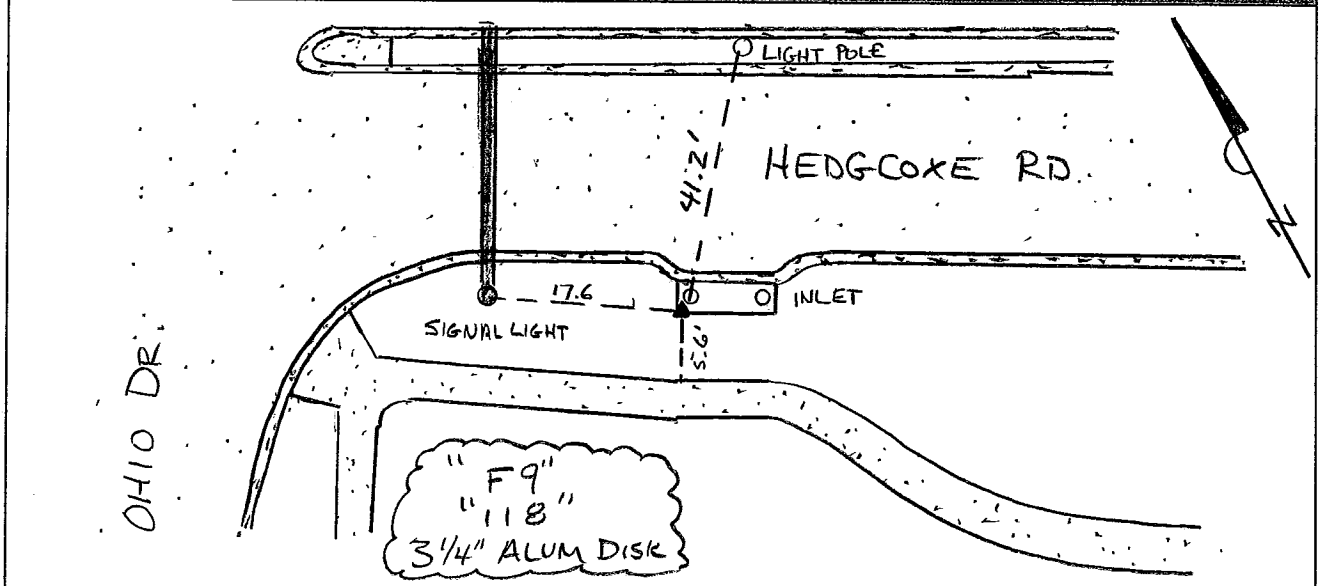
Location / Airport Name and ID OHIO DR. & HEDGCOXE RD. Project 0901-3510

Station Designation F9 PID N/A Date 4/8/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

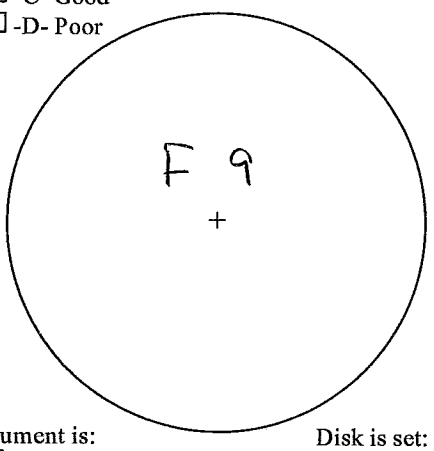
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

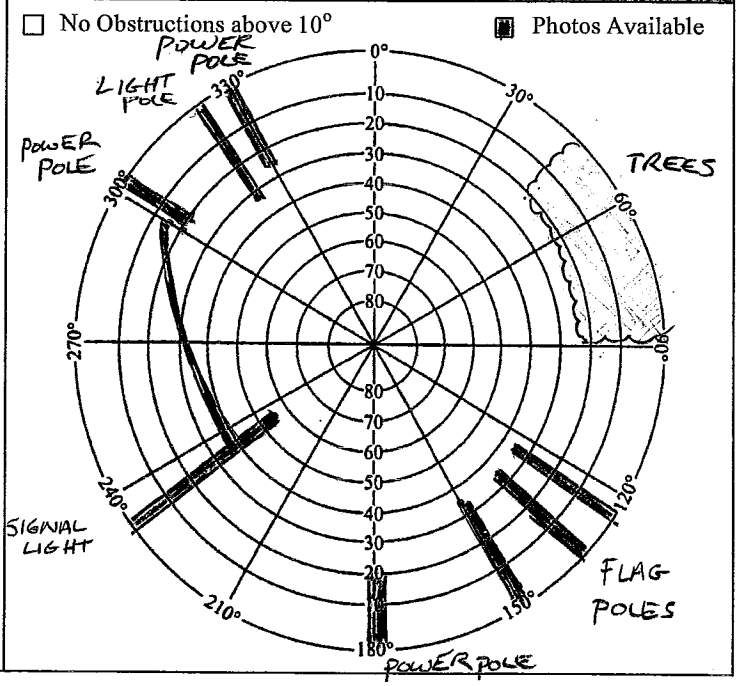
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



Station Location Sketch and Visibility Diagram

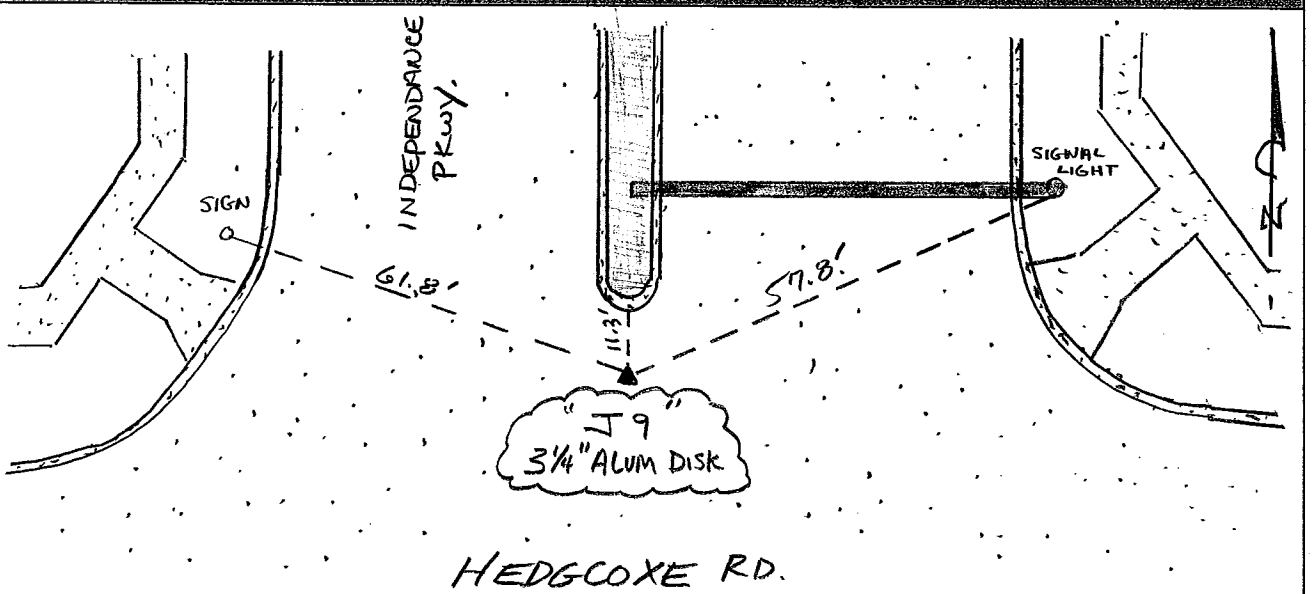
Location / Airport Name and ID HEDGCOXE RD. & INDEPENDANCE PKWY Project 0901-3510

Station Designation J9 PID N/A Date 4/14/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER K

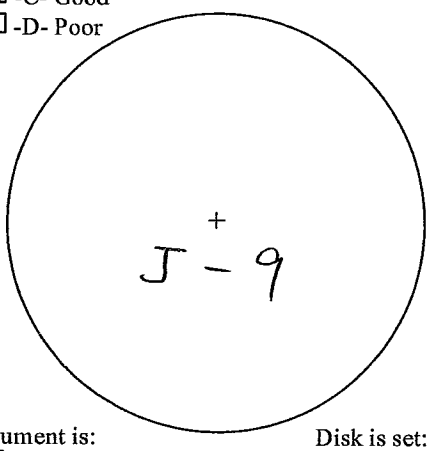
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

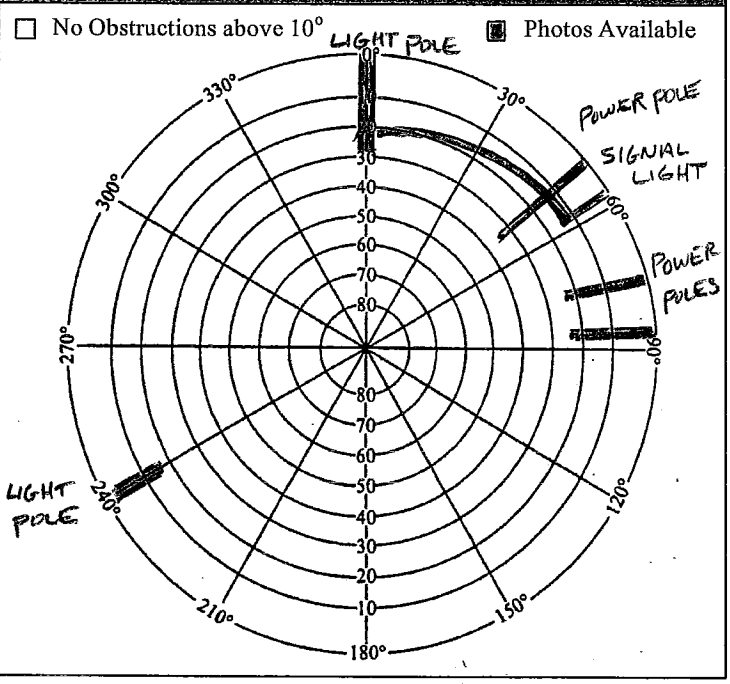


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



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Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: LOS RIOS BLVD. & 14TH ST.

Project: 0901-3510

Station Designation: Q2

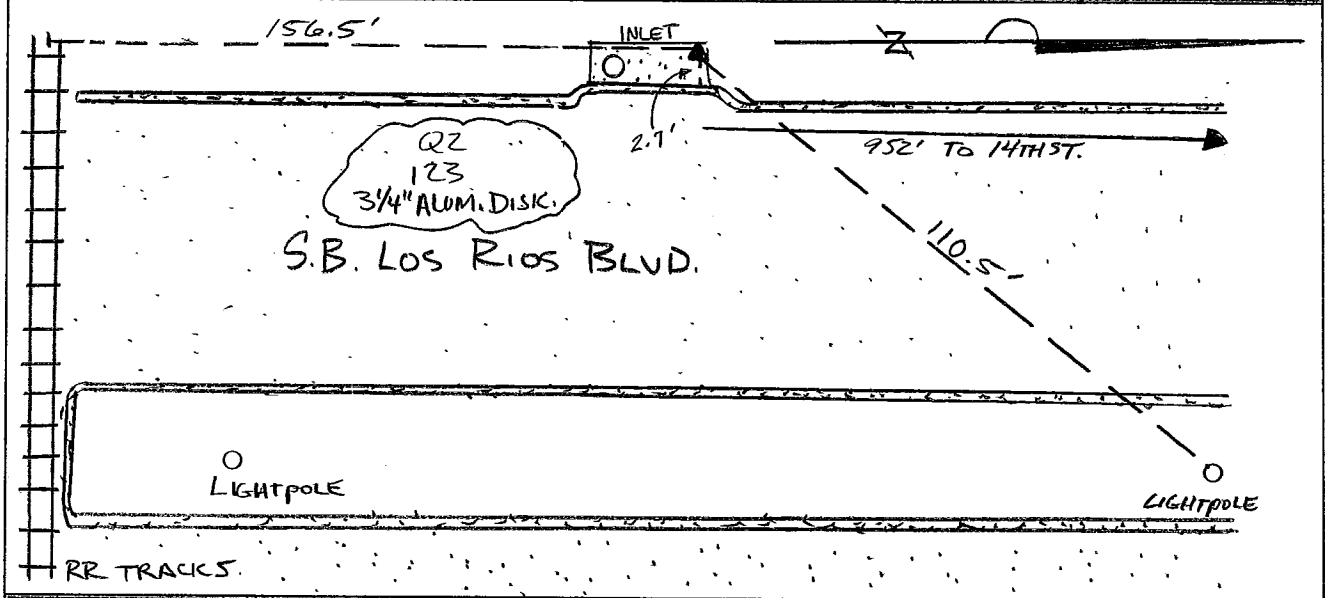
PID: N/A

Date: 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

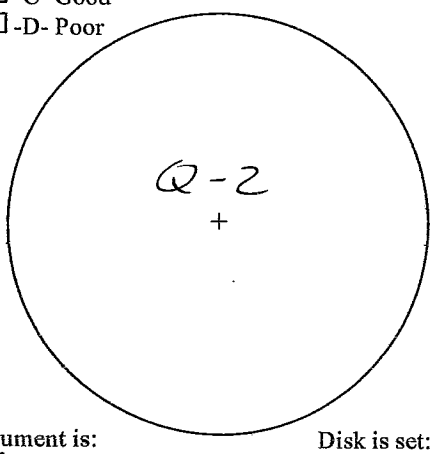
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



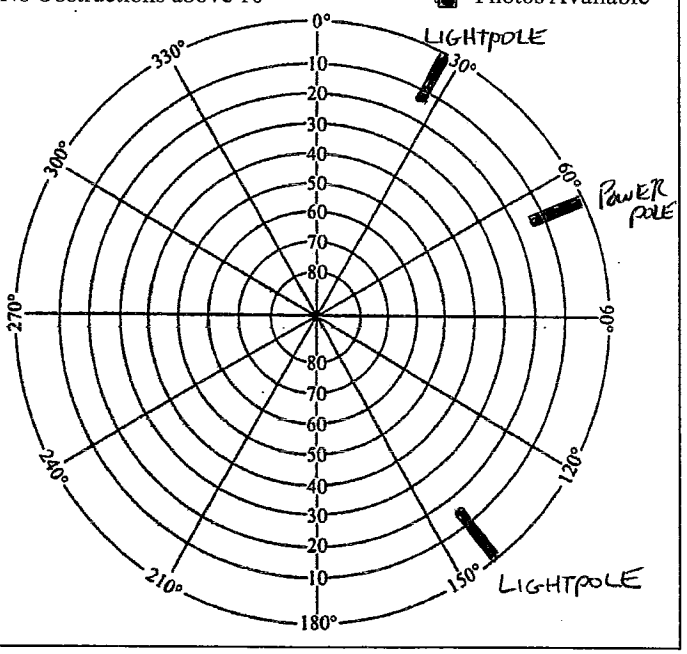
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



124

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: LOS RIOS BLVD. & LOS ROBLES DR.

Project: 0901-3510

Station Designation: Q4

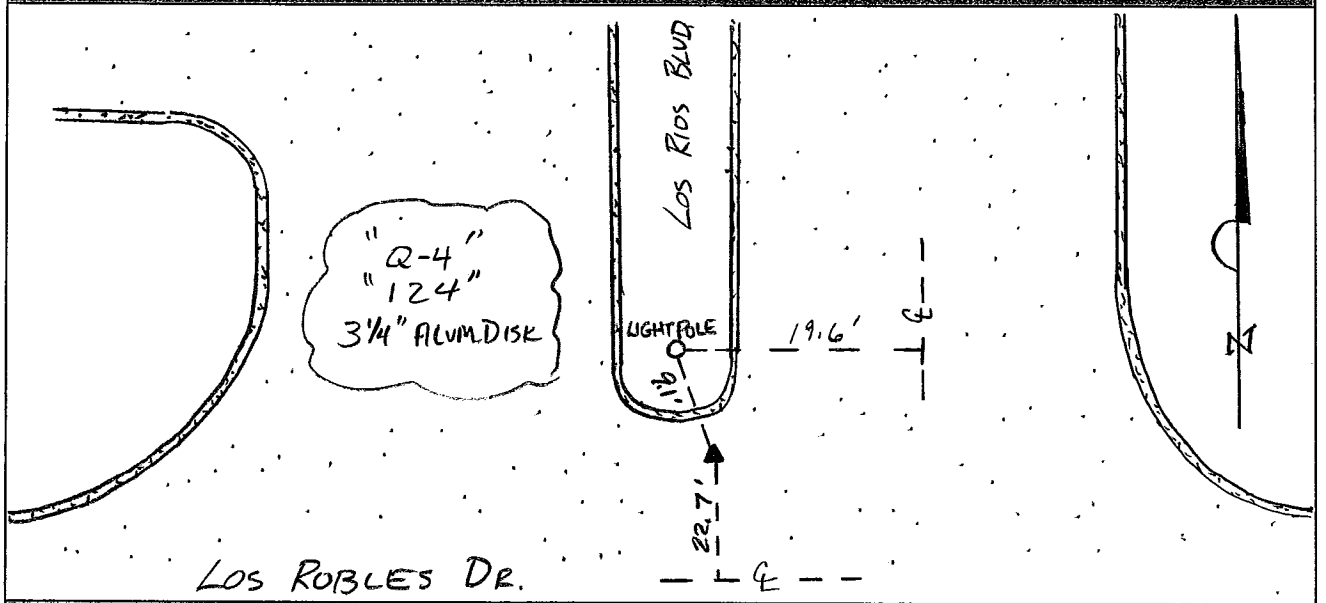
PID: N/A

Date: 4/21/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

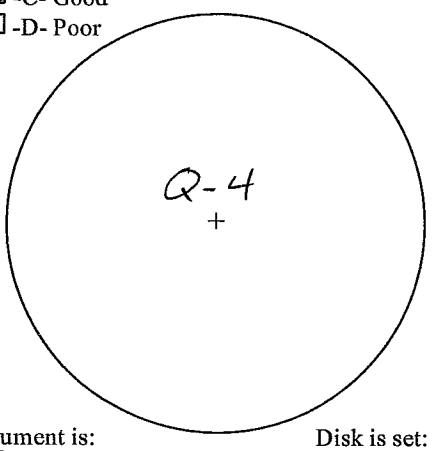
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

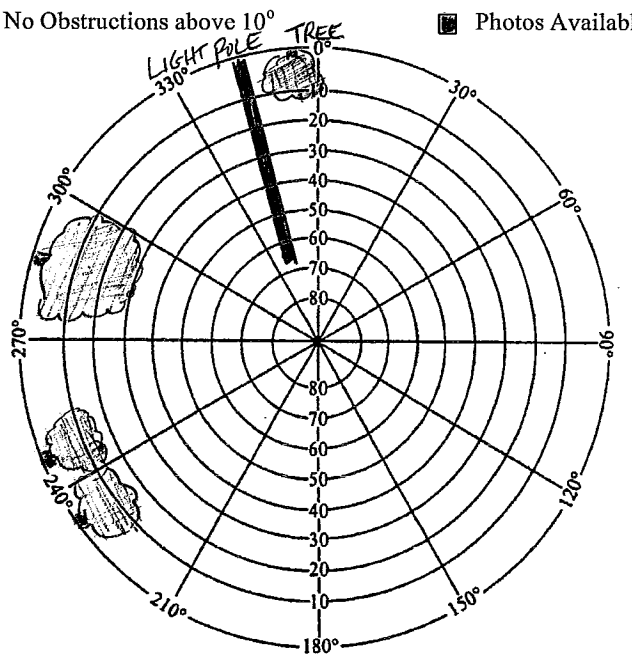


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



126

Station Location Sketch and Visibility Diagram

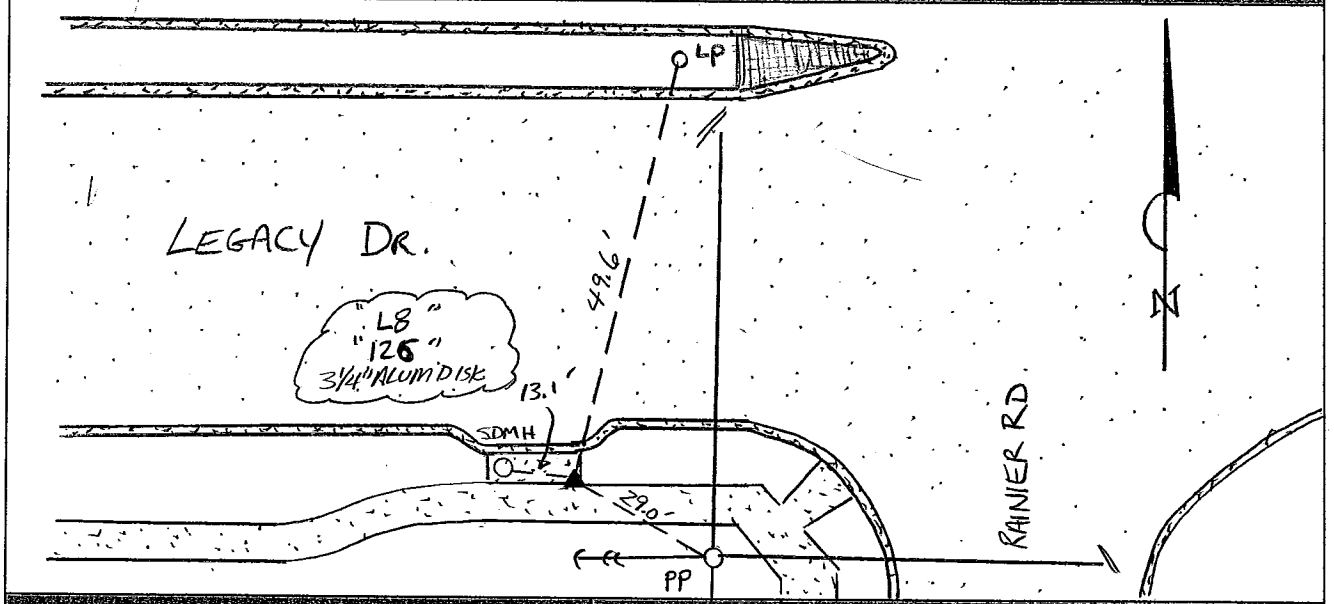
Location / Airport Name and ID RAINIER RD & LEGACY DR. Project 0901-3510

Station Designation L8 PID N/A Date 4/20/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

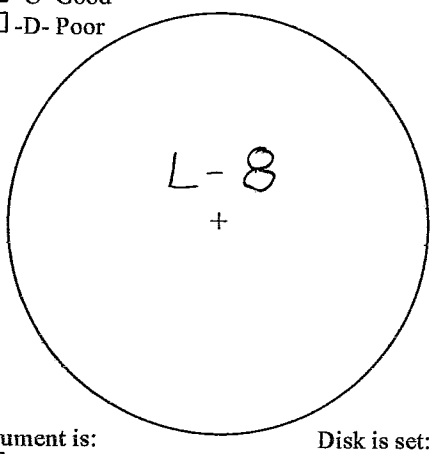
Observer & Organization S. PIEPKORN, GAT

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

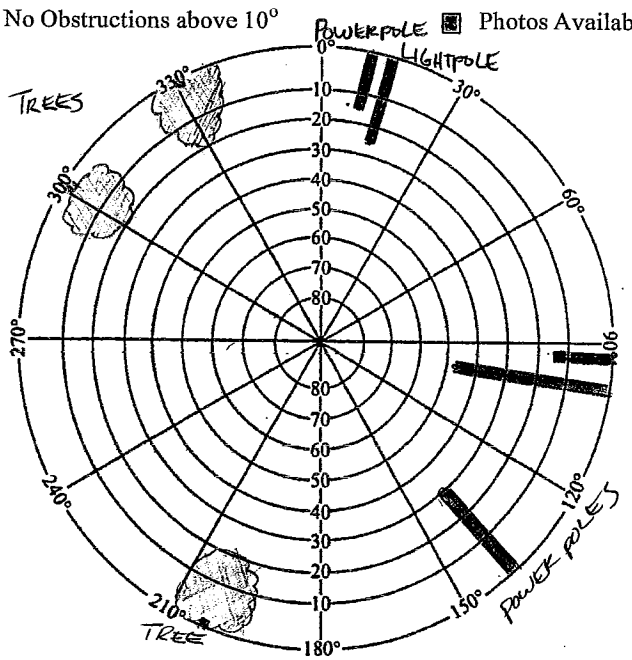


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



127

Station Location Sketch and Visibility Diagram

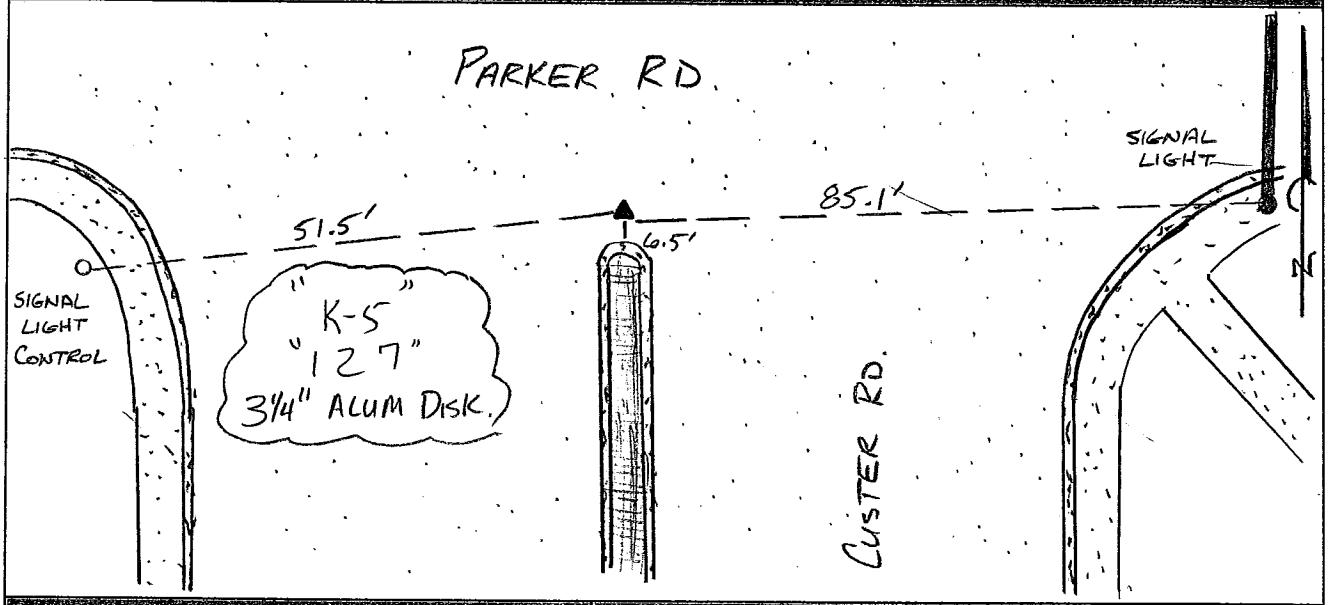
Location / Airport Name and ID PARKER RD. CUSTER RD. Project 0901-3510

Station Designation K-5 PID N/A Date 4/16/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

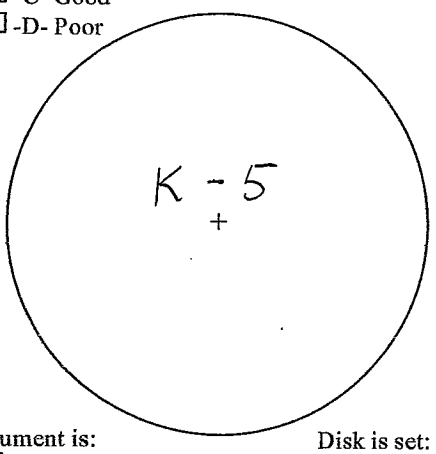
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

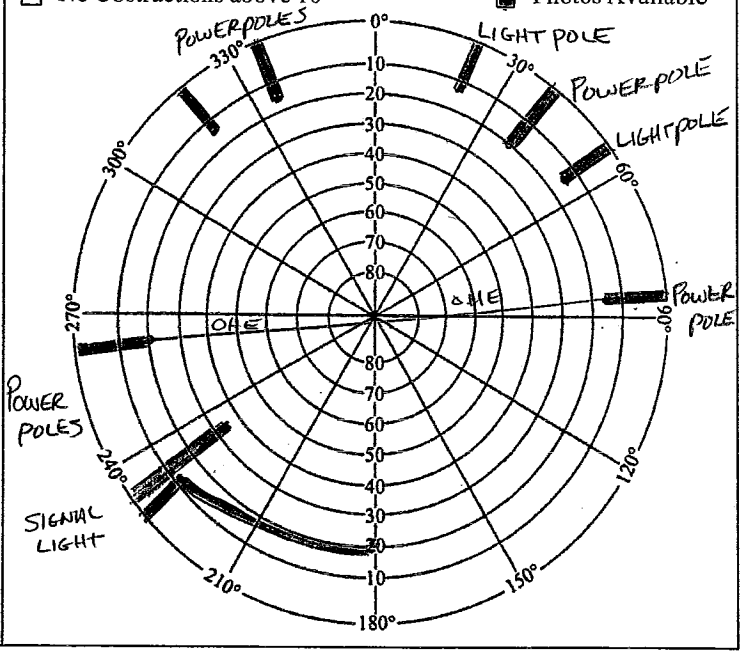


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



128

Station Location Sketch and Visibility Diagram

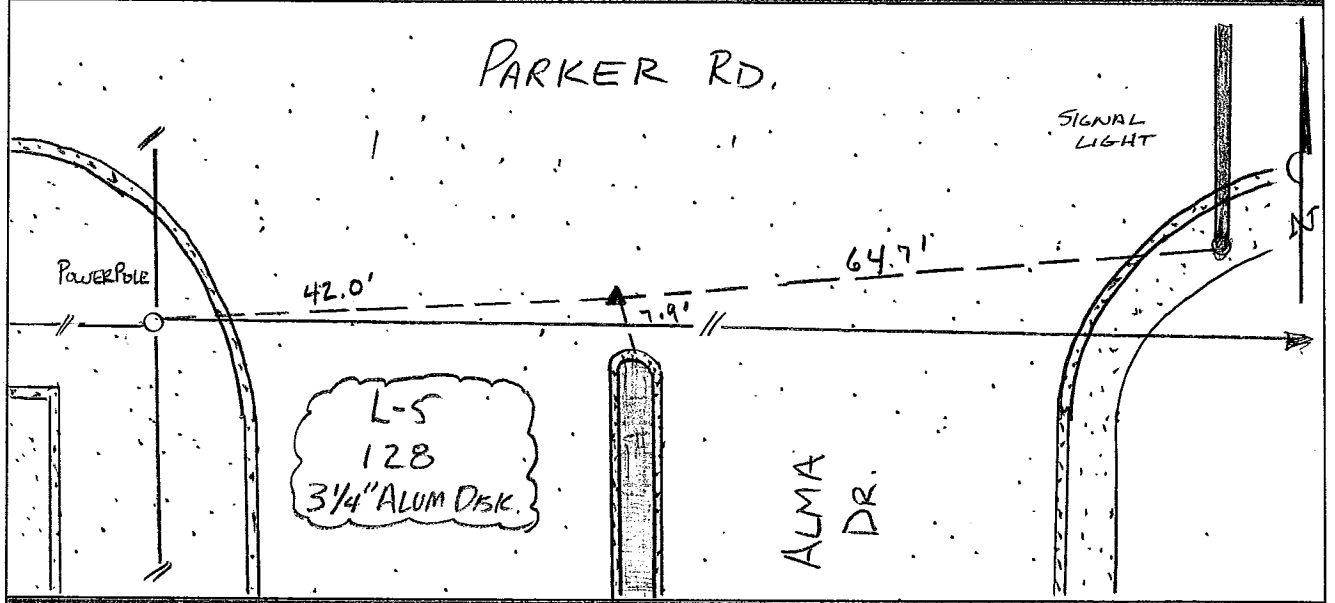
Location / Airport Name and ID PARKER RD. & ALMA DRIVE. Project 0901-3510

Station Designation L-5 PID N/A Date 4/16/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

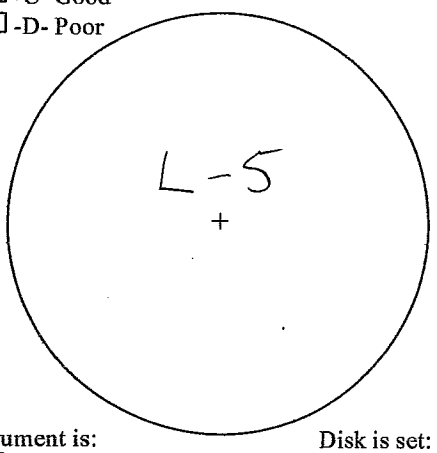
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

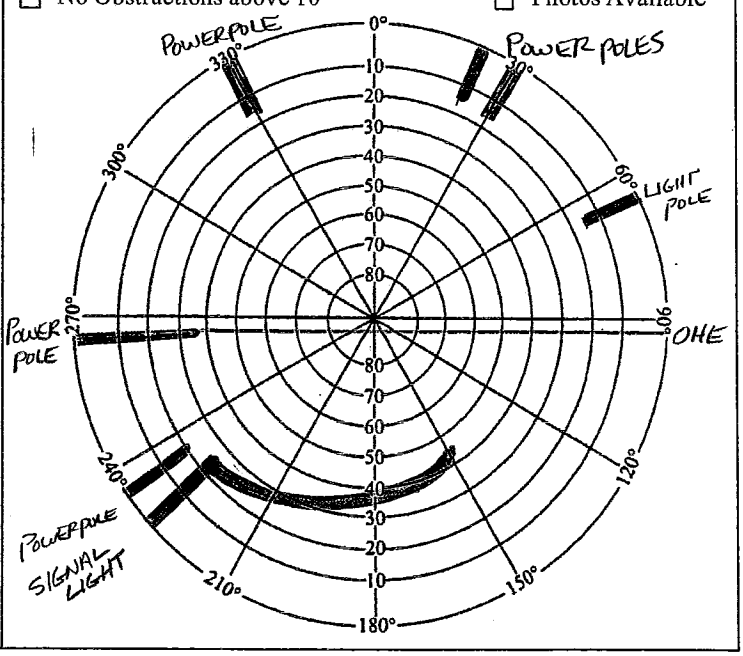


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



129

Station Location Sketch and Visibility Diagram

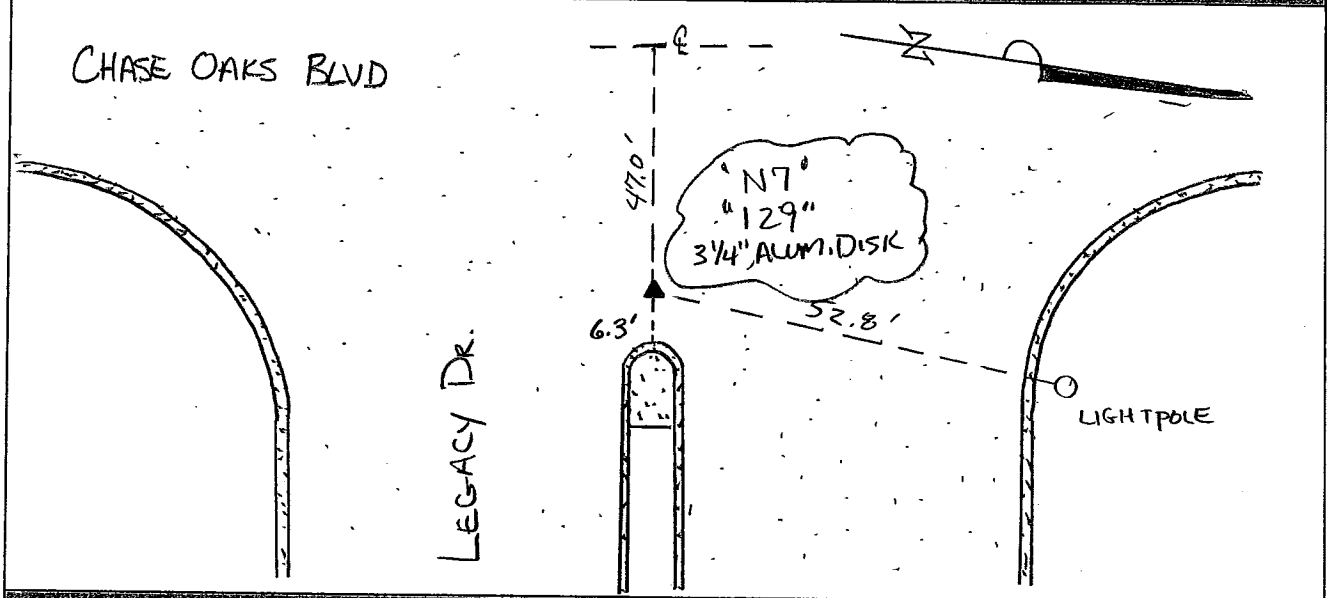
Location / Airport Name and ID CHASE OAKS BLVD. & LEGACY DR. Project 0901-3510

Station Designation N7 PID N/A Date 4/21/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAT

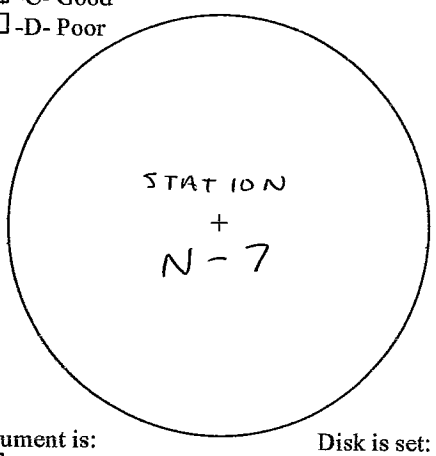
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

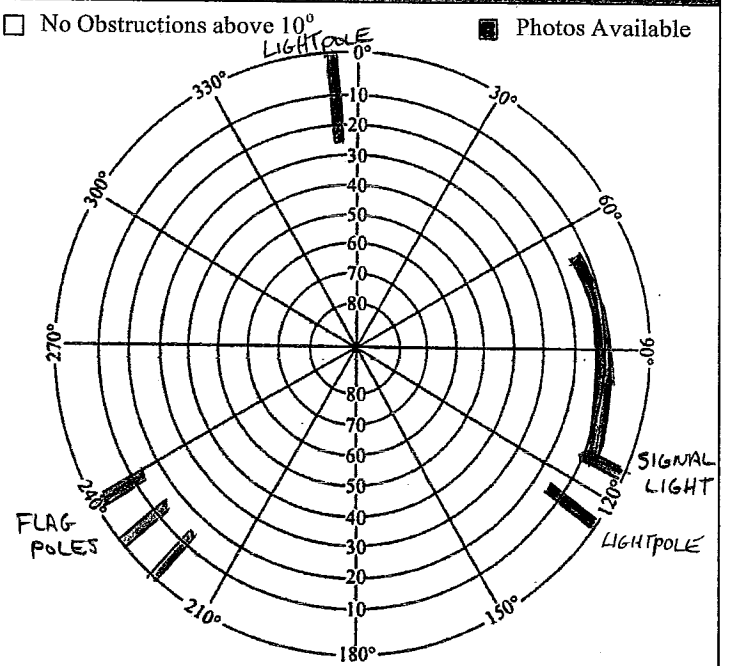


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



Station Location Sketch and Visibility Diagram

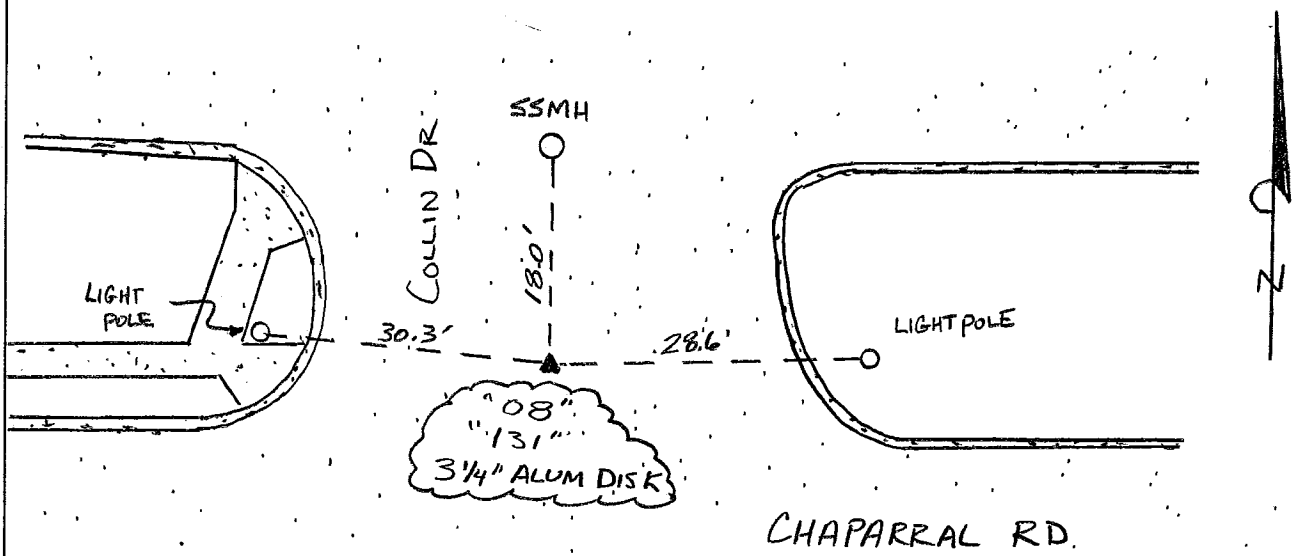
Location / Airport Name and ID CHAPARRAL RD. & COLLINS DR. Project 0901 – 3510

Station Designation 08 PID N/A Date 4/7/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

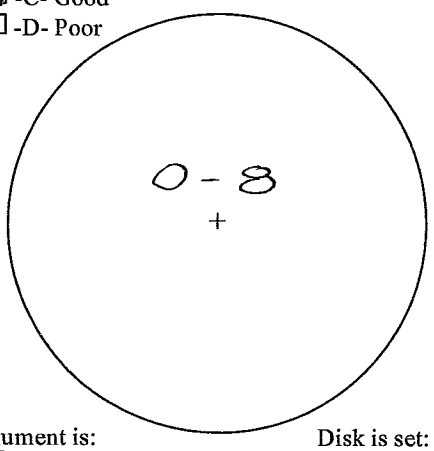
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

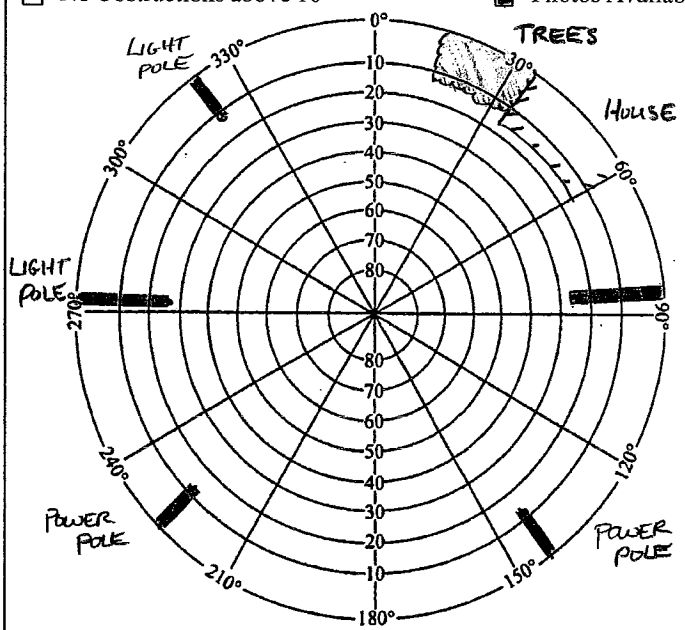


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



132

Station Location Sketch and Visibility Diagram

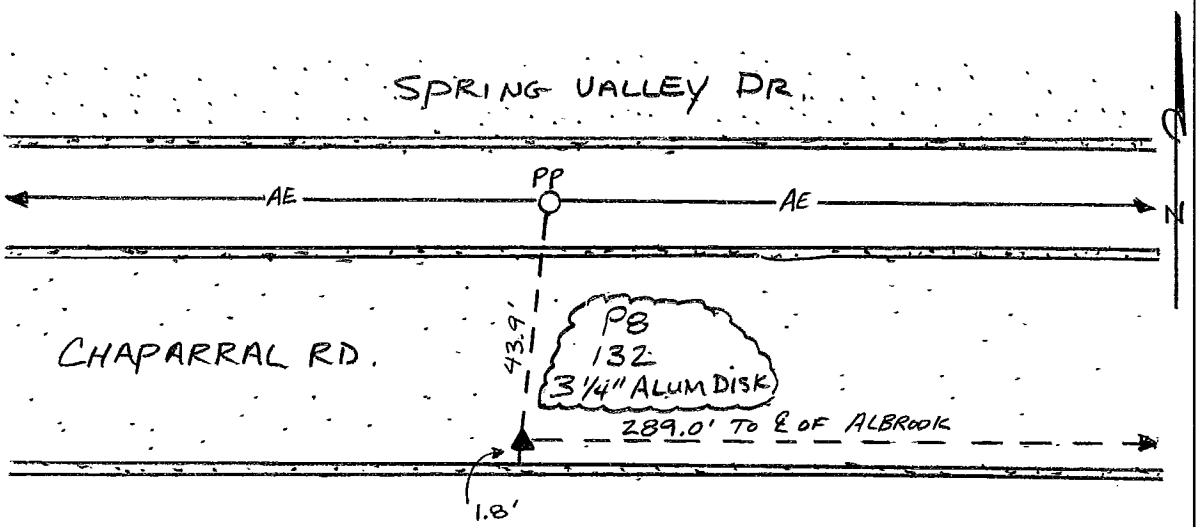
Location / Airport Name and ID CHAPARRAL RD. & ALBROOK DR. Project 0901-3510

Station Designation P8 PID N/A Date 4/7/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

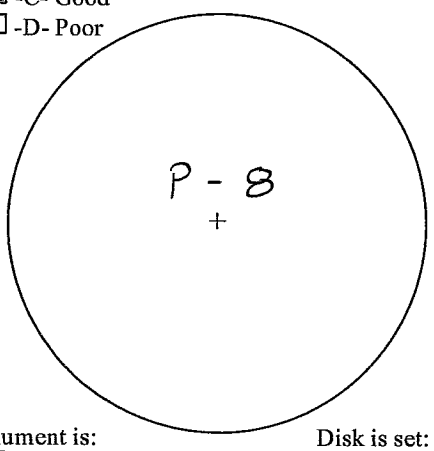
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

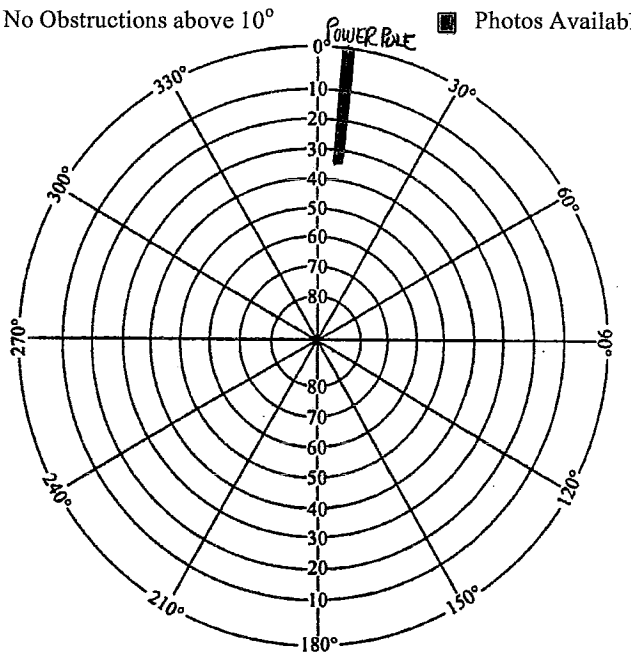
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



Station Location Sketch and Visibility Diagram

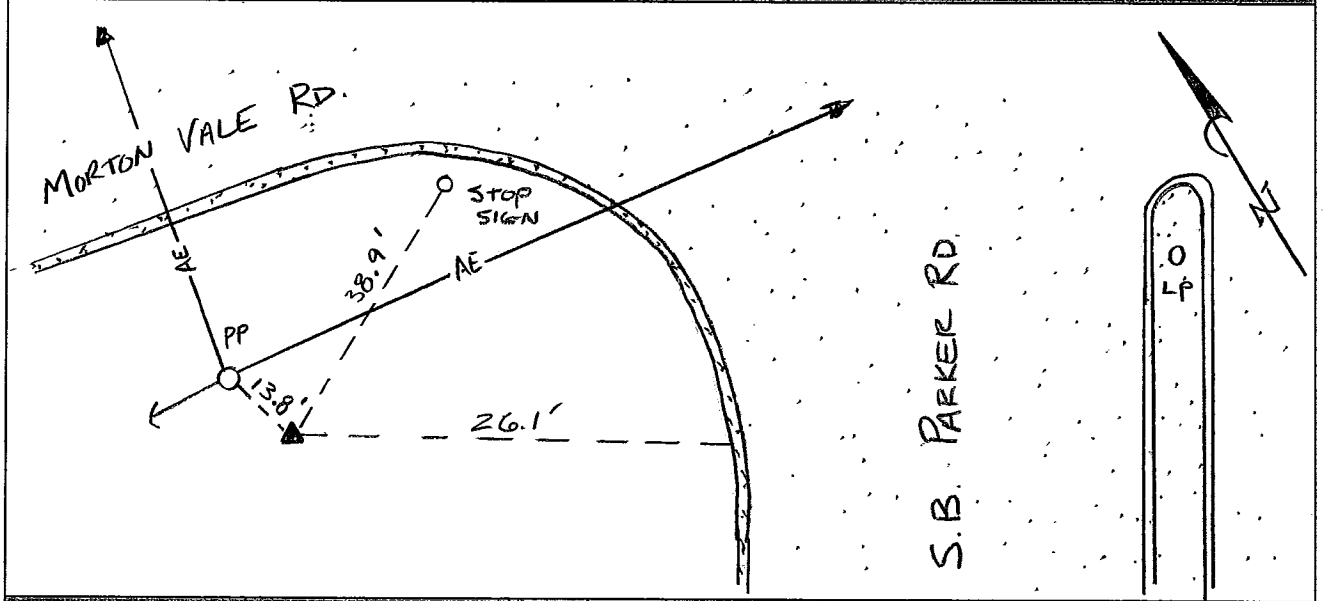
Location / Airport Name and ID PARKER RD & MORTON VALE RD. Project 0901-3510

Station Designation Q6 PID N/A Date 4/7/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

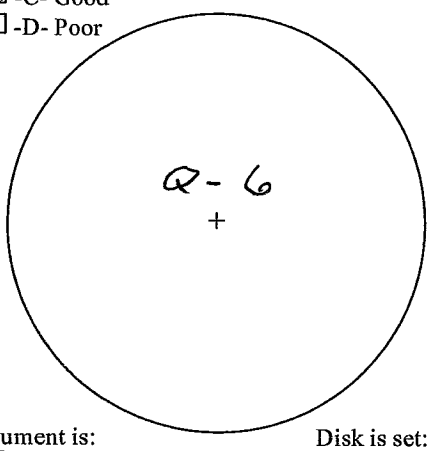
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

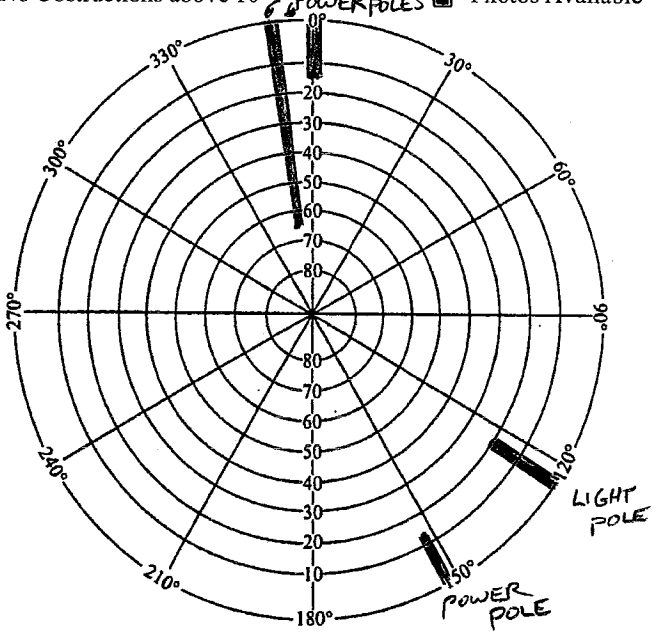


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: PARK BLVD & SHILOH RD.

Project: 0901-3510

Station Designation: P-4

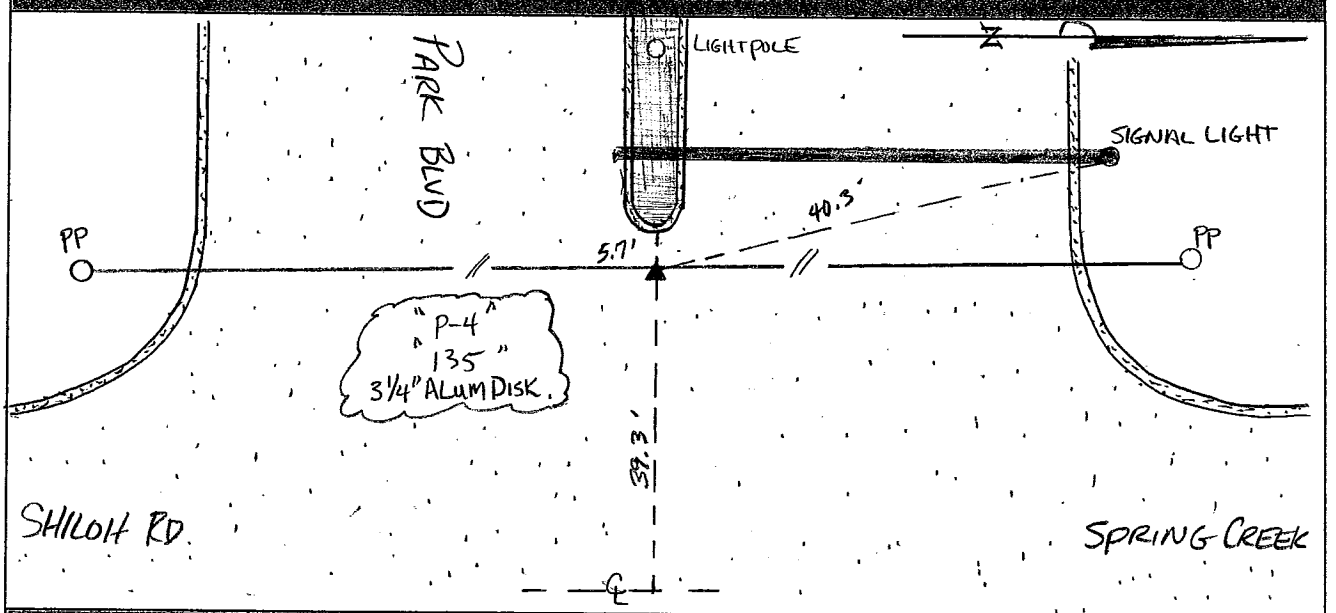
PID: N/A

Date: 4/20/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

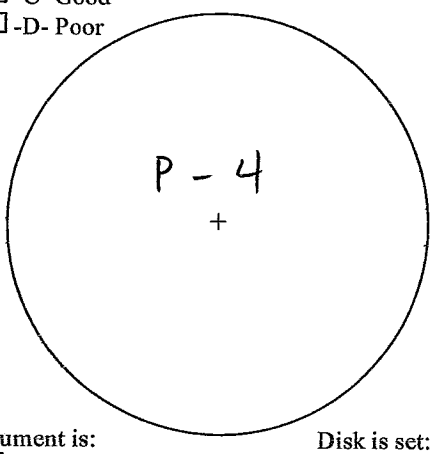
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor

☒ Photos Available



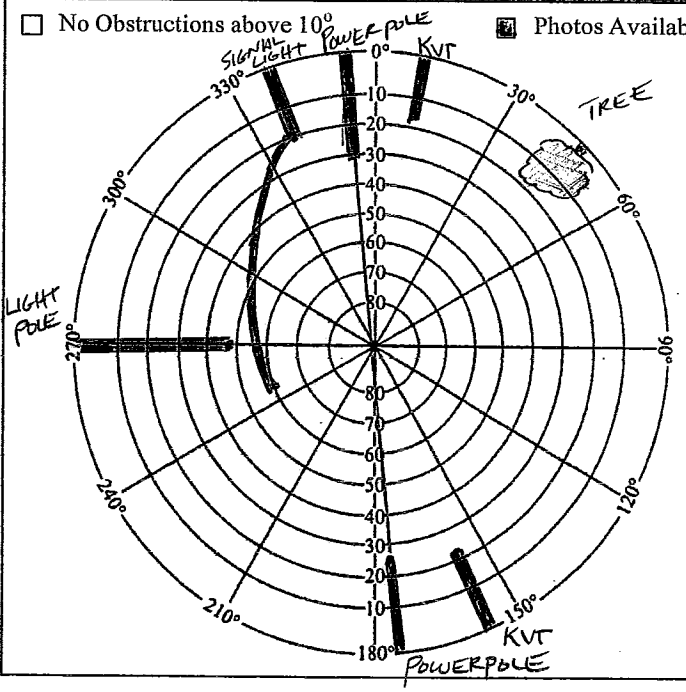
Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☒ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☒ Photos Available



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Station Location Sketch and Visibility Diagram

Location / Airport Name and ID JUPITER RD & PARK BLVD

Project 0901-3510

Station Designation 04

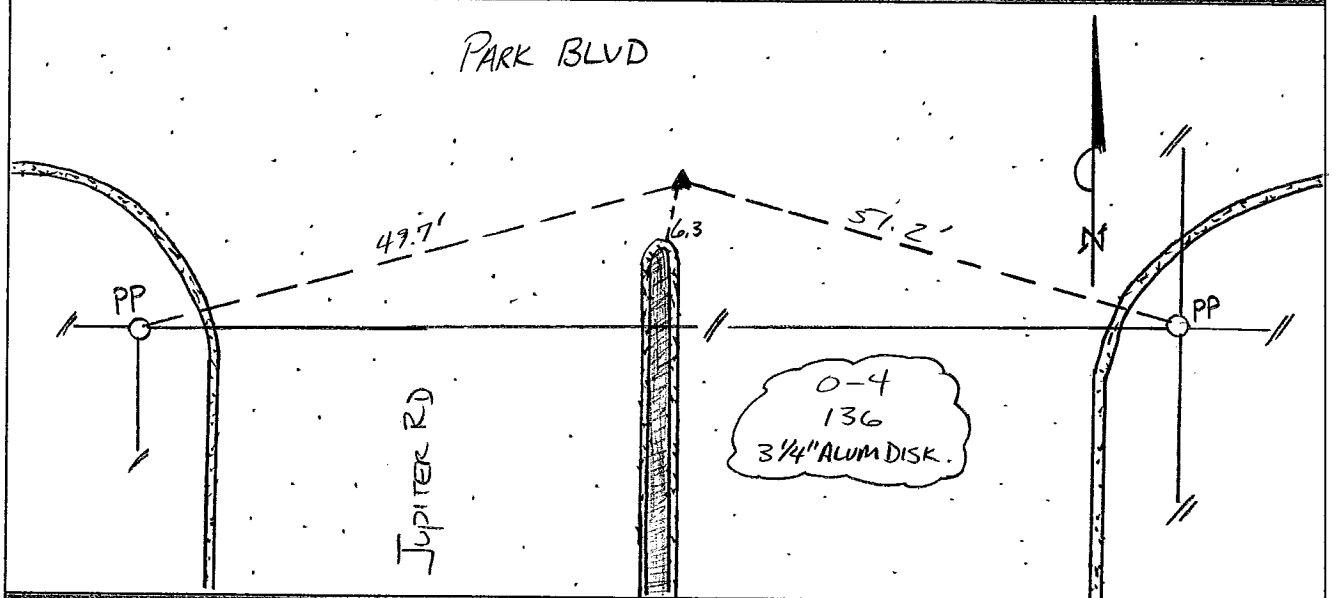
PID N/A

Date 4/20/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

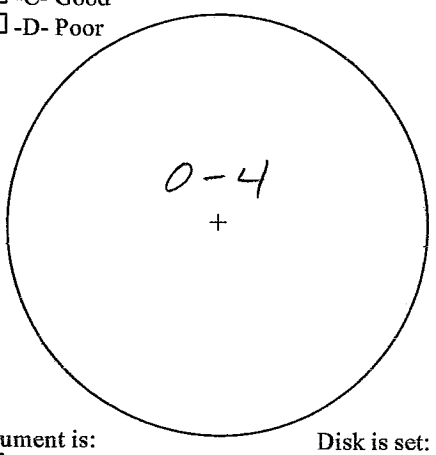
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



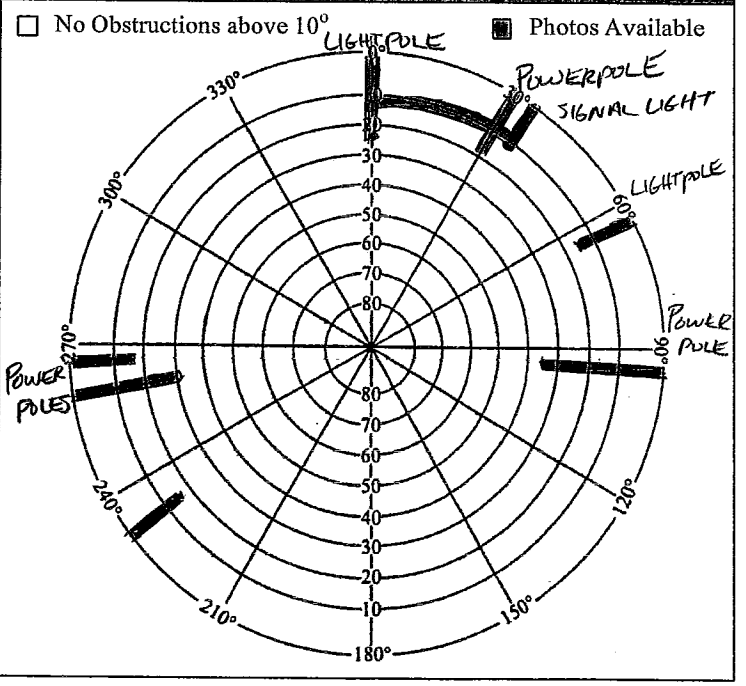
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



137

Station Location Sketch and Visibility Diagram

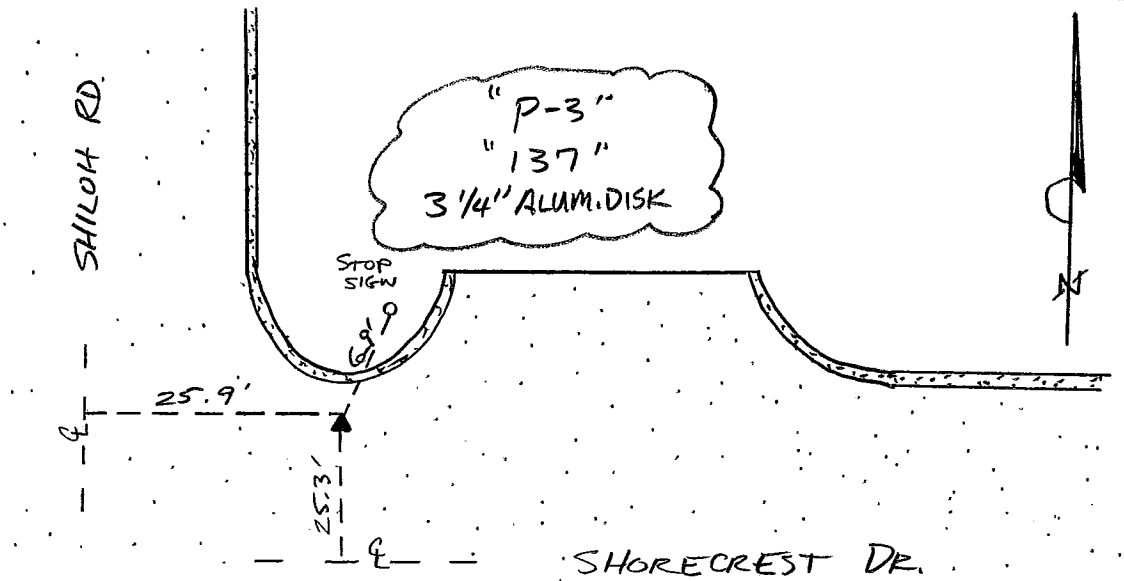
Location / Airport Name and ID SHILOH RD. & SHORECREST DR. Project 0901-3510

Station Designation P3 PID N/A Date 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

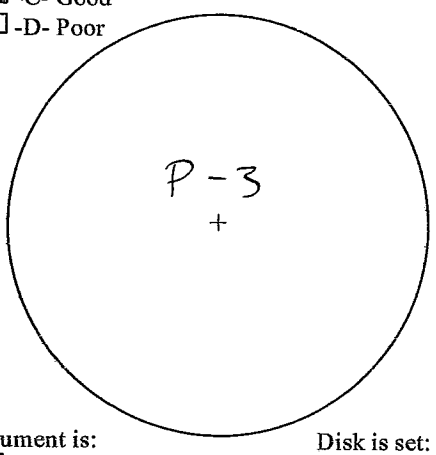
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

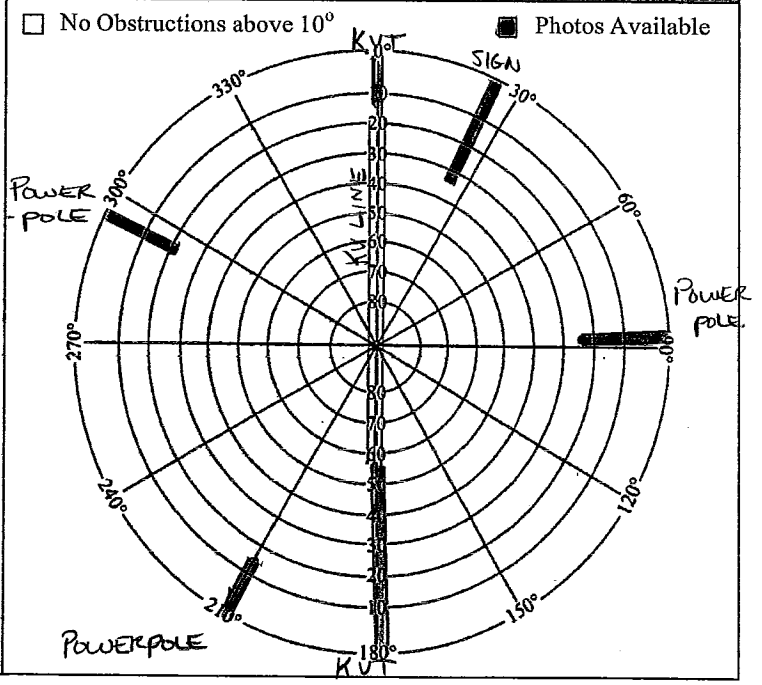


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



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Station Location Sketch and Visibility Diagram

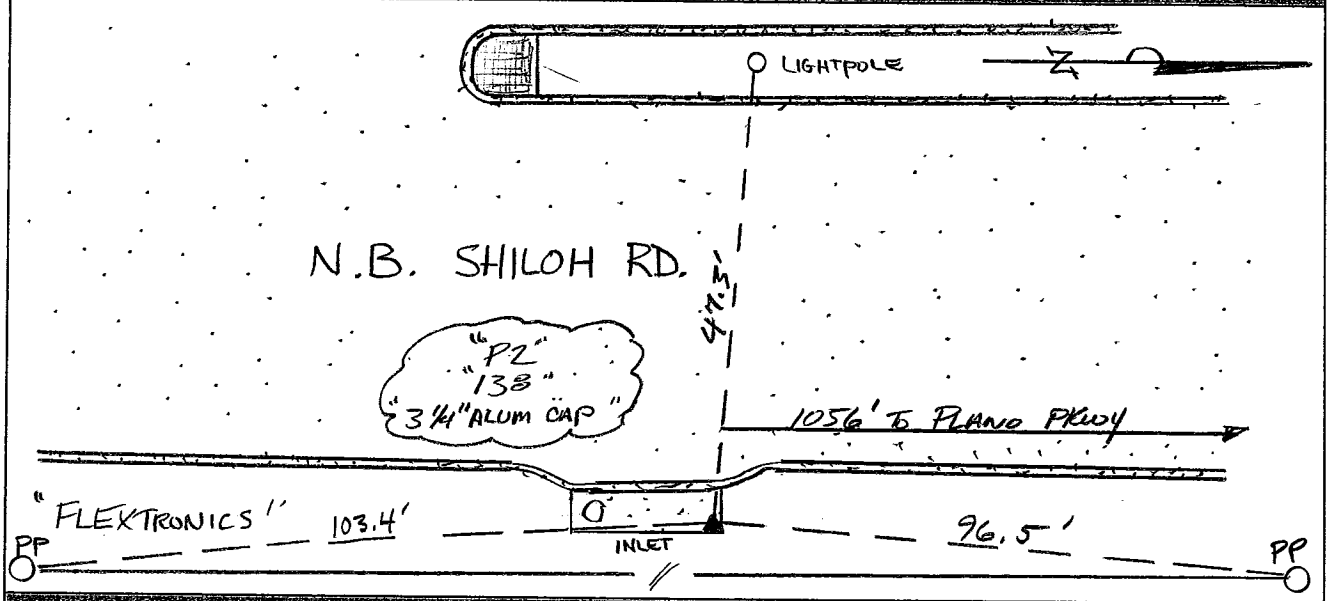
Location / Airport Name and ID SHILOH RD. Project 0901-3510

Station Designation P2 PID N/A Date 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

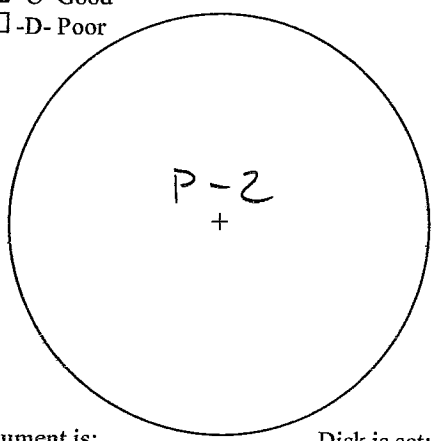
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



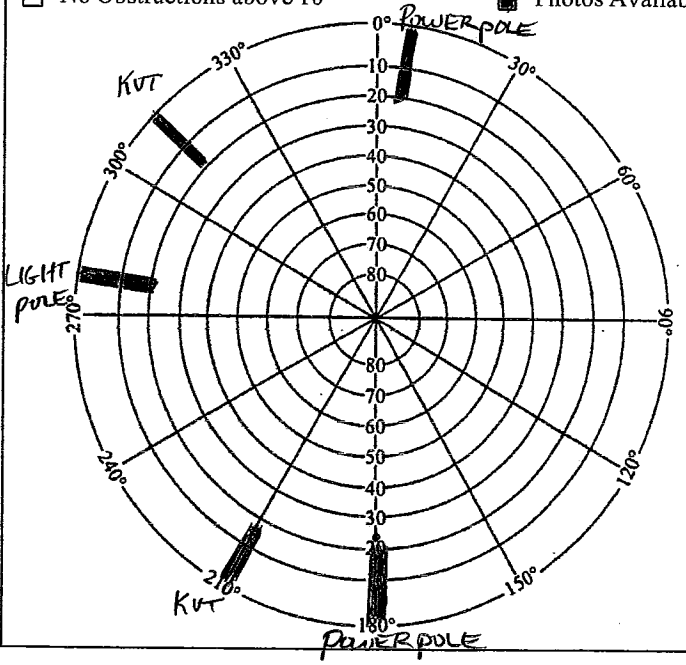
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



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Station Location Sketch and Visibility Diagram

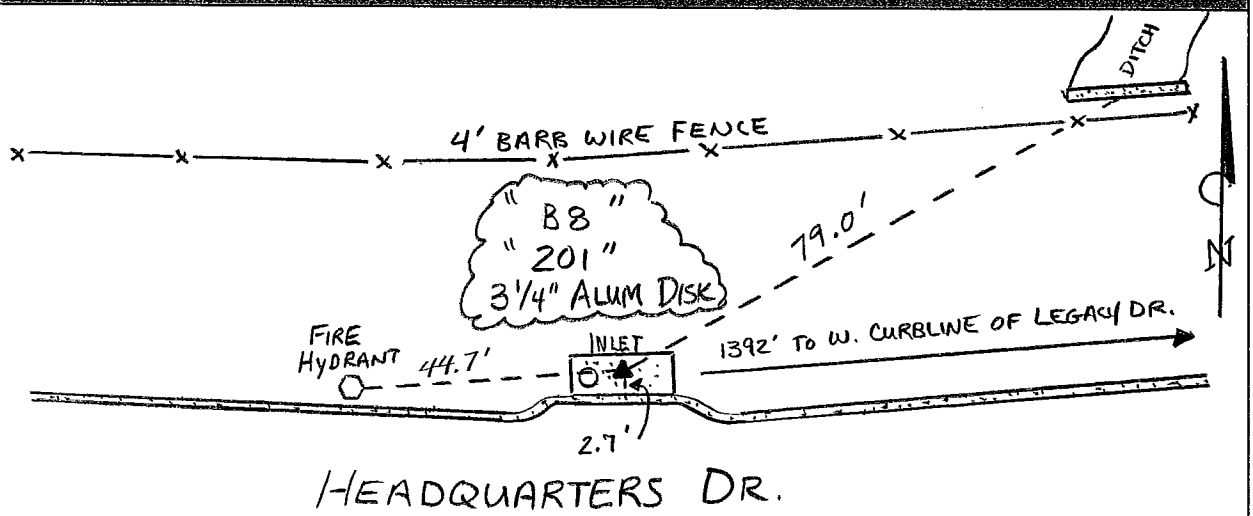
Location / Airport Name and ID HEADQUARTERS DR. W. OF LEGACY DR. Project 0901-3510

Station Designation B8 PID N/A Date 4/3/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

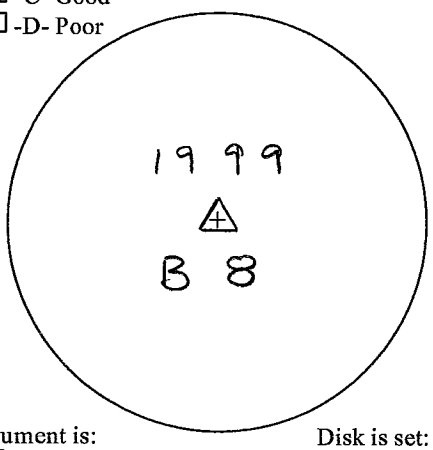
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

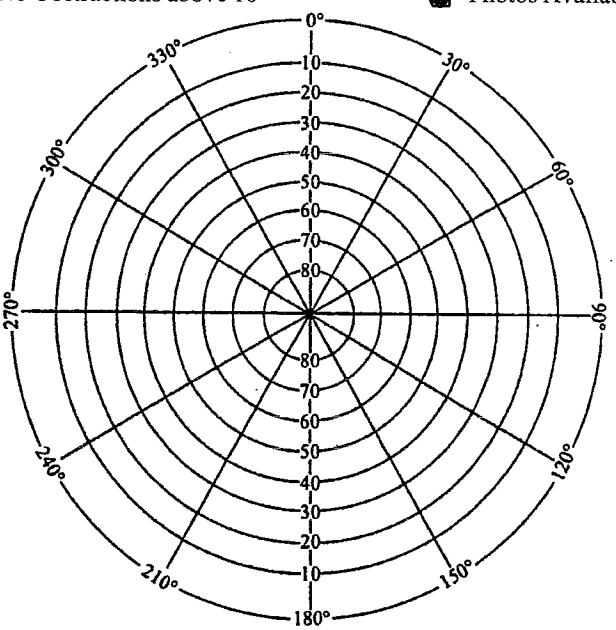
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

■ No Obstructions above 10° ■ Photos Available



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Station Location Sketch and Visibility Diagram

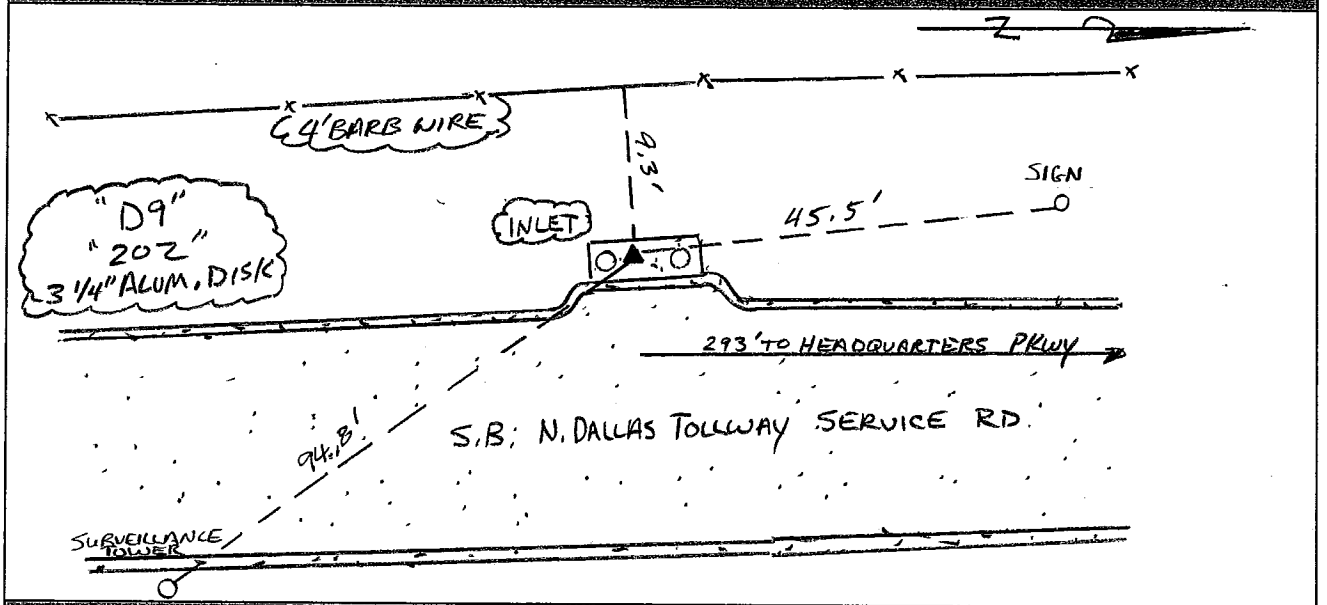
Location / Airport Name and ID N. DALLAS TOLLWAY & HEADQUARTERS PKWY Project 0901-3510

Station Designation D9 PID N/A Date 4/8/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

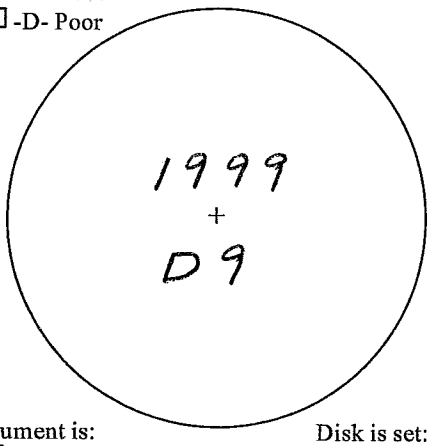
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

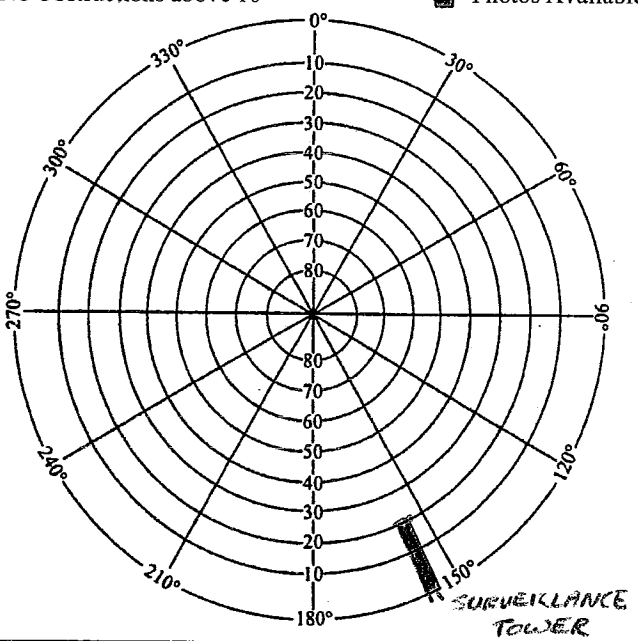
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



203

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID OHIO DR. & MCDERMOTT

Project 0901-3510

Station Designation F10

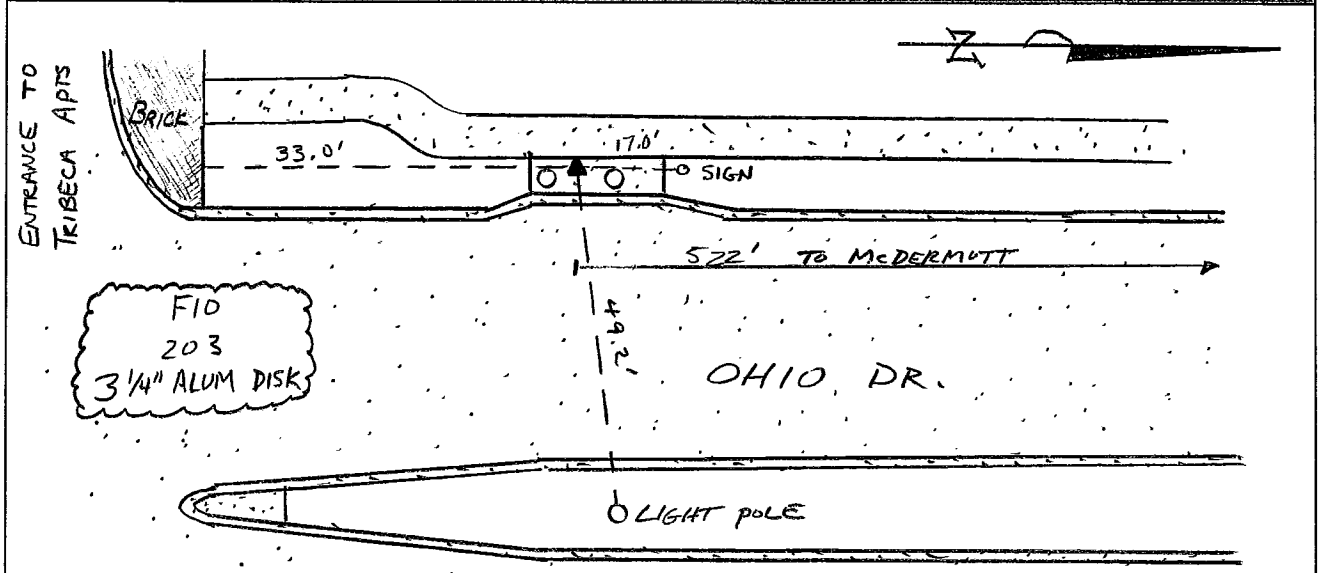
PID N/A

Date 4/8/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN

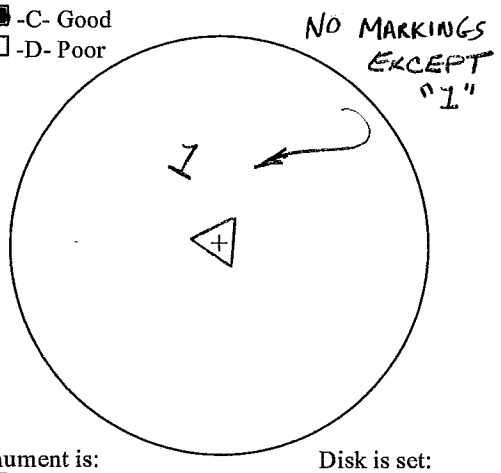
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



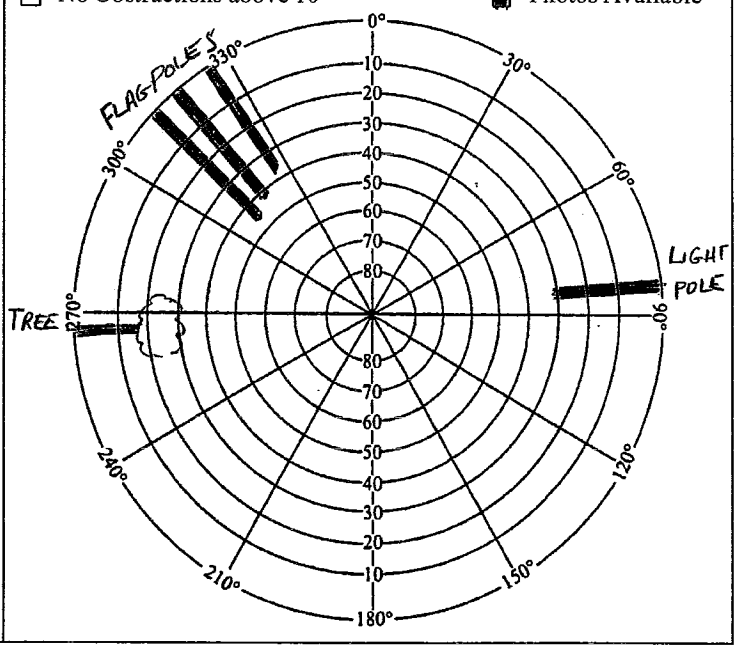
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



Station Location Sketch and Visibility Diagram

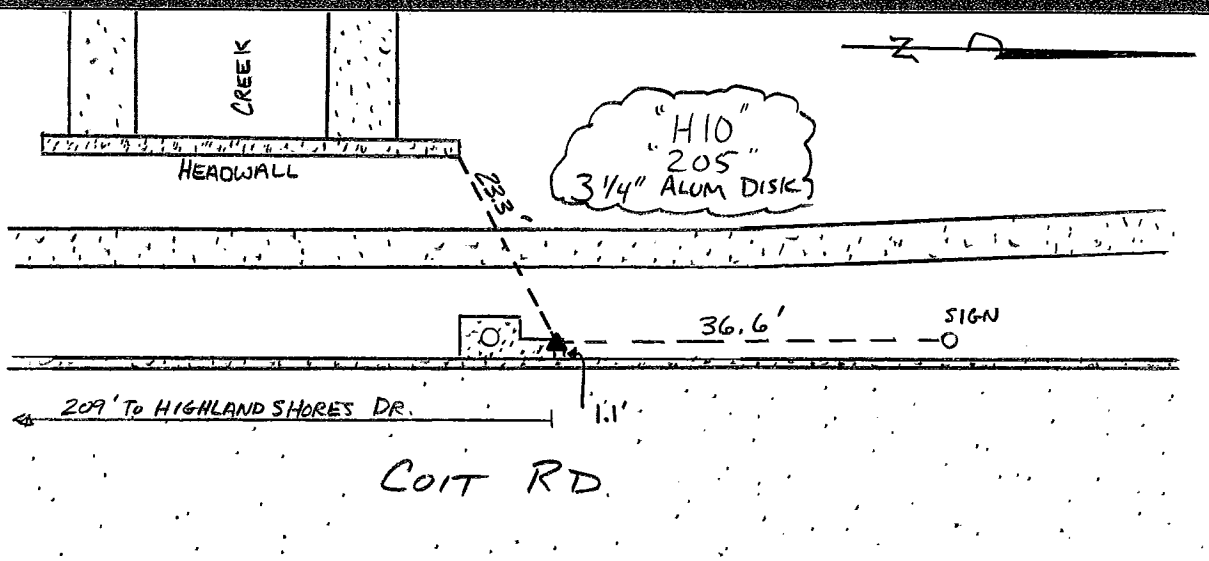
Location / Airport Name and ID: COIT RD. & HIGHLAND SHORES DR. Project: 0901-3510

Station Designation: H10 PID: N/A Date: 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

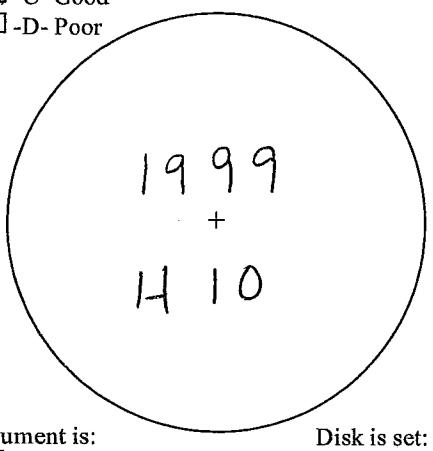
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

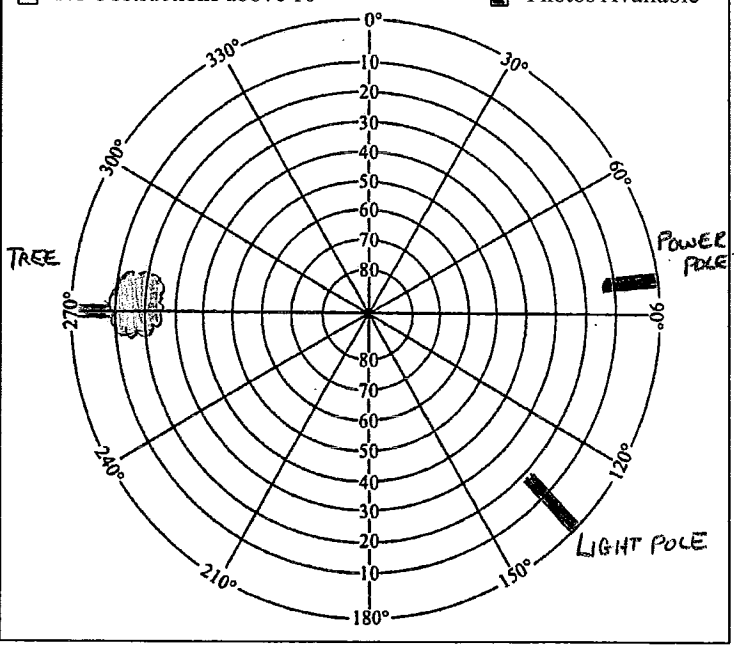
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



206

Station Location Sketch and Visibility Diagram

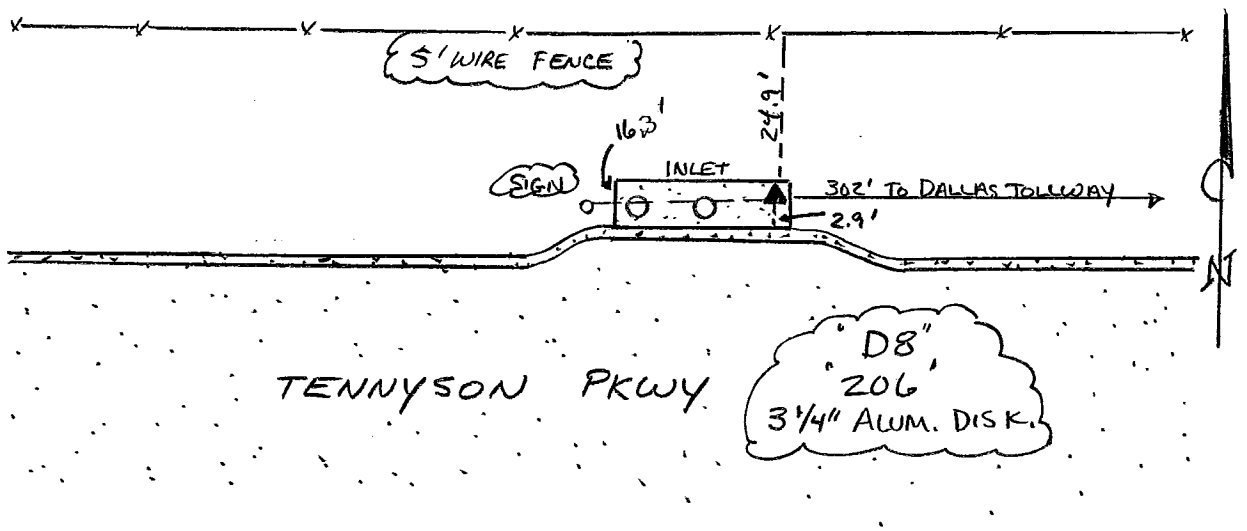
Location / Airport Name and ID N. DALLAS TOLLWAY & TENNYSON PKWY Project 0901-3510

Station Designation D8 PID N/A Date 4/8/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

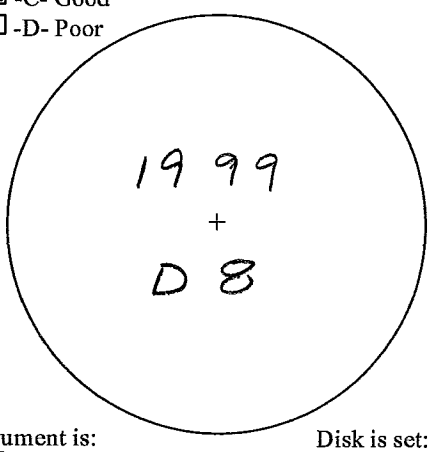
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

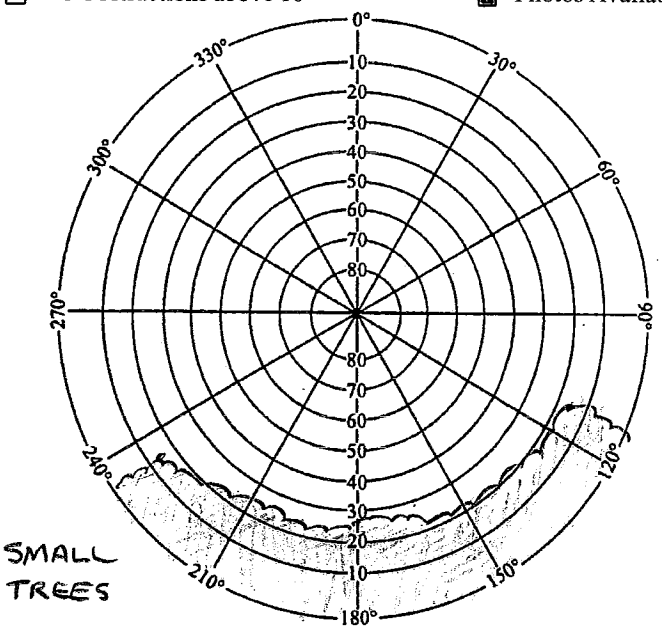
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



207

Station Location Sketch and Visibility Diagram

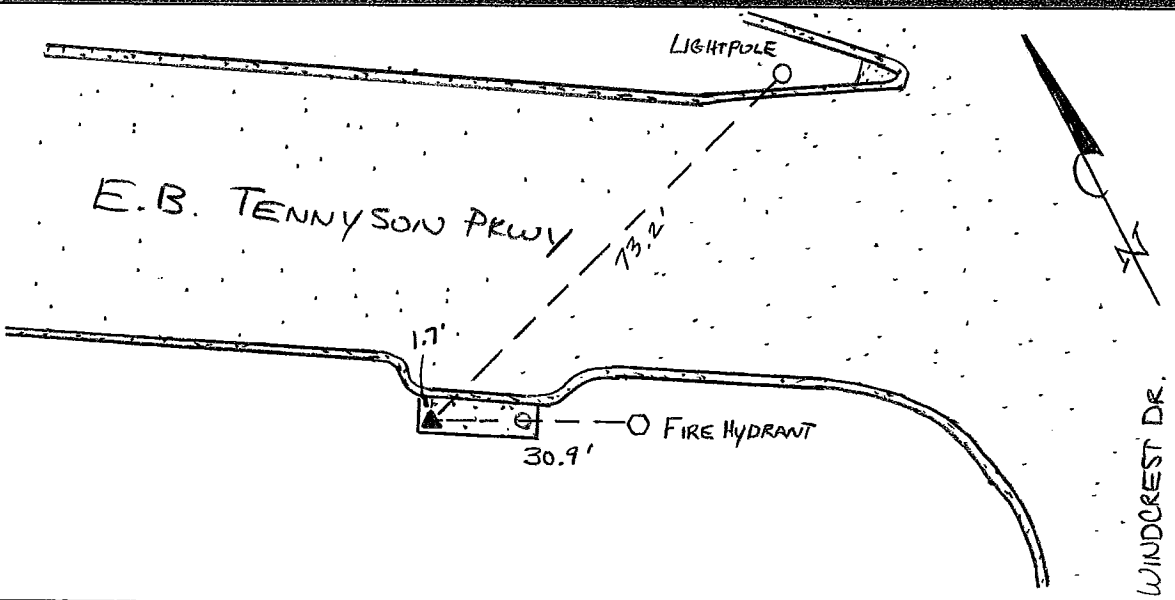
Location / Airport Name and ID TENNYSON PKWY & WINDCREST DR. Project 0901-3510

Station Designation E7 PID N/A Date 4/8/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

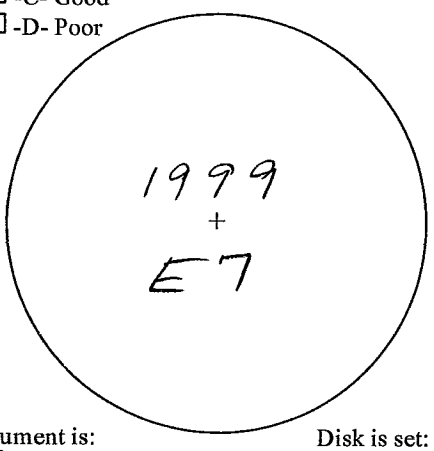
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

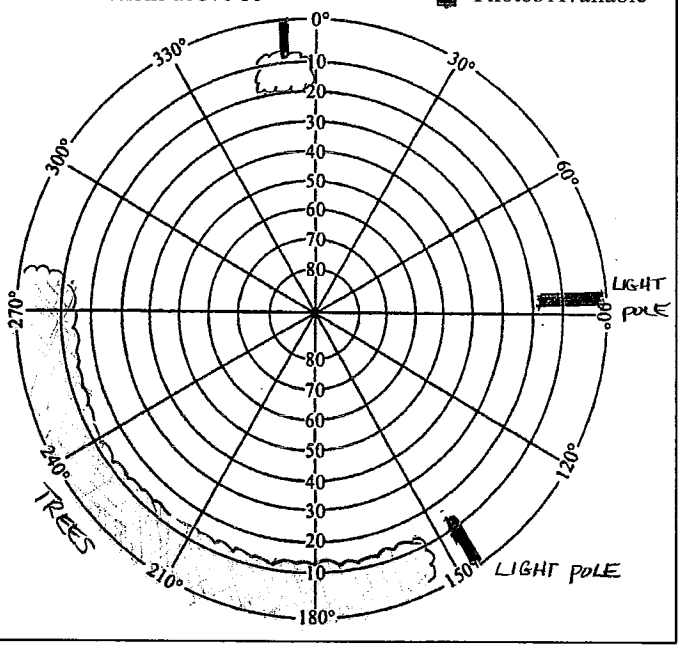
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



209

Station Location Sketch and Visibility Diagram

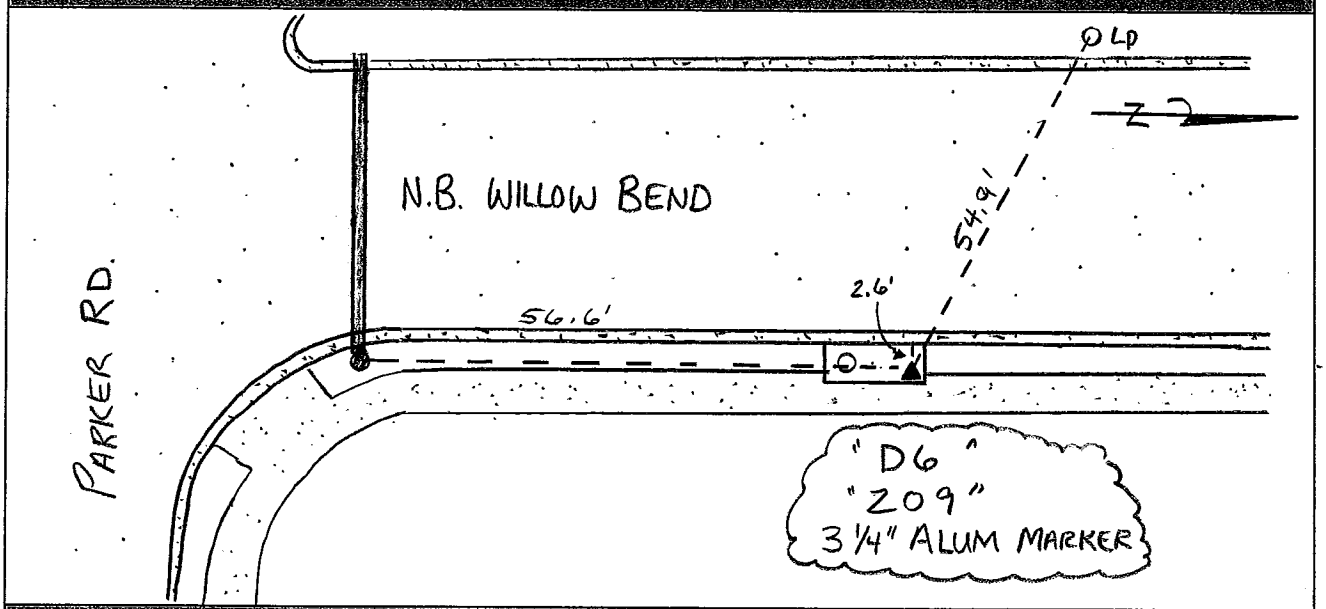
Location / Airport Name and ID PARKER RD. & WILLOW BEND Project 0901-3510

Station Designation D6 PID N/A Date 4-3-09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

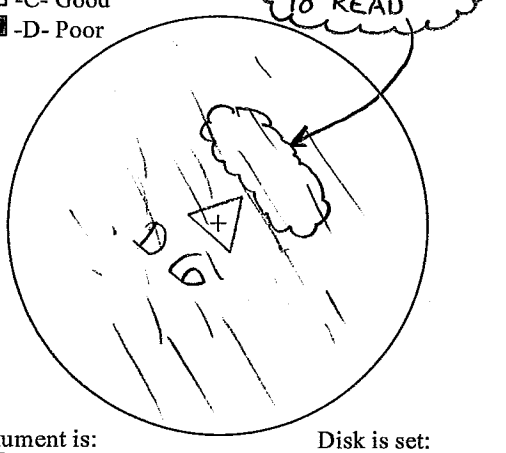
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ■ -D- Poor

■ Photos Available



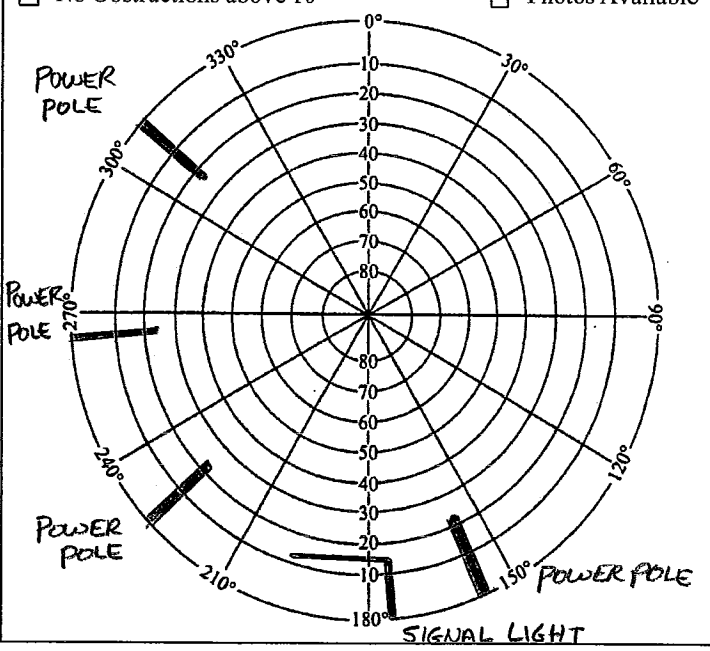
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☐ Photos Available



210

Station Location Sketch and Visibility Diagram

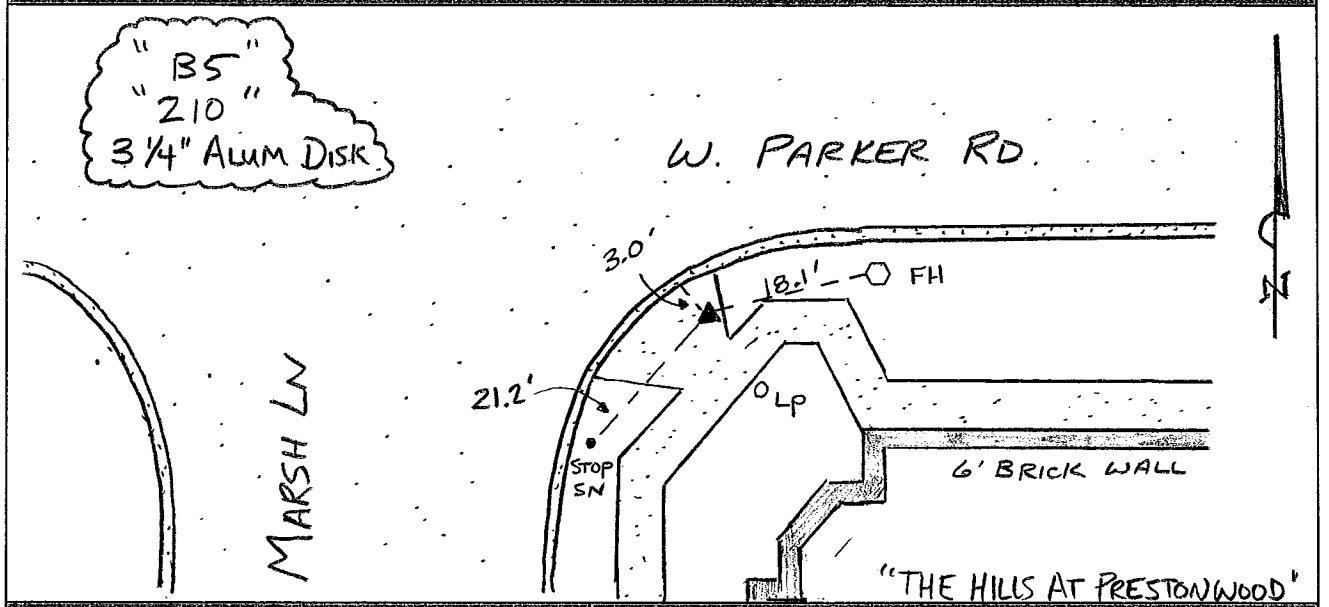
Location / Airport Name and ID W. PARKER RD & MARSH LN Project 0901-3510

Station Designation B5 PID N/A Date 4/3/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

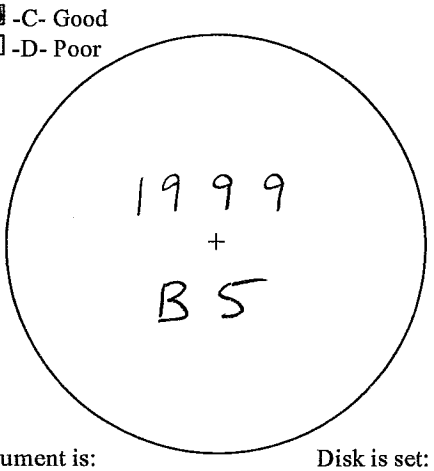
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

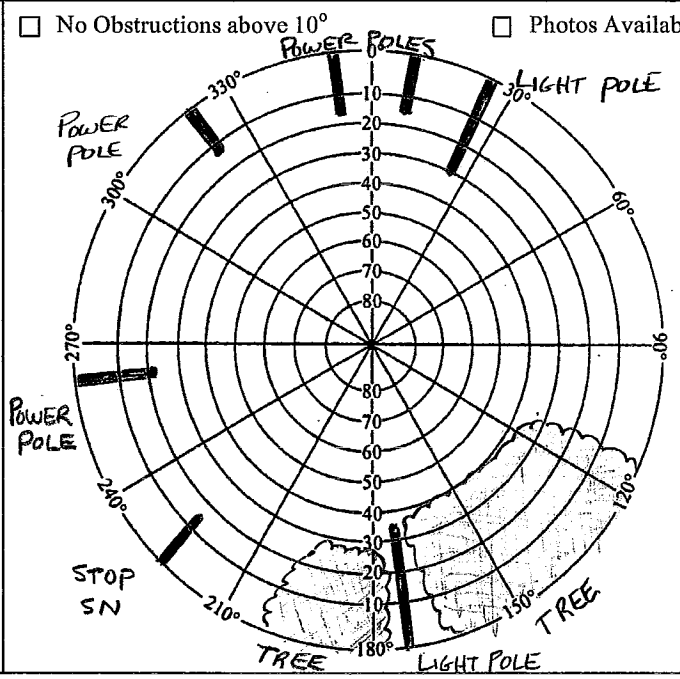
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



211

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID PRESTON RD. & GEORGE BUSH TOLLWAY

Project 0901-3510

Station Designation F2

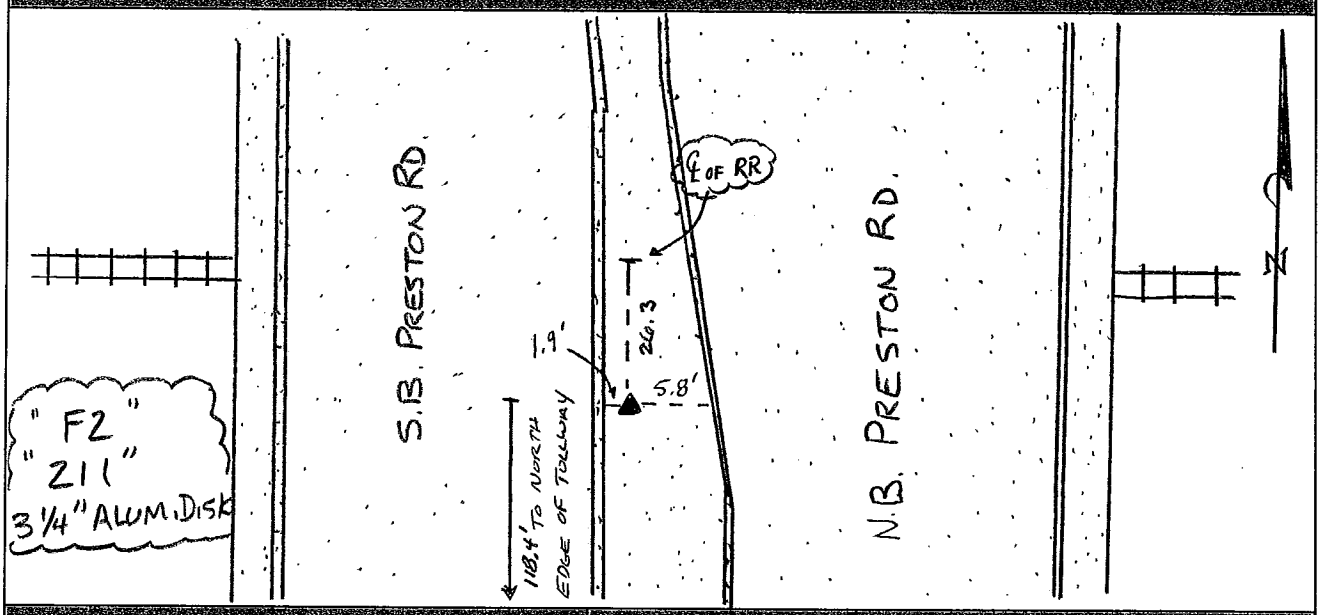
PID N/A

Date 4/6/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

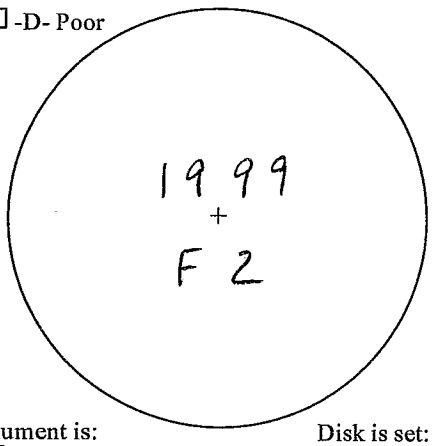
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor

☒ Photos Available



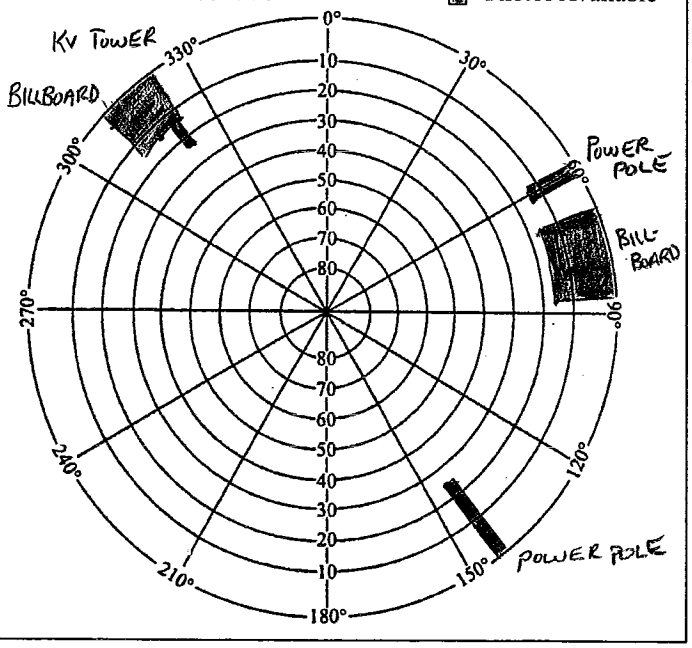
Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☒ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☒ Photos Available



213

Station Location Sketch and Visibility Diagram

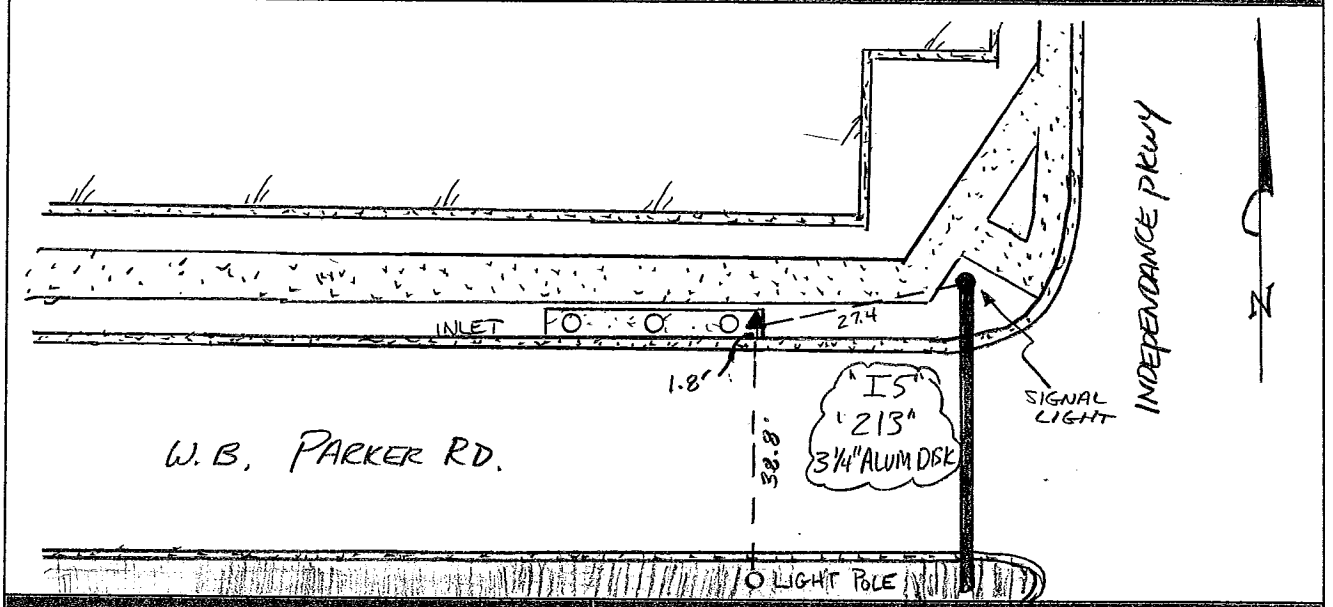
Location / Airport Name and ID PARKER RD. & INDEPENDANCE PKWY. Project 0901-3510

Station Designation I5 PID N/A Date 4/15/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

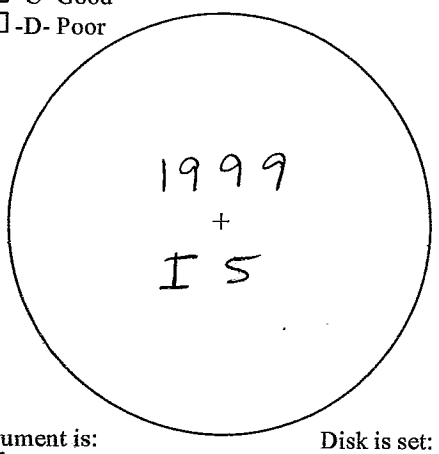
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ☐ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

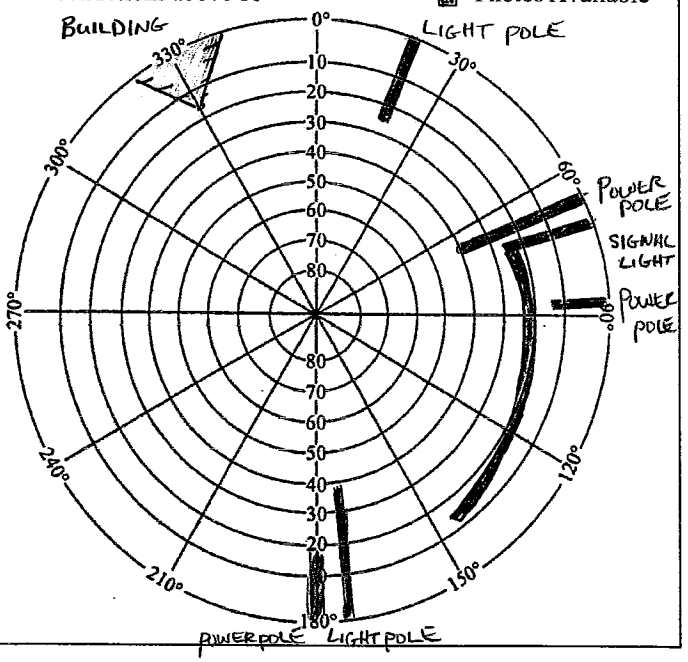
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



214

Station Location Sketch and Visibility Diagram

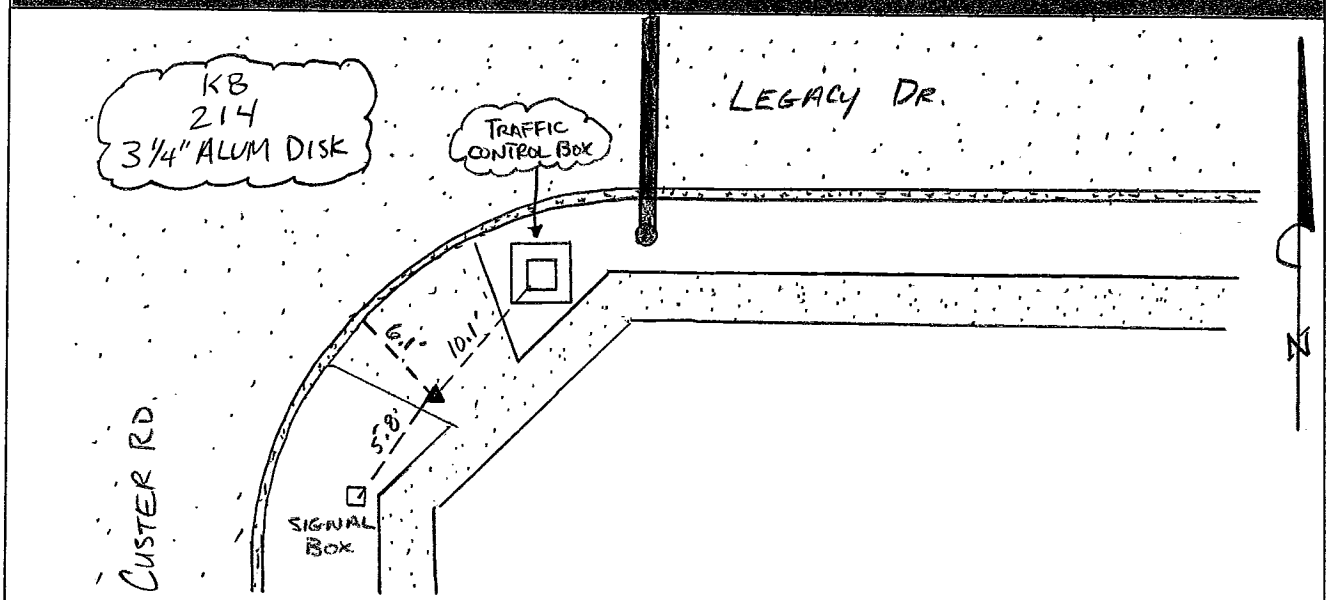
Location / Airport Name and ID LEGACY DR. & CUSTER RD. Project 0901-3510

Station Designation K8 PID N/A Date 4/15/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

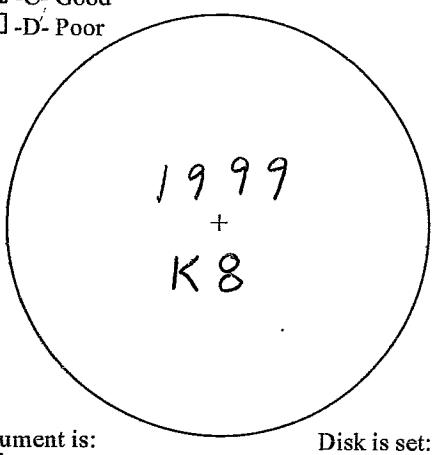
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



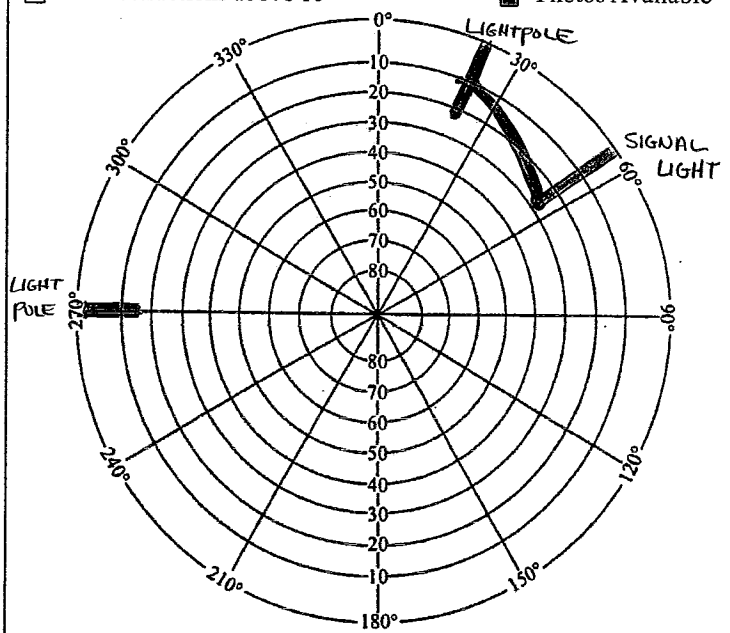
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



215

Station Location Sketch and Visibility Diagram

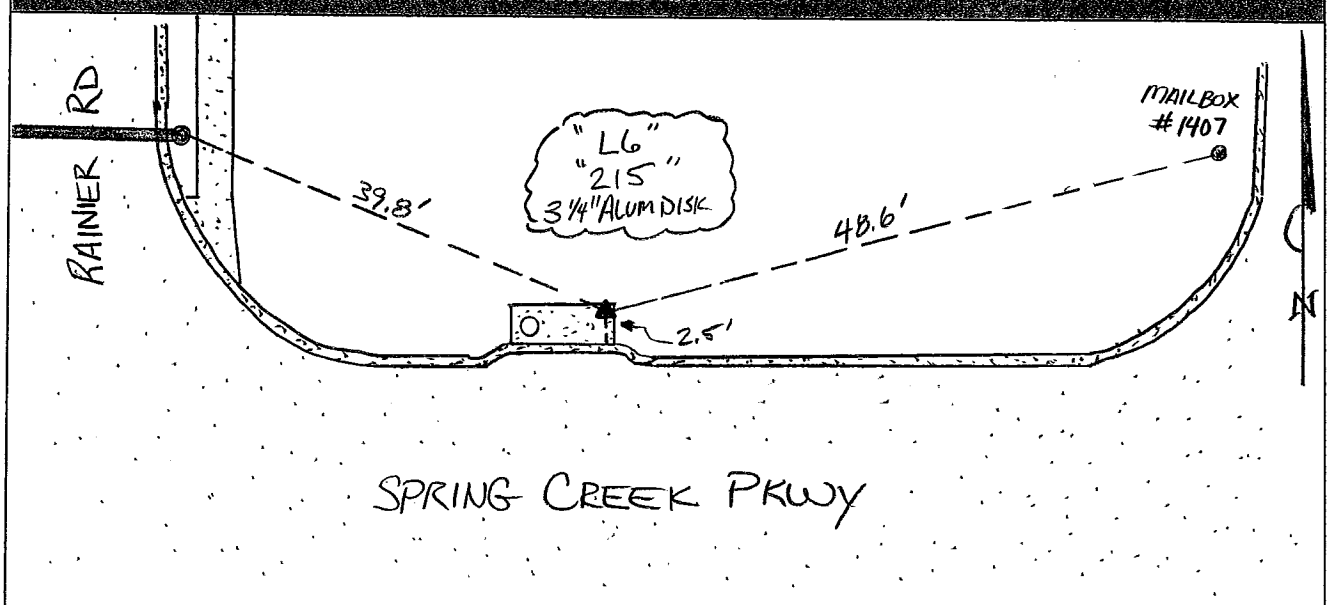
Location / Airport Name and ID SPRING CREEK PKWY & RAINIER RD Project 0901-3510

Station Designation L6 PID N/A Date 4/20/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAT

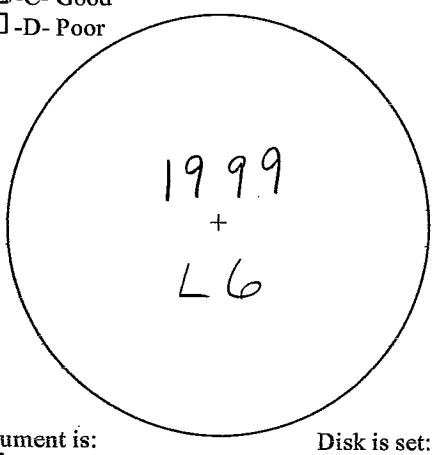
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

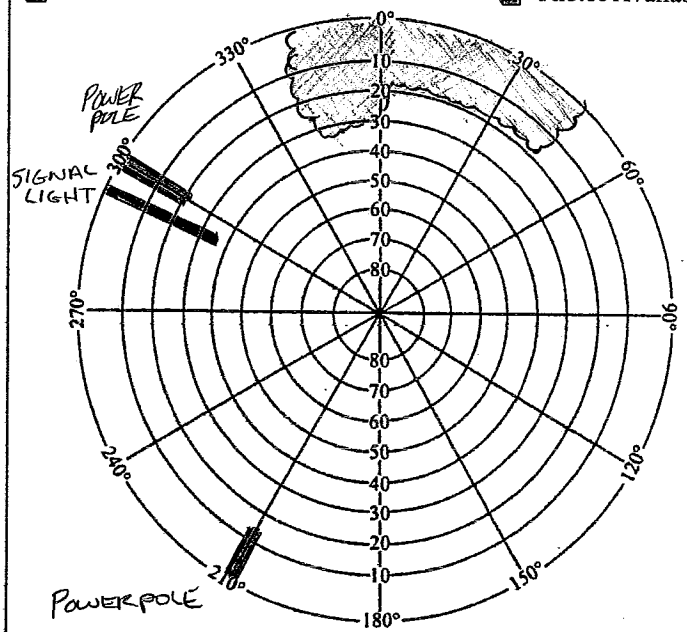
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



216

Station Location Sketch and Visibility Diagram

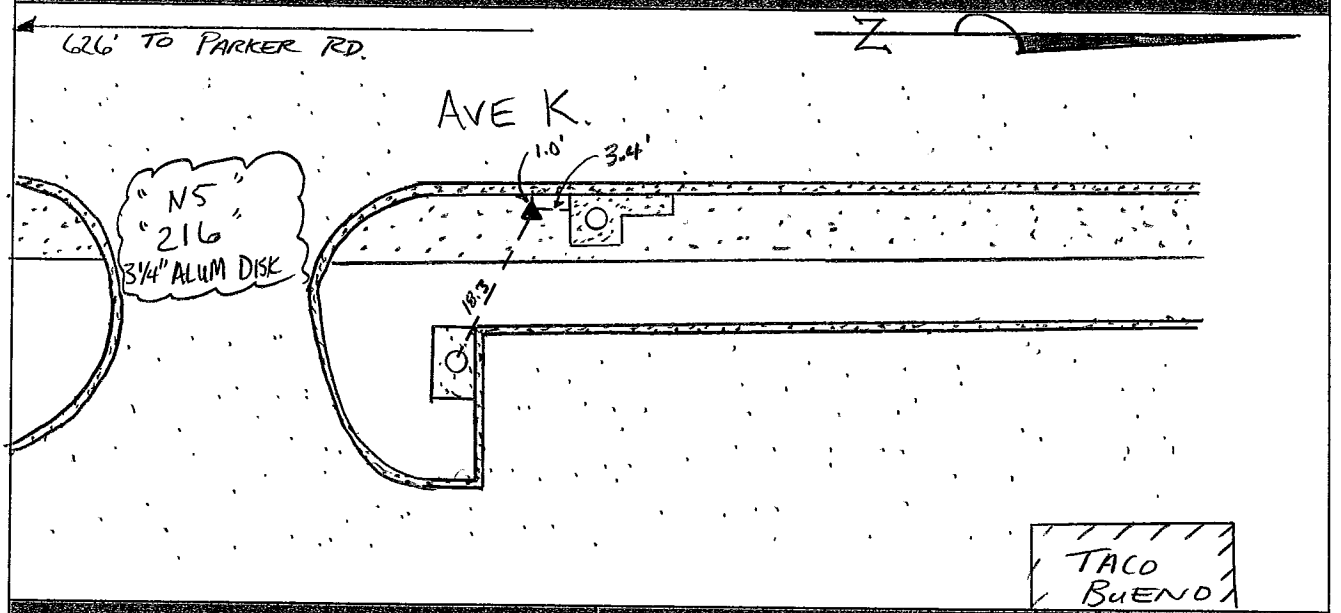
Location / Airport Name and ID AVE K. & PARKER RD. Project 0901-3510

Station Designation N5 PID N/A Date 4/20/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

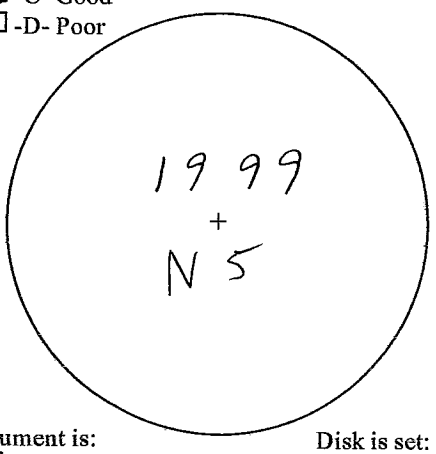
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

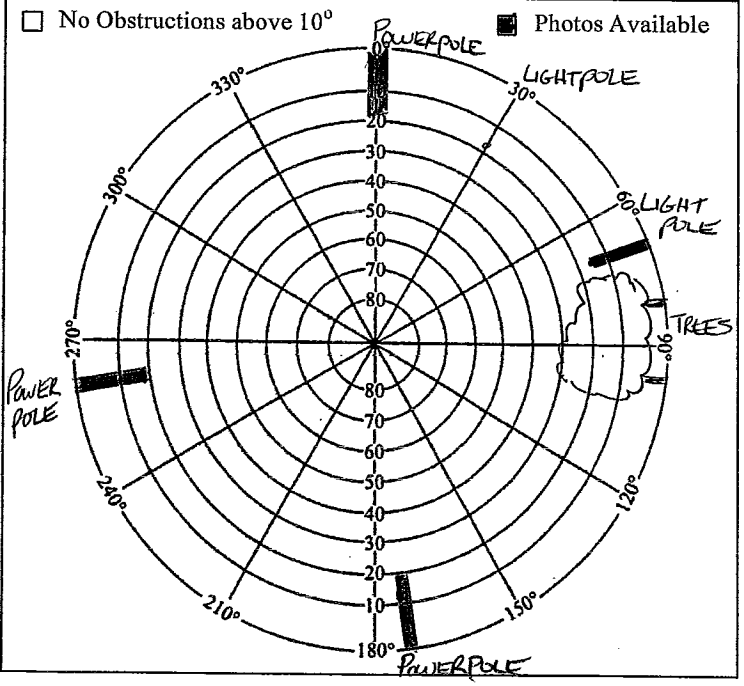
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



217

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: AVE K. & GEORGE BUSH TOLLWAY

Project: 0901-3510

Station Designation: N2

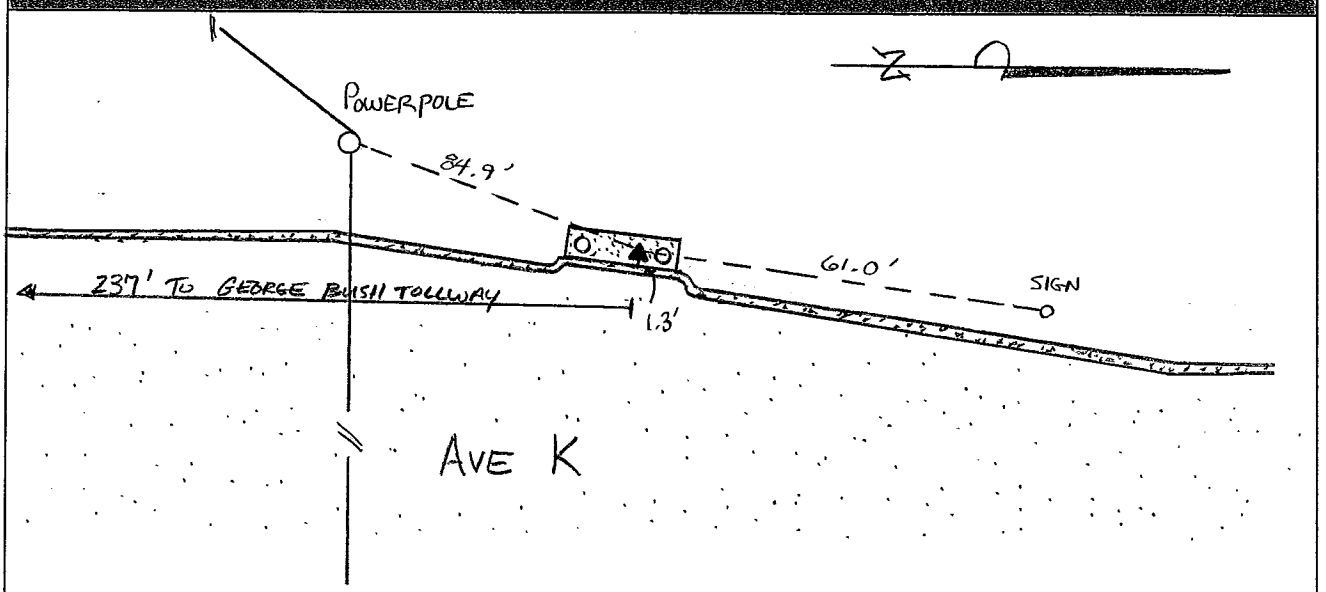
PID: N/A

Date: 4/16/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPHORN, GAI

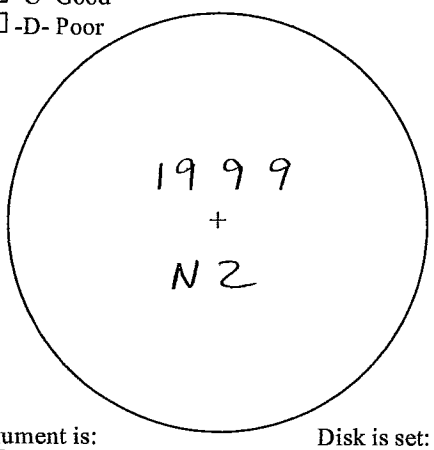
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

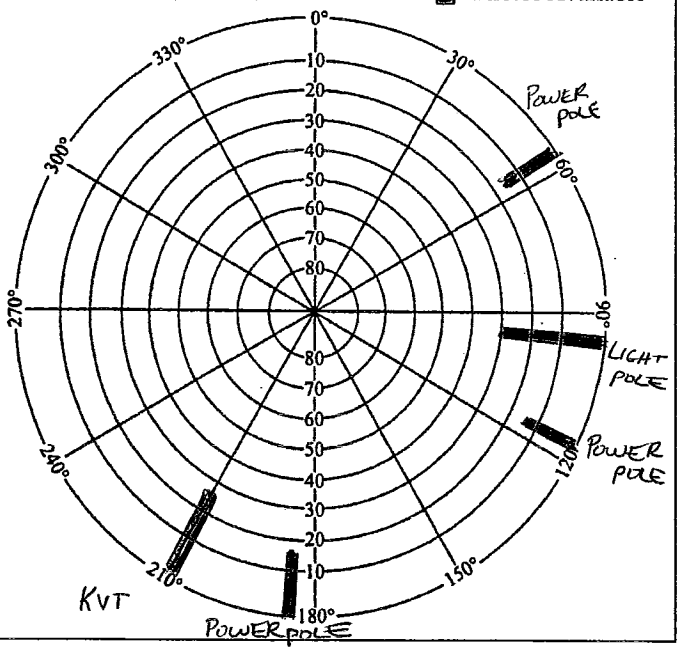
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



219

Station Location Sketch and Visibility Diagram

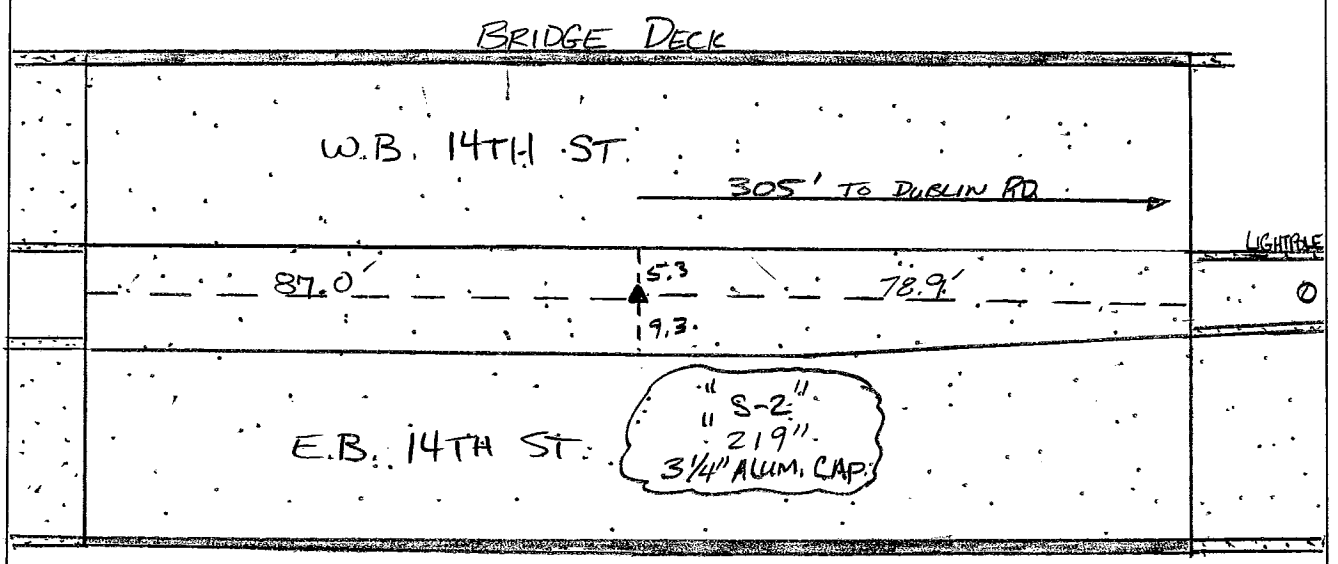
Location / Airport Name and ID 14TH ST. & DUBLIN RD. Project 0901-3510

Station Designation S2 PID N/A Date 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

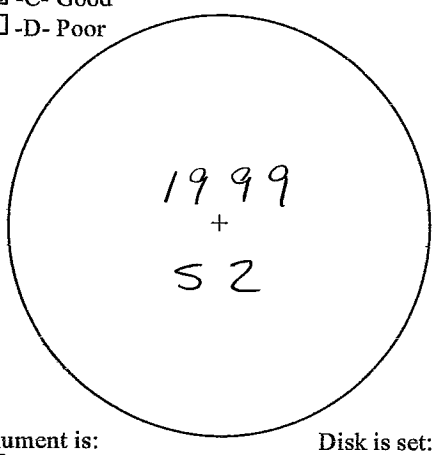
Observer & Organization S. PIEPKORN, GAI.

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

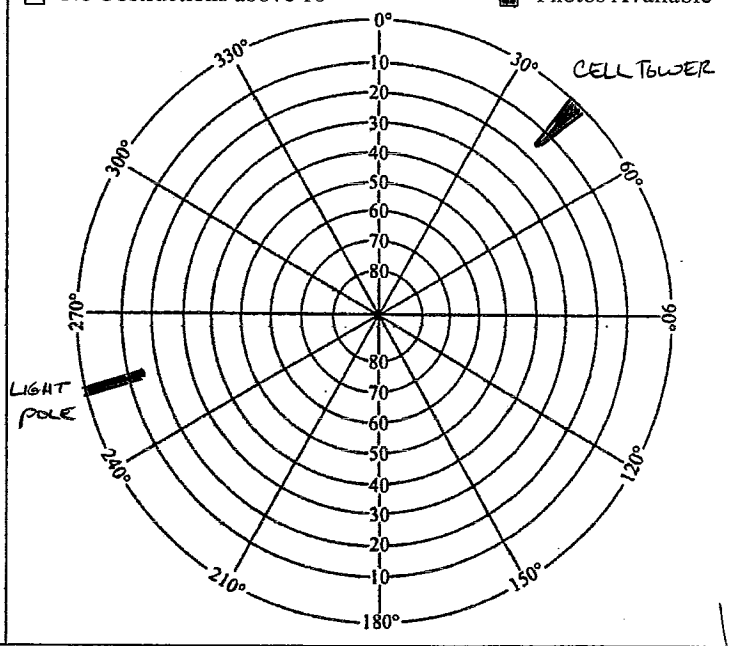


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



220

Station Location Sketch and Visibility Diagram

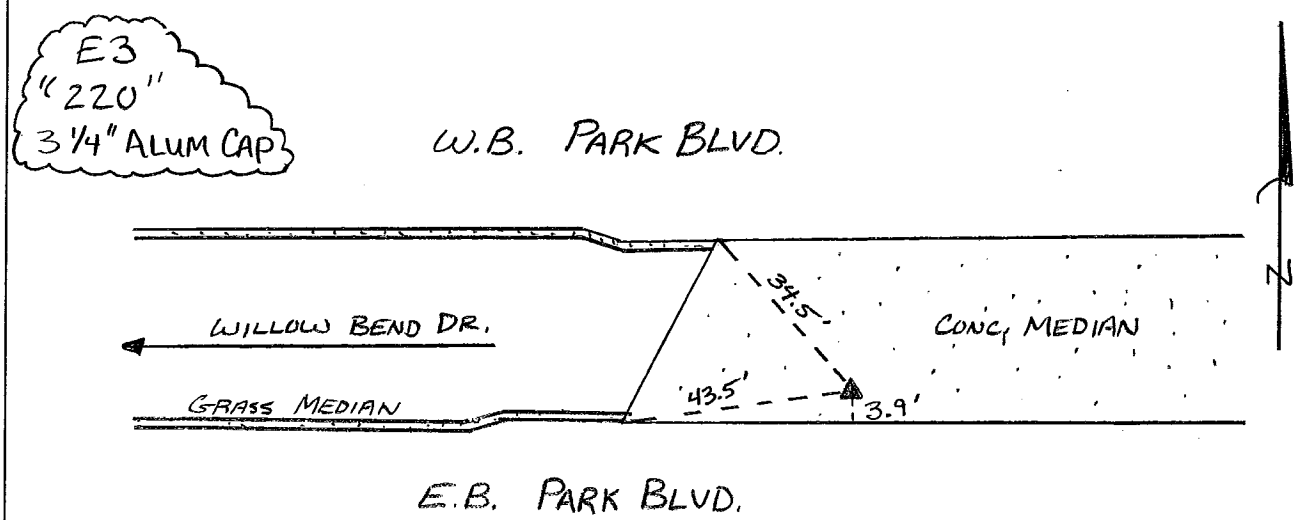
Location / Airport Name and ID PARK BLVD. & WILLOW BEND DR. Project 0901-3510

Station Designation E3 PID N/A Date 4-3-09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

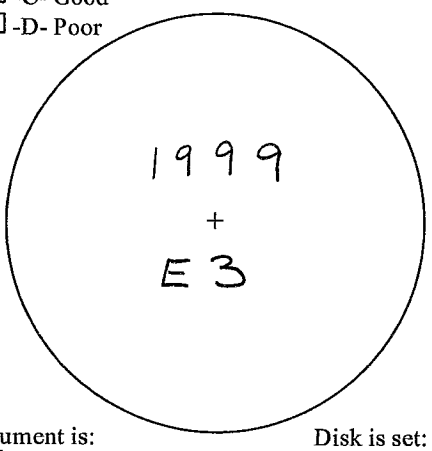
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ☒ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor



Monument is:

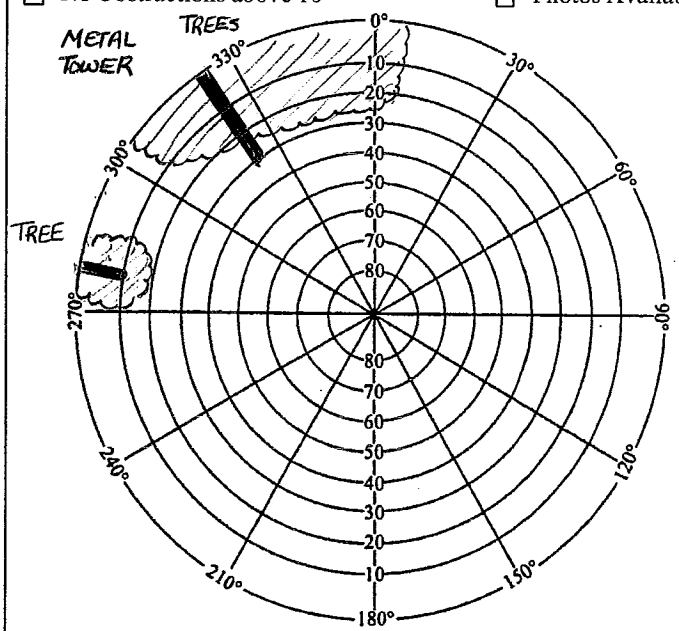
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☒ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



301

Station Location Sketch and Visibility Diagram

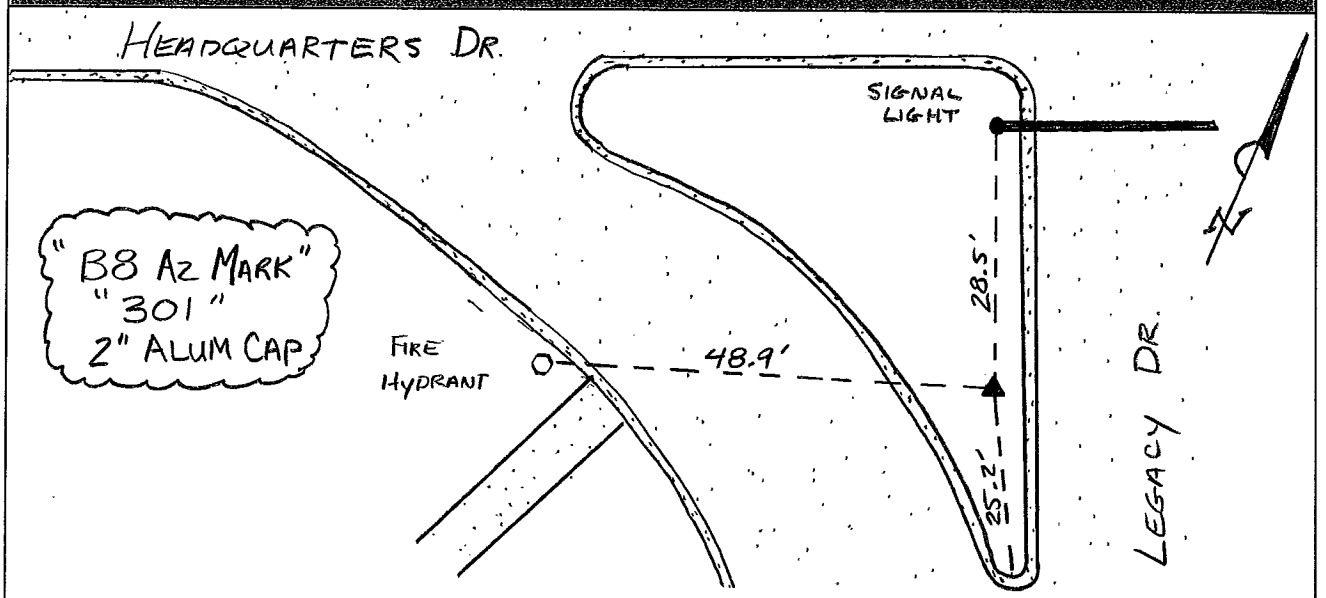
Location / Airport Name and ID LEGACY DR. & HEADQUARTERS DR. Project 0901-3510

Station Designation B8 AZ MRK PID N/A Date 4/3/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

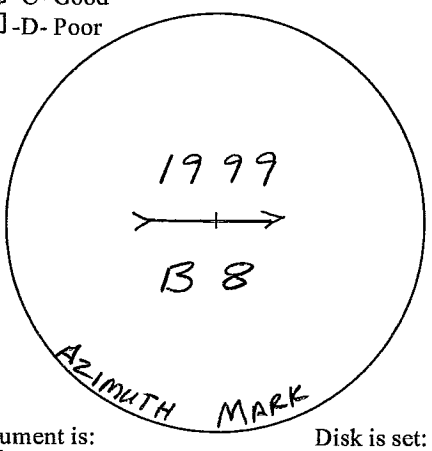
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

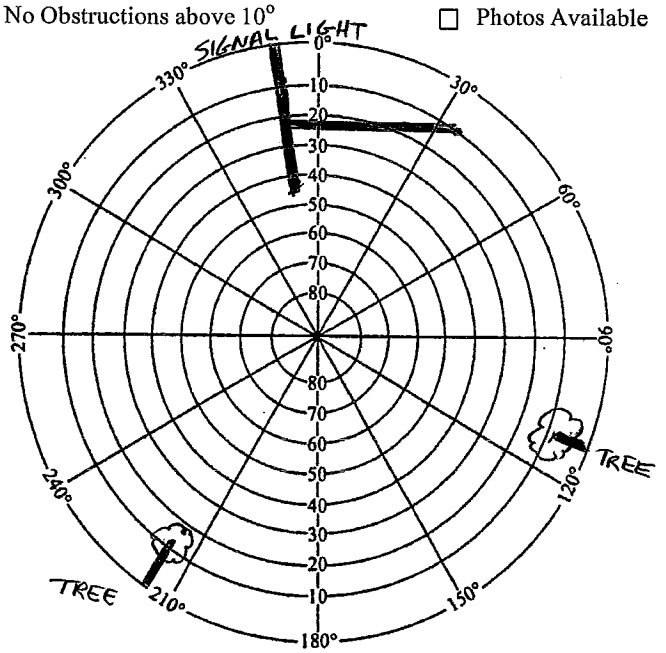
- ■ Recessed 3 cm
- ☐ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



305

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: COIT RD. & PILOT DRIVE

Project: 0901-3510

Station Designation: H10 AZ MRK

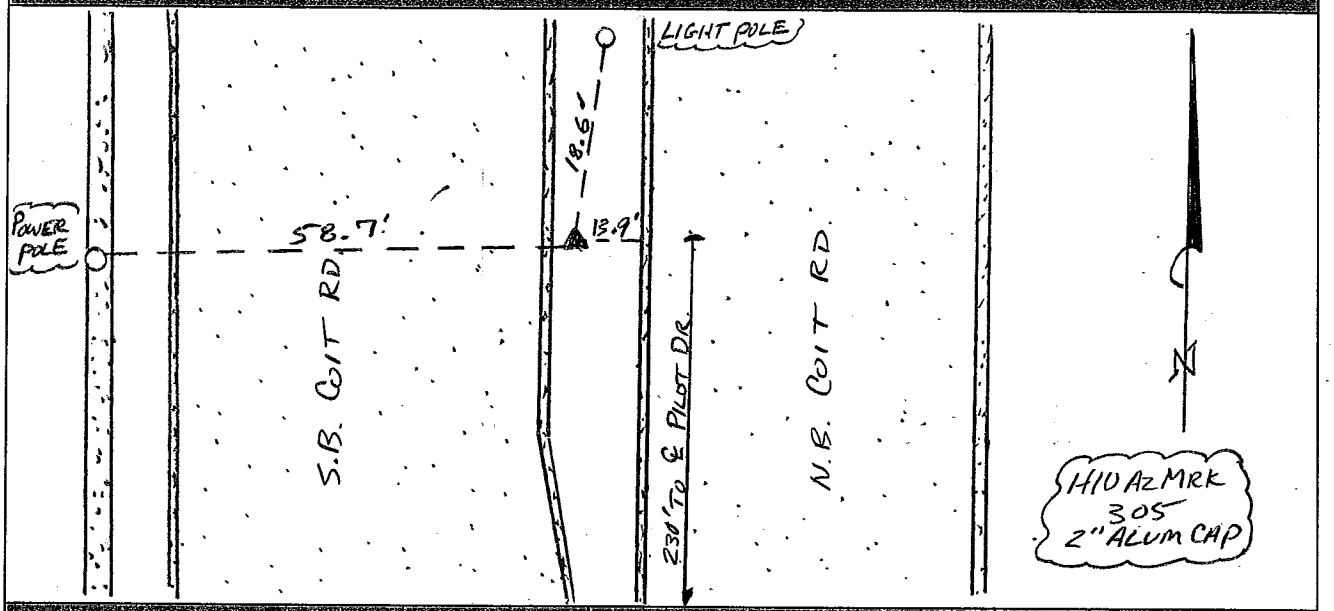
PID: N/A

Date: 4/14/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAT

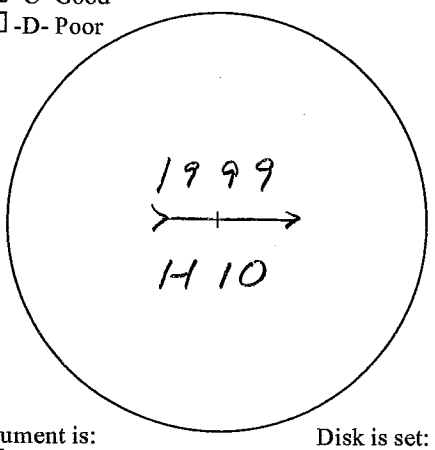
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

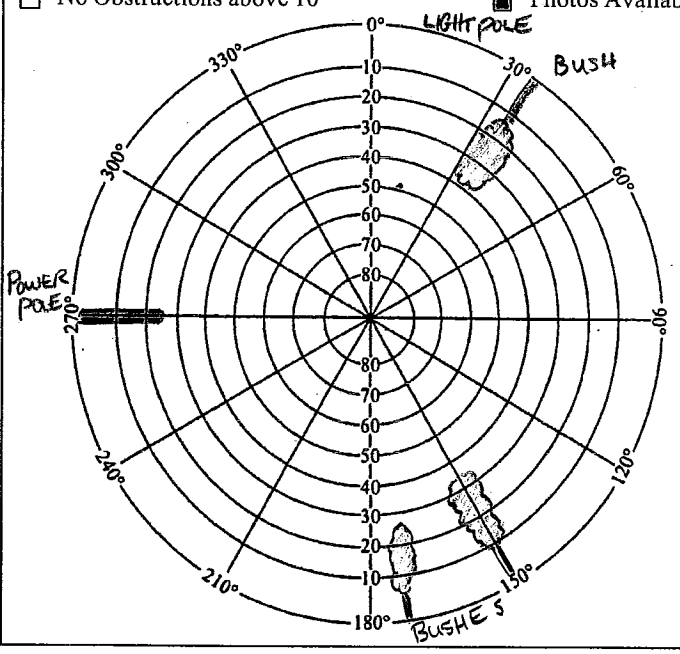


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



309

Station Location Sketch and Visibility Diagram

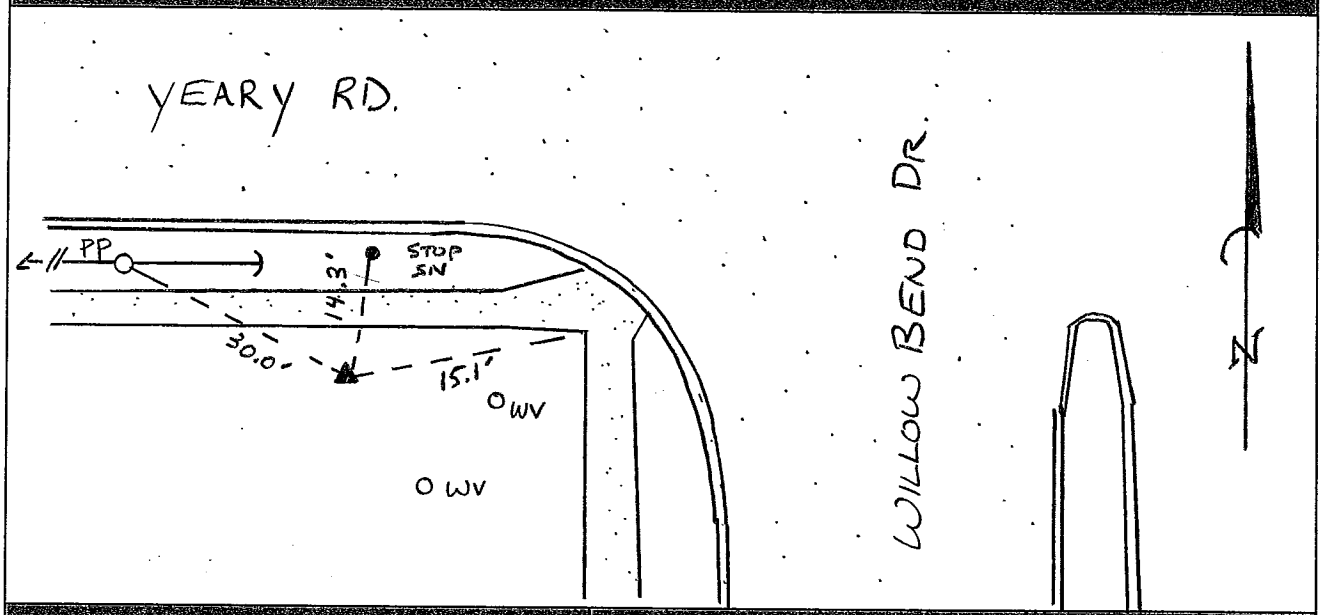
Location / Airport Name and ID YEARY RD & WILLOW BEND DR. Project 0901-3510

Station Designation D6 Az MK PID N/A Date 4/3/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

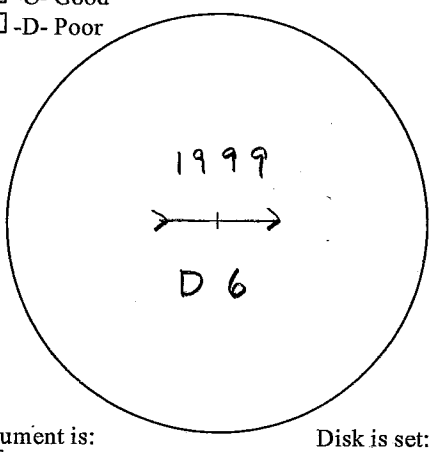
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



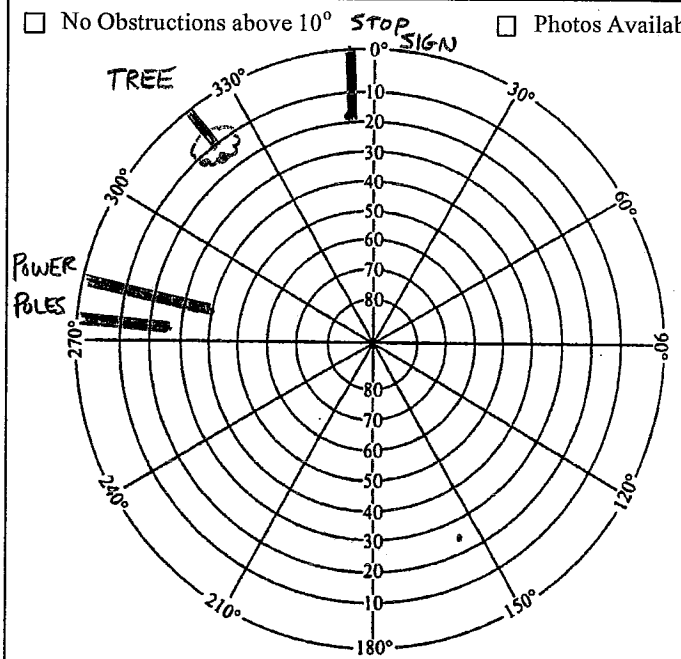
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☐ Photos Available



310

Station Location Sketch and Visibility Diagram

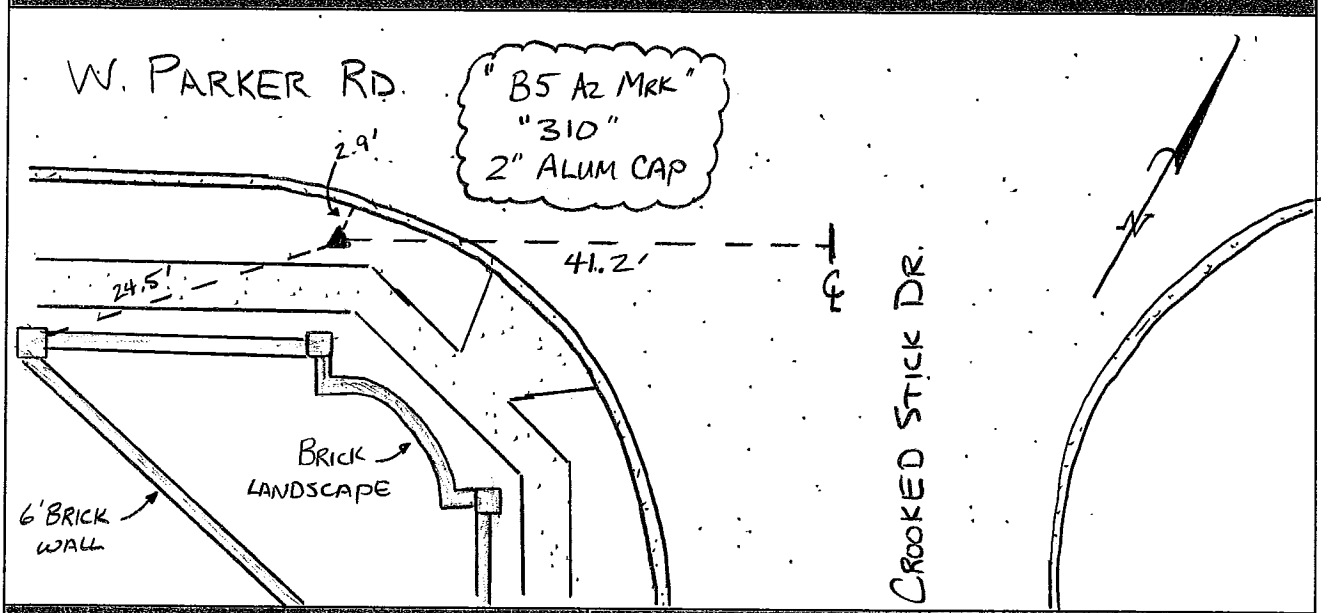
Location / Airport Name and ID (W. PARKER RD & CROOKED STICK DR. Project 0901-3510

Station Designation B5 AZ MRK PID N/A Date 4/3/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAT

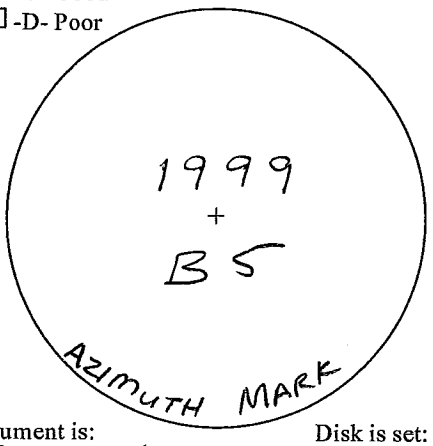
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

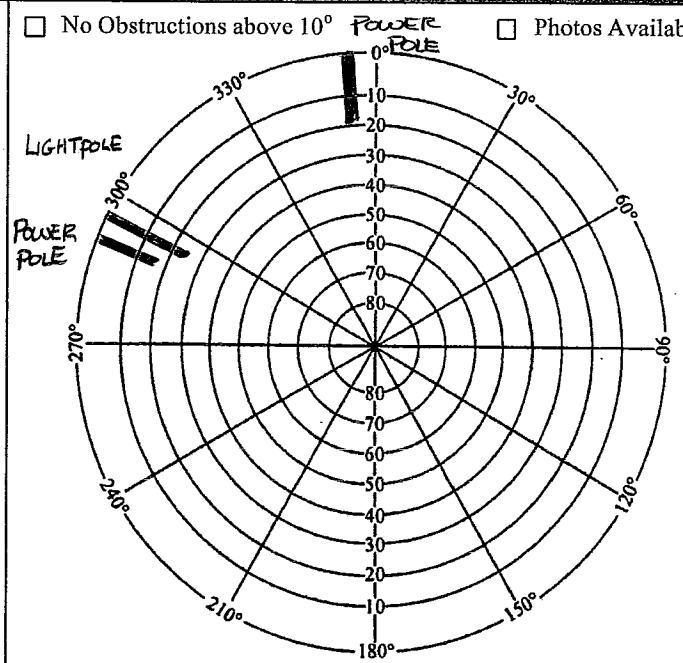
- ■ Recessed 6 cm
- ☐ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



311

Station Location Sketch and Visibility Diagram

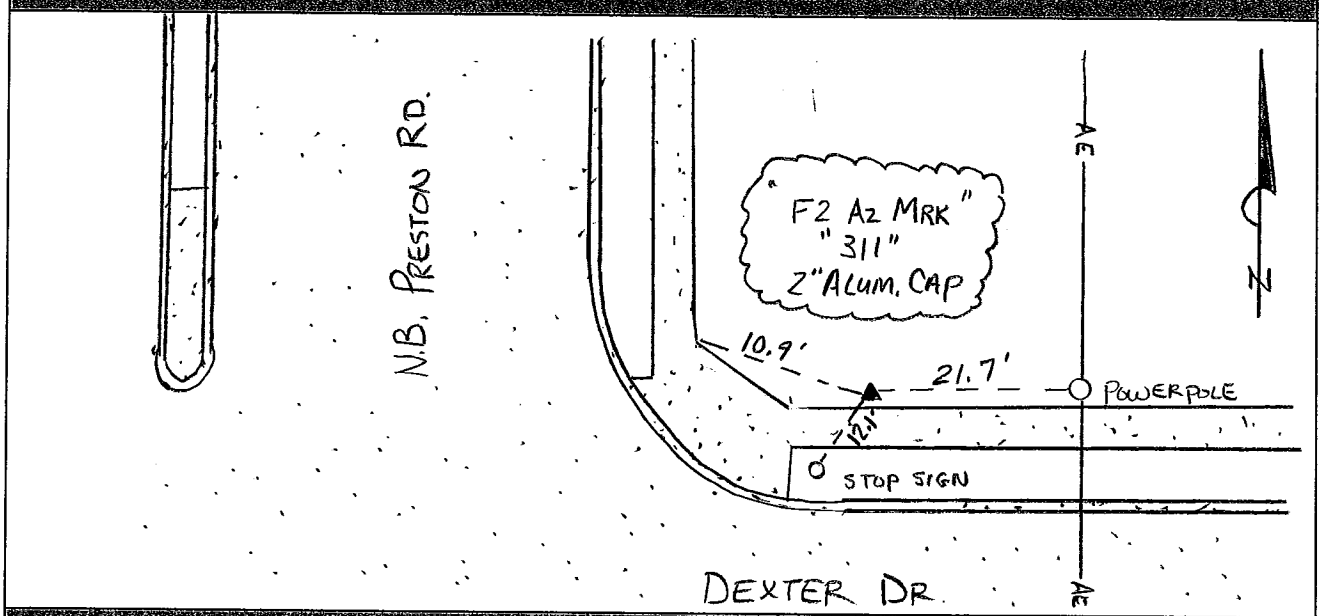
Location / Airport Name and ID PRESTON RD & DEXTER DR. Project 0901-3510

Station Designation F2 Az MRK PID N/A Date 4/6/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

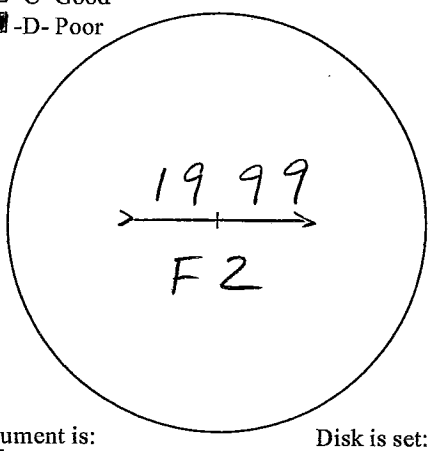
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ■ -D- Poor

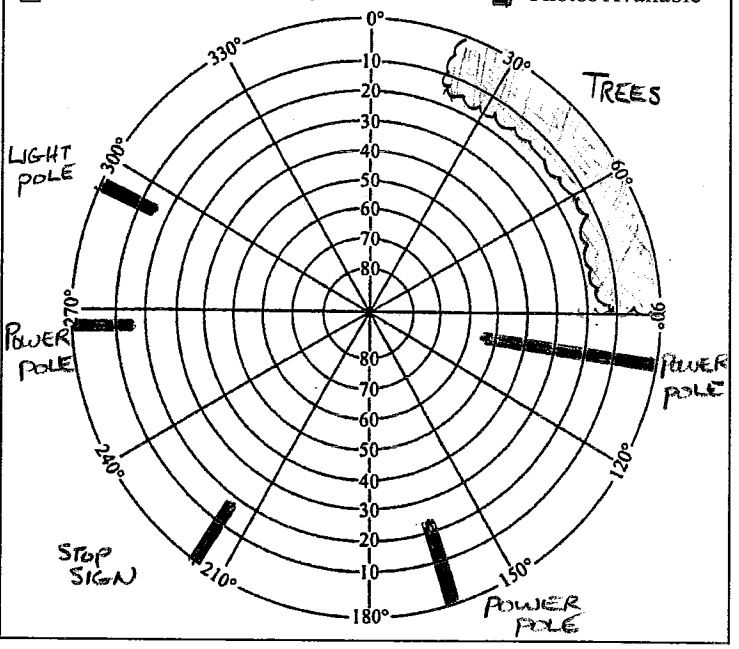


Monument is:
- ■ Recessed 12 cm
- ☐ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



312

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: COIT RD & OSAGE PKWY

Project: 0901-3510

Station Designation: H1 AZ MRK

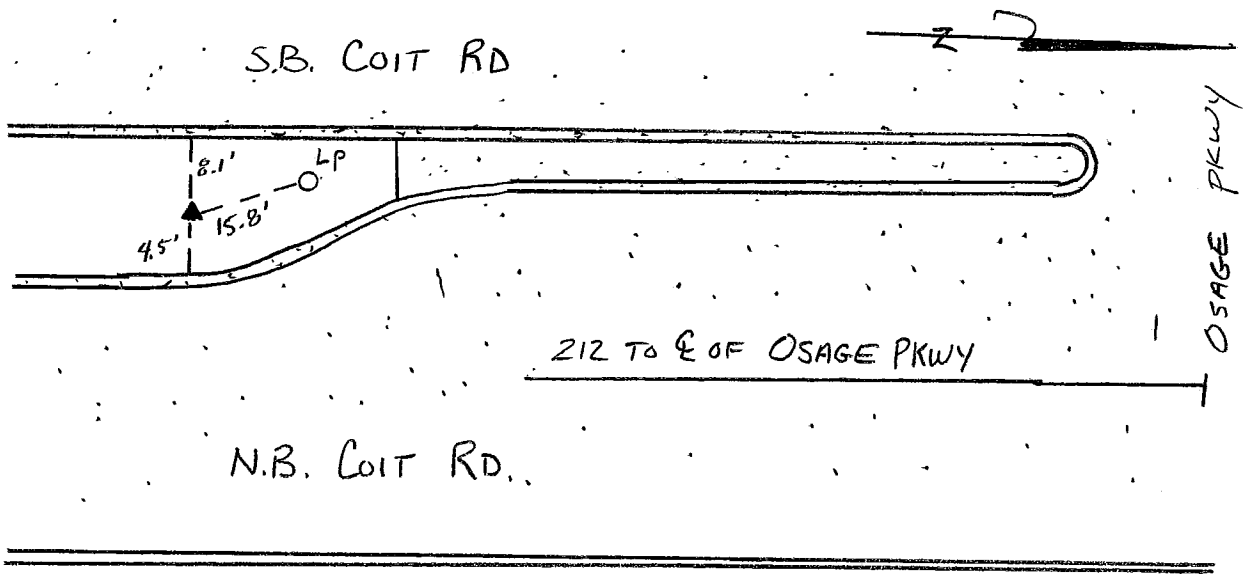
PID: N/A

Date: 4/6/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

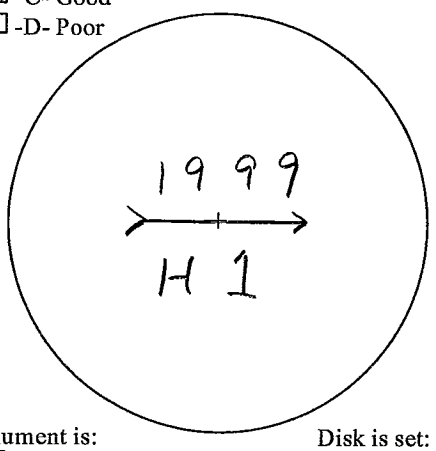
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

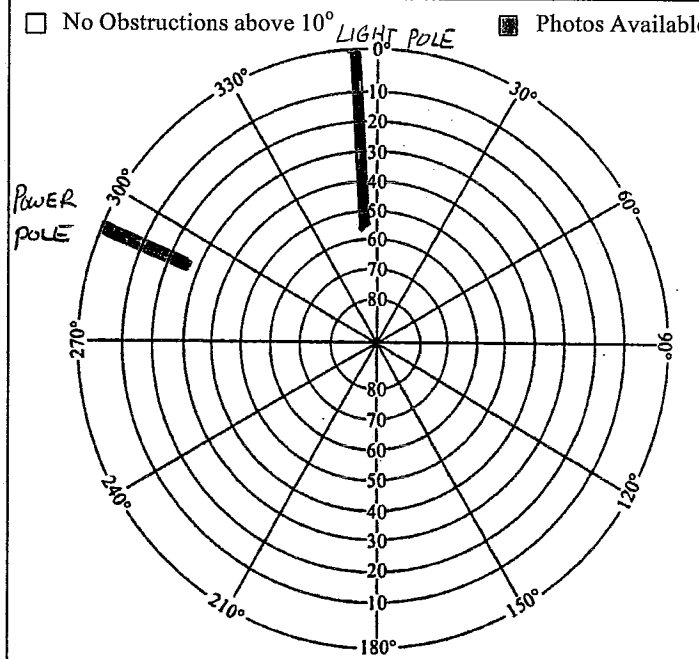
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



316

Station Location Sketch and Visibility Diagram

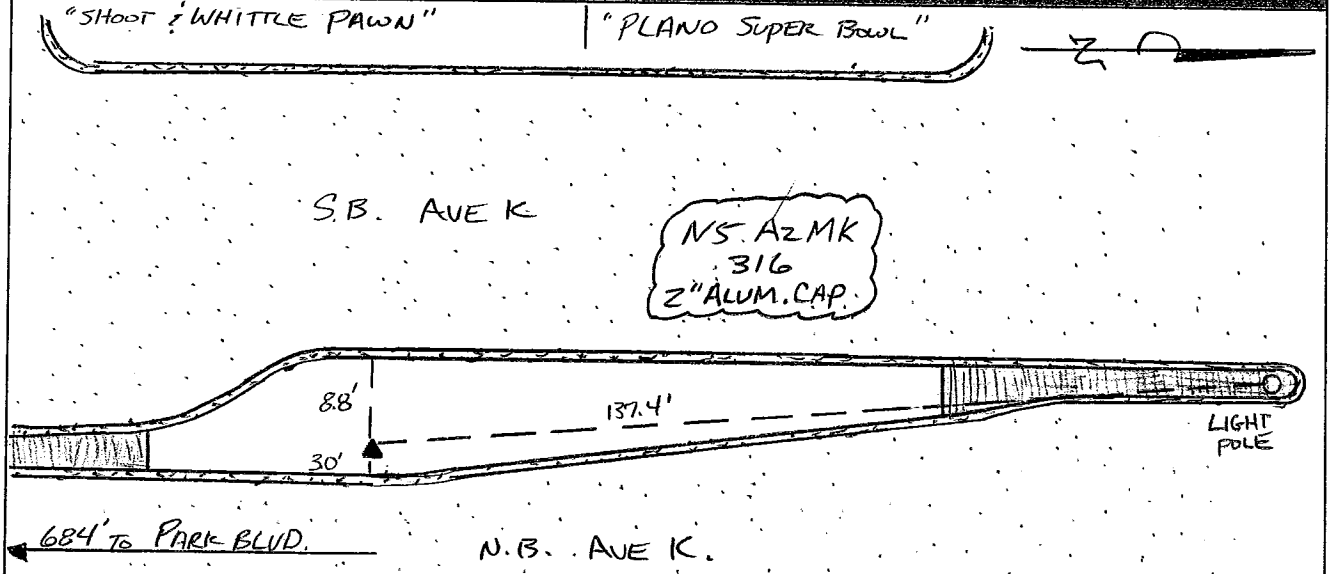
Location / Airport Name and ID AVE K. ? Project 0901-3510

Station Designation N5 AZ MRK PID N/A Date 4/20/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER K

Observer & Organization S.PIEPKORN, GAI

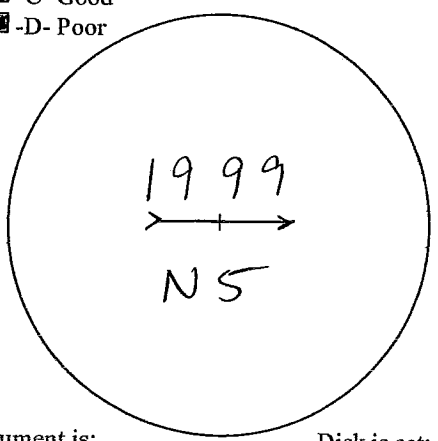
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ■ -D- Poor

■ Photos Available



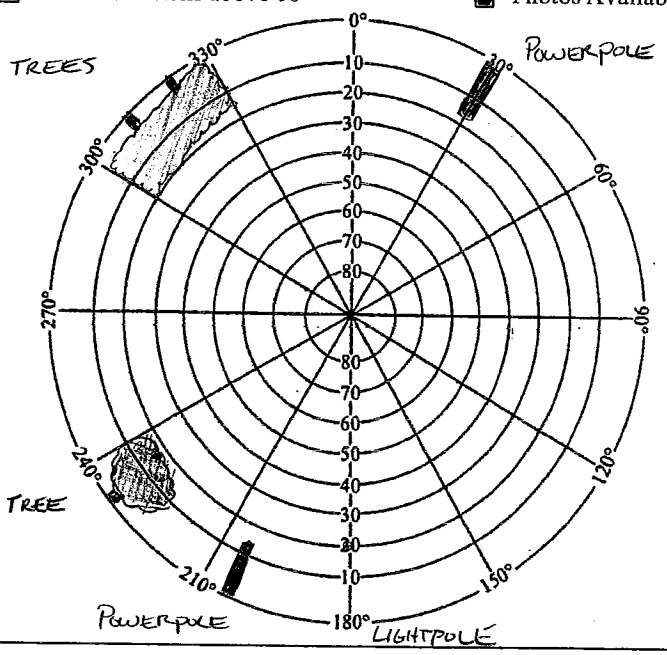
Monument is:
- ■ Recessed 5 cm
- ☐ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: AVE K & CAPITAL AVE.

Project: 0901-3510

Station Designation: N2 AZ MK

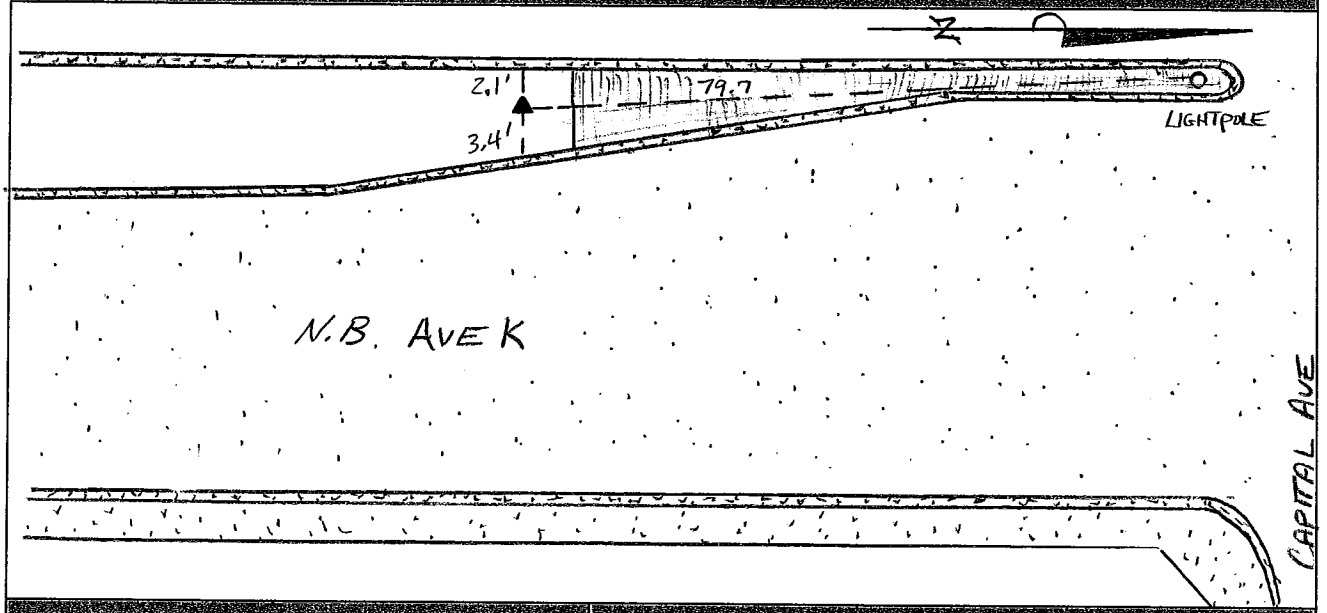
PID: N/A

Date: 4/16/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

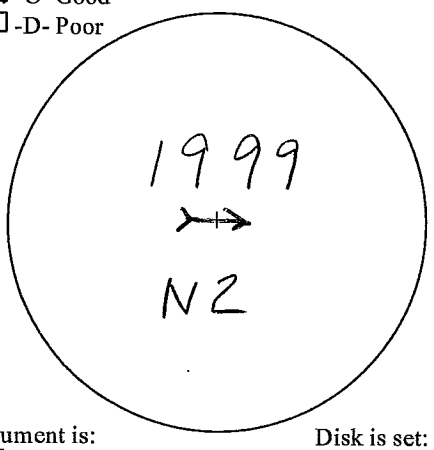
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

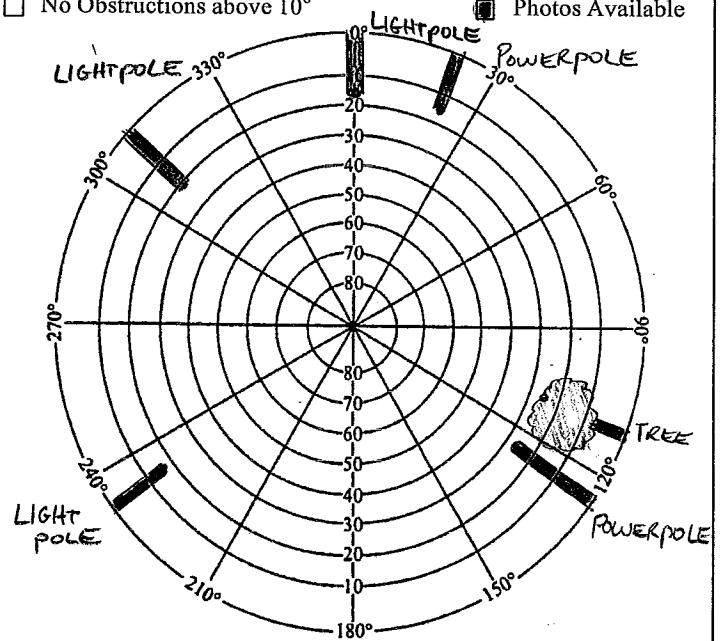
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



318

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: KRONA DR. & PLANO PKWY.

Project: 0901-3510

Station Designation: O2 AZ MRK

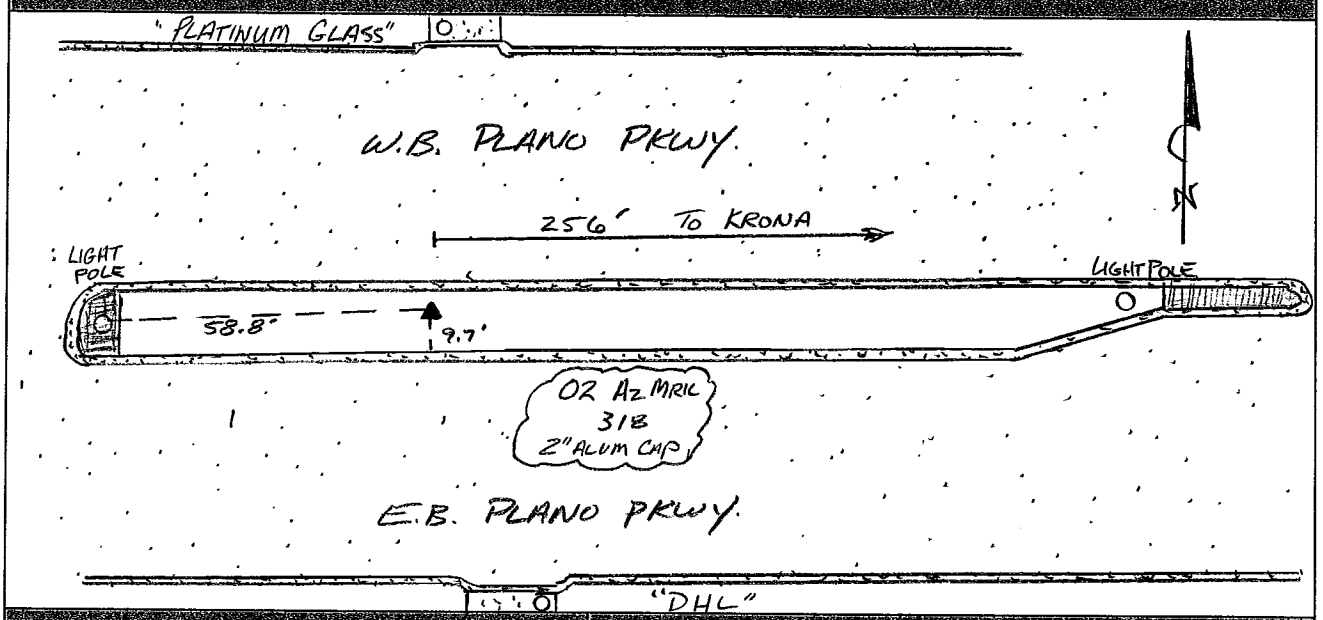
PID: N/A

Date: 4/16/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

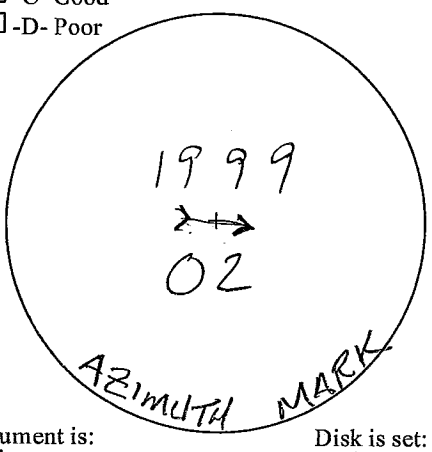
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☒ -C- Good
- ☐ -D- Poor

☒ Photos Available



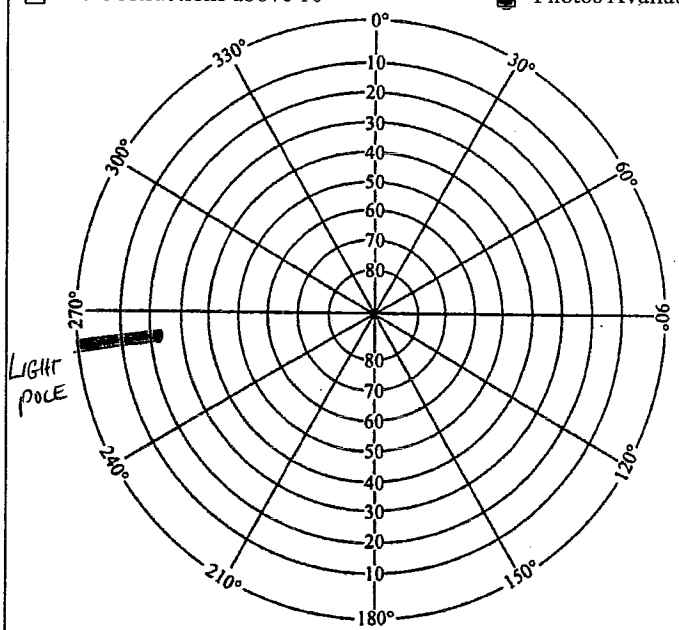
Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☒ Photos Available



320

Station Location Sketch and Visibility Diagram

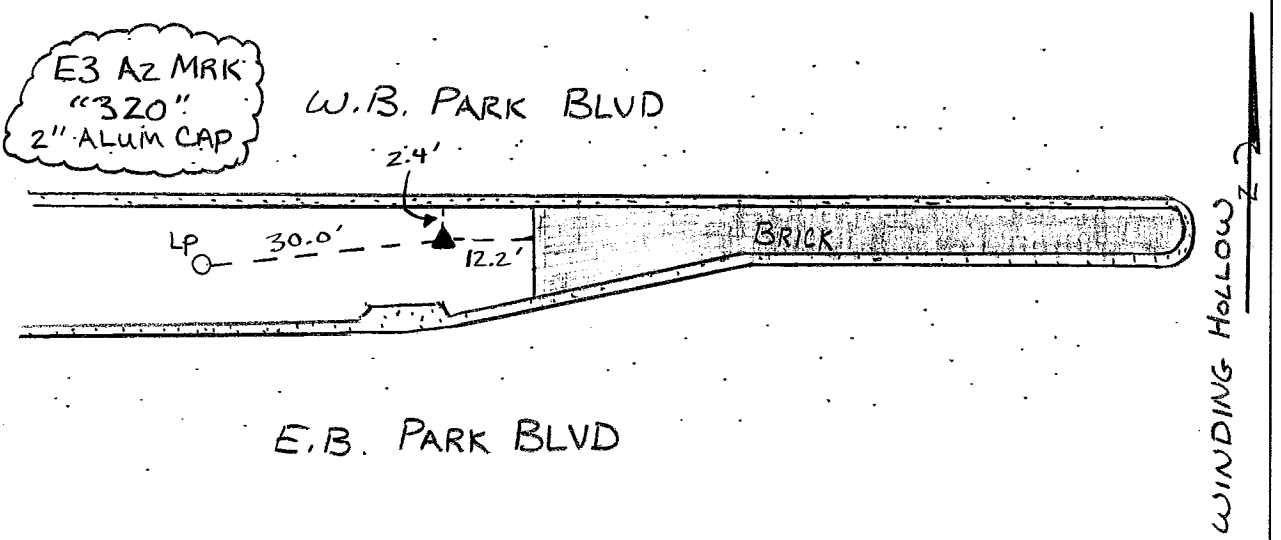
Location / Airport Name and ID PARK BLVD. & WINDING HOLLOW Project 0901-3510

Station Designation E3 AZ MRK PID N/A Date 4/3/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

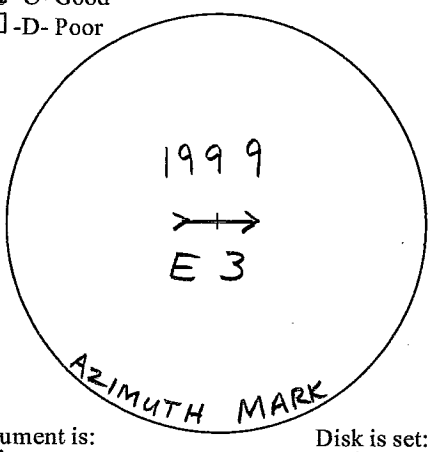
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



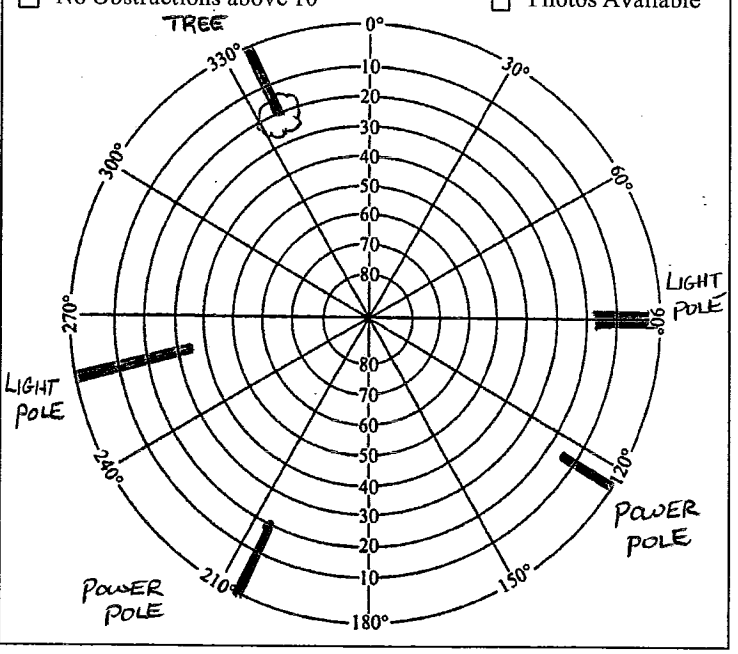
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☐ Photos Available



321

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID PARK BLVD. AT DALLAS N. TOLLWAY Project 0901-3510

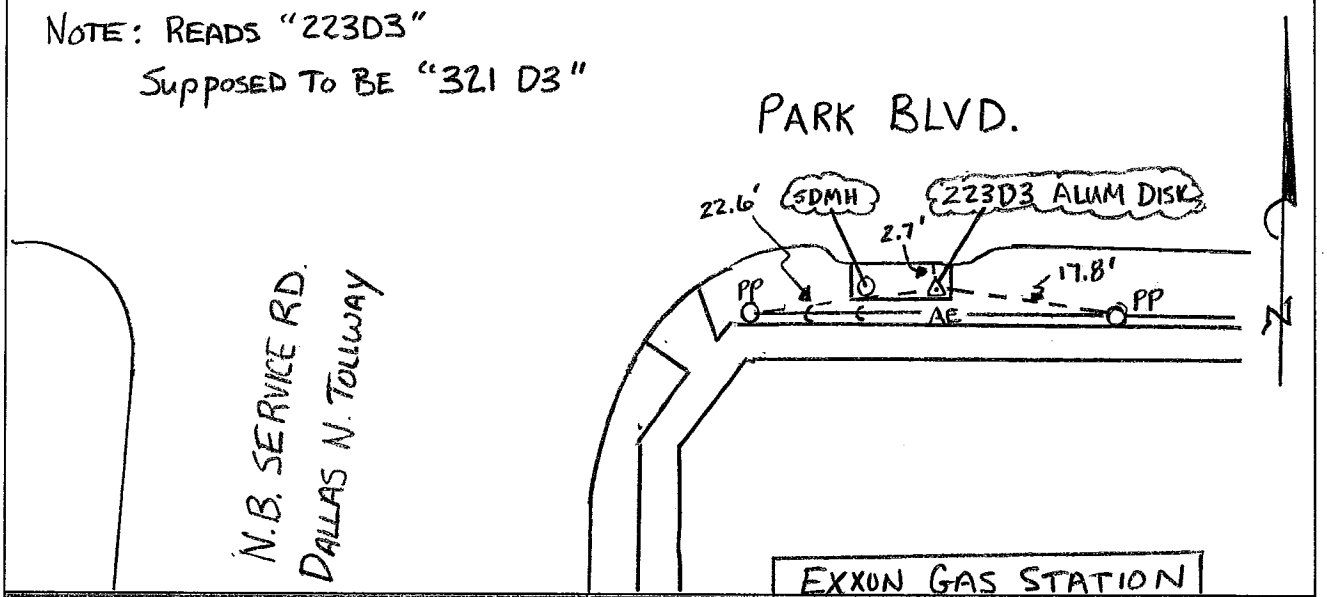
Station Designation 223D3 PID N/A Date 4-1-09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

Station Location Sketch

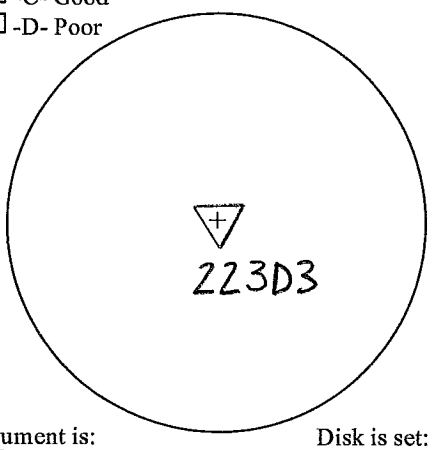
NOTE: READS "223D3"
SUPPOSED TO BE "321 D3"



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

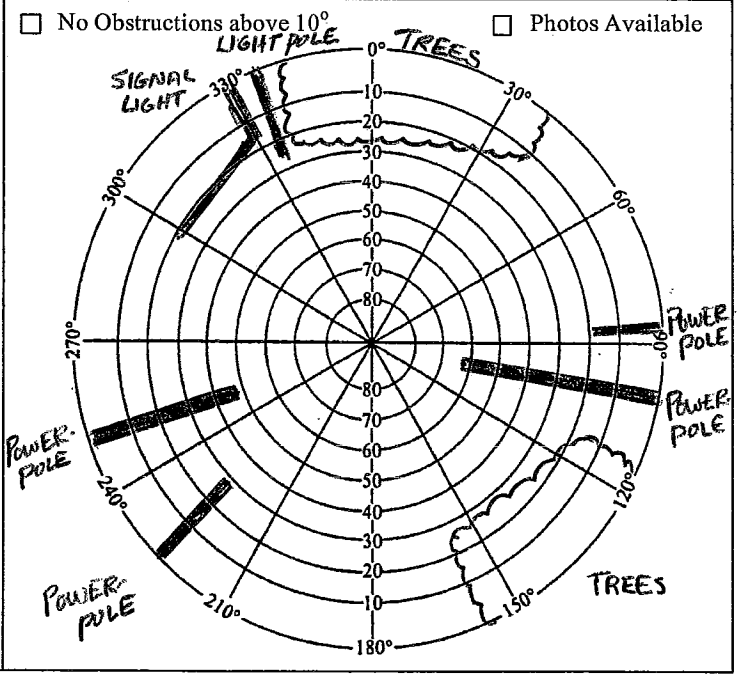


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



(2" ALUM CAP) 505

Station Location Sketch and Visibility Diagram

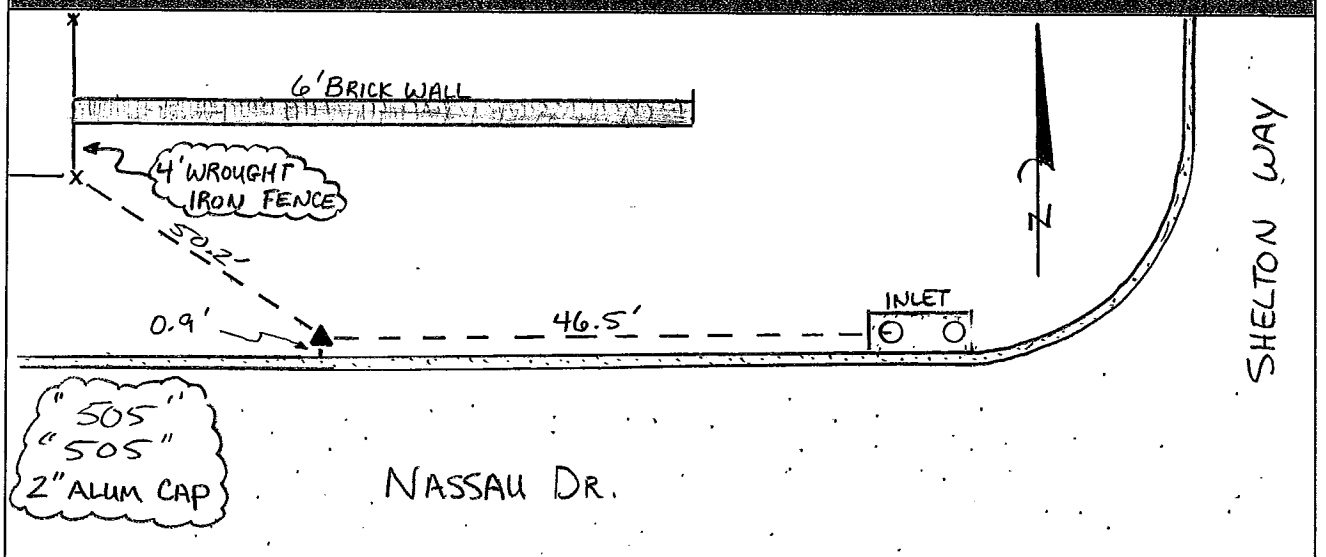
Location / Airport Name and ID NASSAU DR & SHELTON WAY Project 0901-3510

Station Designation 505 PID N/A Date 4/3/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

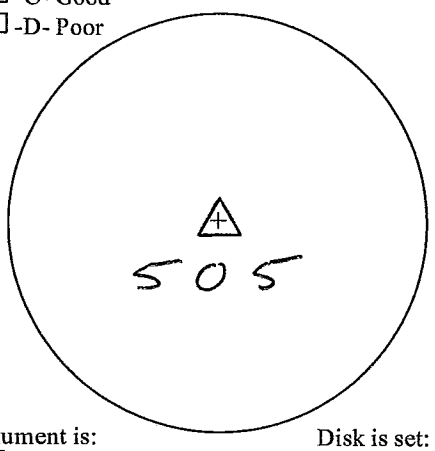
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

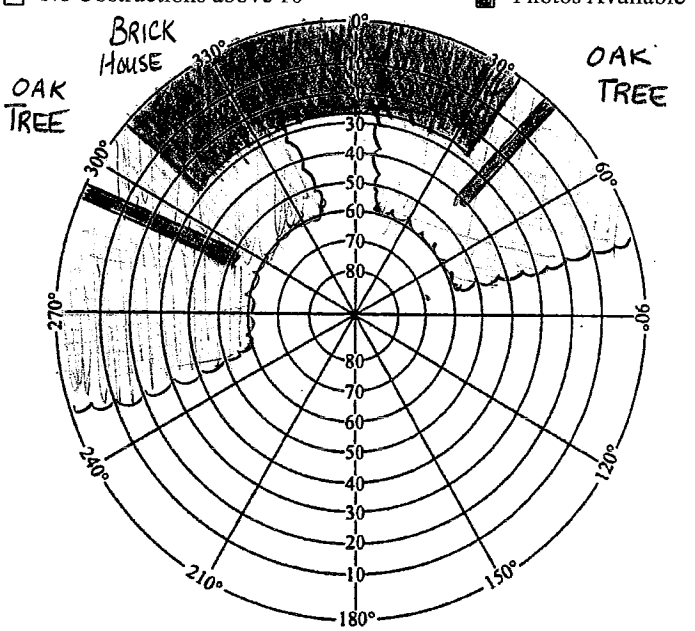


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



800

Station Location Sketch and Visibility Diagram

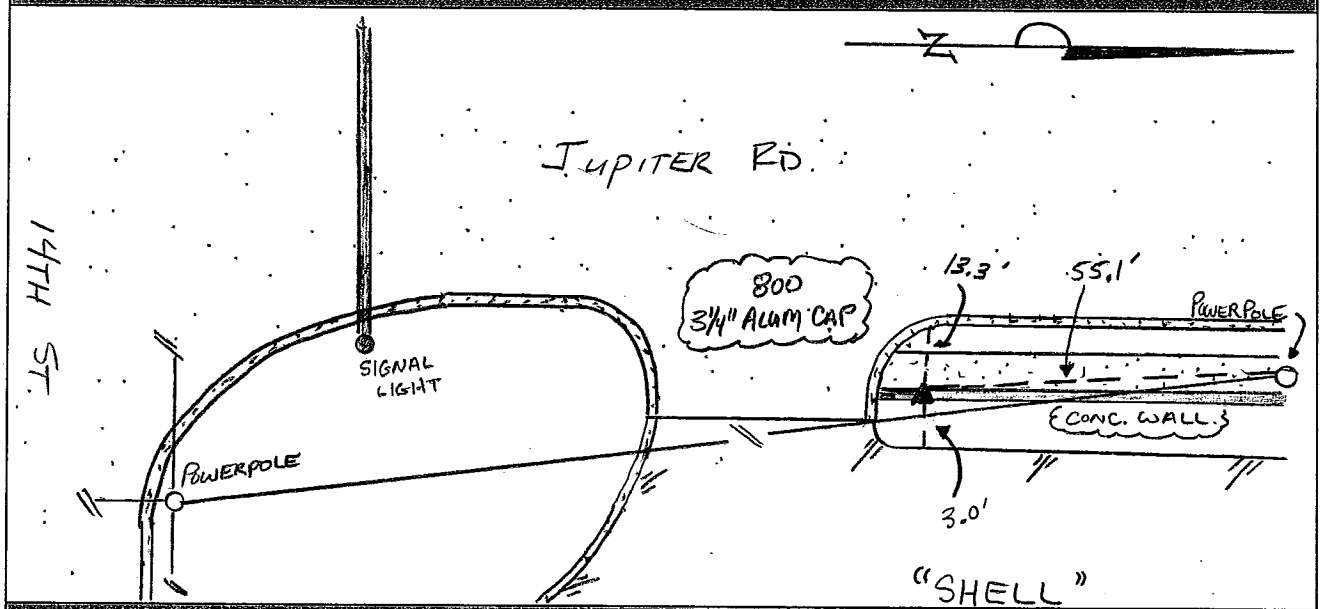
Location / Airport Name and ID JUPITER RD. & 14TH ST. Project 0901-3510

Station Designation 800 PID N/A Date 4/16/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

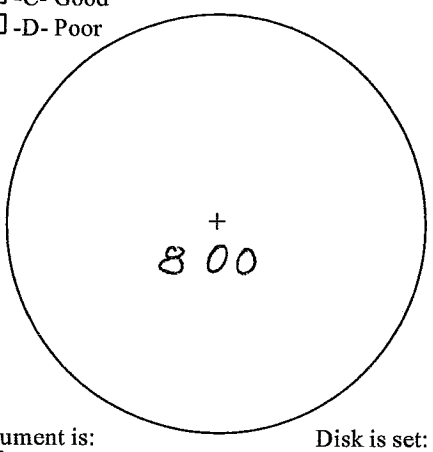
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ☐ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

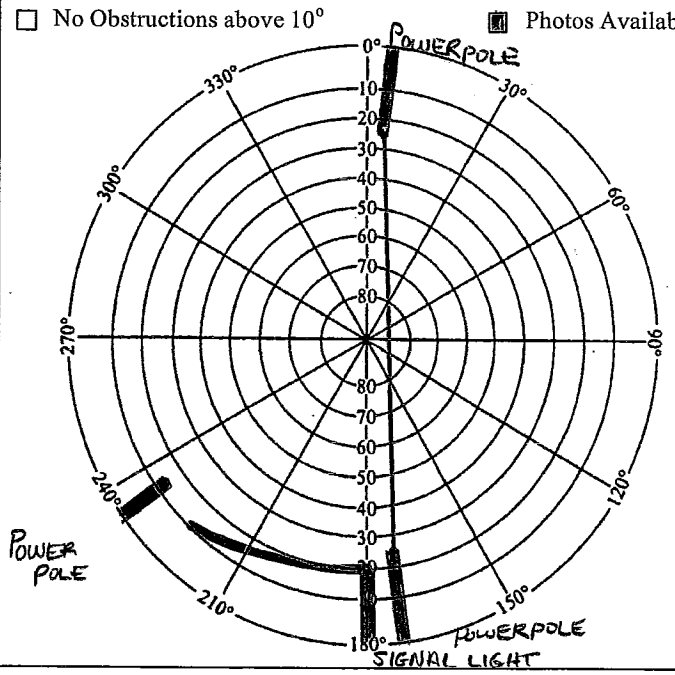
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



801

Station Location Sketch and Visibility Diagram

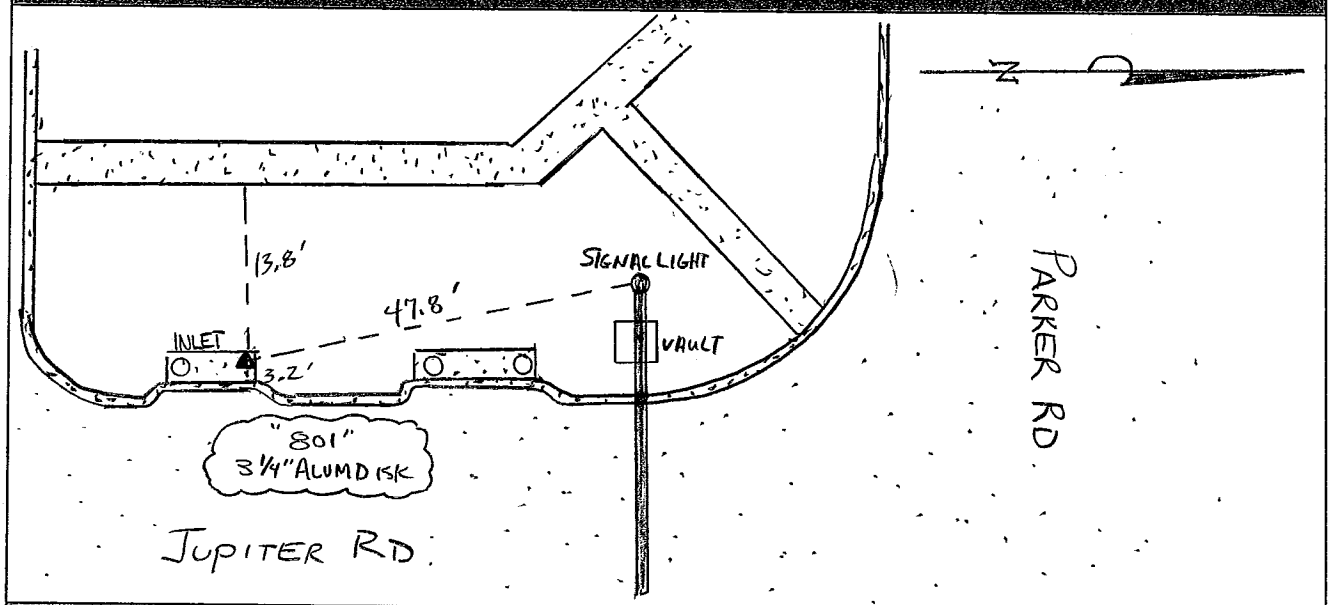
Location / Airport Name and ID PARKER RD. & JUPITER RD. Project 0901-3510

Station Designation 801 PID N/A Date 4/20/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GA±

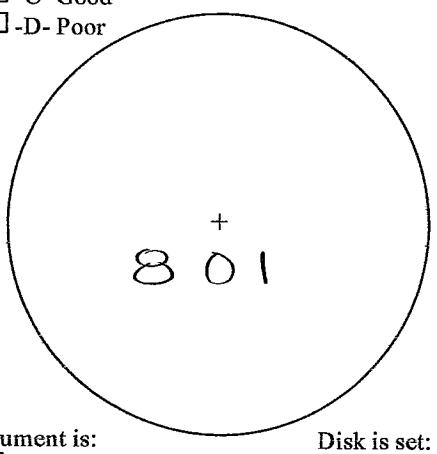
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

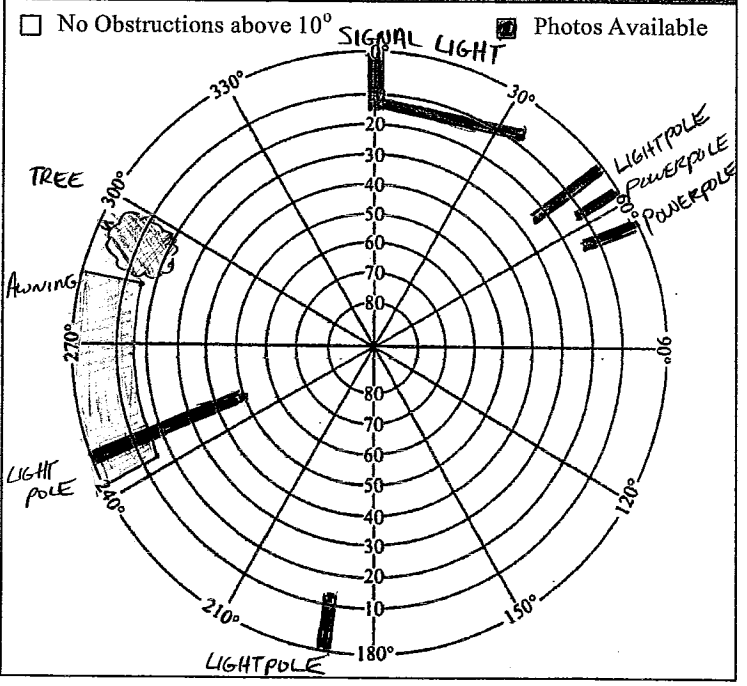
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



802

Station Location Sketch and Visibility Diagram

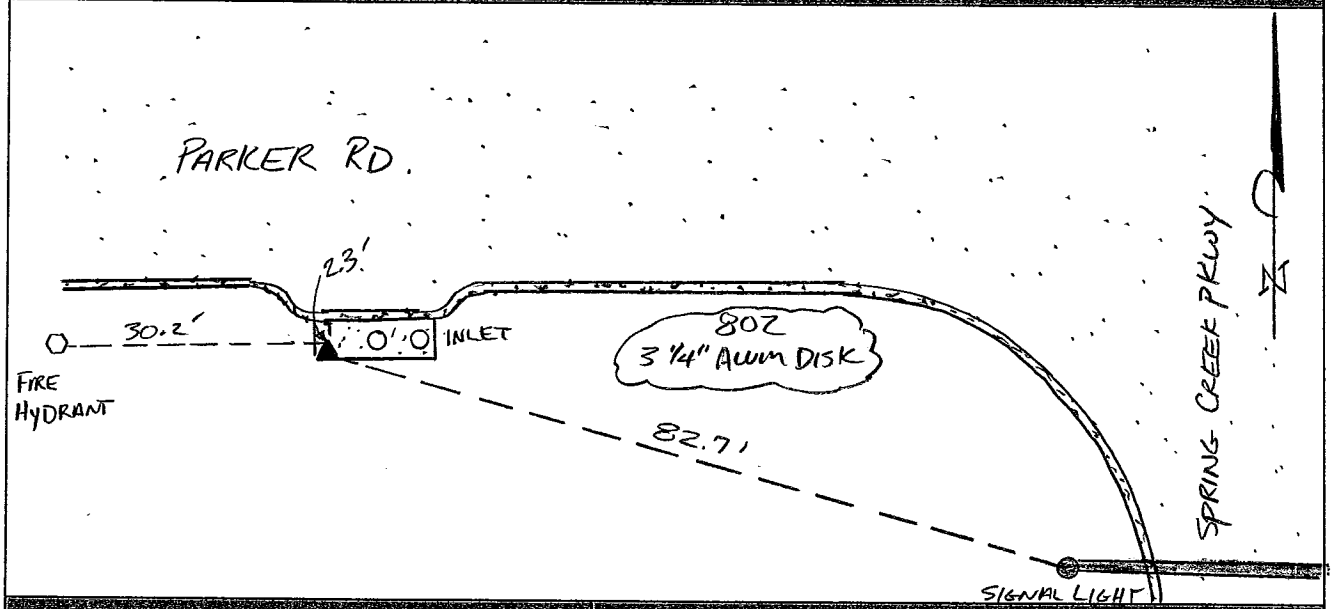
Location / Airport Name and ID PARKER RD. & SPRING CREEK PKWY Project 0901-3510

Station Designation 802 PID N/A Date 4/20/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN

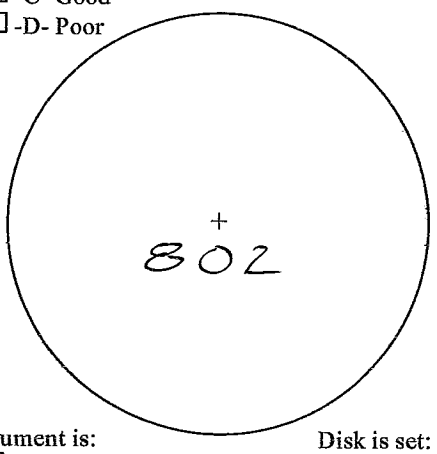
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

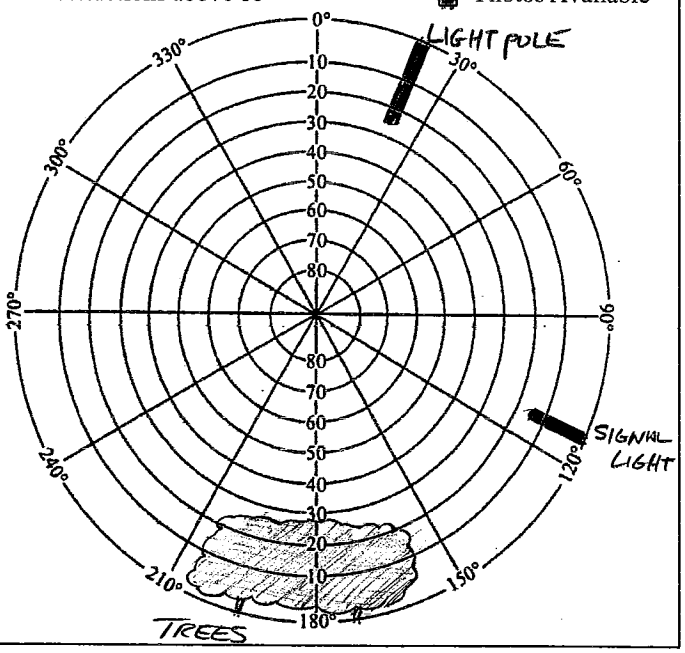
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



803

Station Location Sketch and Visibility Diagram

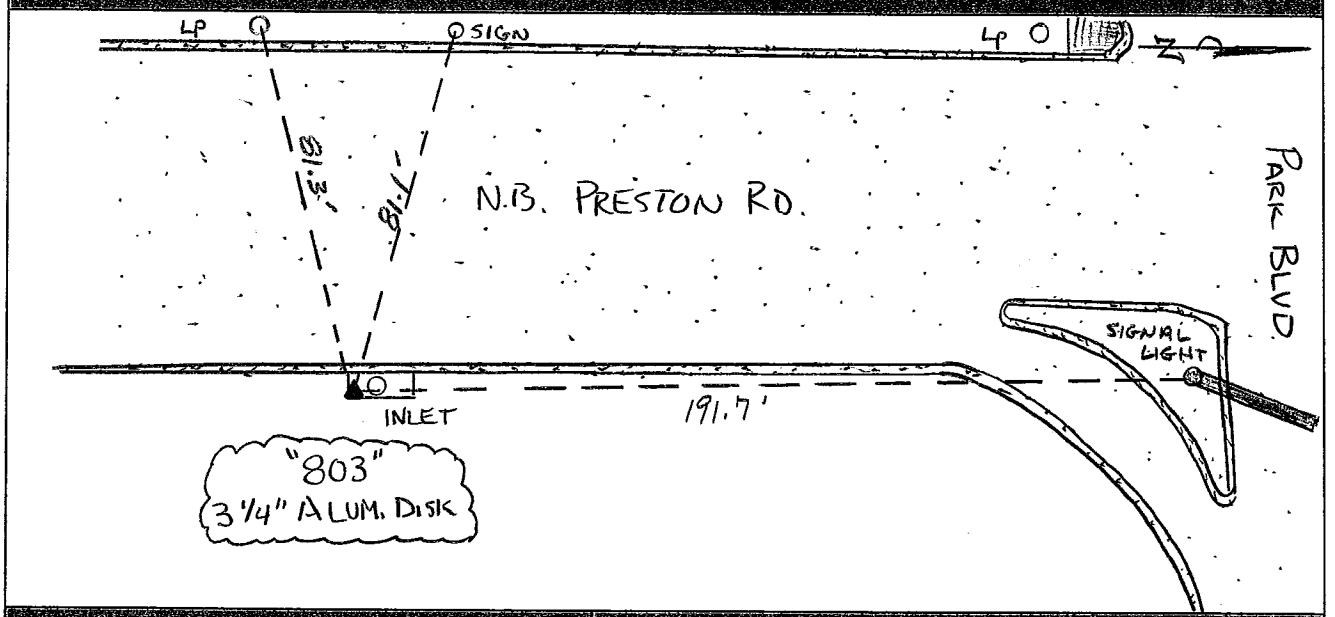
Location / Airport Name and ID PRESTON RD. & PARK BLVD. Project 0901-3510

Station Designation 803 PID N/A Date 4/15/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

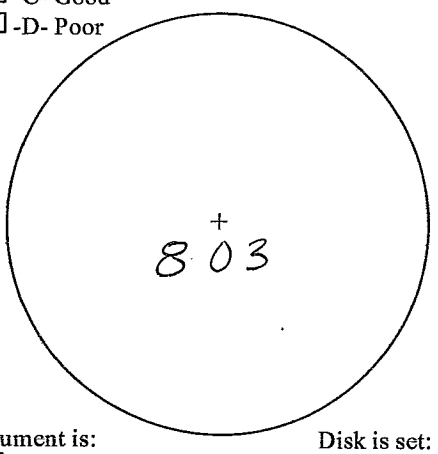
Observer & Organization S. PIEPKORN

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

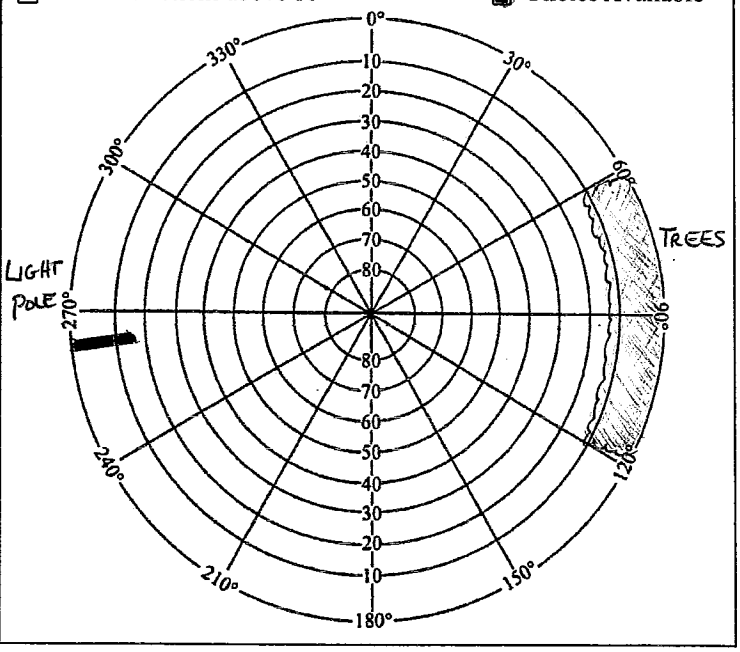


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



804

Station Location Sketch and Visibility Diagram

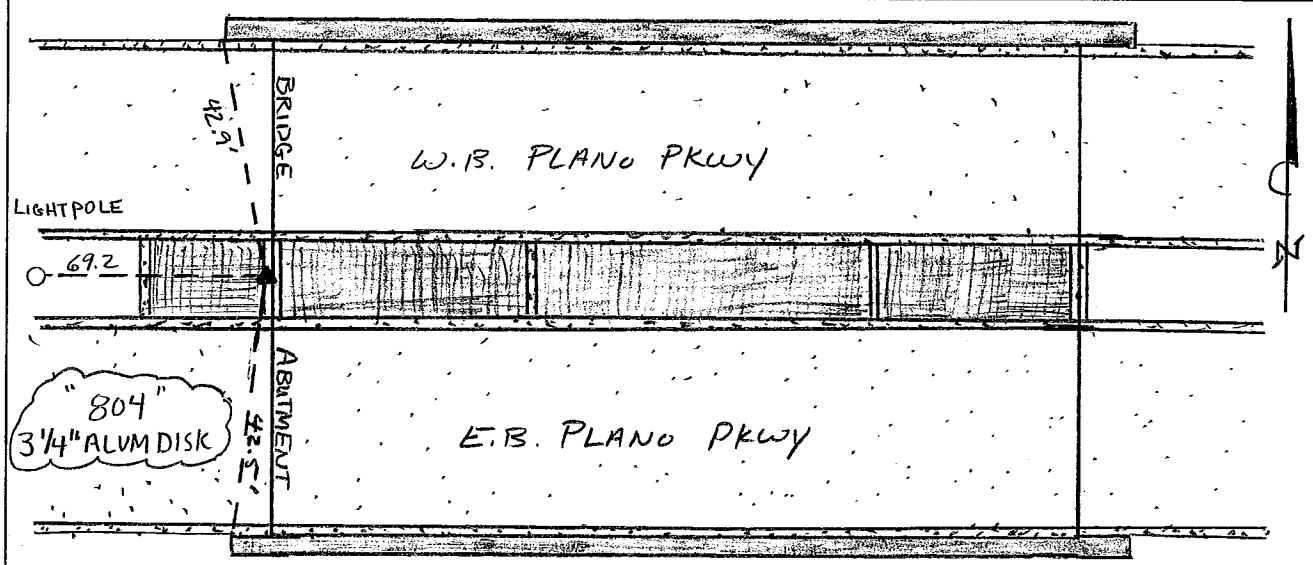
Location / Airport Name and ID PLANO PKWY & WHITE ROCK TRAIL PARK Project 0901-3570

Station Designation 804 PID N/A Date 4/15/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAT

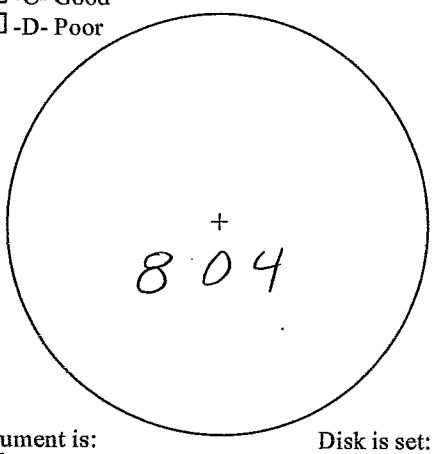
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



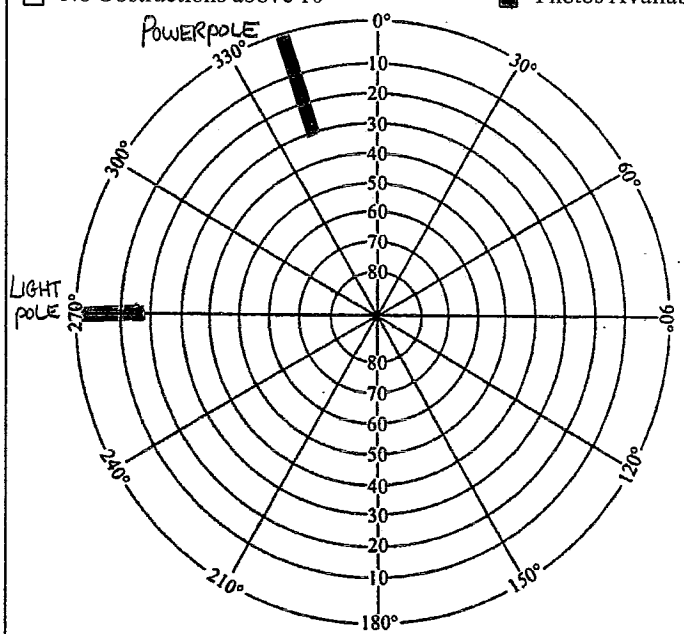
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



805

Station Location Sketch and Visibility Diagram

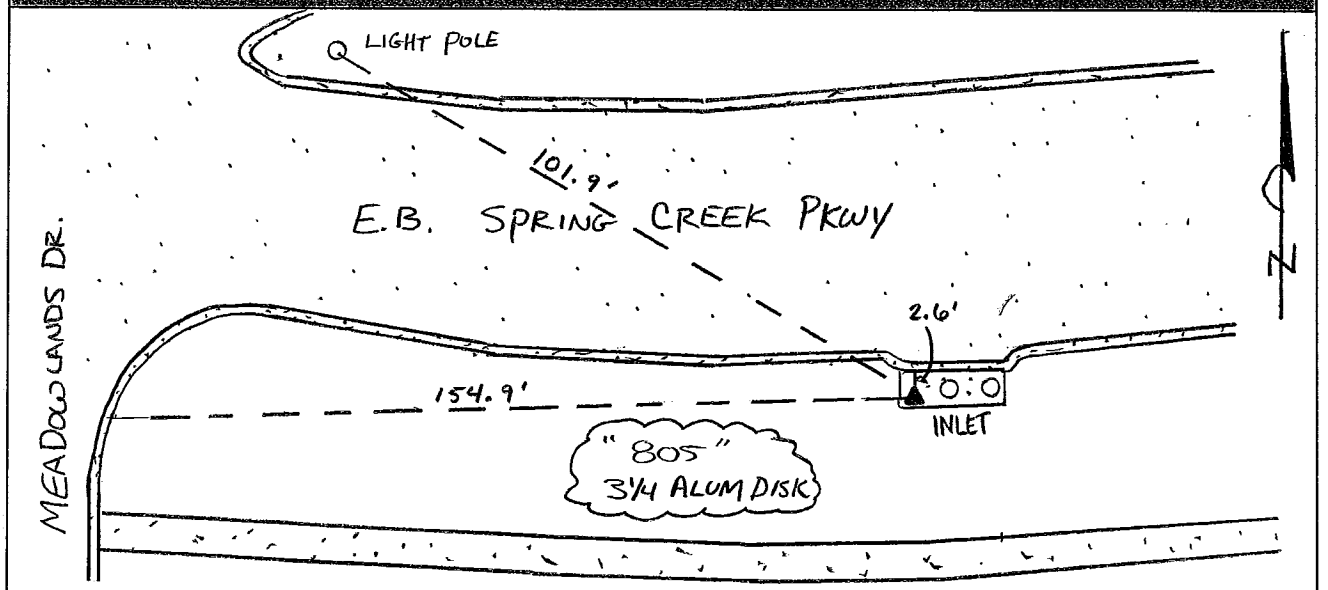
Location / Airport Name and ID SPRING CREEK PKWY & MEADOWLANDS DR. Project 0901-3510

Station Designation 805 PID N/A Date 4/8/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

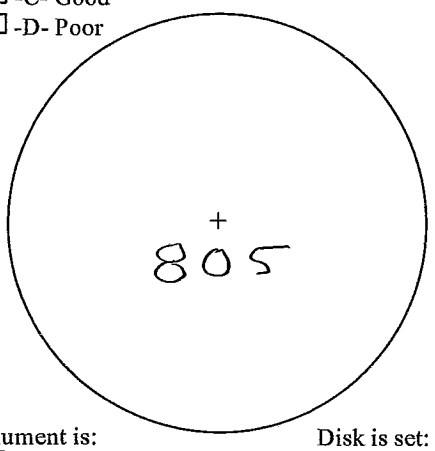
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

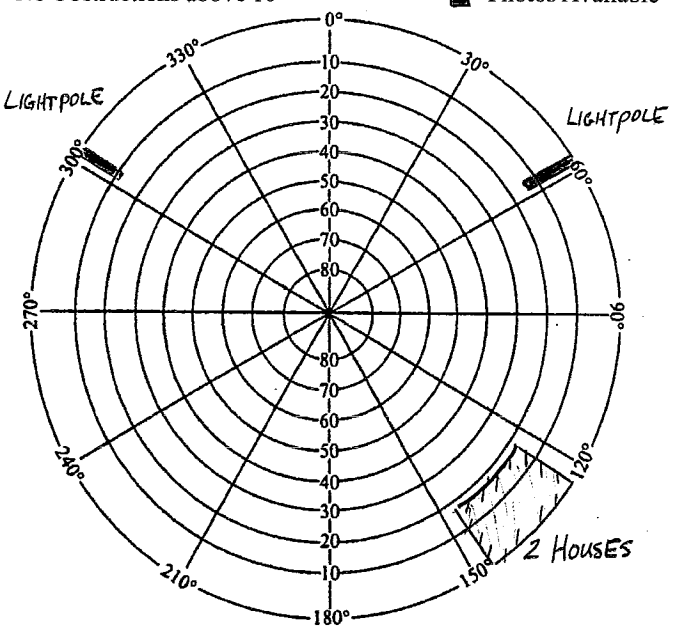


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



806

Station Location Sketch and Visibility Diagram

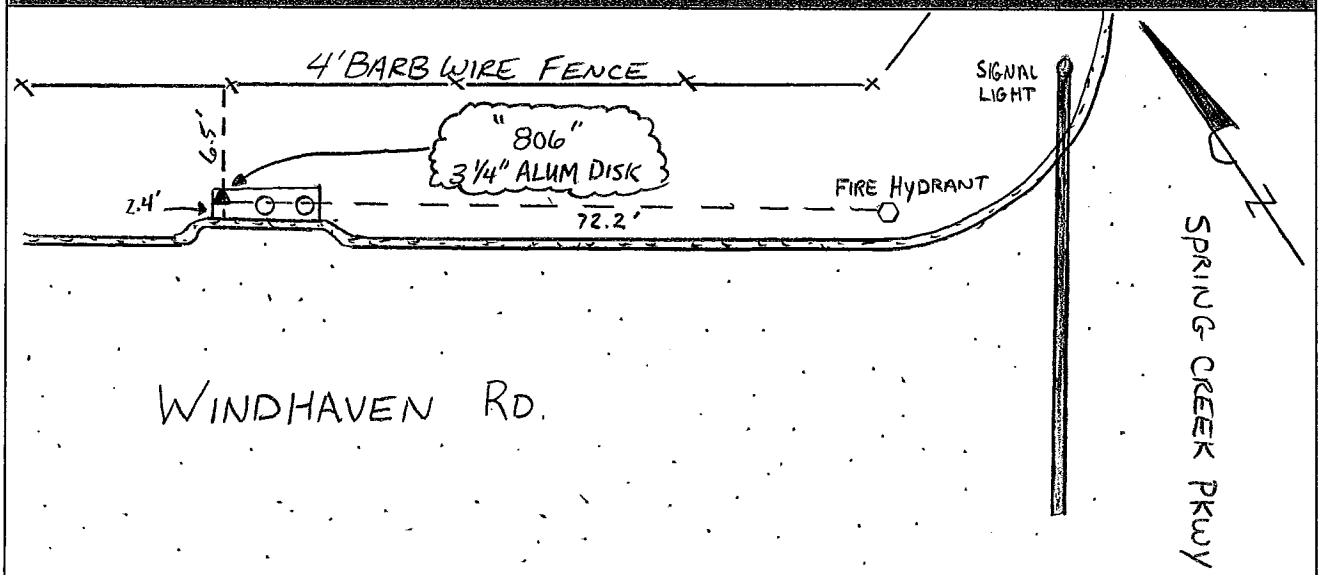
Location / Airport Name and ID SPRING CREEK PKWY & WINDHAVEN Project 0901-3510

Station Designation 806 PID N/A Date 4/13/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

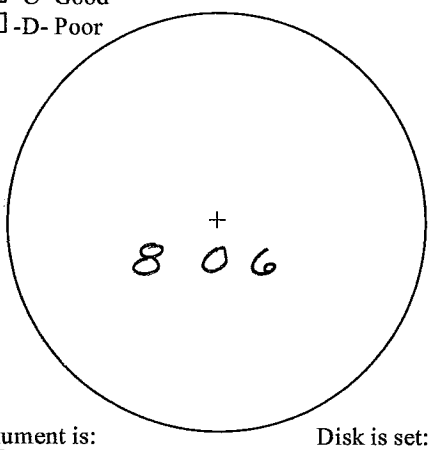
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☒ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

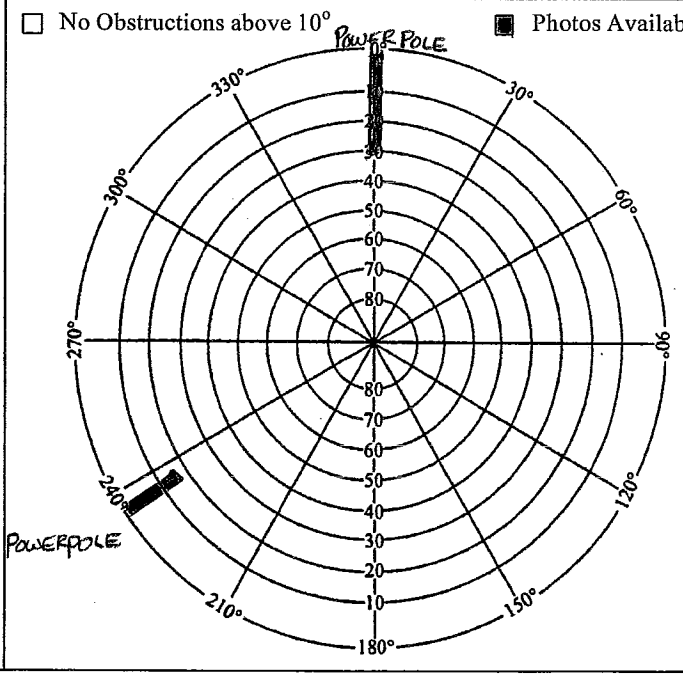
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



807

Station Location Sketch and Visibility Diagram

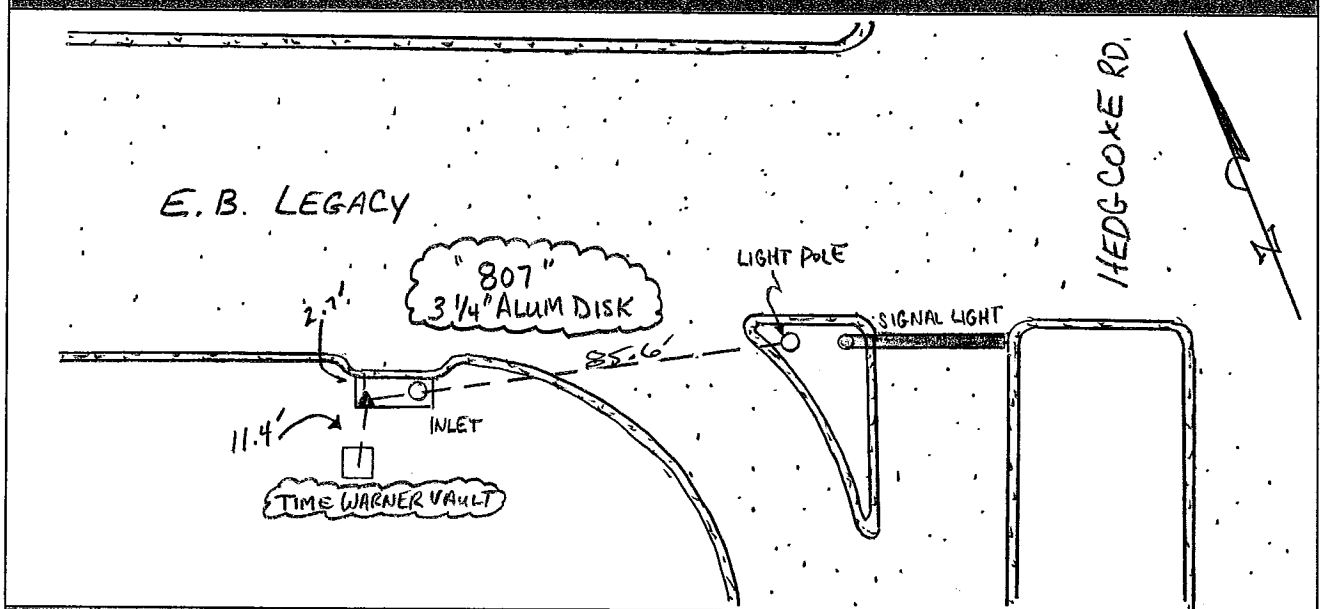
Location / Airport Name and ID LEGACY DR. & HEDGCOXE RD Project 0901-3510

Station Designation 807 PID N/A Date 4/13/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

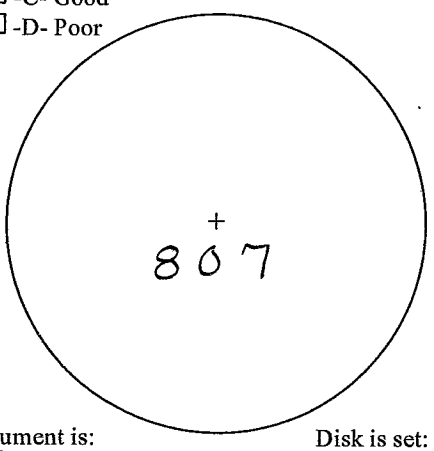
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☒ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

☒ Photos Available

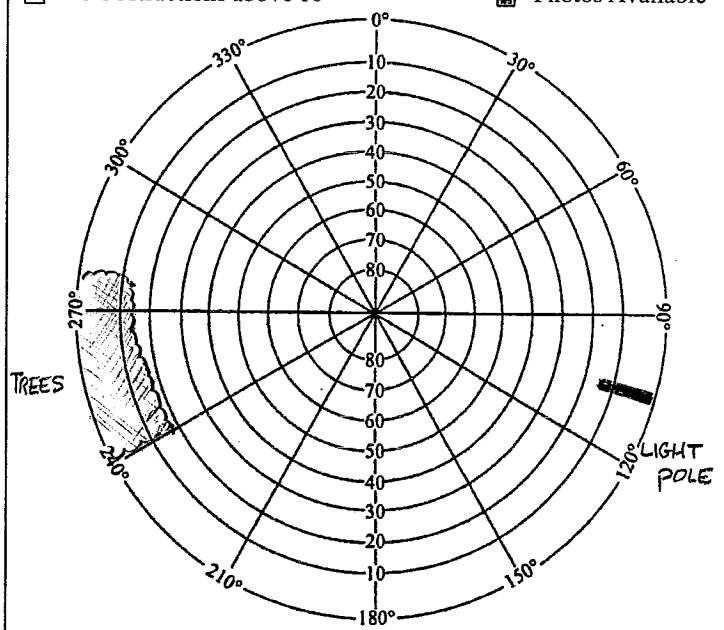


Monument is:
- ☐ Recessed ___ cm
- ☒ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☒ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☒ Photos Available



808

Station Location Sketch and Visibility Diagram

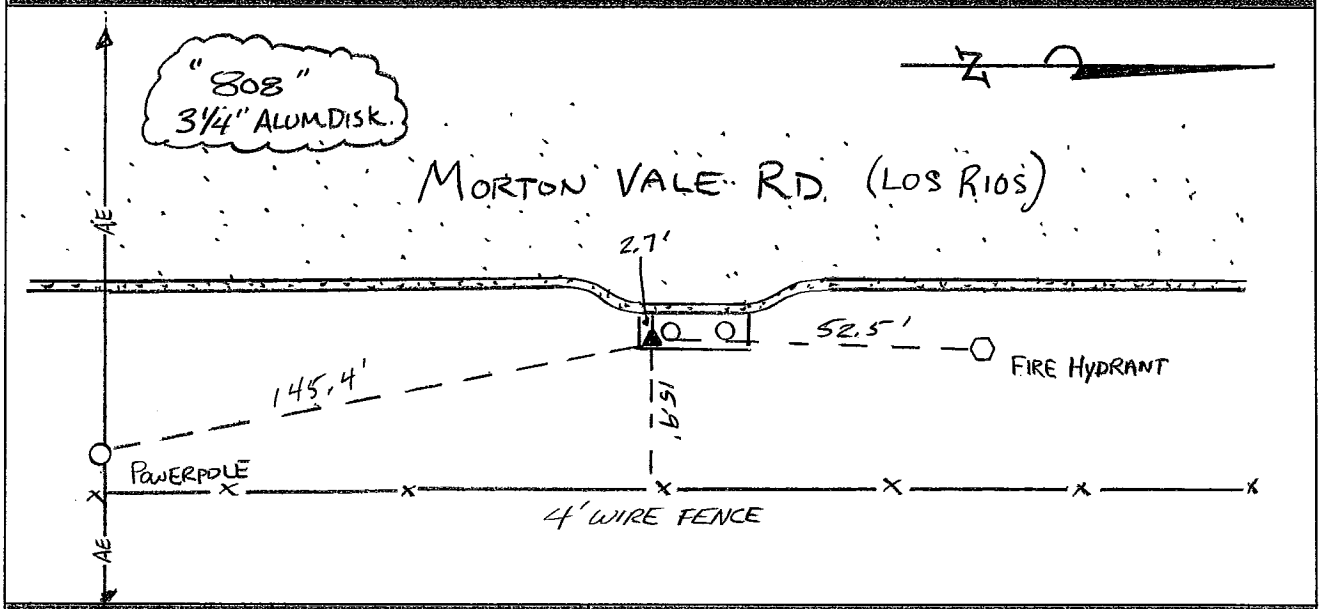
Location / Airport Name and ID MORTON VALE RD. Project 0901-3510

Station Designation 808 PID N/A Date 4/7/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

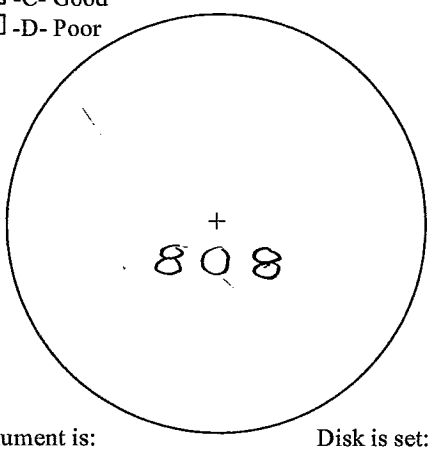
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

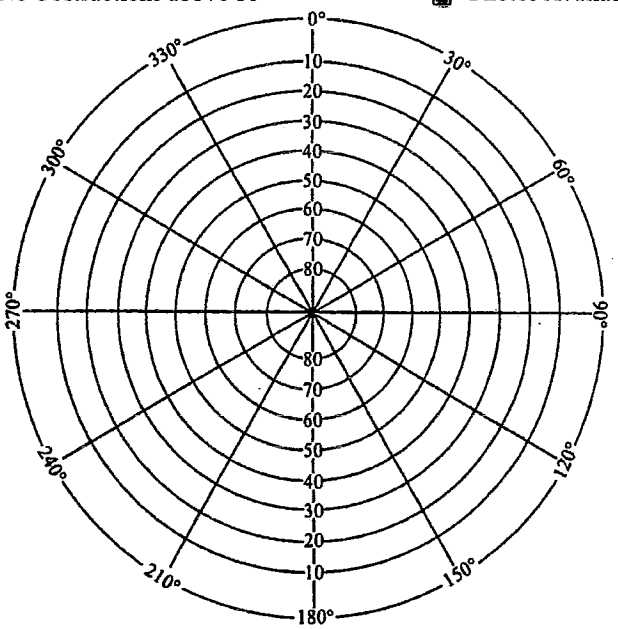
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

■ No Obstructions above 10° ■ Photos Available



809

Station Location Sketch and Visibility Diagram

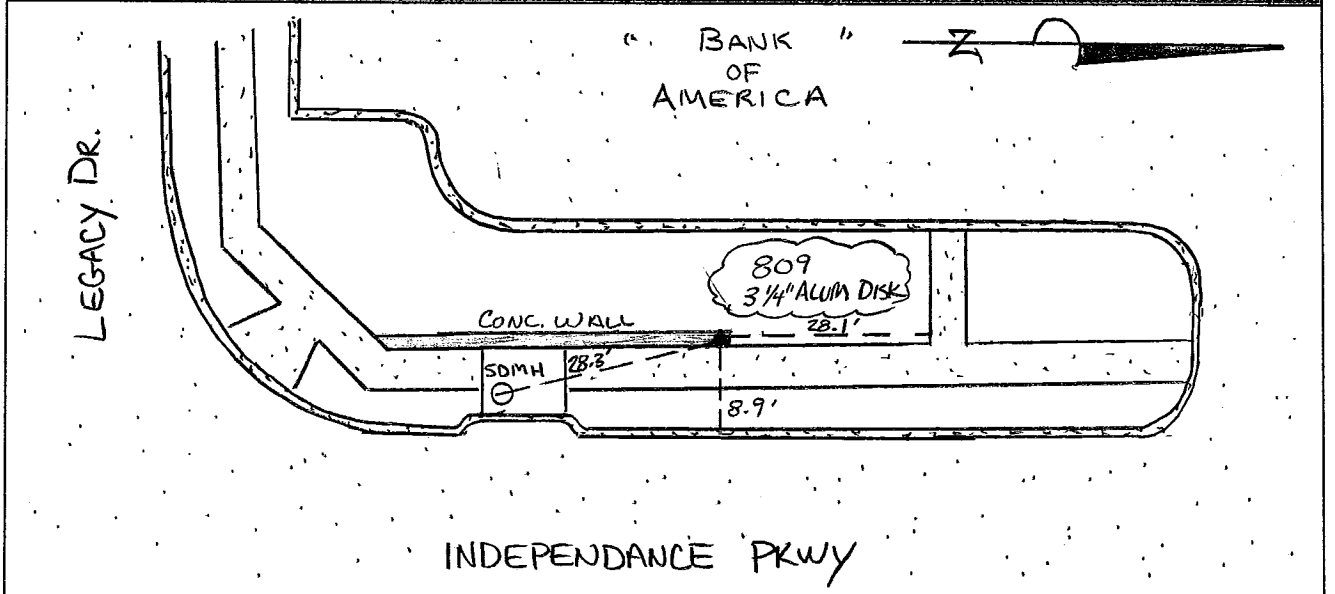
Location / Airport Name and ID LEGACY DR. & INDEPENDANCE PKWY. Project 0901-3510

Station Designation 809 PID N/A Date 4/15/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

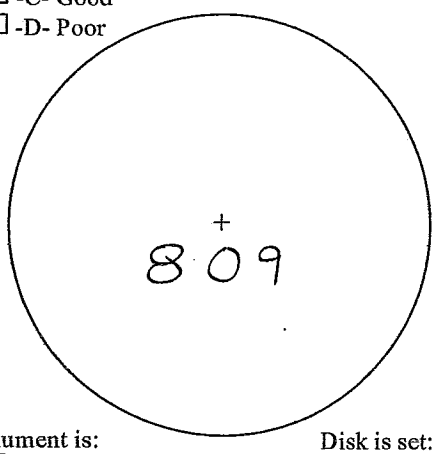
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



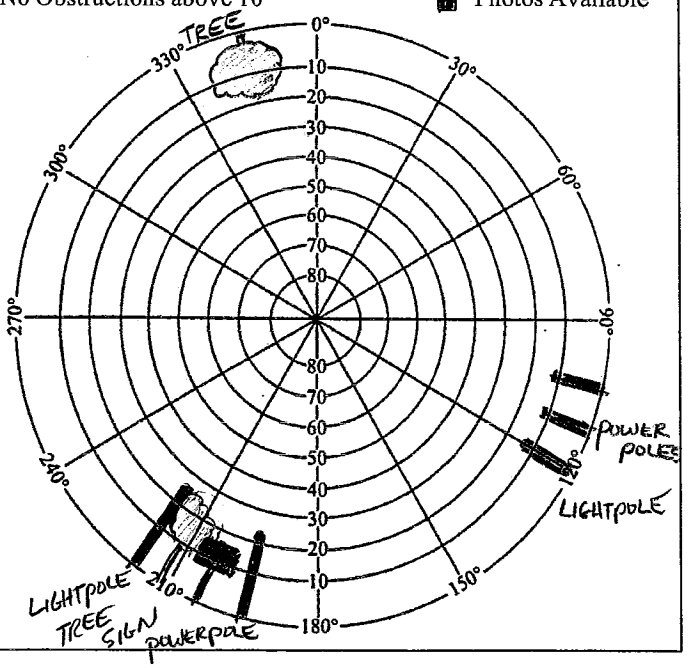
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



820

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID DALLAS TOLLWAY & WINDHAVEN PKWY

Project 0901-3510

Station Designation 820

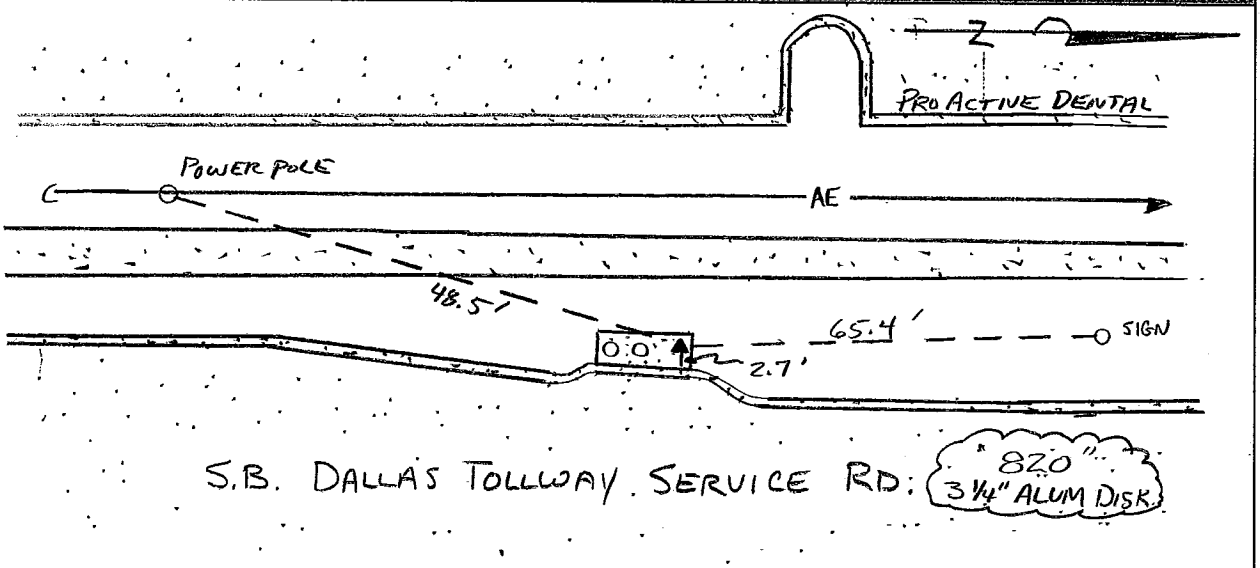
PID N/A

Date 4/8/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

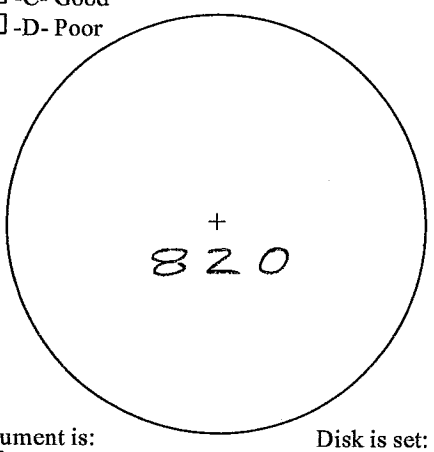
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

☐ Photos Available



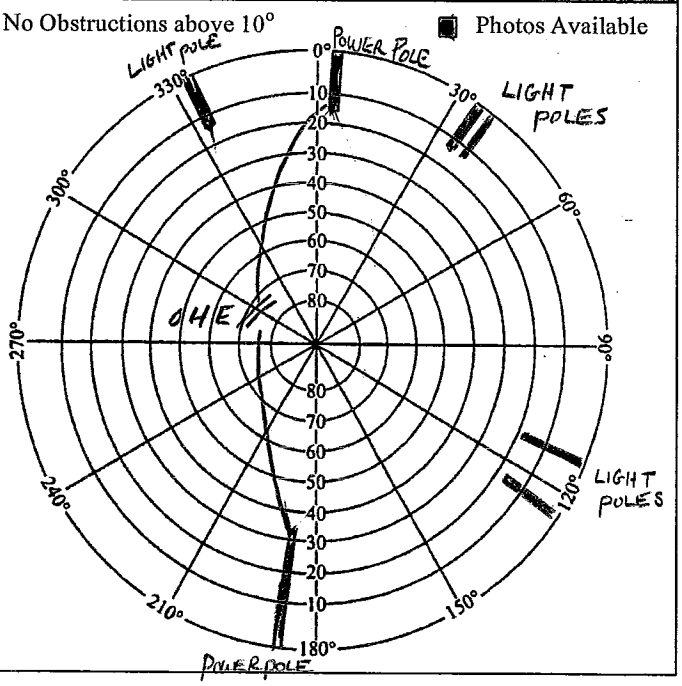
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



821

Station Location Sketch and Visibility Diagram

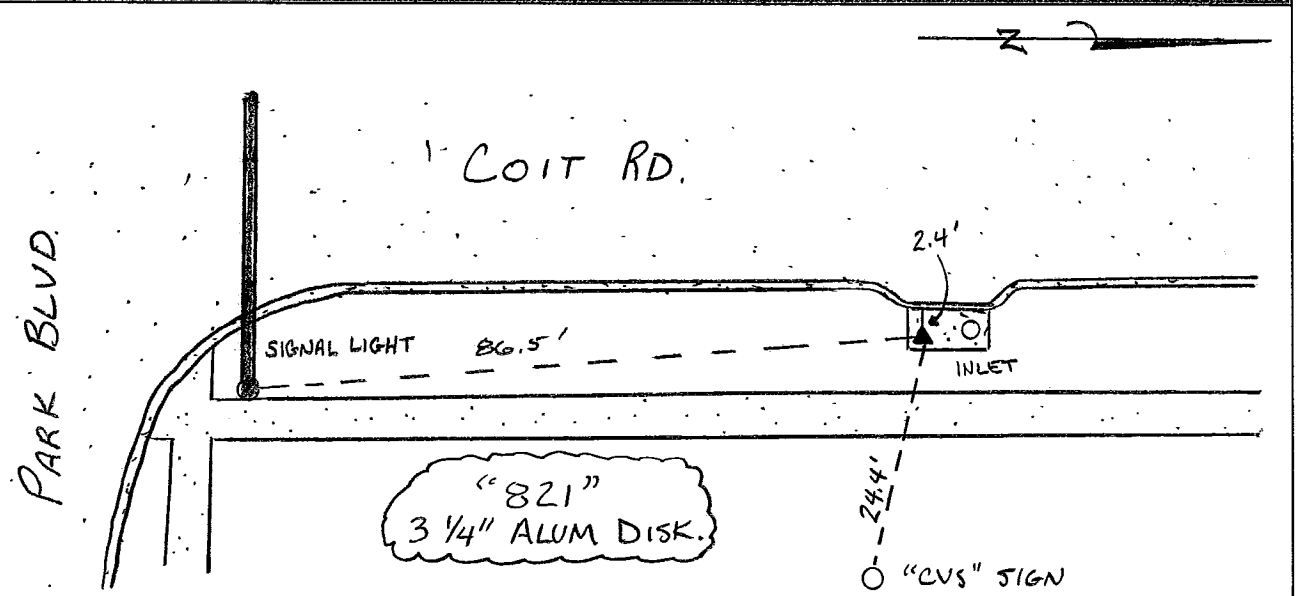
Location / Airport Name and ID: PARK BLVD & COIT RD. Project: 0901-3510

Station Designation: 821 PID: N/A Date: 4/6/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

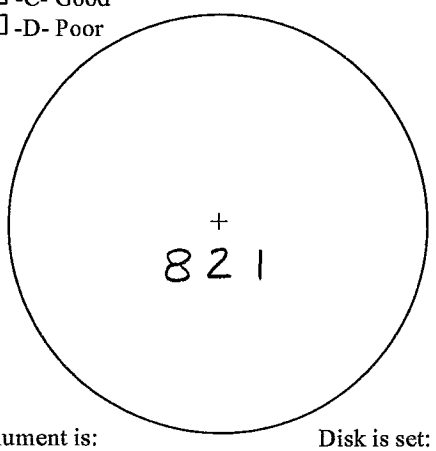
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

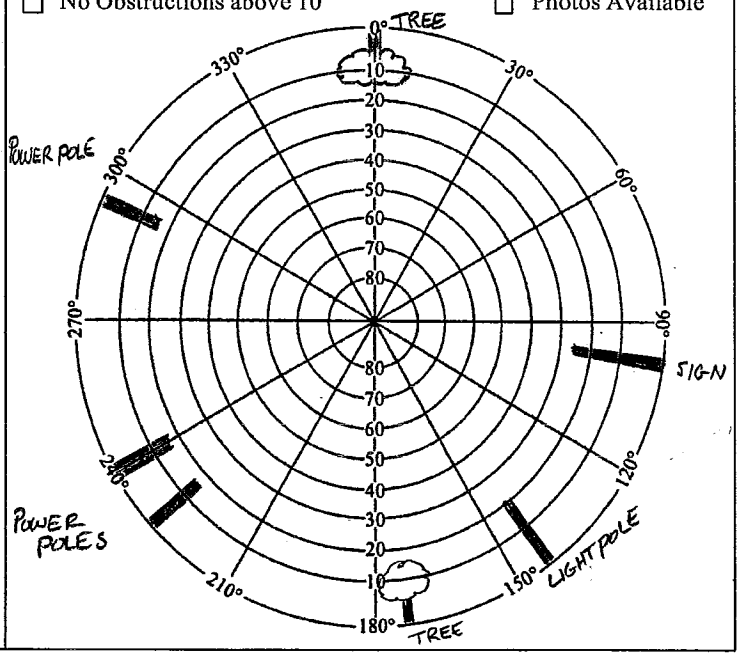


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



822

Station Location Sketch and Visibility Diagram

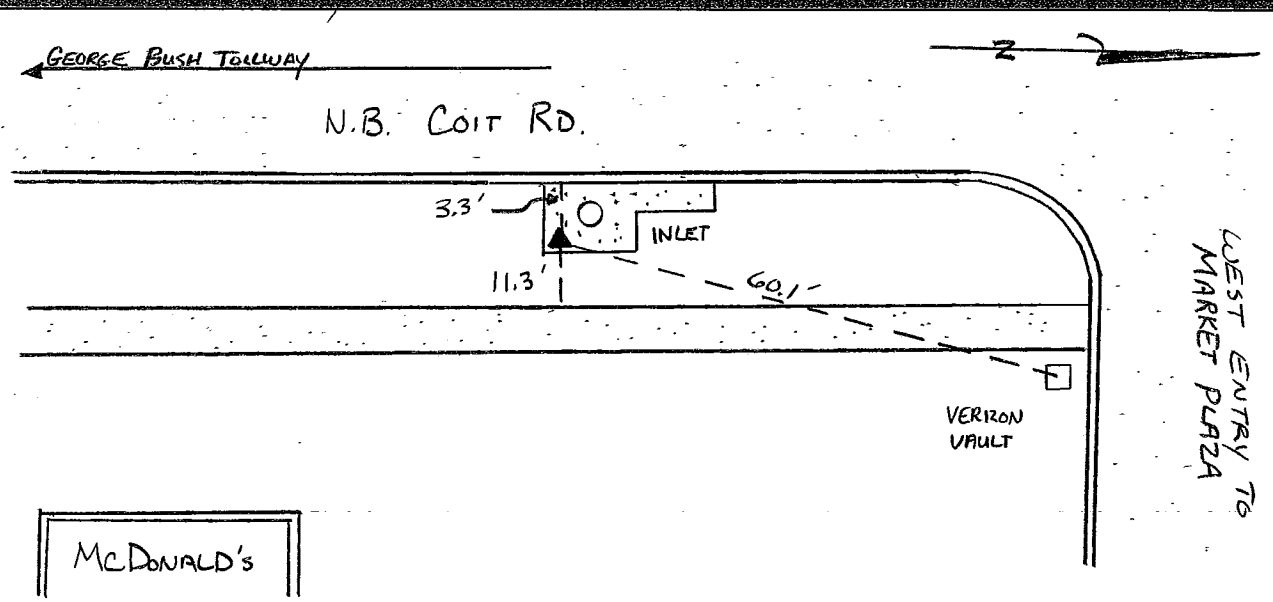
Location / Airport Name and ID GEORGE BUSH TOLLWAY & COIT RD. Project 0901-3510

Station Designation 822 PID N/A Date 4/6/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

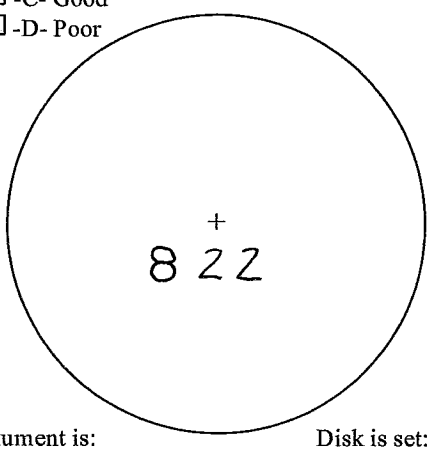
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ☐ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

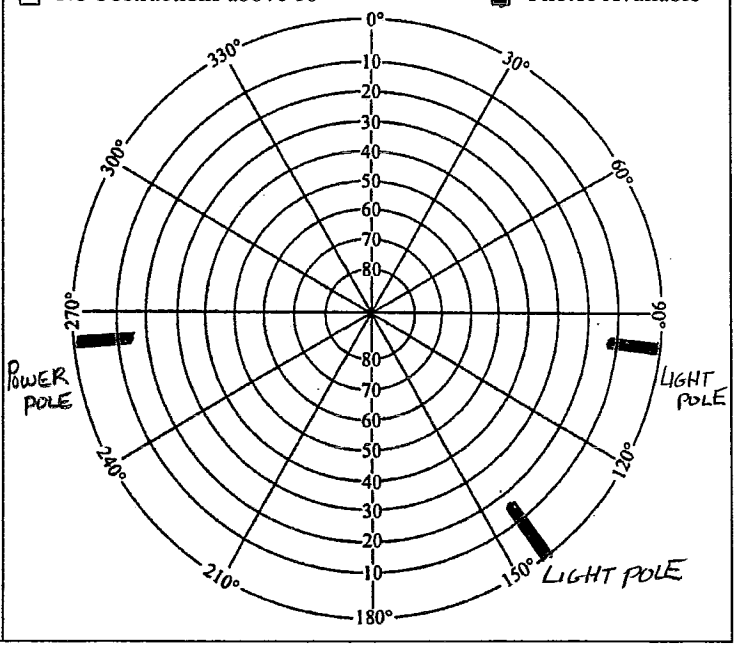
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



823

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID N. DALLAS TOLLWAY & GRANITE PKWY

Project 0901 - 3510

Station Designation 823

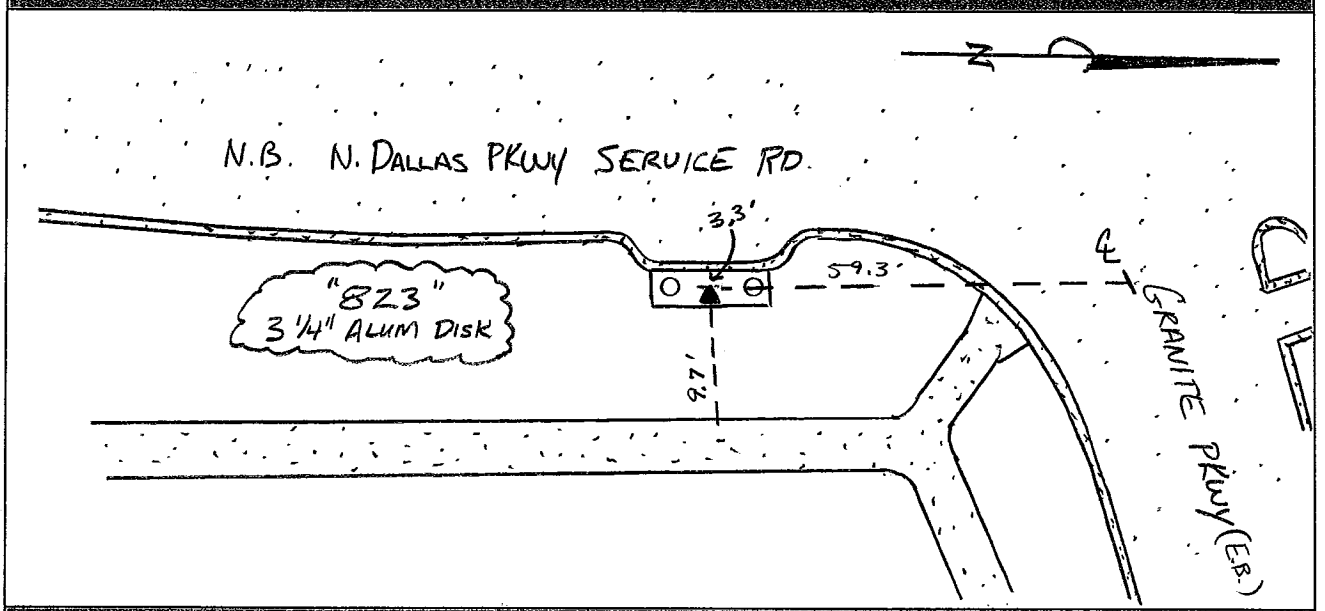
PID N/A

Date 4/8/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN

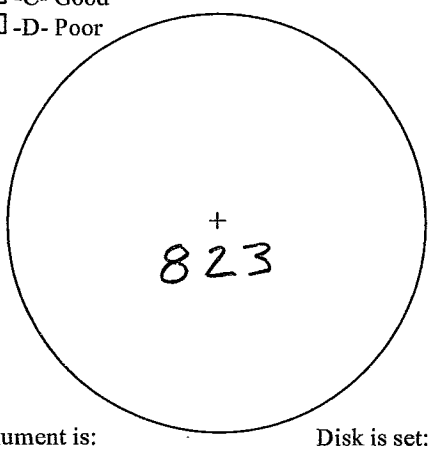
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



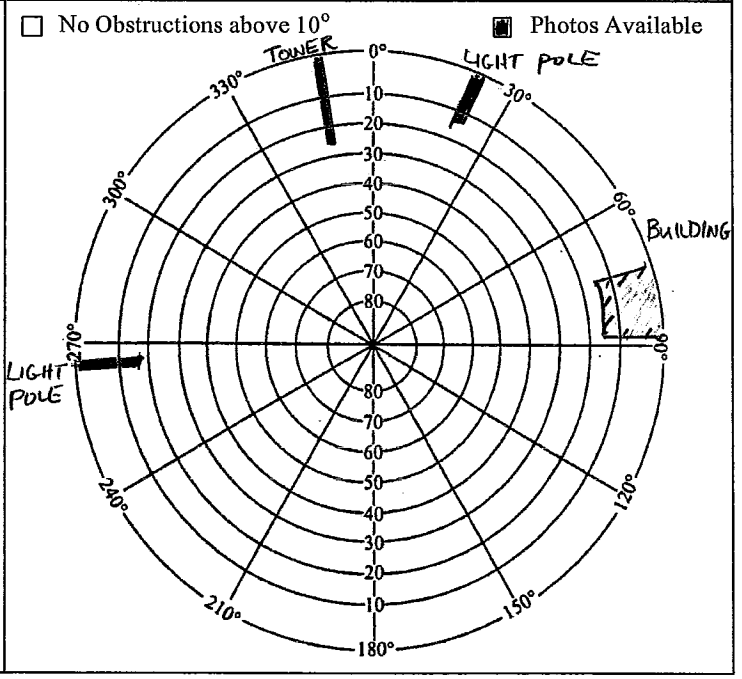
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



824

Station Location Sketch and Visibility Diagram

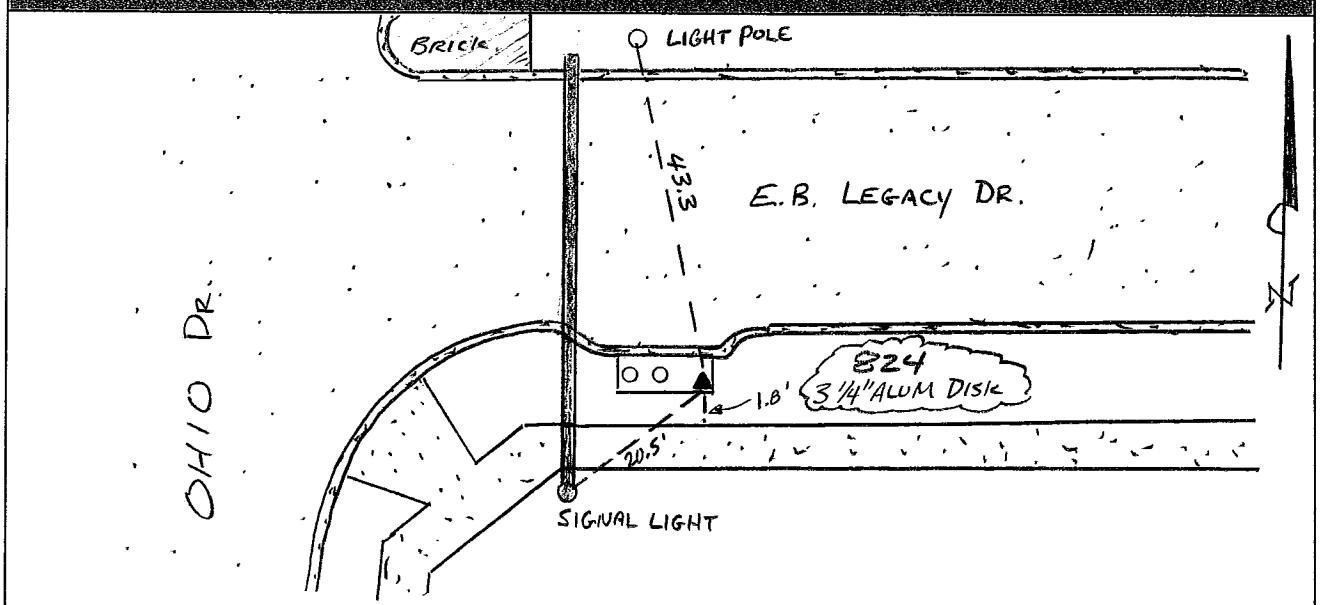
Location / Airport Name and ID LEGACY DR. & OHIO DR. Project 0901-3510

Station Designation 824 PID N/A Date 4/13/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

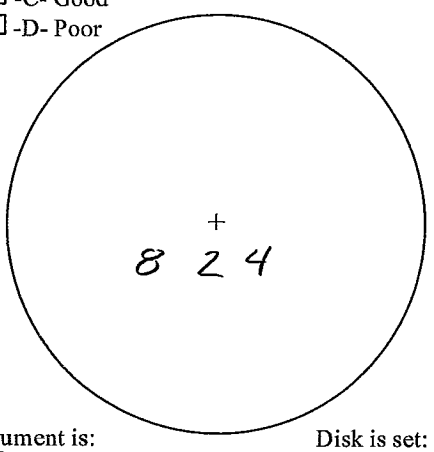
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

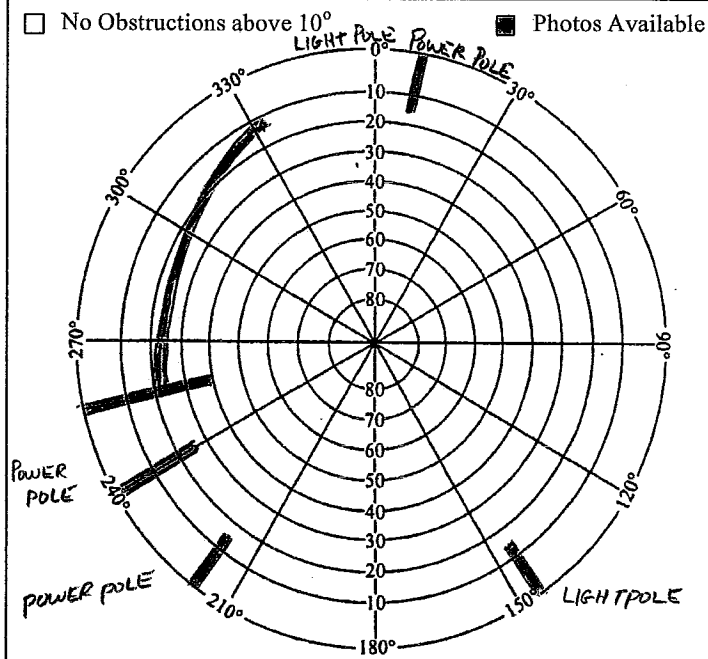


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



825

Station Location Sketch and Visibility Diagram

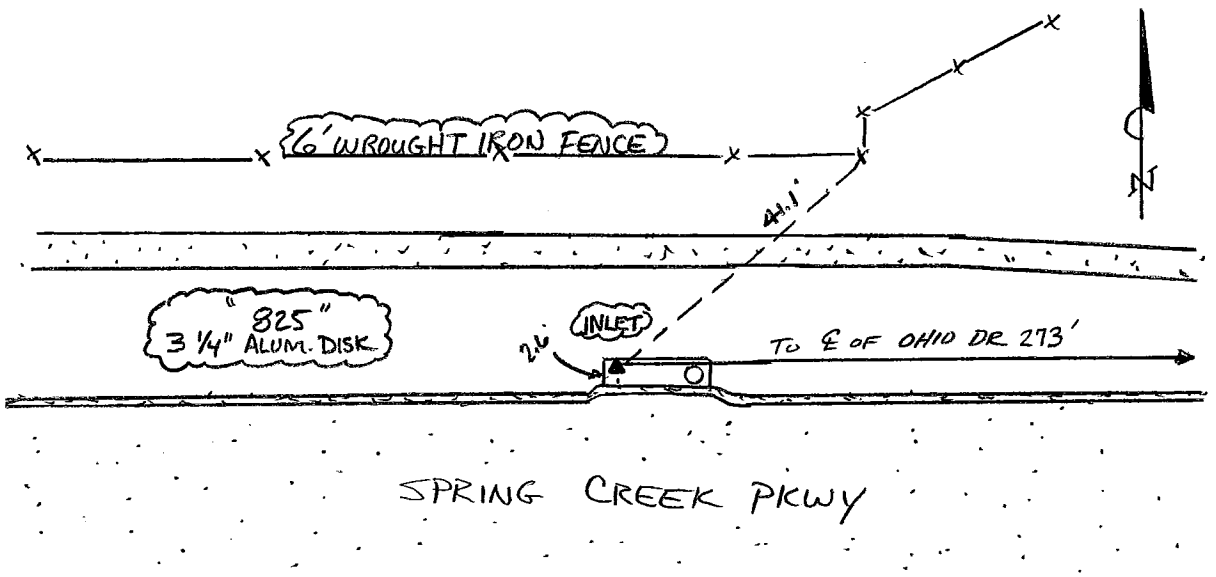
Location / Airport Name and ID OHIO DR. & SPRING CREEK PKWY. Project 0901-3510

Station Designation 825 PID N/A Date 4/13/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

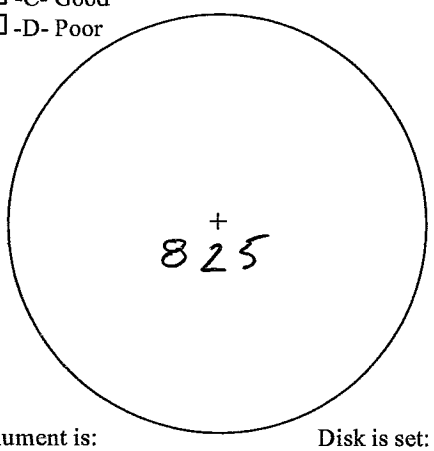
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

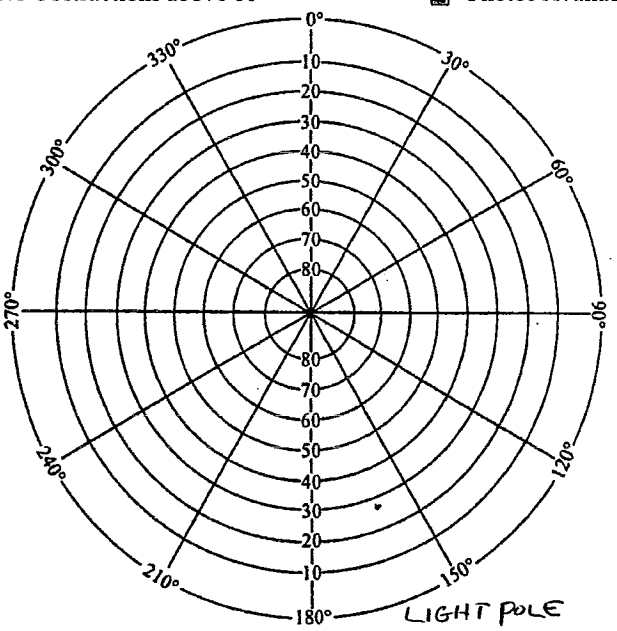
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



826

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: COIT RD. & LEGACY DR.

Project: 0901-3510

Station Designation: 826

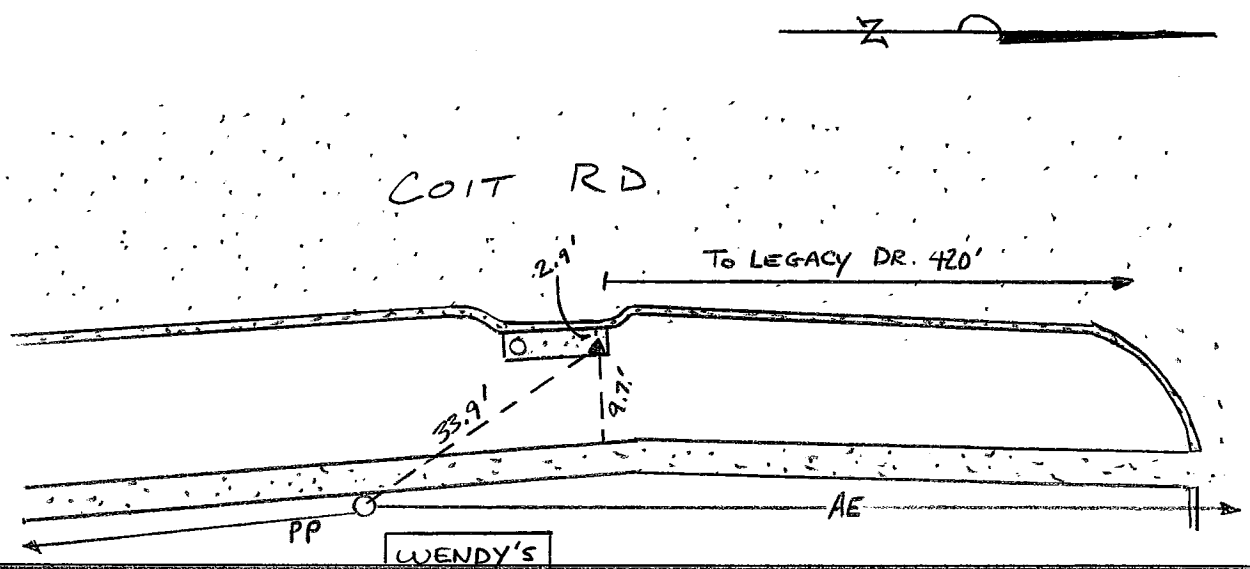
PID: N/A

Date: 4/13/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

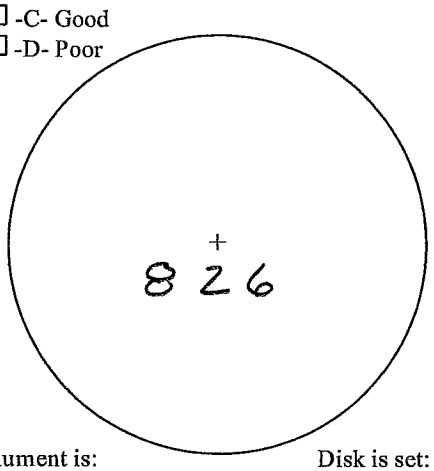
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



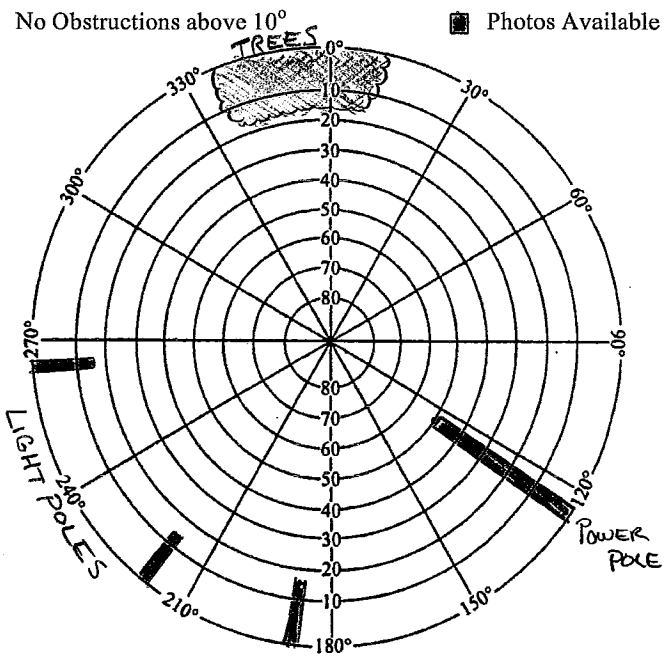
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



827

Station Location Sketch and Visibility Diagram

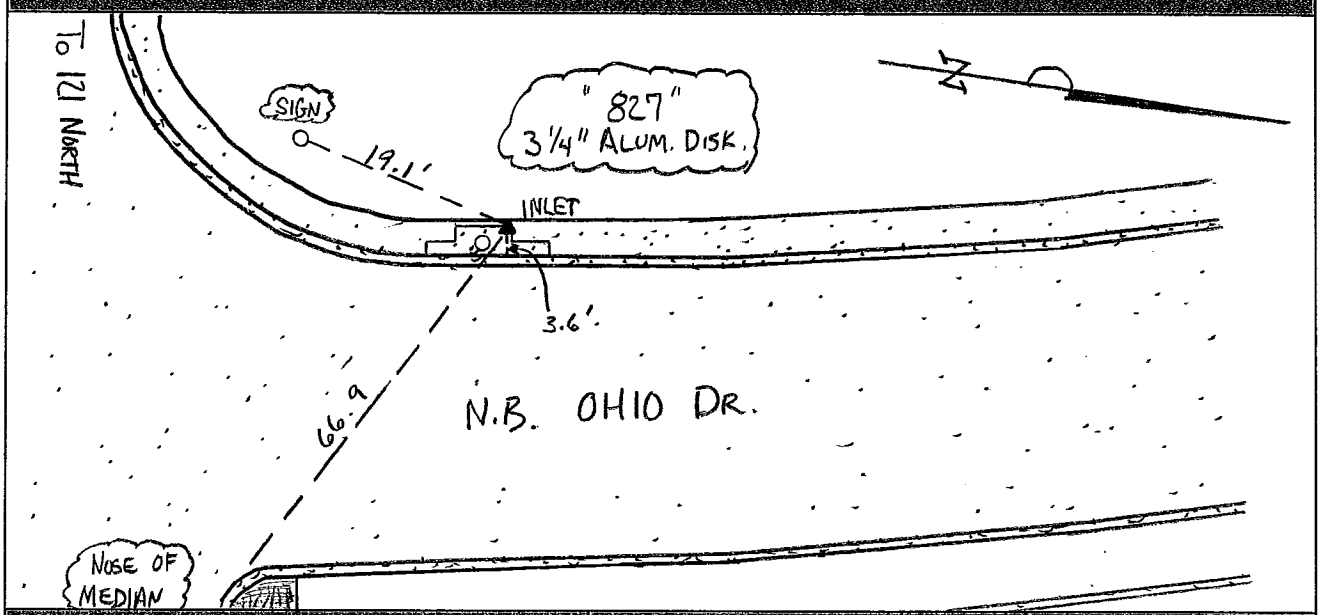
Location / Airport Name and ID: OHIO DR & HWY 121 Project: 0901-3510

Station Designation: 827 PID: N/A Date: 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN

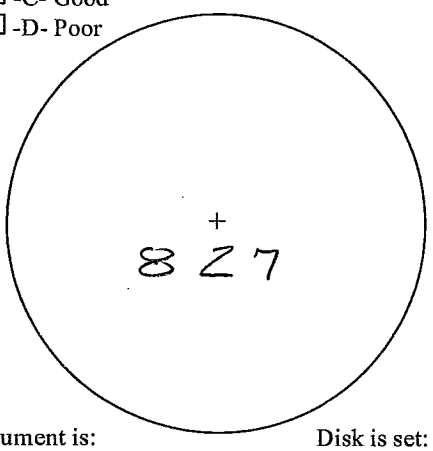
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

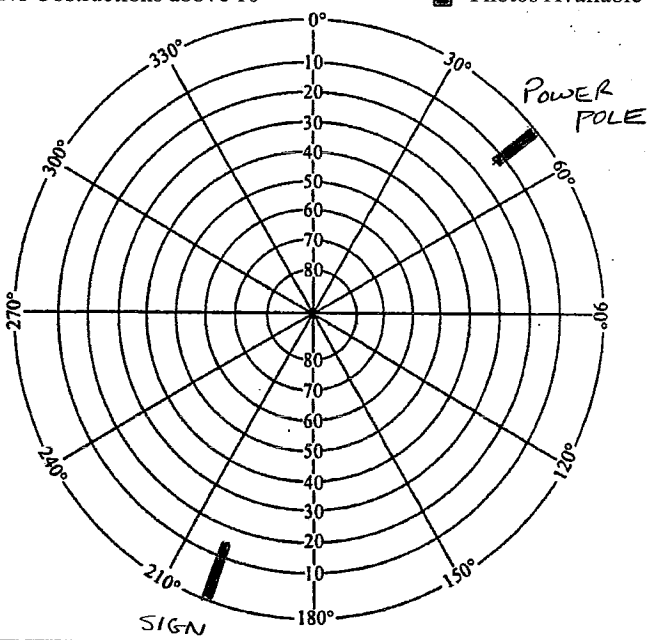
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



828

Station Location Sketch and Visibility Diagram

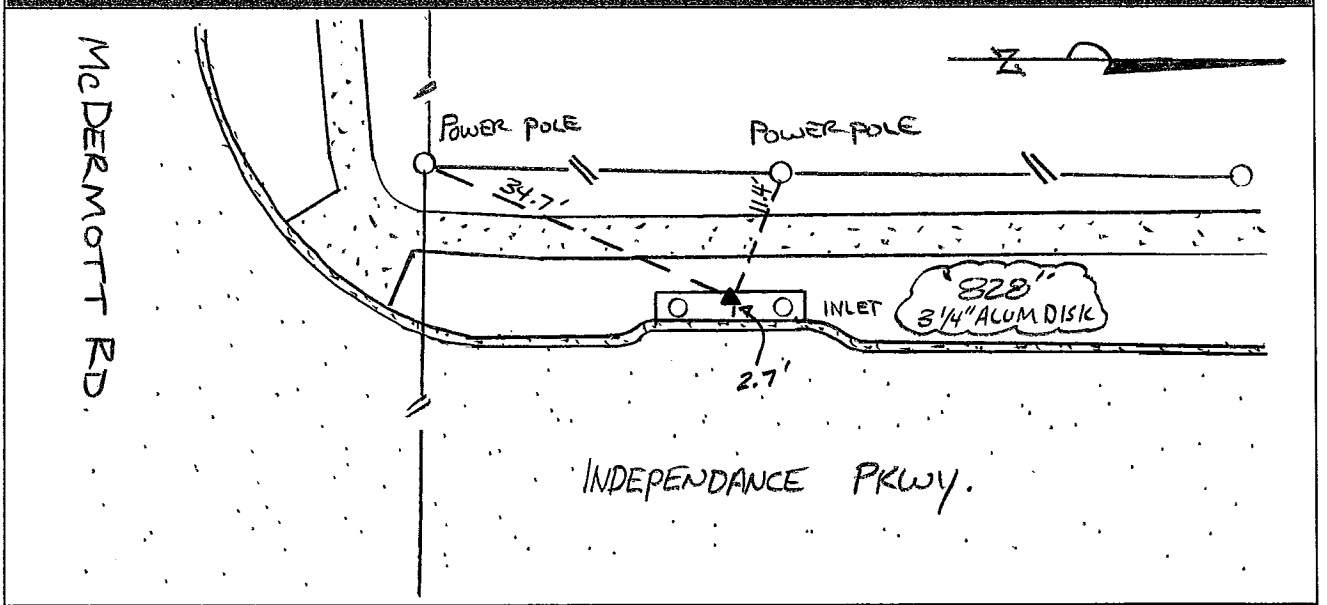
Location / Airport Name and ID McDERMOTT RD. & INDEPENDANCE PKWY. Project 0901-3510

Station Designation 828 PID N/A Date 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

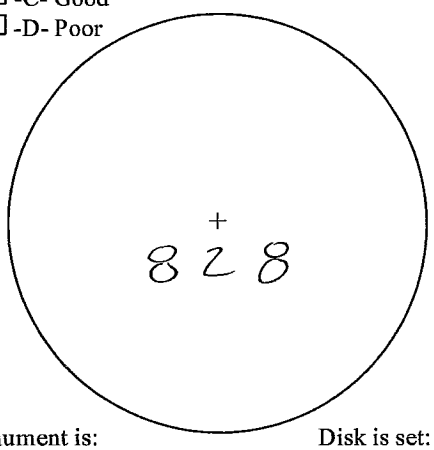
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

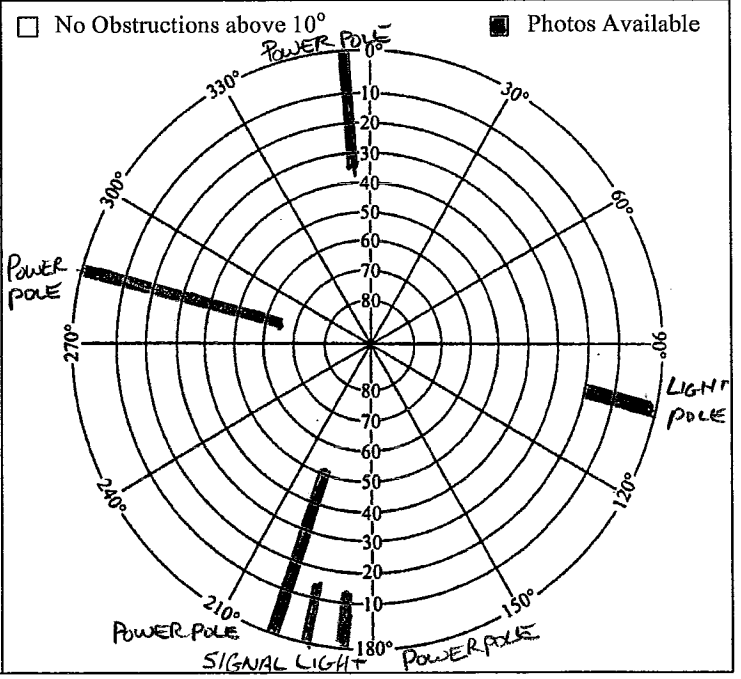
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



829

Station Location Sketch and Visibility Diagram

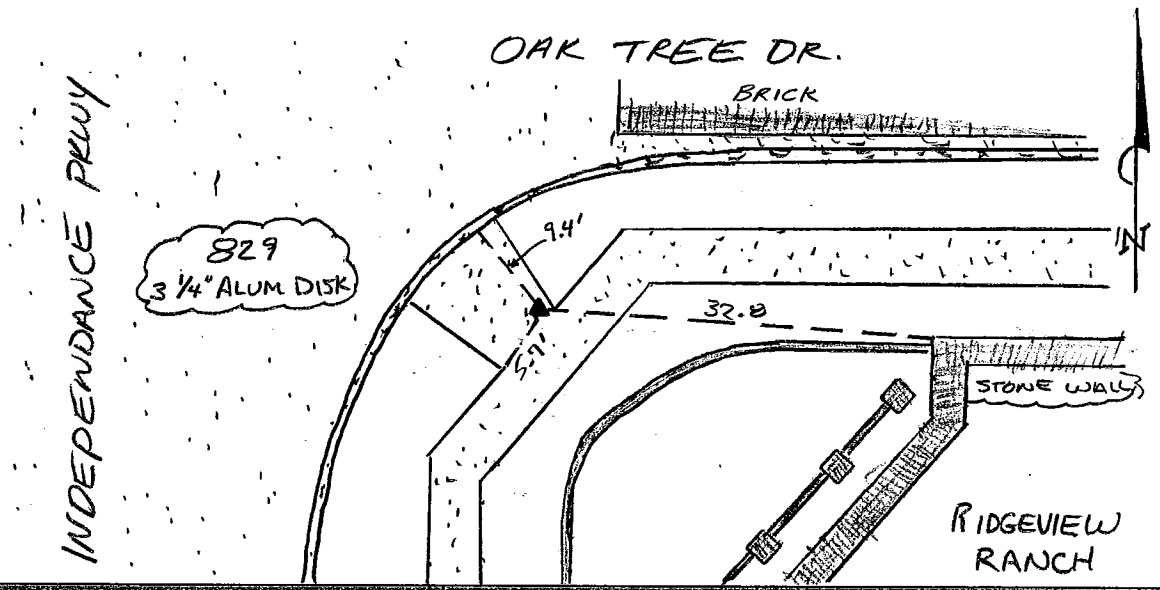
Location / Airport Name and ID INDEPENDANCE PKWY & OAKTREE DR. Project 0901-3510

Station Designation 829 PID N/A Date 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

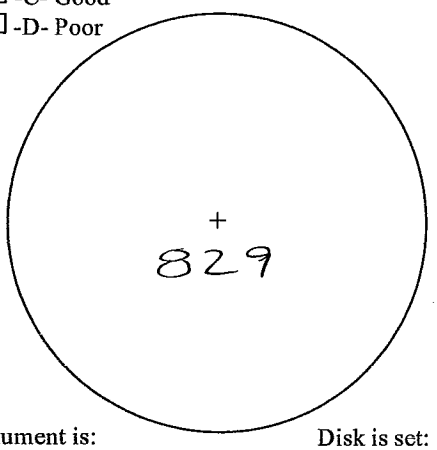
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

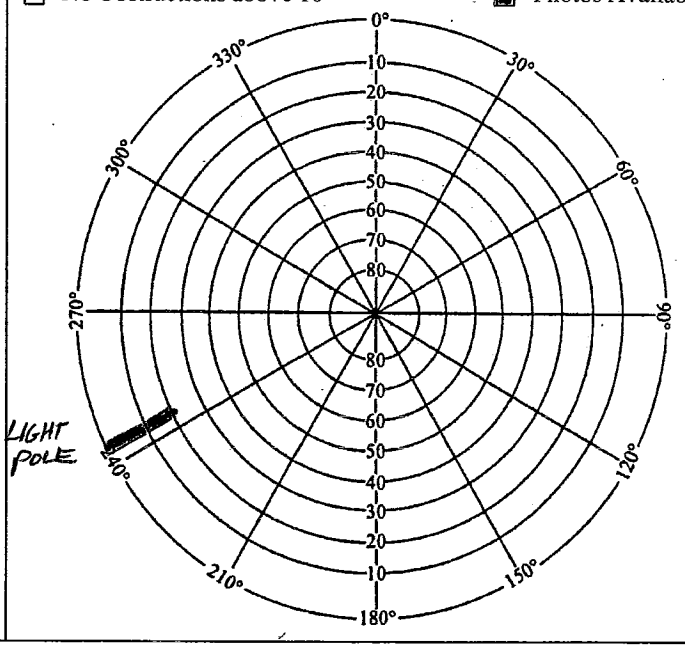


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



830

Station Location Sketch and Visibility Diagram

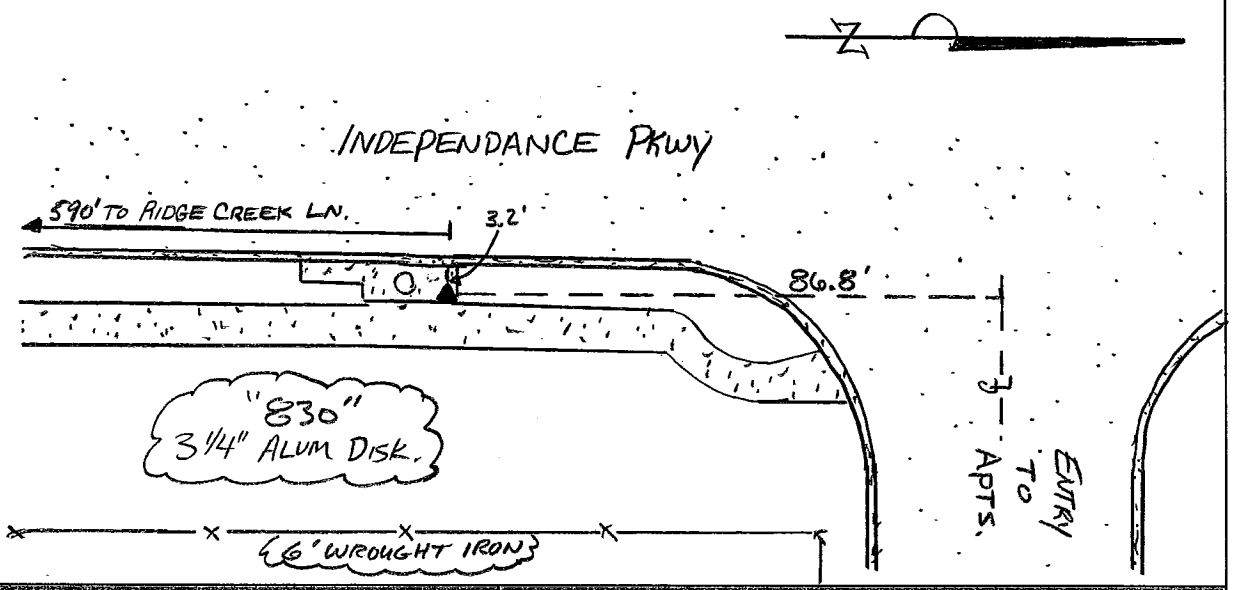
Location / Airport Name and ID INDEPENDANCE PKWY. & RIDGE CREEK LN. Project 0901-3510

Station Designation 830 PID N/A Date 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

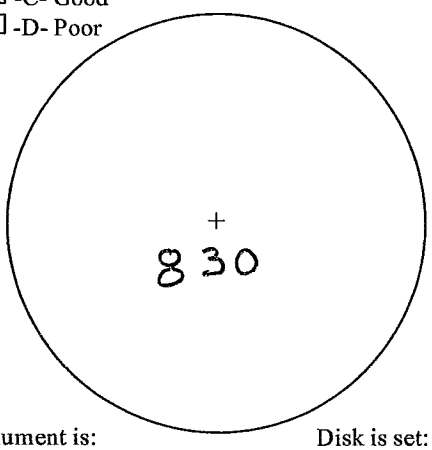
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

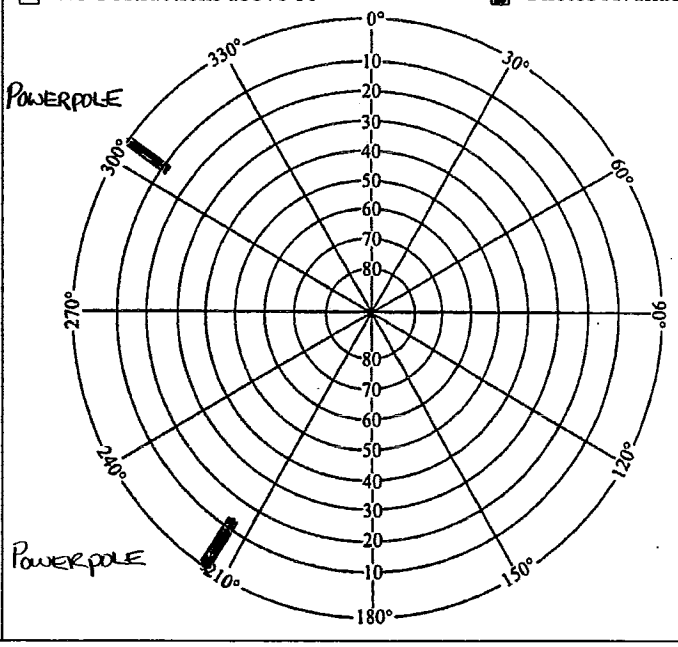
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



831

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID Hwy 121 ε

Project 0901-3510

Station Designation 831

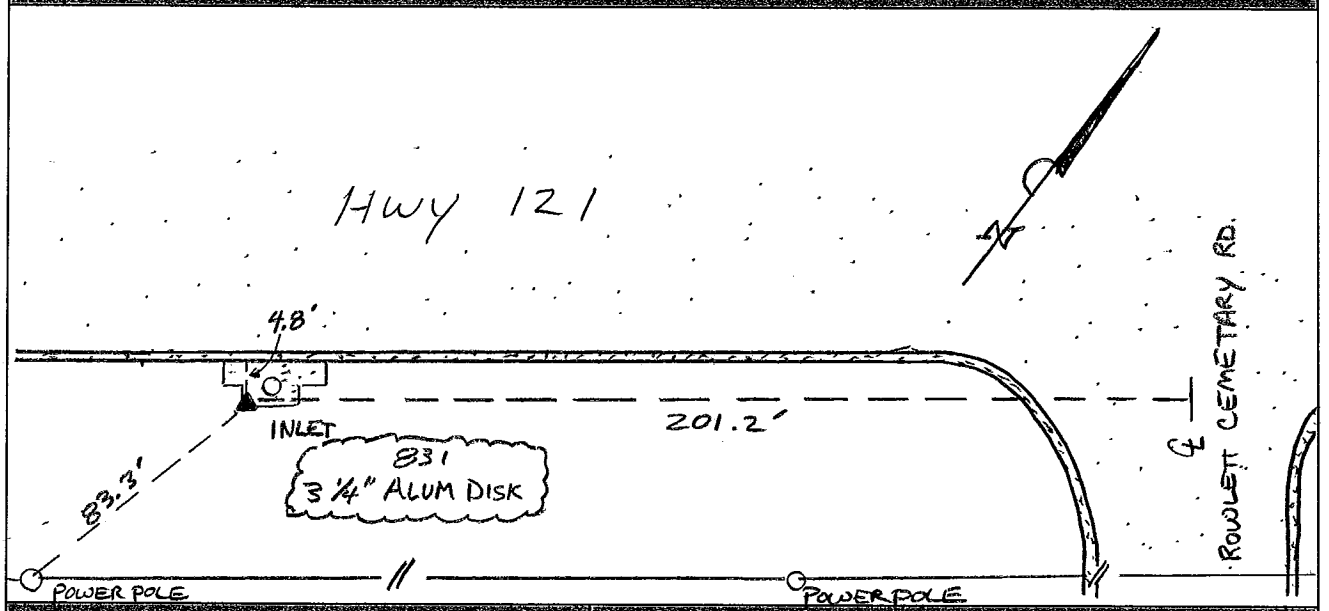
PID N/A

Date 4/14/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER x

Observer & Organization S. PIEPKORN, GAI

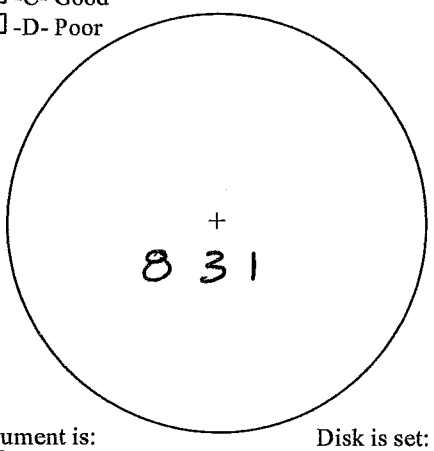
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



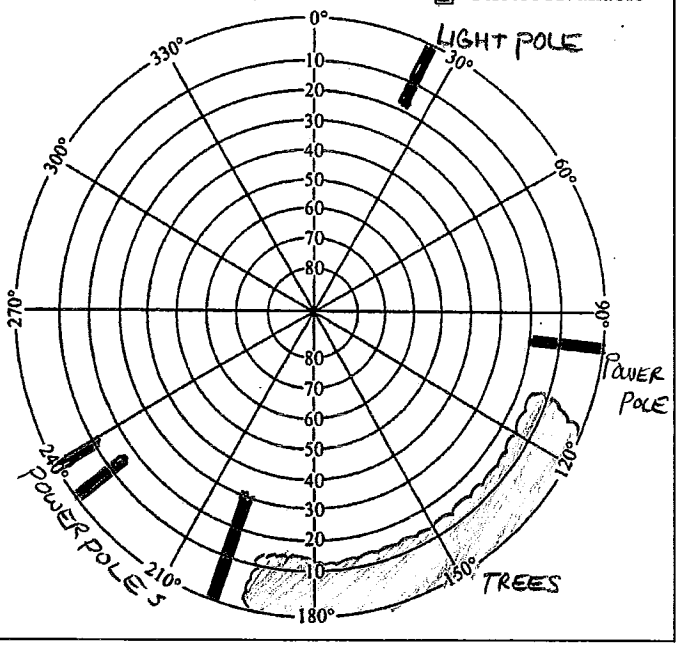
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



832

Station Location Sketch and Visibility Diagram

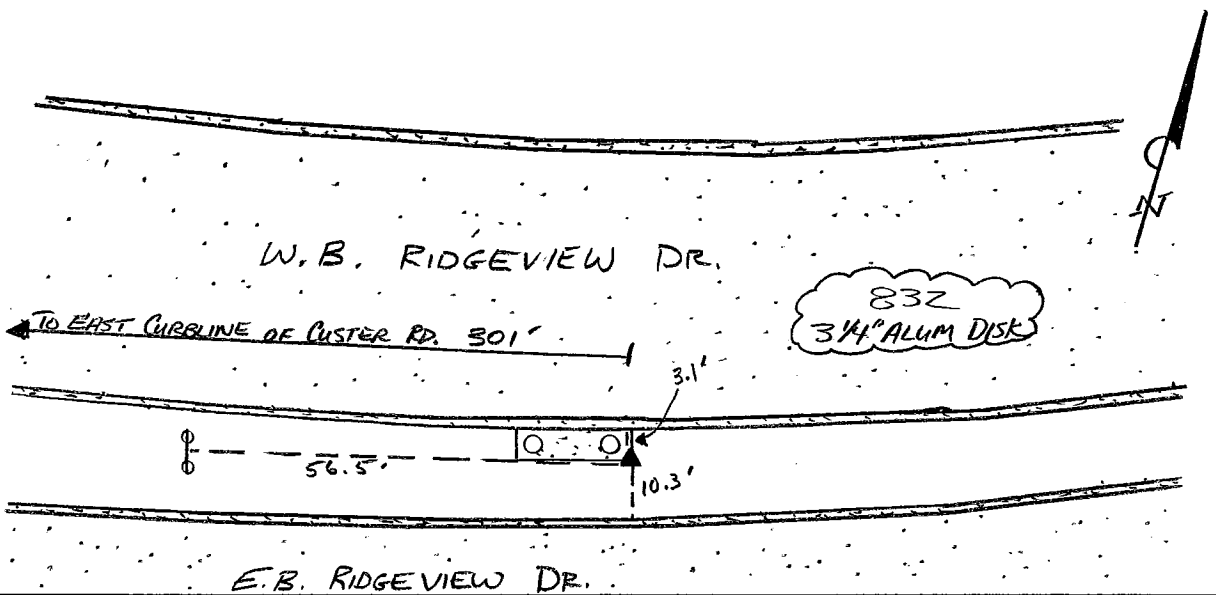
Location / Airport Name, and ID CUSTER RD. & RIDGEVIEW DR. Project 0901-3510

Station Designation 832 PID N/A Date 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAT

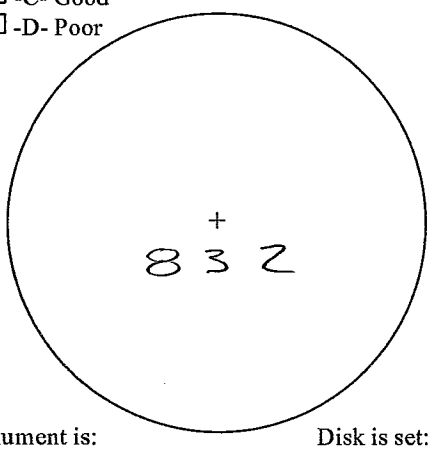
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ☐ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

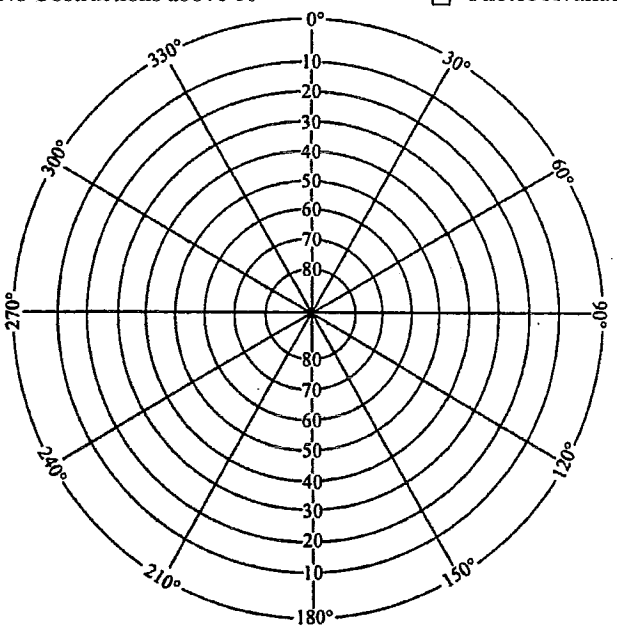
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

■ No Obstructions above 10° ☐ Photos Available



833

Station Location Sketch and Visibility Diagram

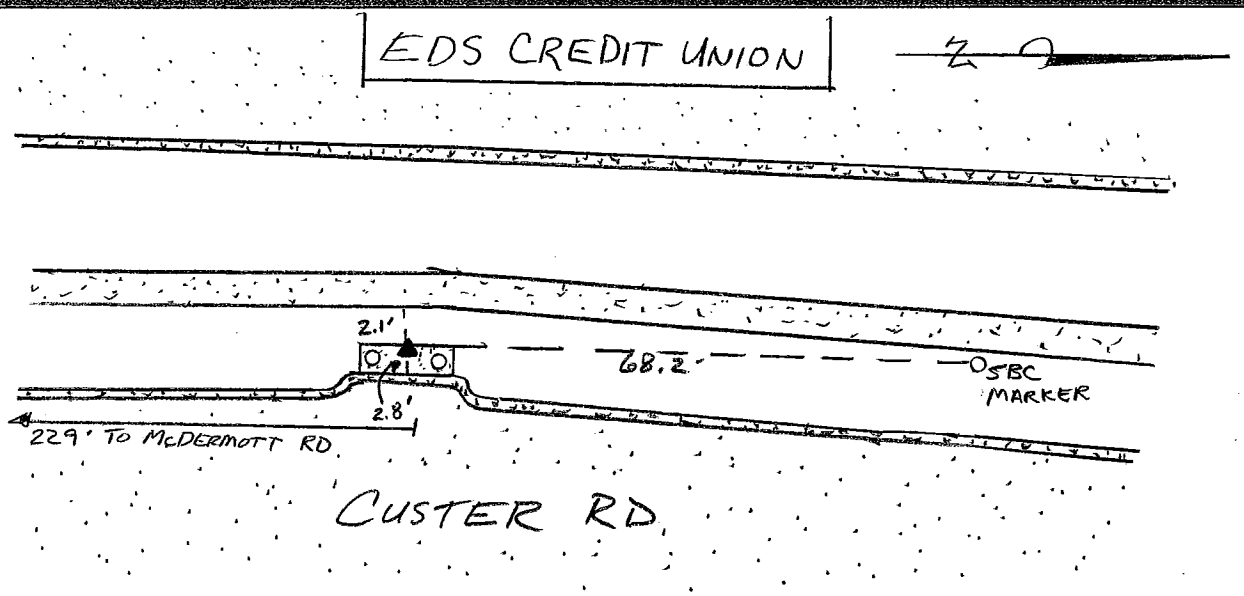
Location / Airport Name and ID: CUSTER RD. & McDERMOTT RD. Project: 0901-3510

Station Designation: 833 PID: N/A Date: 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

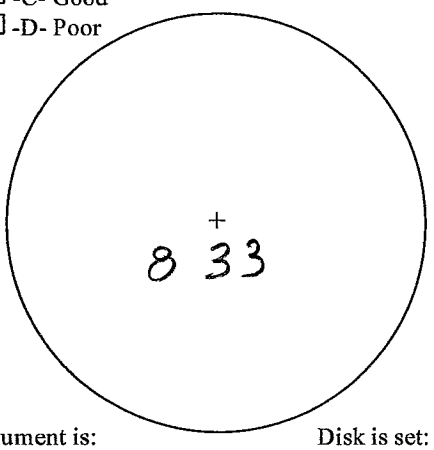
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

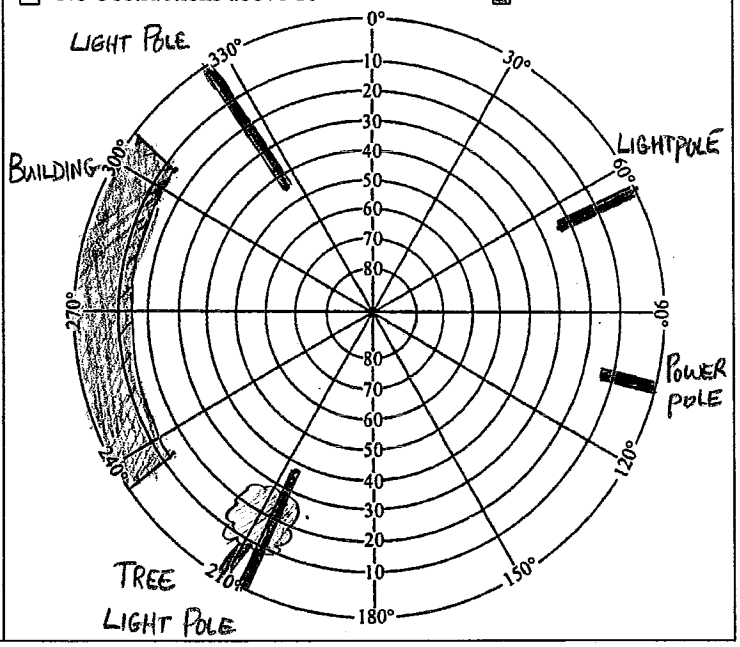
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



834

Station Location Sketch and Visibility Diagram

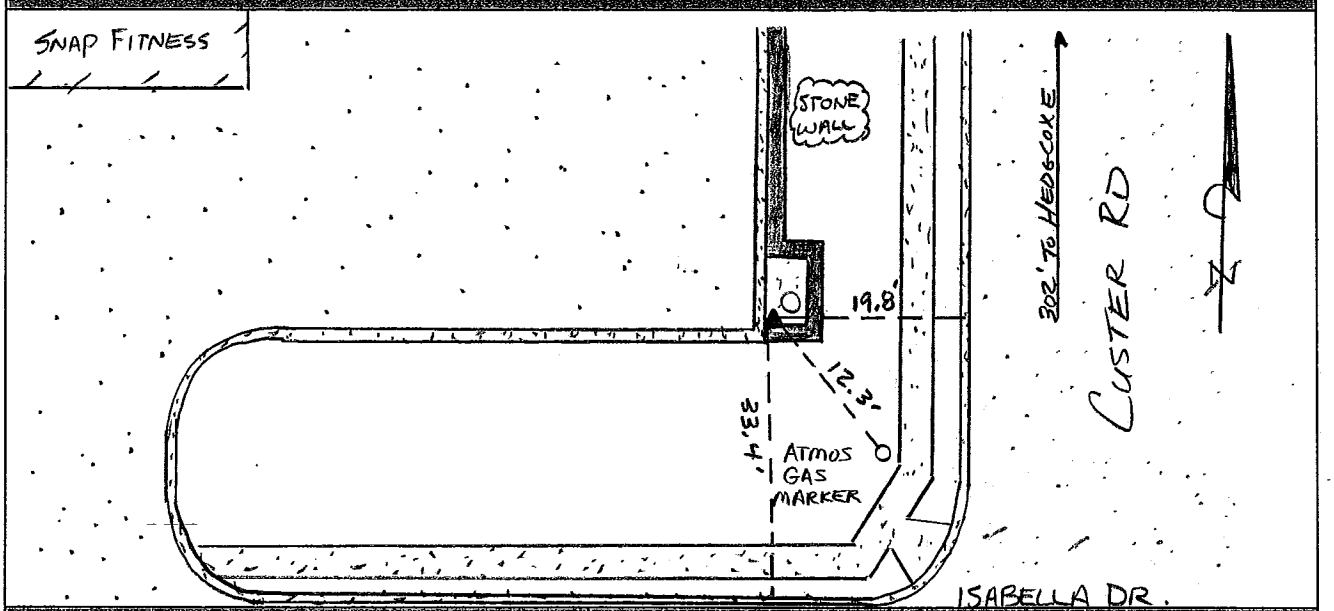
Location / Airport Name and ID CUSTER RD. & HEDGECOKE RD. Project 0901-3510

Station Designation 834 PID N/A Date 4/14/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

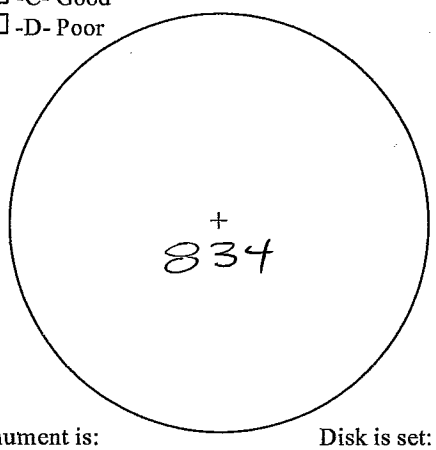
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

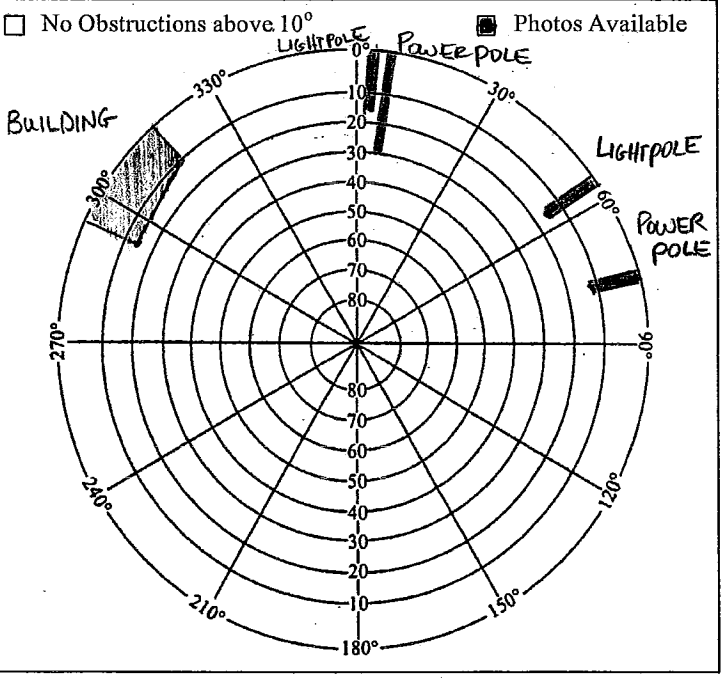
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



835

Station Location Sketch and Visibility Diagram

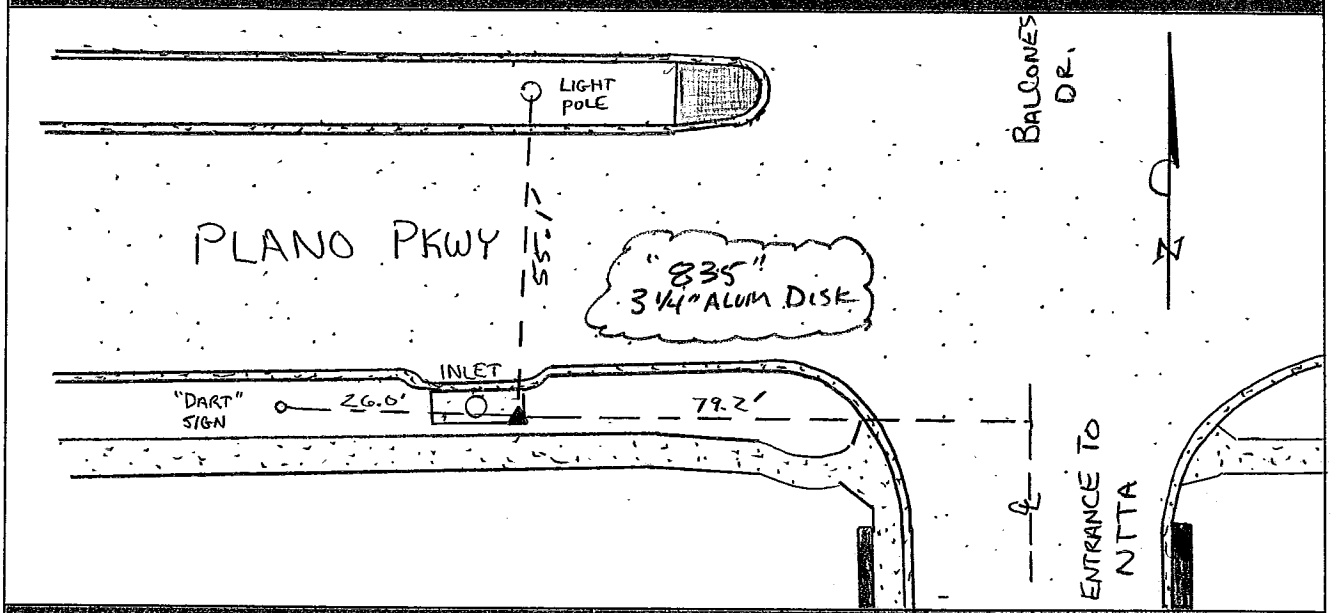
Location / Airport Name and ID W. PLANO PKWY & BALCONES DR. Project 0901-3510

Station Designation 835 PID N/A Date 4/15/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

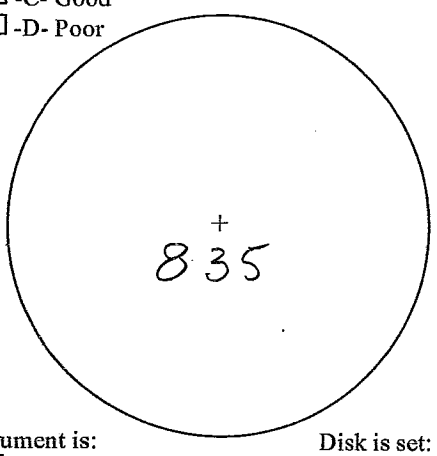
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

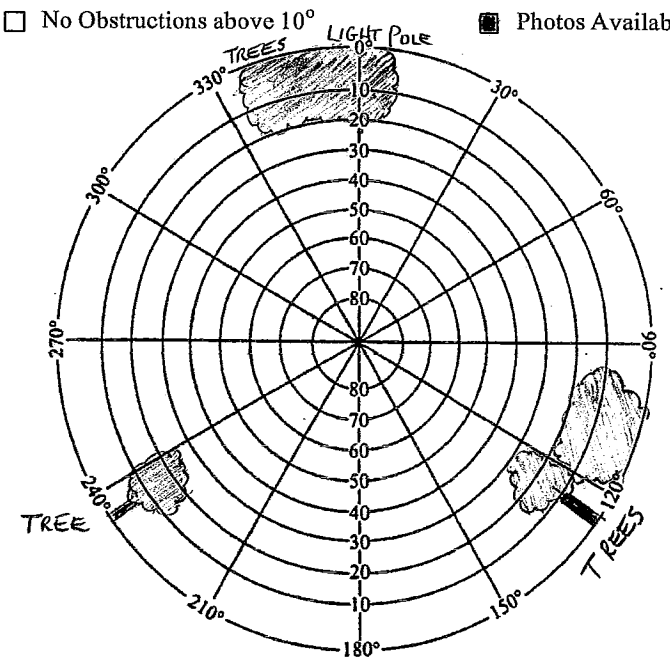
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



836

Station Location Sketch and Visibility Diagram

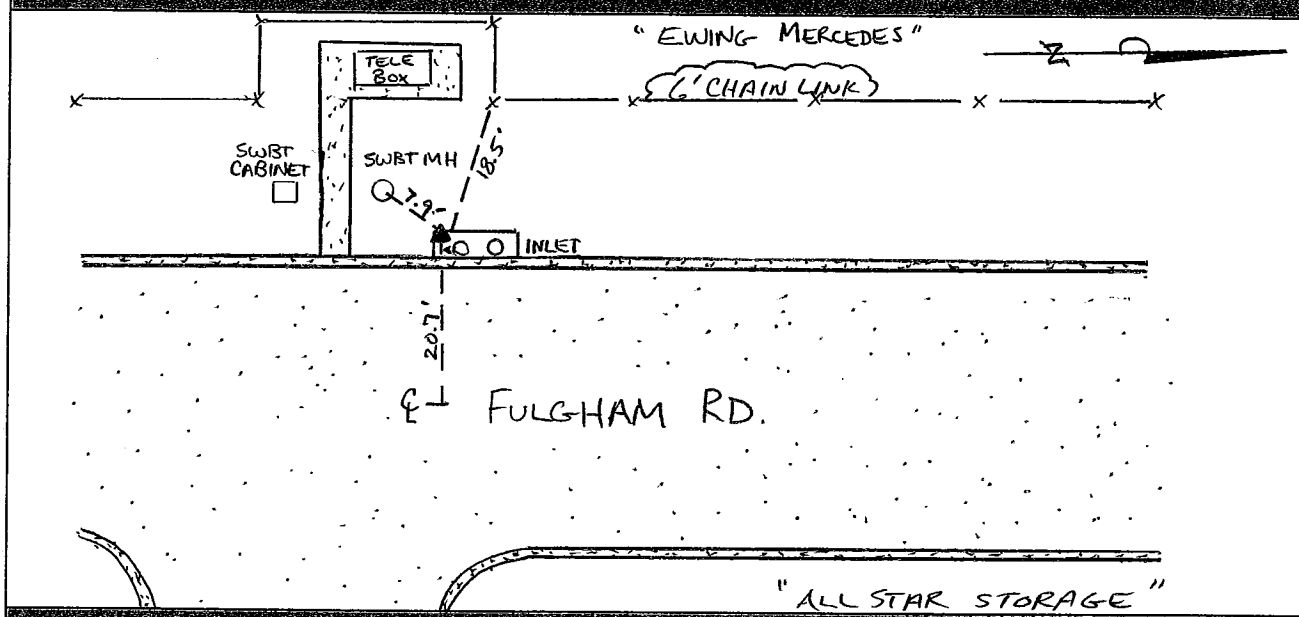
Location / Airport Name and ID FULGHAM RD. Project 0901-3510

Station Designation 836 PID N/A Date 4/15/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

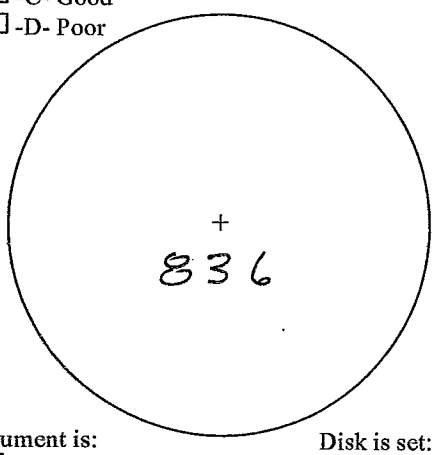
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

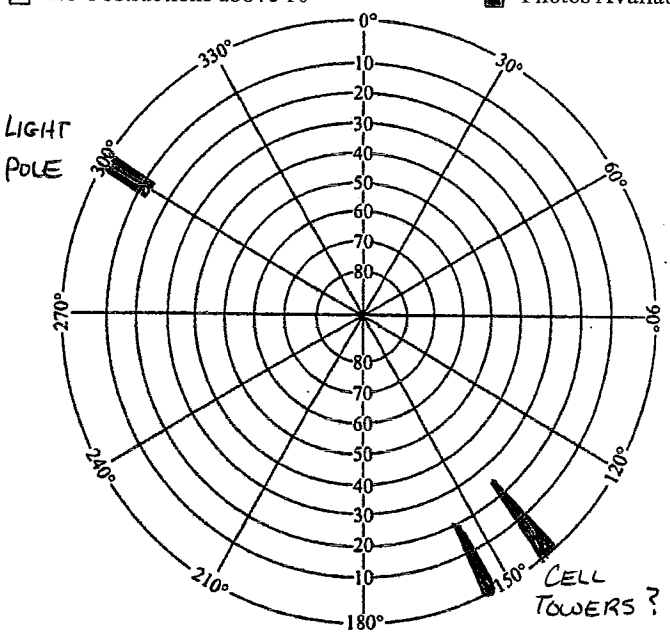


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



837

Station Location Sketch and Visibility Diagram

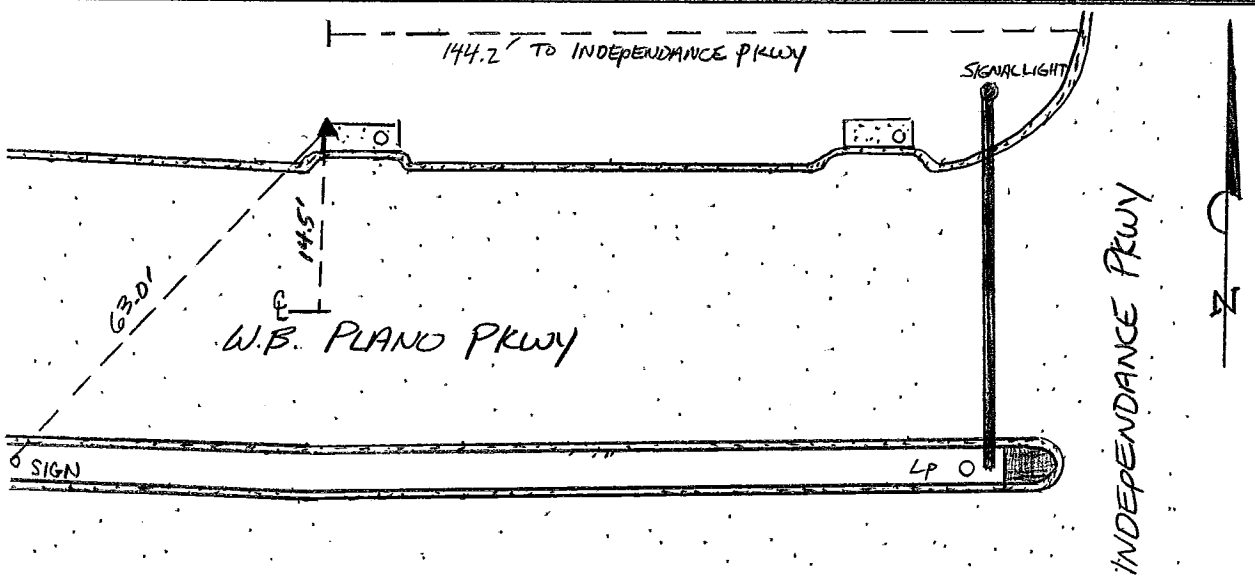
Location / Airport Name and ID PLANO PKWY & INDEPENDANCE PKWY. Project 0901-3510

Station Designation 837 PID N/A Date 4/15/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

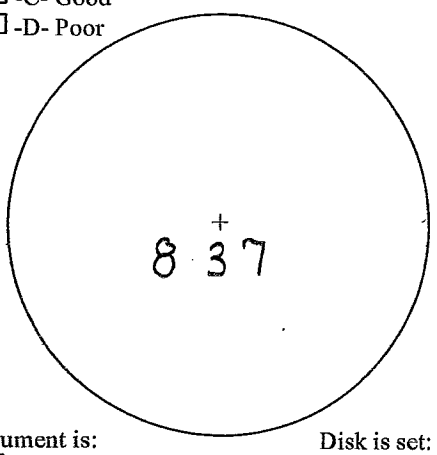
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

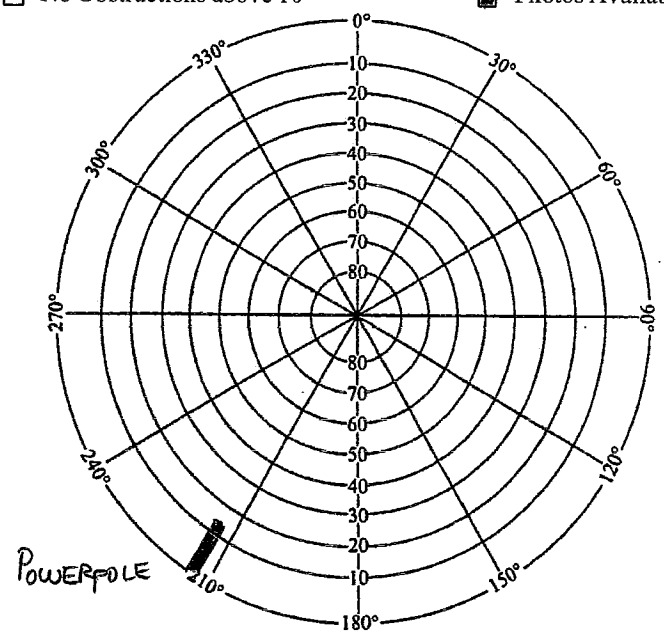
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



838

Station Location Sketch and Visibility Diagram

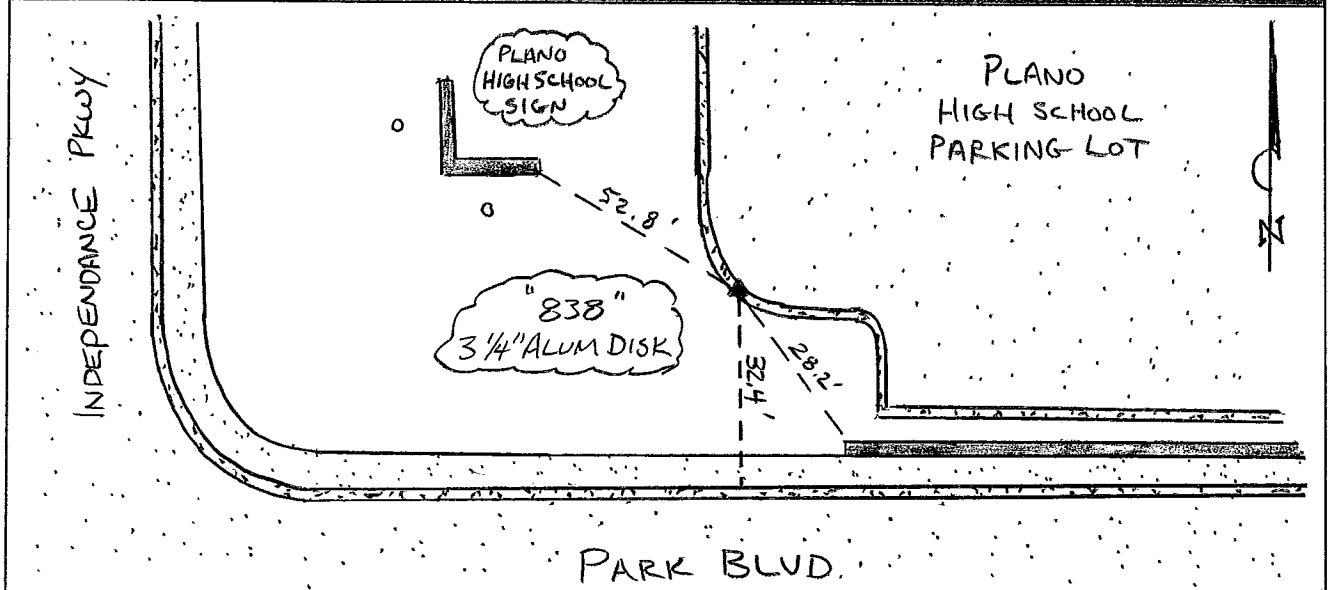
Location / Airport Name and ID PARK BLVD. & INDEPENDANCE PKWY Project 0901-3510

Station Designation 838 PID N/A Date 4/15/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

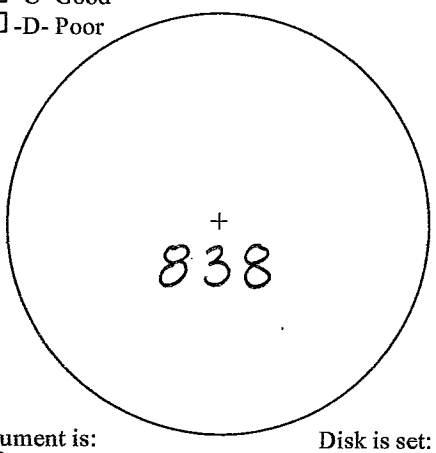
Observer & Organization S. PIEPKORN, GAT

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

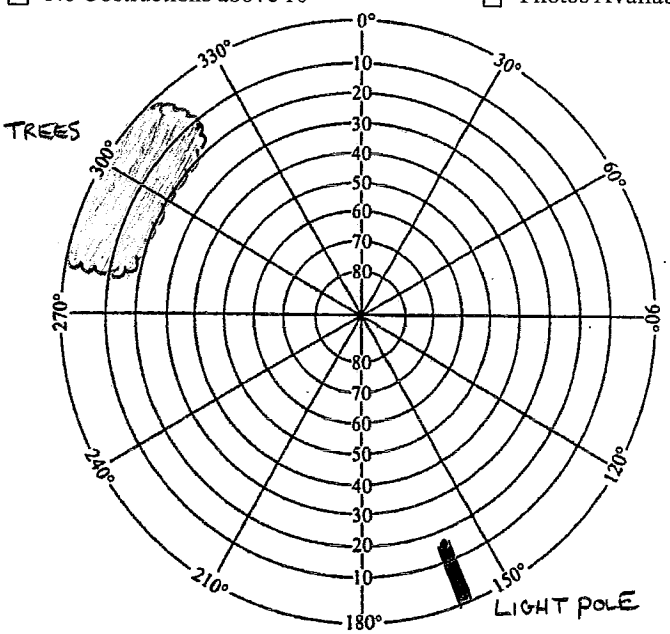


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



840

Station Location Sketch and Visibility Diagram

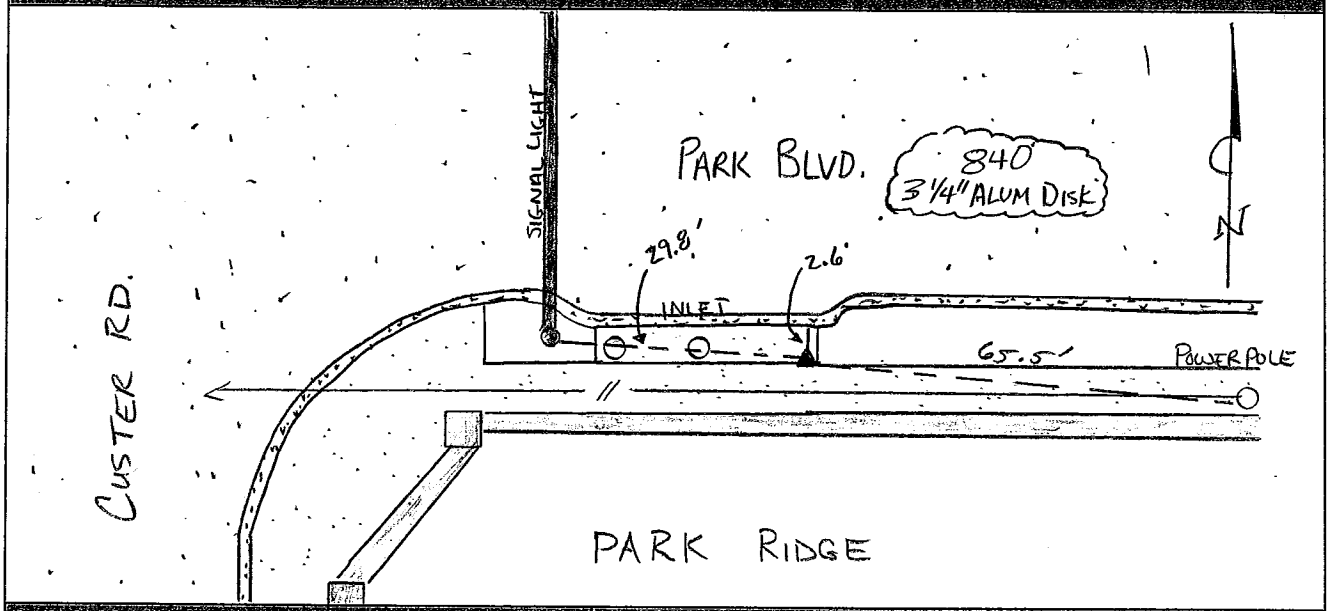
Location / Airport Name and ID PARK BLVD. & CUSTER RD. Project 0901-3510

Station Designation 840 PID N/A Date 4/16/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN

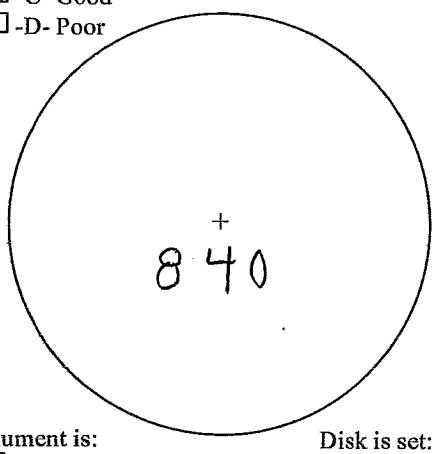
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



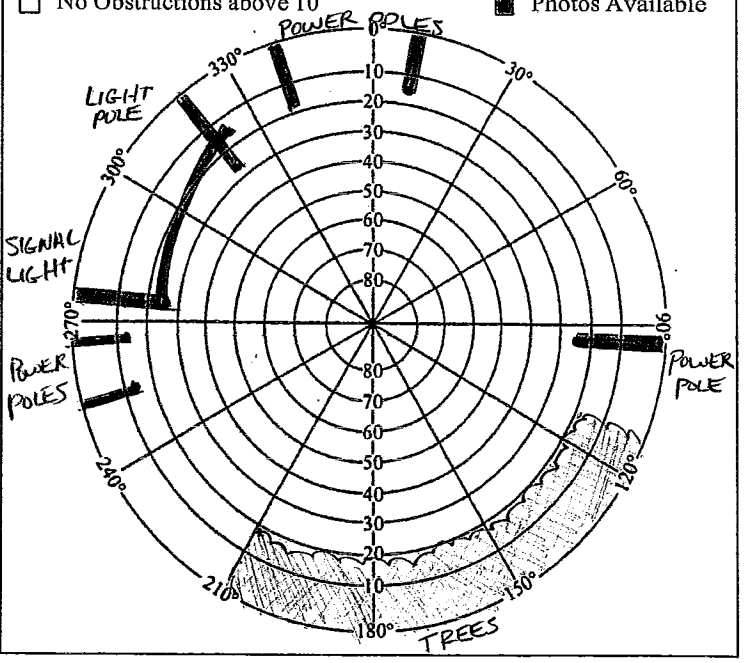
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



841

Station Location Sketch and Visibility Diagram

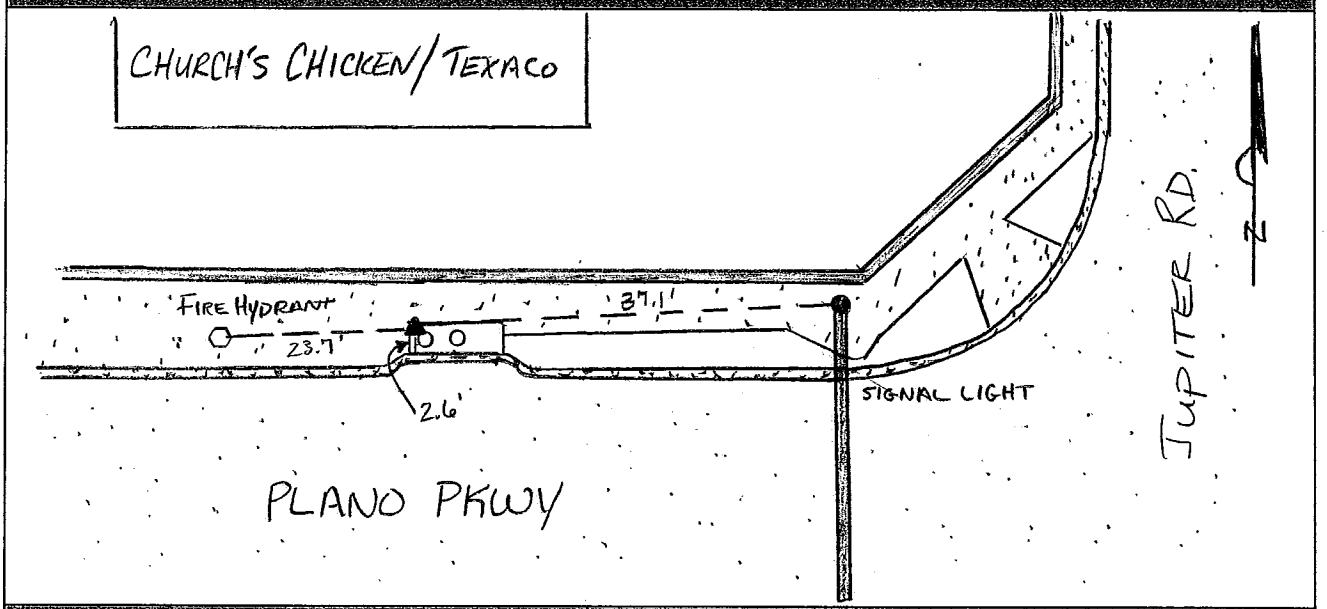
Location / Airport Name and ID PLANO PKWY & JUPITER RD. Project 0901-3510

Station Designation 841 PID N/A Date 4/16/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S.PIEPKORN, GAI

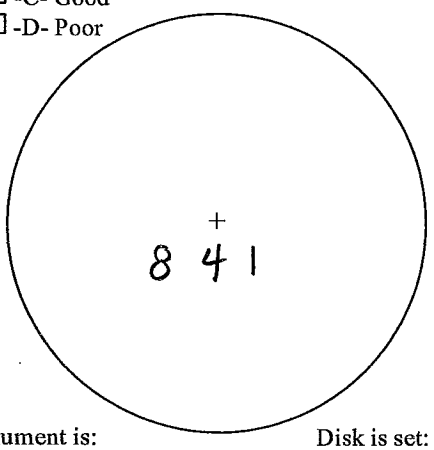
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

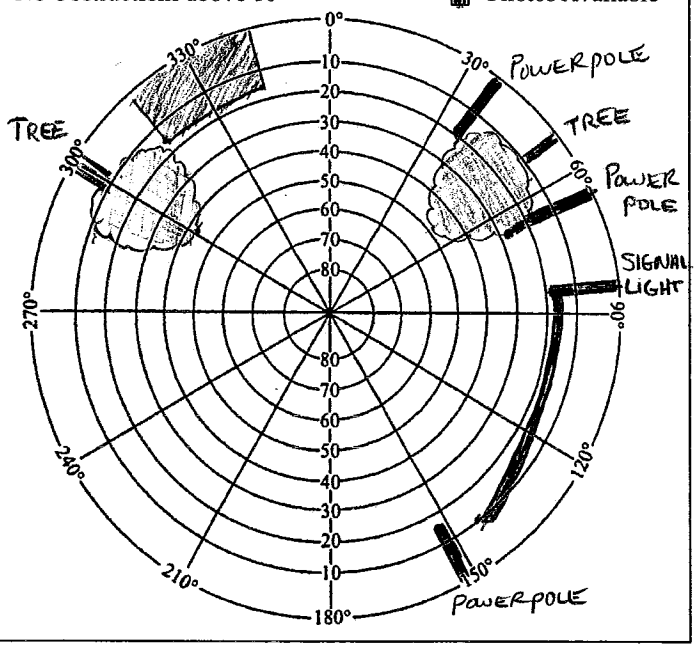
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



842

Station Location Sketch and Visibility Diagram

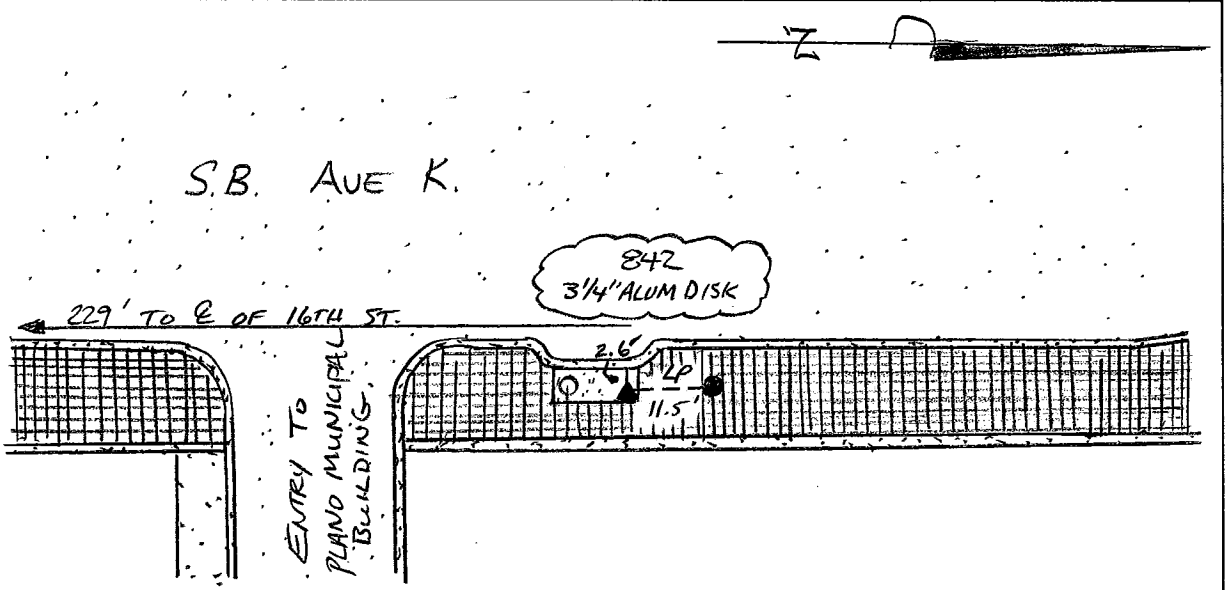
Location / Airport Name and ID AVE K. & 16TH ST. Project 0901-3510

Station Designation 842 PID N/A Date 4-20-09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

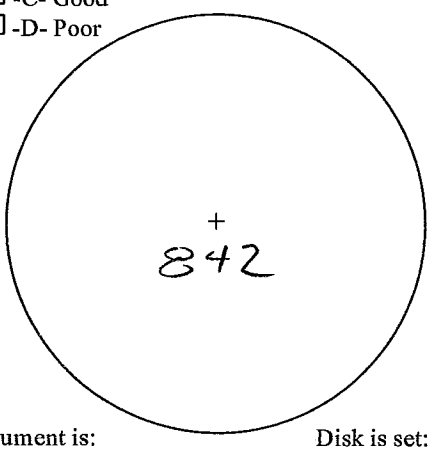
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor



Monument is:

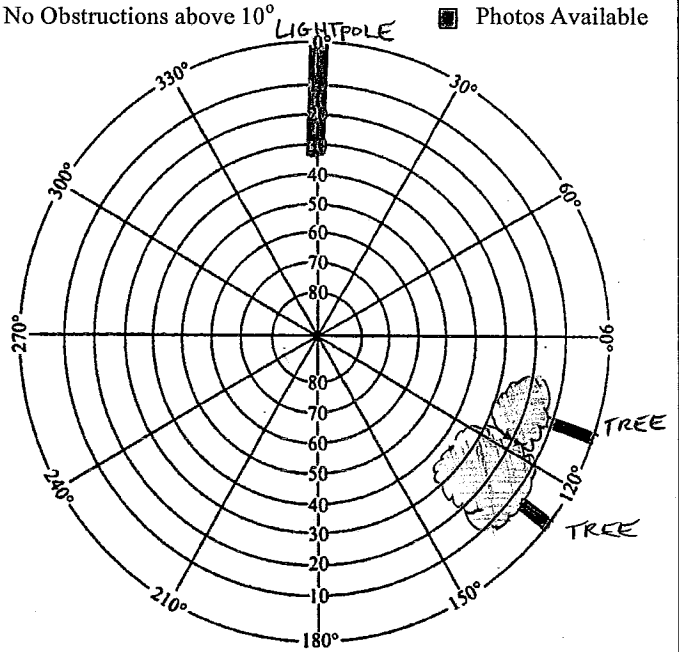
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



843

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: ALMA DR. & SPRING CREEK PKWY

Project: 0901-3510

Station Designation: 843

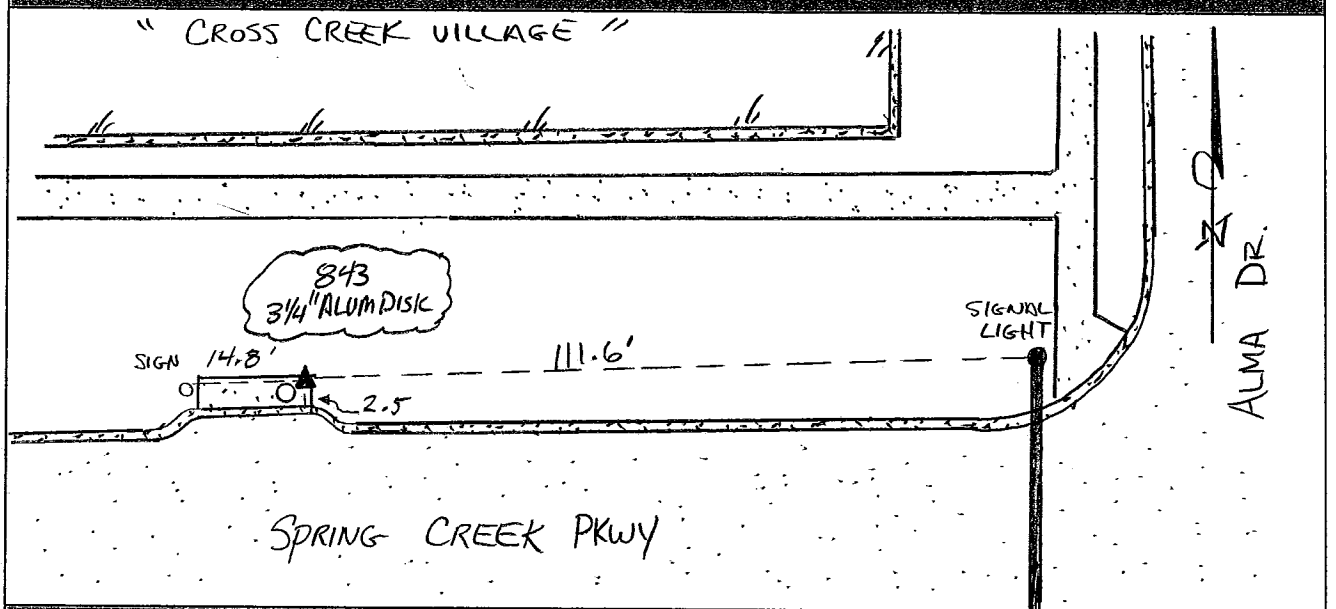
PID: N/A

Date: 4/20/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN, GAI

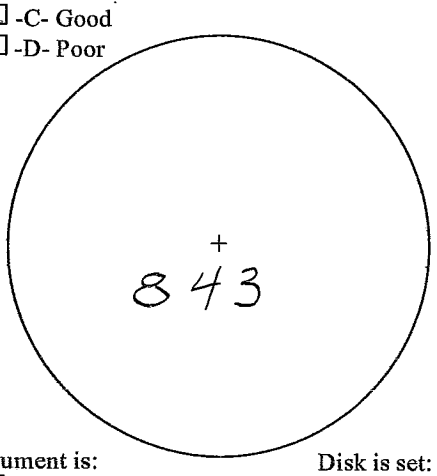
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ■ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

■ Photos Available



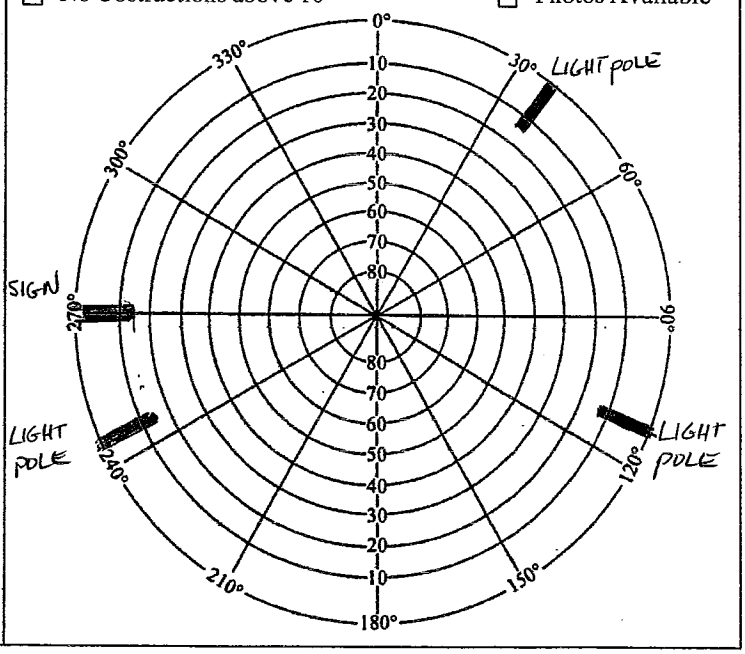
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

☐ Photos Available



844

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID HEDGCOXE RD

Project 0901-3510

Station Designation 844

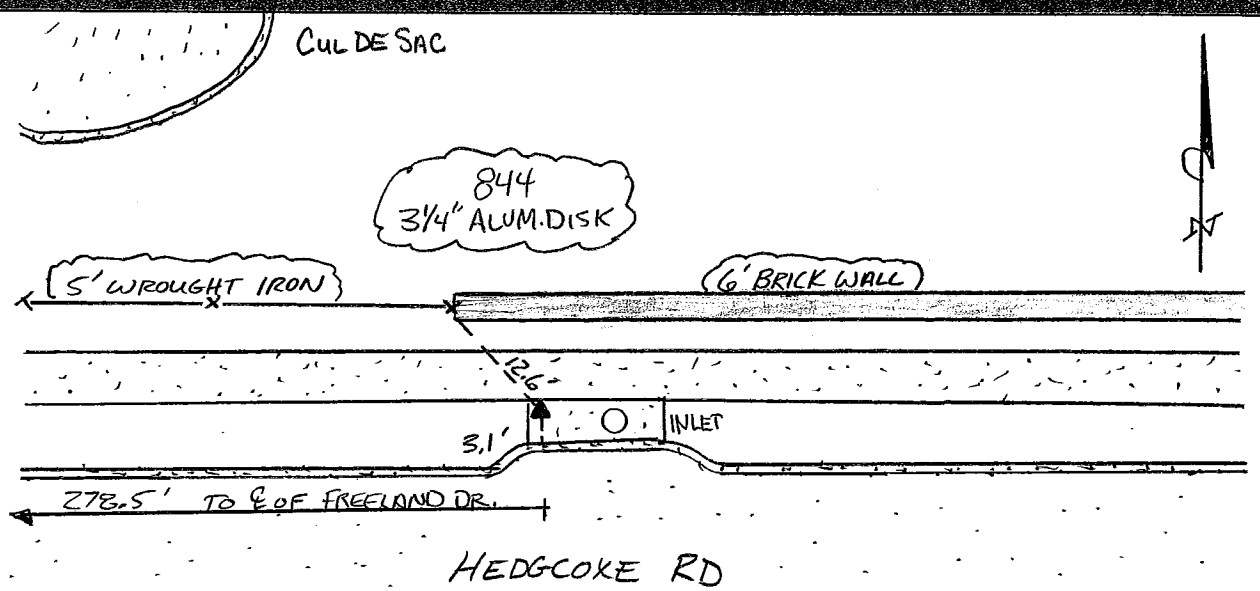
PID N/A

Date 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

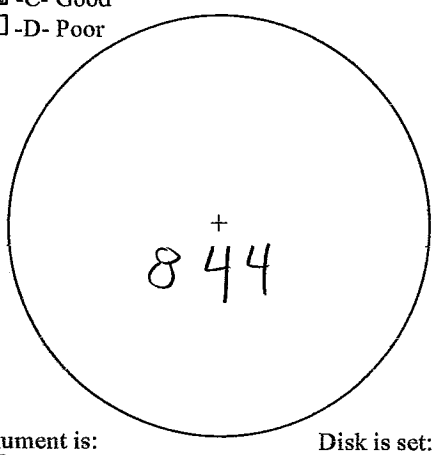
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



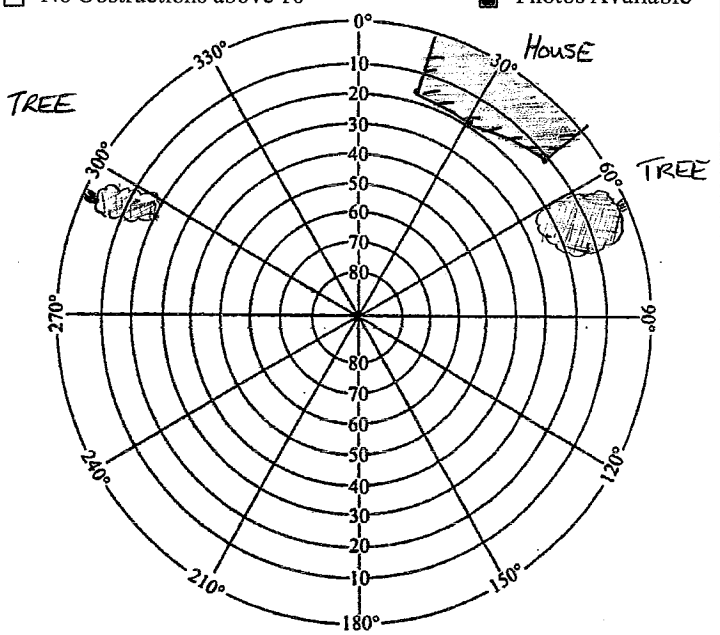
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



845

Station Location Sketch and Visibility Diagram

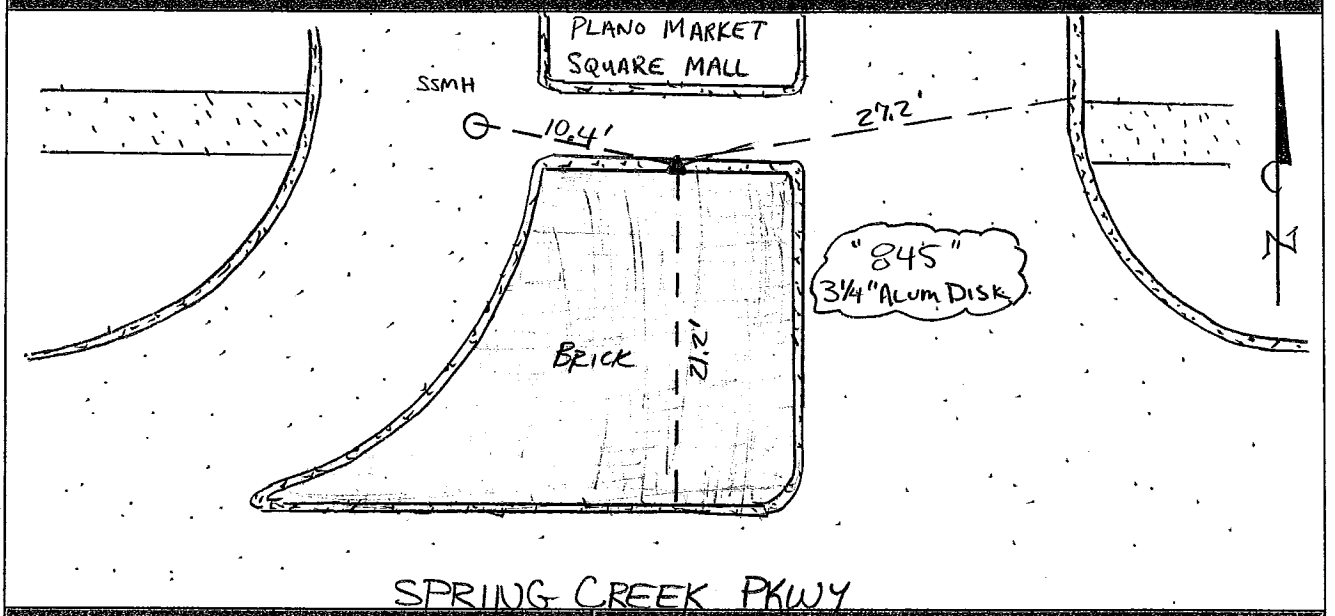
Location / Airport Name and ID SPRING CREEK PKWY. Project 0901-3510

Station Designation 845 PID N/A Date 4/21/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

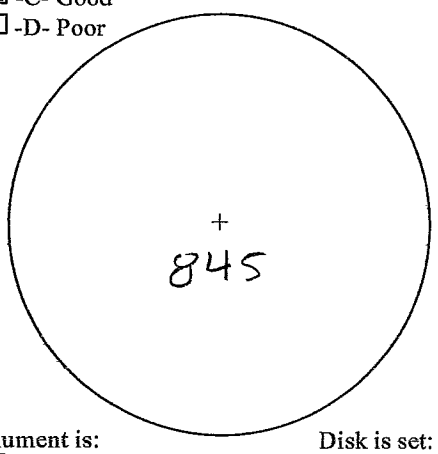
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor



Monument is:

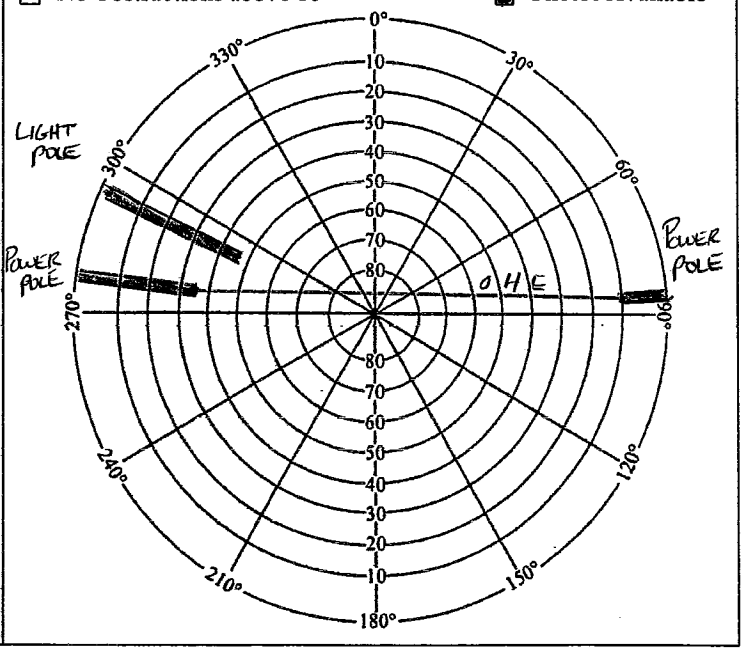
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:

- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



846

Station Location Sketch and Visibility Diagram

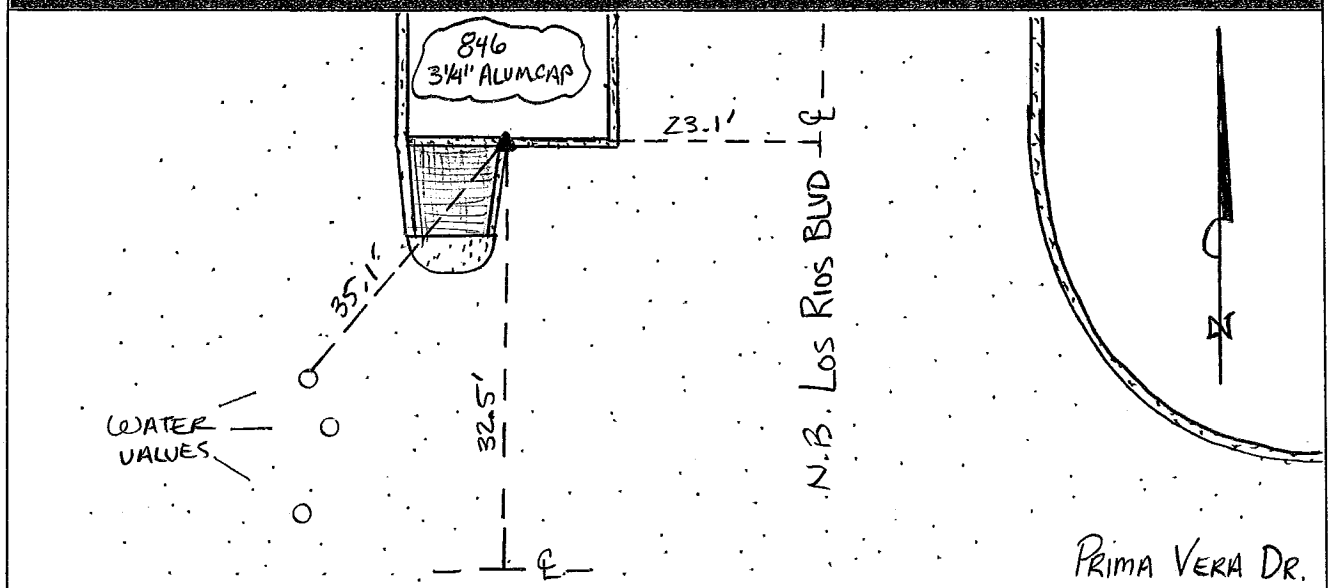
Location / Airport Name and ID LOS RIOS BLVD. & PRIMAVERA DR. Project 0901-3510

Station Designation 846 PID N/A Date 4/21/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization S. PIEPKORN, GAI

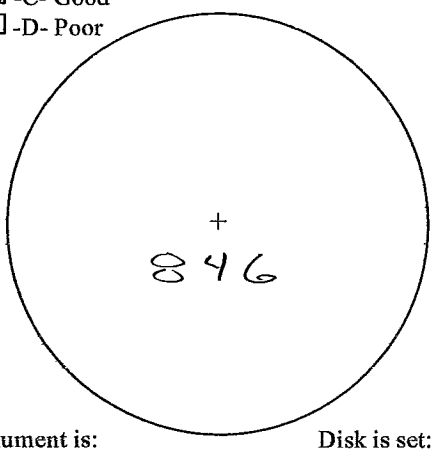
Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available

- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

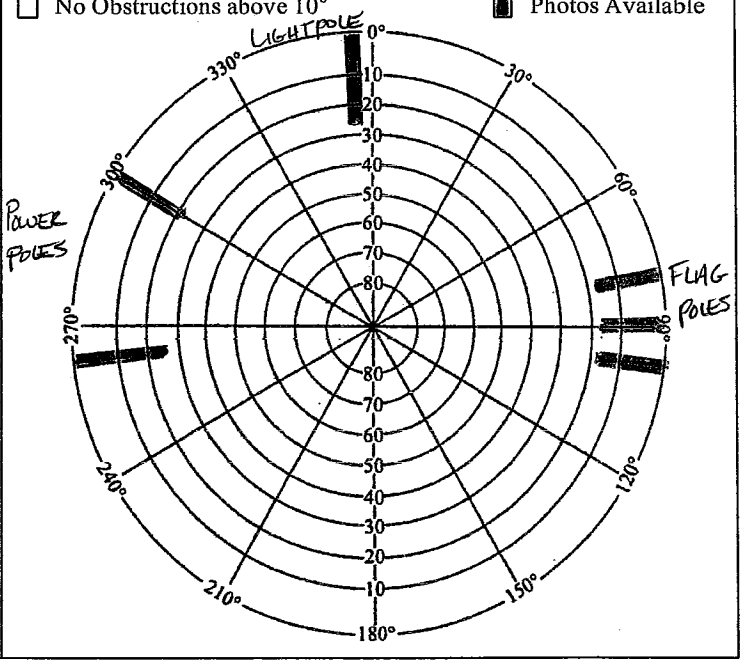


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



847

Station Location Sketch and Visibility Diagram

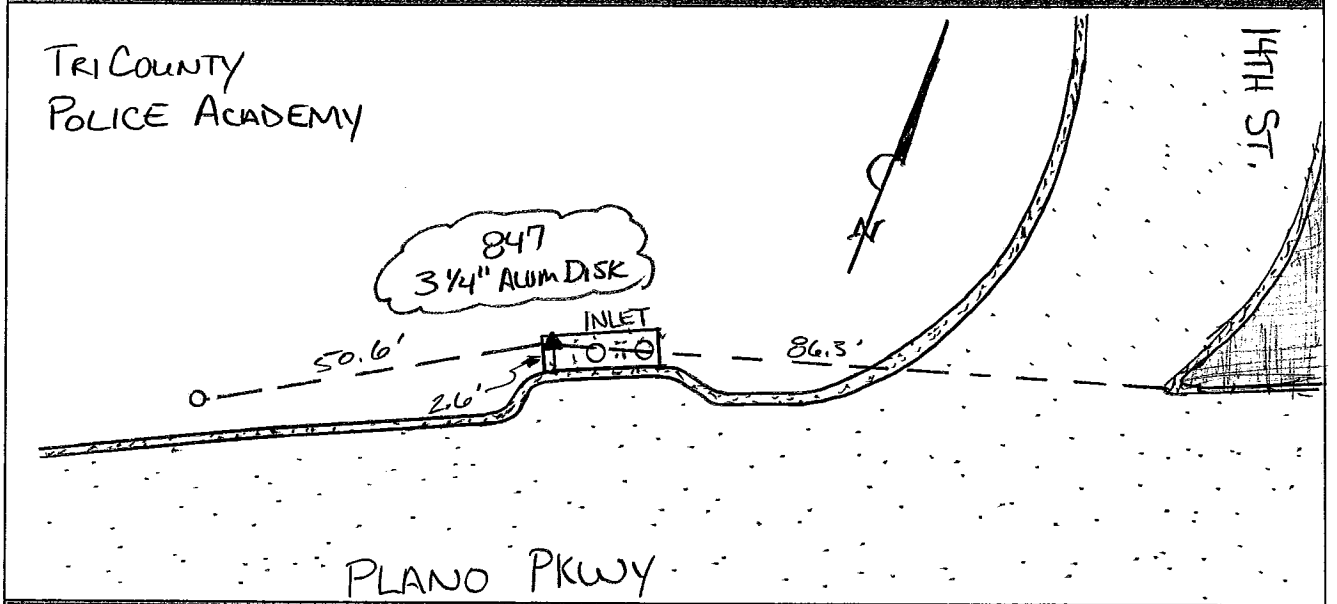
Location / Airport Name and ID 14TH ST. & PLANO PKWY. Project 0901-3510

Station Designation 847 PID N/A Date 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

Observer & Organization S.PIEPKORN, GAI

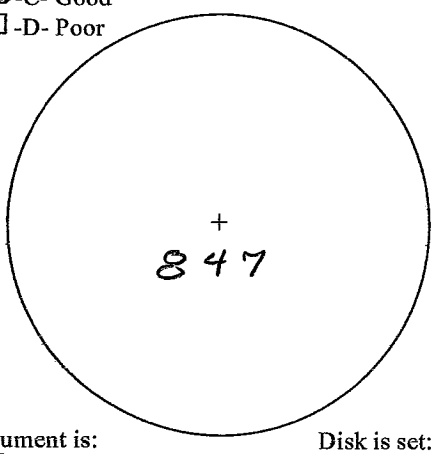
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



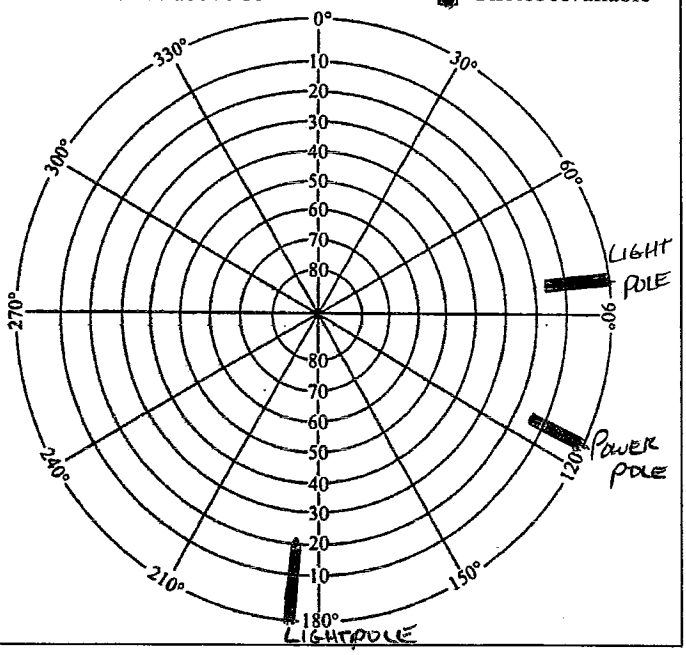
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



848

Station Location Sketch and Visibility Diagram

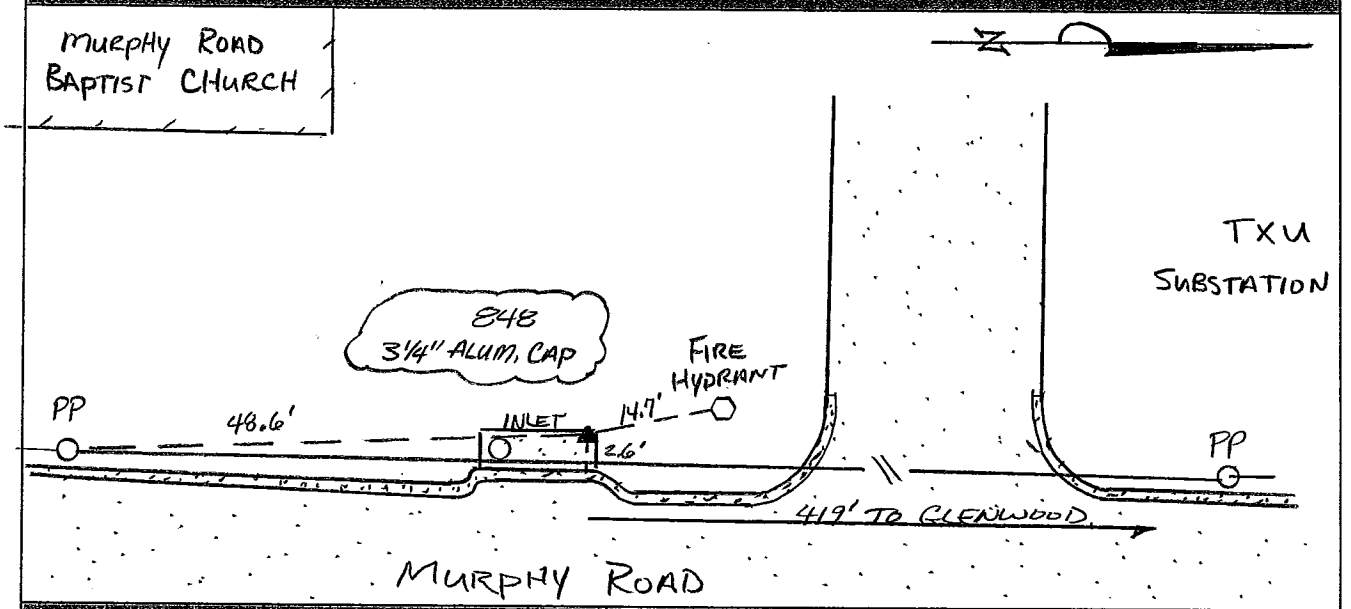
Location / Airport Name and ID MURPHY ROAD. Project 0901-3510

Station Designation 848 PID N/A Date 4/21/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER X

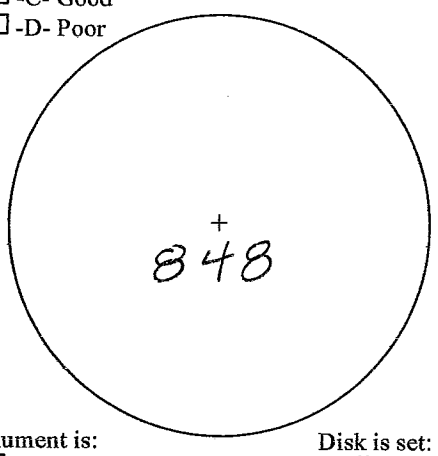
Observer & Organization S. PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ☐ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

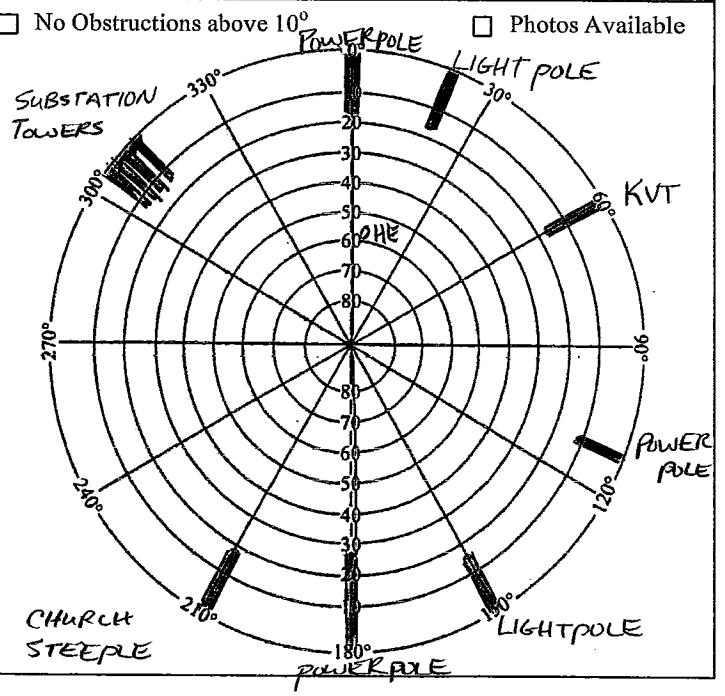


Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ■ in structure.

Visibility Diagram

☐ No Obstructions above 10° ☐ Photos Available



849

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: CLAY DR. & SHEILA AVE

Project: 0901-3510

Station Designation: 849

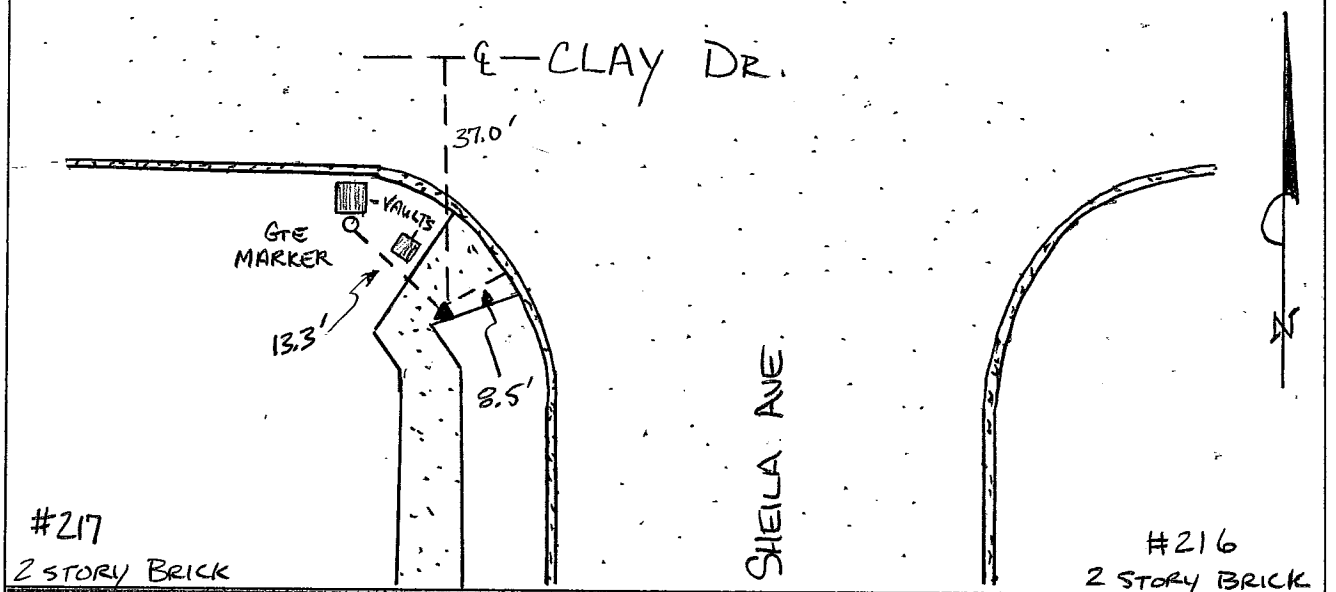
PID: N/A

Date: 4/21/09

Circle all applicable: PACS SACS BM FBN CBN OTHER X

Observer & Organization: S. PIEPKORN

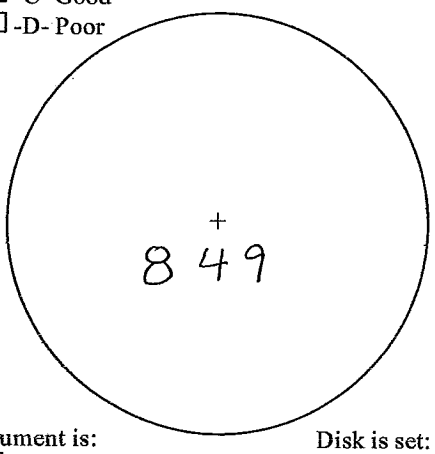
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



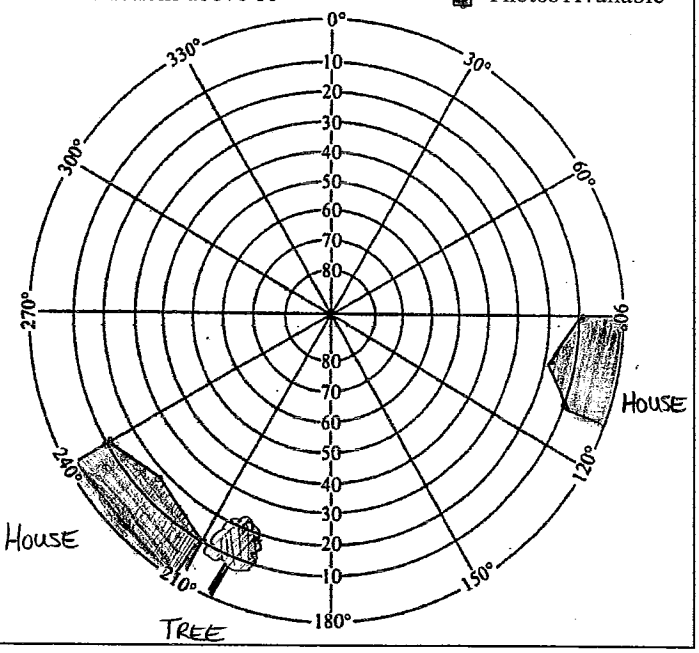
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



1001

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID ADDISON AIRPORT

Project 0901-3510

Station Designation ADS D

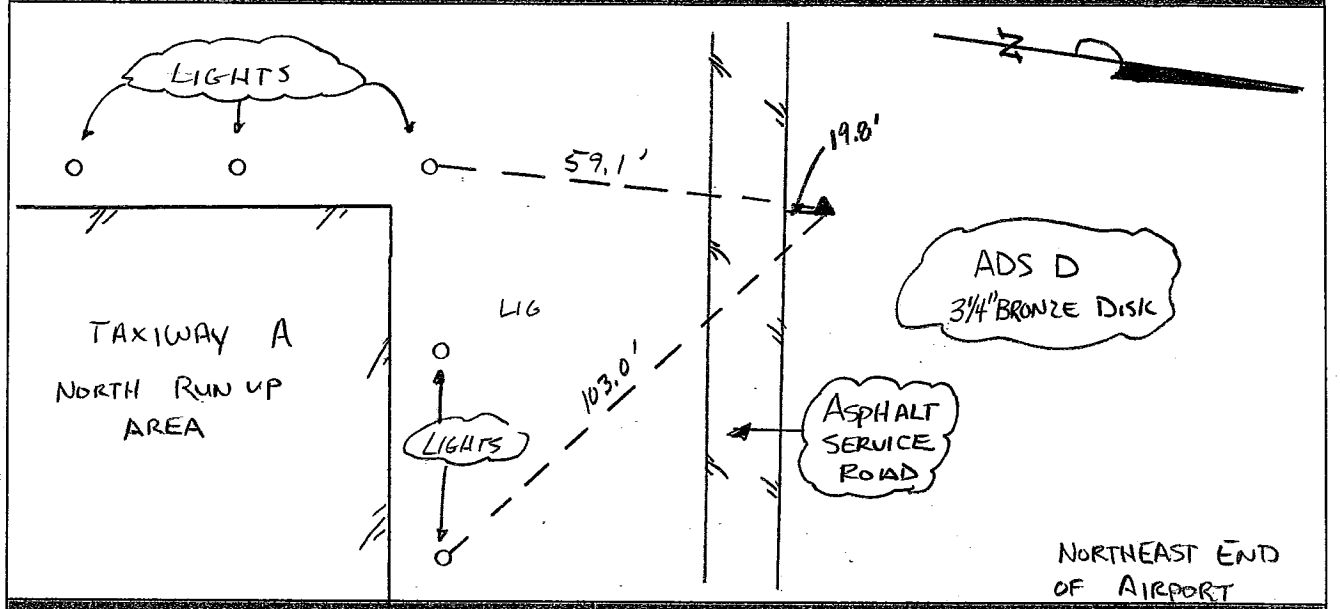
PID AH7852

Date 4/23/09

Circle all applicable:
PACS (SACS) BM FBN CBN OTHER_____

Observer & Organization S. PIEPKORN, GAI

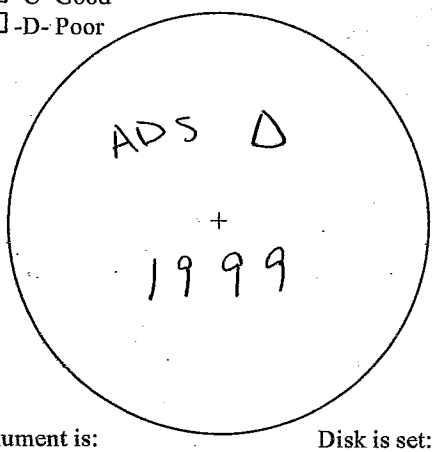
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



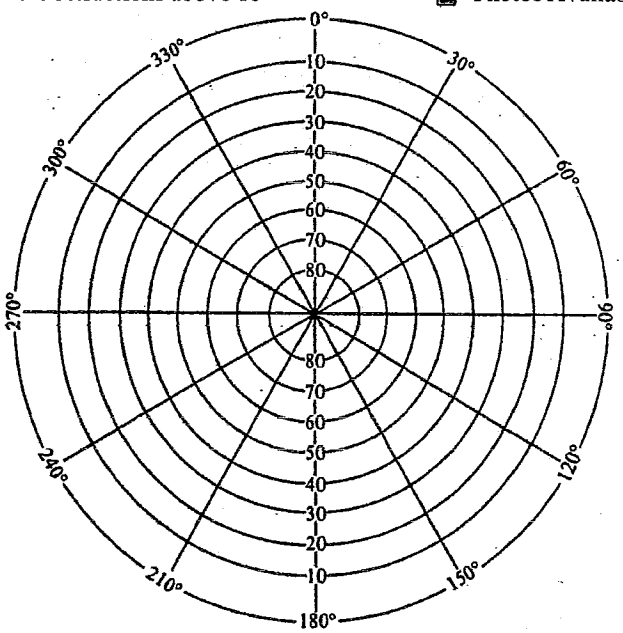
Monument is:
- ☐ Recessed ___ cm
- ■ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ■ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

■ No Obstructions above 10°

■ Photos Available



1001

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.67
1         National Geodetic Survey,   Retrieval Date = APRIL 28, 2009
 AH7852 ***********************************************************************
 AH7852  SACS         -  This is a Secondary Airport Control Station.
 AH7852  DESIGNATION -  ADS D
 AH7852  PID          -  AH7852
 AH7852  STATE/COUNTY-  TX/DALLAS
 AH7852  USGS QUAD    -  ADDISON (1981)
 AH7852
 AH7852                          *CURRENT SURVEY CONTROL
 AH7852  ___________________________________________________________________
 AH7852* NAD 83(2007)-  32 58 43.54081(N)    096 50 23.61988(W)     ADJUSTED
 AH7852* NAVD 88      -       194.19   (meters)     637.1    (feet)  GPS OBS
 AH7852  ___________________________________________________________________
 AH7852  EPOCH DATE   -        2002.00
 AH7852  X            -    -637,862.441 (meters)                     COMP
 AH7852  Y            -  -5,317,779.124 (meters)                     COMP
 AH7852  Z            -   3,452,074.245 (meters)                     COMP
 AH7852  LAPLACE CORR-            5.13  (seconds)                    DEFLEC99
 AH7852  ELLIP HEIGHT-          167.722 (meters)          (02/10/07) ADJUSTED
 AH7852  GEOID HEIGHT-          -26.51  (meters)                     GEOID03
 AH7852
 AH7852  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AH7852  Type     PID    Designation                      North   East  Ellip
 AH7852  ---------------------------------------------------------------------
 AH7852  NETWORK AH7852 ADS D                               0.82   0.71   1.39
 AH7852  ---------------------------------------------------------------------
 AH7852
 AH7852.This mark is at Addison (ADS) Airport (ADS)
 AH7852
 AH7852.The horizontal coordinates were established by GPS observations
 AH7852.and adjusted by the National Geodetic Survey in February 2007.
 AH7852
 AH7852.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AH7852.See National Readjustment for more information.
 AH7852.The horizontal coordinates are valid at the epoch date displayed above.
 AH7852.The epoch date for horizontal control is a decimal equivalence
 AH7852.of Year/Month/Day.
 AH7852
 AH7852.The orthometric height was determined by GPS observations and a
 AH7852.high-resolution geoid model.
 AH7852
 AH7852.GPS derived orthometric heights for airport stations designated as
 AH7852.PACS or SACS are published to 2 decimal places.  This maintains
 AH7852.centimeter relative accuracy between the PACS and SACS.  It does
 AH7852.not indicate centimeter accuracy relative to other marks which are
 AH7852.part of the NAVD 88 network.
 AH7852
 AH7852.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AH7852
 AH7852.The Laplace correction was computed from DEFLEC99 derived deflections.
 AH7852
 AH7852.The ellipsoidal height was determined by GPS observations
```

```
AH7852'ASPHALT SERVICE ROAD. THE STATION IS LOCATED 79.9 M (262.1 FT) WEST OF
AH7852'THE NORTH SOUTH PERIMETER FENCE, 20.2 M (66.3 FT) WEST-NORTHWEST FROM
AH7852'THE FIRST TAXIWAY LIGHT EAST OF THE NORTHWEST CORNER OF THE RUN UP
AH7852'AREA, 19.0 M (62.3 FT) NORTH OF THE NORTHWEST CORNER OF THE RUN UP
AH7852'AREA AND 18.0 M (59.1 FT) NORTHEAST OF THE TAXIWAY LIGHT WEST OF THE
AH7852'NORTHWEST CORNER OF THE RUN UP AREA AND SET FLUSH WITH THE GROUND.
AH7852'THIS STATION IS DESIGNATED AS A SECONDARY AIRPORT CONTROL STATION.

*** retrieval complete.
Elapsed Time = 00:00:00
```

1002

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID FRISCO

Project 0901-3510

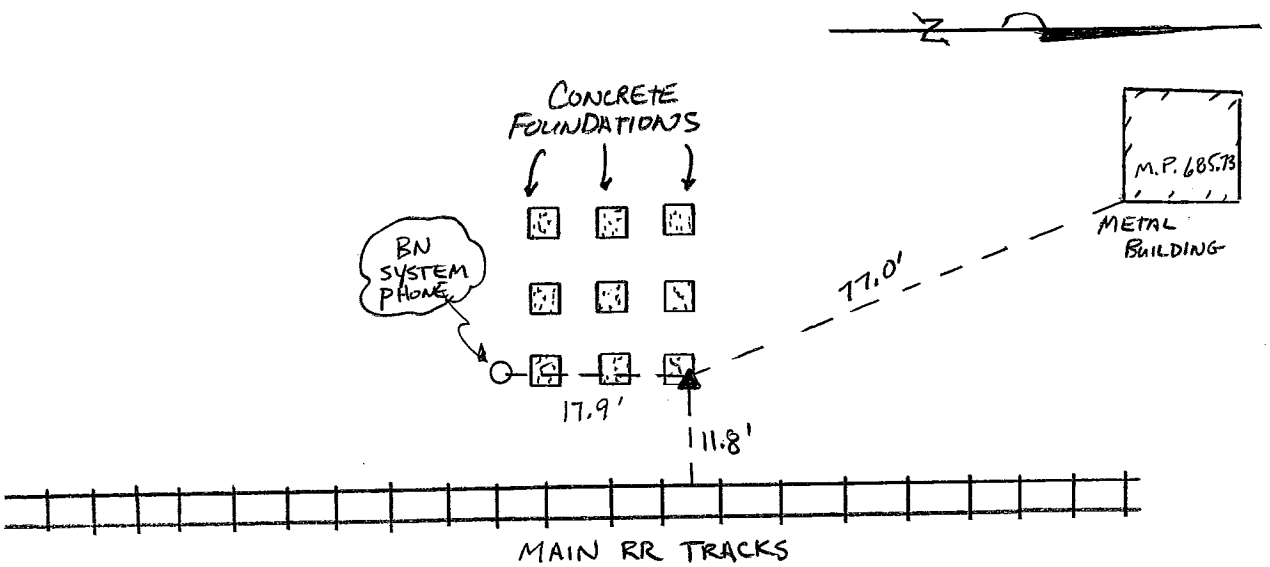
Station Designation C263

PID DN0276 Date 4/22/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER_____

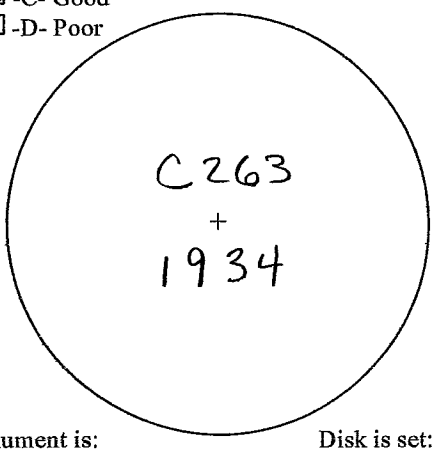
Observer & Organization S.PIEPKORN, GAI

Station Location Sketch



Sketch of Disk

Monument Stability Quality: ■ Photos Available
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

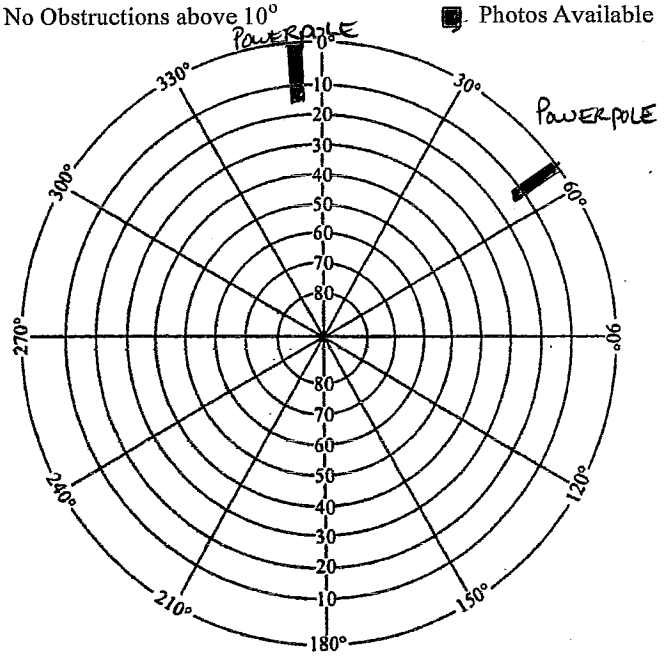


Monument is:
- ☐ Recessed ___ cm
- ☐ Flush with ground surface
- ■ Projecting 36 cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10° ■ Photos Available



1002

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.58
1         National Geodetic Survey,   Retrieval Date = MARCH 26, 2008
 DN0276 ***********************************************************************
 DN0276  DESIGNATION -  C 263
 DN0276  PID         -  DN0276
 DN0276  STATE/COUNTY-  TX/COLLIN
 DN0276  USGS QUAD   -  FRISCO (1981)
 DN0276
 DN0276                        *CURRENT SURVEY CONTROL
 DN0276
 DN0276* NAD 83(1986)-  33 09 03.     (N)    096 49 44.     (W)     SCALED
 DN0276* NAVD 88     -       198.679  (meters)     651.83   (feet)  ADJUSTED
 DN0276
 DN0276  GEOID HEIGHT-         -26.12  (meters)                     GEOID03
 DN0276  DYNAMIC HT  -         198.459 (meters)     651.11   (feet)  COMP
 DN0276  MODELED GRAV-     979,525.5   (mgal)                       NAVD 88
 DN0276
 DN0276  VERT ORDER  -  SECOND    CLASS 0
 DN0276
 DN0276.The horizontal coordinates were scaled from a topographic map and have
 DN0276.an estimated accuracy of +/- 6 seconds.
 DN0276
 DN0276.The orthometric height was determined by differential leveling
 DN0276.and adjusted in June 1991.
 DN0276
 DN0276.The geoid height was determined by GEOID03.
 DN0276
 DN0276.The dynamic height is computed by dividing the NAVD 88
 DN0276.geopotential number by the normal gravity value computed on the
 DN0276.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DN0276.degrees latitude (g = 980.6199 gals.).
 DN0276
 DN0276.The modeled gravity was interpolated from observed gravity values.
 DN0276
 DN0276;                    North         East     Units  Estimated Accuracy
 DN0276;SPC TXNC     - 2,165,820.      755,880.      MT  (+/- 180 meters Scaled)
 DN0276
 DN0276                          SUPERSEDED SURVEY CONTROL
 DN0276
 DN0276  NGVD 29 (??/??/92)  198.692  (m)          651.88   (f) ADJ UNCH    2 0
 DN0276
 DN0276.Superseded values are not recommended for survey control.
 DN0276.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DN0276.See file dsdata.txt to determine how the superseded data were derived.
 DN0276
 DN0276_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB024701(NAD 83)
 DN0276_MARKER: DB = BENCH MARK DISK
 DN0276_SETTING: 30 = SET IN A LIGHT STRUCTURE
 DN0276_SP_SET: CONCRETE BASE
 DN0276_STAMPING: C 263 1934
 DN0276_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
 DN0276_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DN0276+SATELLITE: SATELLITE OBSERVATIONS - October 31, 2005
```

1003

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID BORING RESIDENCE

Project 0901-3510

Station Designation NEWSOME

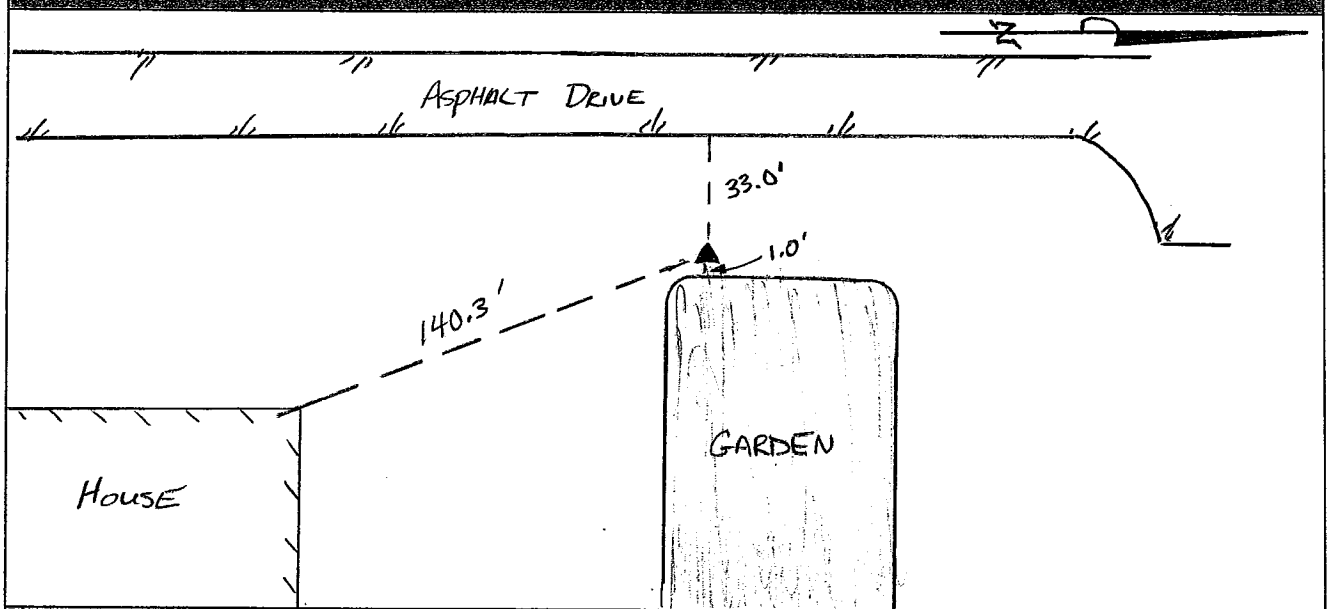
PID DN0376

Date 4/22/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER_____

Observer & Organization S. PIEPKORN

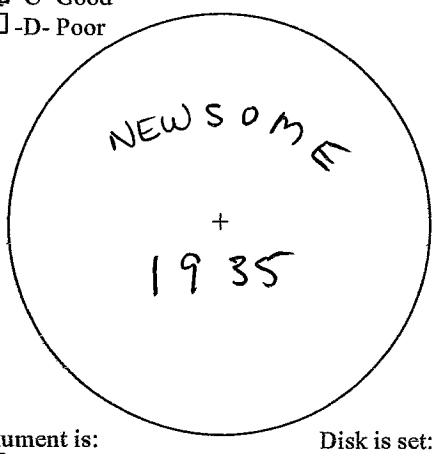
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ■ -C- Good
- ☐ -D- Poor

■ Photos Available



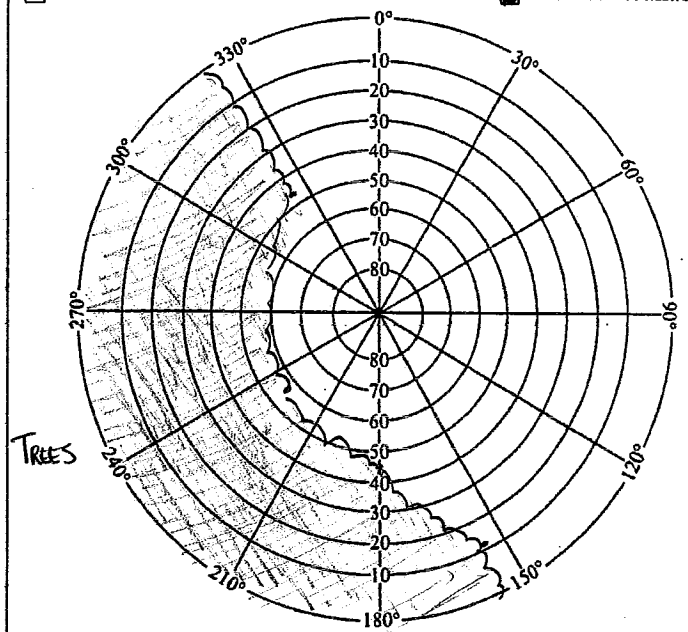
Monument is:
- ☐ Recessed ___ cm
- ☐ Flush with ground surface
- ■ Projecting 4 cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



1003

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.58
1        National Geodetic Survey,   Retrieval Date = MARCH 26, 2008
 DN0376 ***********************************************************************
 DN0376  DESIGNATION -  NEWSOME
 DN0376  PID         -  DN0376
 DN0376  STATE/COUNTY-  TX/COLLIN
 DN0376  USGS QUAD   -  MC KINNEY WEST (1973)
 DN0376
 DN0376                         *CURRENT SURVEY CONTROL
 DN0376  ______________________________________________________________________
 DN0376* NAD 83(1993)-  33 09 41.11438(N)    096 39 23.03404(W)     ADJUSTED
 DN0376* NAVD 88     -       212.744  (meters)     697.98   (feet)  ADJUSTED
 DN0376  ______________________________________________________________________
 DN0376  LAPLACE CORR-           1.80  (seconds)                    DEFLEC99
 DN0376  GEOID HEIGHT-         -25.74  (meters)                     GEOID03
 DN0376  DYNAMIC HT  -         212.512 (meters)     697.22   (feet) COMP
 DN0376  MODELED GRAV-     979,544.2   (mgal)                       NAVD 88
 DN0376
 DN0376  HORZ ORDER  -  FIRST
 DN0376  VERT ORDER  -  SECOND    CLASS 0
 DN0376
 DN0376.The horizontal coordinates were established by classical geodetic methods
 DN0376.and adjusted by the National Geodetic Survey in February 1996.
 DN0376
 DN0376.The orthometric height was determined by differential leveling
 DN0376.and adjusted in June 1991.
 DN0376
 DN0376.The Laplace correction was computed from DEFLEC99 derived deflections.
 DN0376
 DN0376.The geoid height was determined by GEOID03.
 DN0376
 DN0376.The dynamic height is computed by dividing the NAVD 88
 DN0376.geopotential number by the normal gravity value computed on the
 DN0376.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DN0376.degrees latitude (g = 980.6199 gals.).
 DN0376
 DN0376.The modeled gravity was interpolated from observed gravity values.
 DN0376
 DN0376;                     North         East     Units Scale Factor Converg.
 DN0376;SPC TXNC     - 2,167,261.916   771,945.666   MT  0.99987445   +1 00 19.8
 DN0376;SPC TXNC     - 7,110,425.14  2,532,625.07   sFT  0.99987445   +1 00 19.8
 DN0376;UTM  14      - 3,671,628.109   718,554.638   MT  1.00018897   +1 16 56.8
 DN0376
 DN0376!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DN0376!SPC TXNC     -   0.99997064  x   0.99987445  =   0.99984509
 DN0376!UTM  14      -   0.99997064  x   1.00018897  =   1.00015961
 DN0376
 DN0376:                Primary Azimuth Mark                    Grid Az
 DN0376:SPC TXNC     -  VAN ALSTYNE MUNICIPAL TANK              013 21 12.7
 DN0376:UTM  14      -  VAN ALSTYNE MUNICIPAL TANK              013 04 35.7
 DN0376
 DN0376|-----------------------------------------------------------------------|
 DN0376| PID    Reference Object                     Distance      Geod. Az   |
```

```
DN0376'CORNER AT SW CORNER OF PASTURE, 9.6 FEET E OF FENCE CORNER
DN0376'AT NW CORNER OF ORCHARD, 2 FEET N OF FENCE LINE AT N SIDE
DN0376'OF ORCHARD.  THE MARK PROJECTS 4 INCHES.
DN0376'
DN0376'SURFACE, UNDERGROUND AND REFERENCE MARKS ARE STANDARD BRONZE
DN0376'DISKS SET IN CONCRETE.
DN0376'
DN0376'REFERENCE MARK NO. 1 IS E OF THE STATION, 1-1/2 FEET NW OF
DN0376'FENCE CORNER AT NE CORNER OF ORCHARD.  MARK PROJECTS 2 INCHES.
DN0376'
DN0376'REFERENCE MARK NO. 2 IS N OF THE STATION, 24 FEET E OF THE
DN0376'CENTER LINE OF DIRT ROAD, 1-1/2 FEET E OF FENCE LINE AT W SIDE
DN0376'OF PASTURE.  MARK PROJECTS 2 INCHES.
DN0376'
DN0376'AZIMUTH MARK IS SE OF THE STATION ALONG RIGHT-OF-WAY OF STATE
DN0376'HIGHWAY 24, ABOUT 100 YARDS W OF CURVE IN ROAD, ABOUT 75
DN0376'YARDS W OF YELLOW FARMHOUSE, 42 FEET S OF CENTER LINE OF ROAD,
DN0376'12 FEET W OF FENCE CORNER AT NE CORNER OF FIELD, 2 FEET N
DN0376'OF S RIGHT-OF-WAY FENCE LINE, 3 FEET E OF CONCRETE POST
DN0376'RIGHT-OF-WAY MARKER.  MARK PROJECTS 3 INCHES.
DN0376'
DN0376'BENCH MARK M 264 1934 IS APPROXIMATELY 0.15 MILE S OF THE
DN0376'STATION, AT THE NW CORNER OF INTERSECTION OF STATE HIGHWAY
DN0376'24, AND DIRT ROAD TO THE N, 40 FEET N OF CENTER LINE OF STATE
DN0376'HIGHWAY 24, 12 FEET W OF CENTER LINE OF DIRT ROAD, 16 FEET
DN0376'N OF W END OF SMALL WOODEN BRIDGE.  MARK PROJECTS 1 INCH
DN0376'AND IS A STANDARD BRONZE DISK SET IN A SQUARE BLOCK OR POST
DN0376'OF CONCRETE.
DN0376'
DN0376'TO REACH THE STATION FROM THE SE CORNER OF THE SQUARE IN
DN0376'MC KINNEY, GO S ON STATE HIGHWAY 24, 2.95 MILES TO JUNCTION
DN0376'WITH U.S. HIGHWAY 75.  THENCE W ON STATE HIGHWAY 24, 1.5 MILES
DN0376'TO T-INTERSECTION WITH DIRT ROAD.  THENCE N ON DIRT ROAD,
DN0376'0.15 MILE TO N SIDE OF ORCHARD AND STATION.
DN0376'
DN0376'ALL LIGHTS COME INTO VIEW AT 20 FEET.
DN0376
DN0376                          STATION RECOVERY (1937)
DN0376
DN0376'RECOVERY NOTE BY TEXAS HIGHWAY DEPARTMENT 1937
DN0376'STATION RECOVERED AS DESCRIBED IN GOOD CONDITION.  NO ATTEMPT
DN0376'MADE TO RECOVER REFERENCE MARKS.
DN0376
DN0376                          STATION RECOVERY (1938)
DN0376
DN0376'RECOVERY NOTE BY TEXAS GEODETIC SURVEY 1938
DN0376'STATION RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (1946)
DN0376
DN0376'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1946 (RAM)
DN0376'STATION RECOVERED IN GOOD CONDITION.  ALL MARKS WERE RECOVERED.
DN0376'THE PROPERTY IS NOW OWNED BY MR. W.R.E. SUTHERLAND.  THERE
DN0376'IS NO TENANT IN THE FARM BUILDINGS AND THE HOUSE HAS BEEN
DN0376'TORN DOWN.  IT IS REPORTED THAT IT WILL BE REBUILT AT A
DN0376'FUTURE DATE.
DN0376
DN0376                          STATION RECOVERY (1950)
DN0376
DN0376'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950 (CL)
```

```
DN0376'A REFERENCE MARK DISK SET IN THE TOP OF A CONCRETE POST WHICH
DN0376'PROJECTS 0.8 FOOT ABOVE THE GROUND, STAMPED NEWSOME NO 1 1935.
DN0376'
DN0376'NEWSOME R.M. 2 IS 110.5 FEET NORTH OF TRIANGULATION STATION
DN0376'NEWSOME 1935, 24 FEET EAST OF THE CENTER LINE OF THE ROAD,
DN0376'1 FOOT EAST OF A FENCE, A REFERENCE MARK DISK SET IN THE TOP
DN0376'OF A CONCRETE POST WHICH PROJECTS 0.6 FOOT ABOVE THE GROUND,
DN0376'STAMPED NEWSOME NO 2 1935.
DN0376'
DN0376'NEWSOME 1935 AZIMUTH IS 0.65 MILE SOUTHEAST OF TRIANGULATION
DN0376'STATION NEWSOME 1935, 42 FEET SOUTH OF THE CENTER LINE OF
DN0376'FARM ROAD 720, 12 FEET WEST OF A FENCE CORNER, 120 FEET WEST
DN0376'OF THE CENTER LINE OF A PRIVATE DRIVEWAY, 1 FOOT NORTH OF
DN0376'A FENCE, 2.7 FEET EAST OF A WITNESS POST, A REFERENCE MARK
DN0376'DISK SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS 0.6
DN0376'FOOT ABOVE THE GROUND, STAMPED NEWSOME AZIMUTH 1935.
DN0376
DN0376                          STATION RECOVERY (1954)
DN0376
DN0376'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1954
DN0376'4.75 MI SW FROM MCKINNEY.
DN0376'1.25 MILES SOUTH ALONG OLD U.S. HIGHWAY 75 FROM THE COURTHOUSE AT
DN0376'MCKINNEY, THENCE 1.85 MILES SOUTH ALONG U.S. HIGHWAY 75, THENCE 0.8
DN0376'MILE WEST ALONG STATE HIGHWAY 121, THENCE 0.7 MILE WEST ALONG FARM
DN0376'ROAD 720, THENCE 0.15 MILE NORTH ALONG A DIRT ROAD.  36 FEET EAST OF
DN0376'THE CENTER LINE OF THE ROAD, IN THE SOUTHWEST CORNER OF A PASTURE, ON
DN0376'TOP OF A SMALL HILL, SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS
DN0376'0.7 FOOT ABOVE THE GROUND.
DN0376
DN0376                          STATION RECOVERY (1985)
DN0376
DN0376'RECOVERY NOTE BY US POWER SQUADRON 1985 (JCM)
DN0376'RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (1988)
DN0376
DN0376'RECOVERY NOTE BY US POWER SQUADRON 1988 (JCM)
DN0376'RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (1991)
DN0376
DN0376'RECOVERY NOTE BY US POWER SQUADRON 1991 (JCM)
DN0376'RECOVERED IN GOOD CONDITION.
DN0376
DN0376                          STATION RECOVERY (2005)
DN0376
DN0376'RECOVERY NOTE BY BOHANNAN HUSTON INCORPORATED 2005 (CRF)
DN0376'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:00
```

1004

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: CADDO AIRPORT

Project: 0901-3510

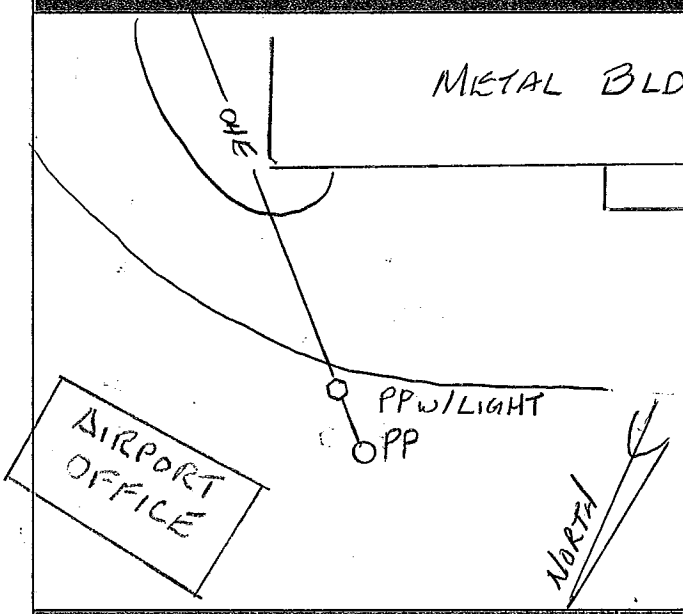
Station Designation: M 1495 1986

PID: DN1023 Date: 4-1-09

Circle all applicable: PACS SACS BM FBN CBN OTHER

Observer & Organization: McGUINNESS / GLAI

Station Location Sketch



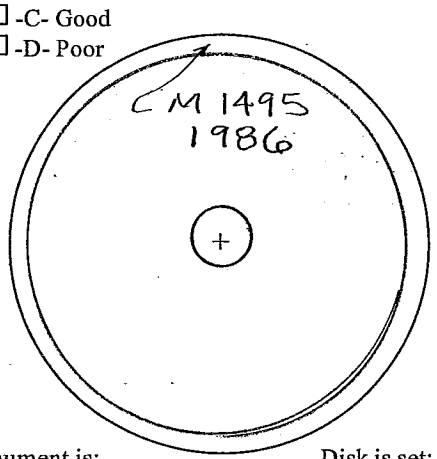
TIES FROM MARK		
346°	125.2'	BLDG B SWC
44°	123.8'	PPW/LIGHT
146°	98.4'	NWC

M1495 1986
FND SS ROD W/PUNCH IN PVC W/LOGO CAP MISSING

Sketch of Disk

Monument Stability Quality: ☒ Photos Available

- ☐ -A- Most stable
- ☒ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

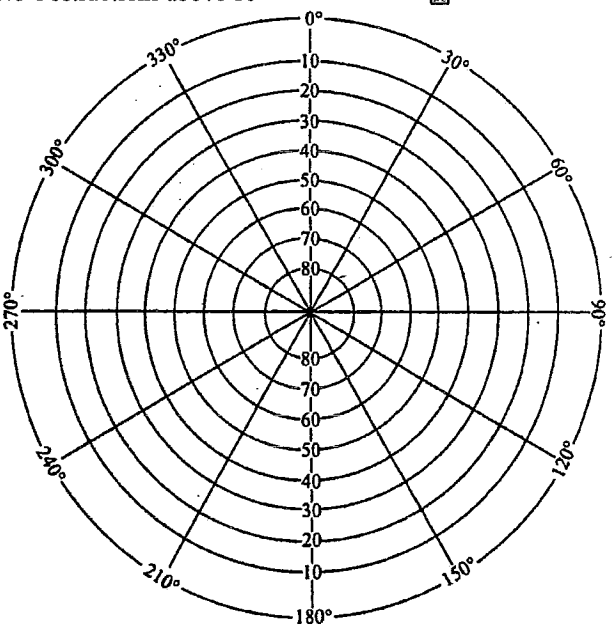


Monument is:
- ☒ Recessed 2 cm
- ☐ Flush with ground surface
- ☐ Projecting ___ cm

Disk is set:
- ☐ in bedrock.
- ☐ in concrete.
- ☒ in structure.

Visibility Diagram

☒ No Obstructions above 10° ☒ Photos Available



1004

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.58
1         National Geodetic Survey,   Retrieval Date = MARCH 26, 2008
 DN1023 ***********************************************************************
 DN1023  PACS        -  This is a Primary Airport Control Station.
 DN1023  DESIGNATION -  M 1495
 DN1023  PID         -  DN1023
 DN1023  STATE/COUNTY-  TX/HUNT
 DN1023  USGS QUAD   -  GREENVILLE SW (1962)
 DN1023
 DN1023                        *CURRENT SURVEY CONTROL
 DN1023  ___________________________________________________________________
 DN1023* NAD 83(2007)-  33 02 16.95220(N)    096 14 24.39684(W)     ADJUSTED
 DN1023* NAVD 88     -       163.060  (meters)     534.97   (feet)  ADJUSTED
 DN1023  ___________________________________________________________________
 DN1023  EPOCH DATE  -        2002.00
 DN1023  X           -   -581,768.837 (meters)                      COMP
 DN1023  Y           -  -5,320,579.414 (meters)                     COMP
 DN1023  Z           -   3,457,571.328 (meters)                     COMP
 DN1023  LAPLACE CORR-          -0.39  (seconds)                    DEFLEC99
 DN1023  ELLIP HEIGHT-         137.637 (meters)          (02/10/07) ADJUSTED
 DN1023  GEOID HEIGHT-         -25.42  (meters)                     GEOID03
 DN1023  DYNAMIC HT  -         162.881 (meters)     534.39  (feet)  COMP
 DN1023
 DN1023  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 DN1023  Type    PID    Designation                      North   East  Ellip
 DN1023  ___________________________________________________________________
 DN1023  NETWORK DN1023 M 1495                             0.67   0.61   1.49
 DN1023  ___________________________________________________________________
 DN1023  MODELED GRAV-     979,540.8   (mgal)                      NAVD 88
 DN1023
 DN1023  VERT ORDER  -  FIRST     CLASS II
 DN1023
 DN1023.This mark is at Caddo Mills Muni (7F3) Airport (7F3)
 DN1023
 DN1023.The horizontal coordinates were established by GPS observations
 DN1023.and adjusted by the National Geodetic Survey in February 2007.
 DN1023
 DN1023.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 DN1023.See National Readjustment for more information.
 DN1023.The horizontal coordinates are valid at the epoch date displayed above.
 DN1023.The epoch date for horizontal control is a decimal equivalence
 DN1023.of Year/Month/Day.
 DN1023
 DN1023.The orthometric height was determined by differential leveling
 DN1023.and adjusted in June 1991.
 DN1023
 DN1023.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DN1023
 DN1023.The Laplace correction was computed from DEFLEC99 derived deflections.
 DN1023
 DN1023.The ellipsoidal height was determined by GPS observations
 DN1023.and is referenced to NAD 83.
 DN1023
```

```
DN1023                          STATION RECOVERY (1994)
DN1023
DN1023'RECOVERY NOTE BY US POWER SQUADRON 1994
DN1023'RECOVERED IN GOOD CONDITION.
DN1023
DN1023                          STATION RECOVERY (1994)
DN1023
DN1023'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (AJL)
DN1023'THE STATION IS LOCATED ABOUT 3 KM (1.85 MI) SOUTHWEST OF CADDO MILLS
DN1023'AT THE CADDO MILLS MUNICIPAL AIRPORT, AT A THE END OF A FENCE ON THE
DN1023'NORTHWEST SIDE OF THE AIRPORT OFFICE AND HANGAR.  OWNERSHIP--CITY OF
DN1023'CADDO MILLS.  AIRPORT MANAGER IS MARY WILLIAMS, P.O.  BOX 460, CADDO
DN1023'MILLS, TX 75135.  PHONE 214-933-5842 OR 903-527-3124.  TO REACH FROM
DN1023'THE WEST JUNCTION OF STATE HIGHWAY 66 AND FARM ROAD 36 IN CADDO MILLS,
DN1023'GO SOUTHWEST ON STATE HIGHWAY 66 FOR 1.45 KM (0.90 MI) TO FARM ROAD
DN1023'1565 ON THE LEFT.  TURN LEFT, SOUTHERLY FOR 2.3 KM (1.40 MI) TO THE
DN1023'AIRPORT ENTRANCE ROAD ON THE RIGHT.  TURN RIGHT, WESTERLY, ON THE
DN1023'ENTRANCE ROAD FOR 0.6 KM (0.35 MI) TO THE AIRPORT OFFICE ON THE LEFT
DN1023'AND THE STATION ON THE RIGHT.  THE STATION IS A PUNCH HOLE TOP CENTER
DN1023'OF A STAINLESS STEEL ROD ENCASED IN A 12.7 CM PVC PIPE WITH A LOGO CAP
DN1023'SURROUNDED BY CONCRETE SET FLUSH WITH THE GROUND.  IT IS 37.6 M (123.4
DN1023'FT) SOUTHWEST OF A UTILITY POLE WITH A LIGHT AND A TRANSFORMER, 30.0 M
DN1023'(98.4 FT) NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE OFFICE AND
DN1023'HANGAR, AND 0.4 M (1.3 FT) NORTHEAST OF A PLASTIC WITNESS POST.
DN1023'DESCRIBED BY D.G.  AUG NOTE--ACTUAL ROD DEPTH IS UNKNOWN.
DN1023
DN1023                          STATION RECOVERY (2001)
DN1023
DN1023'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001 (KRN)
DN1023'THE STATION IS LOCATED ABOUT 1.85 MILES SOUTHWEST OF CADDO MILLS
DN1023'AT THE CADDO MILLS MUNICIPAL AIRPORT ON THE NORTHWEST SIDE OF THE
DN1023'AIRPORT OFFICE IN A GRASSY AREA BETWEEN THE AIRPORT OFFICE AND
DN1023'BUILDING B.
DN1023'OWNERSHIP--CITY OF CADDO MILLS.  AIRPORT MANAGER--MIKE SALANO.  P.AP
DN1023'BOX 460, CADDO MILLS TEXAS, 75135.  PHONE--903-527-3124.TO REACH THE
DN1023'STATION FORM THE UNDERPASS AT THE JUNCTION OF INTERSTATE 30 AND
DN1023'FARM ROAD 1565 NORTH AT EXIT 83, TO NORTH ON FARM ROAD 1565  FOR 2.4
DN1023'MILES TO THE AIRPORT ENTRANCE ROAD ON THE LEFT.  TURN LEFT AND GO
DN1023'SOUTHWEST ON THE PAVED THEN GRAVELED ROAD FOR 0.35 MILES TO THE
DN1023'AIRPORT OFFICE ON THE LEFT, AND THE STATION ON THE RIGHT.
DN1023'THE STATION IS A PUNCH HOLE IN THE TOP CENTER OF A DATUM CAP
DN1023'CRIMPED ONTO A STAINLESS STEEL ROD ENCASED IN A 12.7 CM PVC PIPE
DN1023'WITH A LOGO CAP SURROUNDED BY CONCRETE SET FLUSH WITH THE
DN1023'GROUND.  IT IS 124.8 FT SOUTH-SOUTHEAST OF THE SOUTHWEST CORNER
DN1023'OF BUILDING B.  123.4 FT SOUTHWEST OF A UTILITY POLE WITH A LIGHT AND
DN1023'TRANSFORMER.  98.4 FT NORTH-NORTHWEST OF THE NORTWEST CORNER
DN1023'OF THE OFFICE.  3.1 FT SOUTHEAST OF A WHITE TXDOT FIBERGLASS
DN1023'WITNESS POST, AND 0.7 FT EAST OF A NGS CARSONITE WITNESS POST.
DN1023'

*** retrieval complete.
Elapsed Time = 00:00:00
```

1005

Station Location Sketch and Visibility Diagram

Location / Airport Name and ID: ST. PAUL ROAD

Project: 0901-3510

Station Designation: R 924

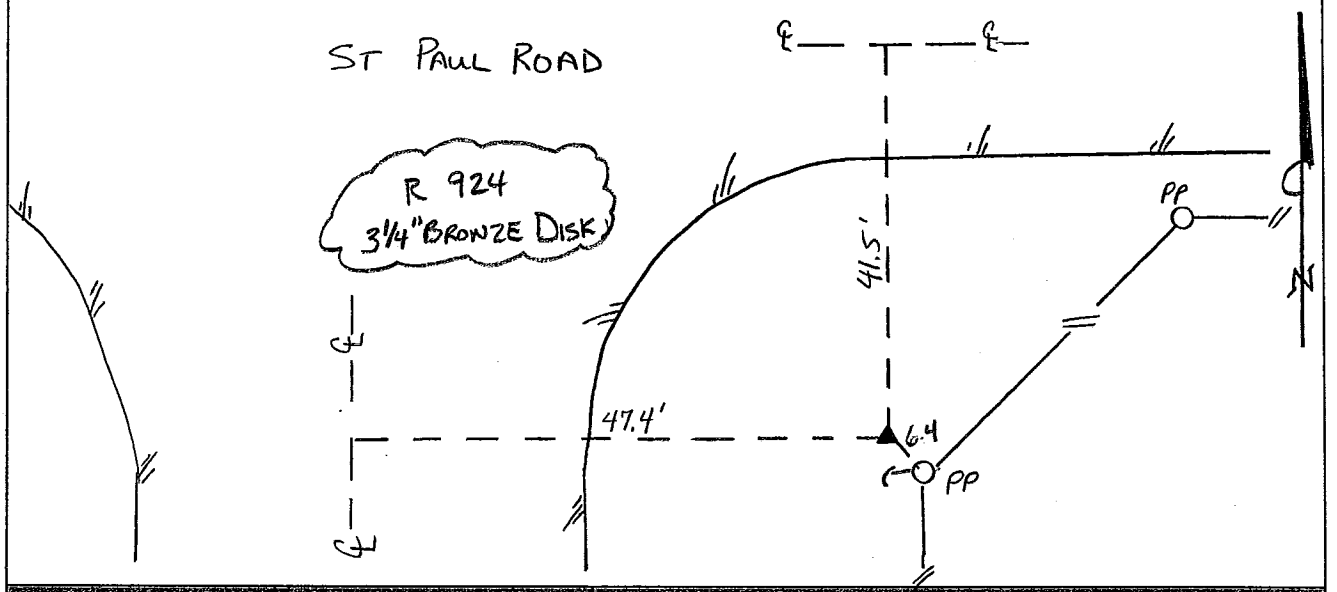
PID: DN 0436

Date: 4/22/09

Circle all applicable:
PACS SACS BM FBN CBN OTHER _____

Observer & Organization: S. PIEPKORN, GAI

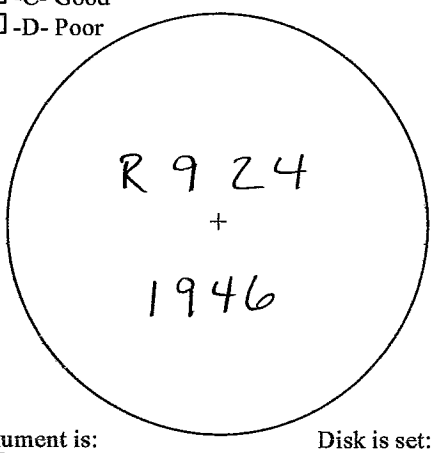
Station Location Sketch



Sketch of Disk

Monument Stability Quality:
- ☐ -A- Most stable
- ☐ -B- Excellent
- ☐ -C- Good
- ☐ -D- Poor

☐ Photos Available



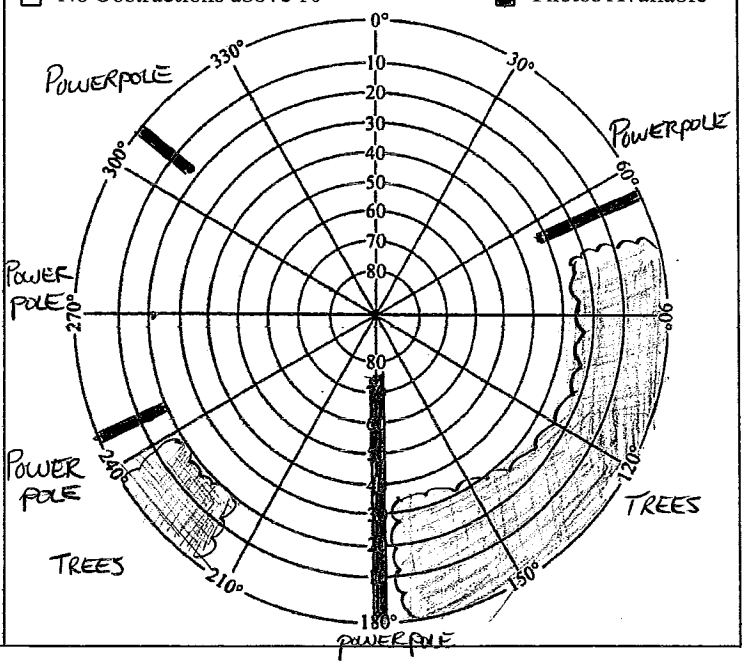
Monument is:
- ☐ Recessed ___ cm
- ☐ Flush with ground surface
- ■ Projecting 40 cm

Disk is set:
- ☐ in bedrock.
- ■ in concrete.
- ☐ in structure.

Visibility Diagram

☐ No Obstructions above 10°

■ Photos Available



1005

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.58
1         National Geodetic Survey,   Retrieval Date = MARCH 26, 2008
 DN0436 ***********************************************************************
 DN0436  DESIGNATION -  R 924
 DN0436  PID         -  DN0436
 DN0436  STATE/COUNTY-  TX/COLLIN
 DN0436  USGS QUAD   -  WYLIE (1973)
 DN0436
 DN0436                         *CURRENT SURVEY CONTROL
 DN0436
 DN0436* NAD 83(1986)-  33 03 04.     (N)    096 32 56.     (W)     SCALED
 DN0436* NAVD 88     -       171.066  (meters)     561.24   (feet)  ADJUSTED
 DN0436
 DN0436  GEOID HEIGHT-         -25.63  (meters)                     GEOID03
 DN0436  DYNAMIC HT  -         170.881 (meters)     560.63   (feet)  COMP
 DN0436  MODELED GRAV-     979,548.2   (mgal)                       NAVD 88
 DN0436
 DN0436  VERT ORDER  -  SECOND    CLASS 0
 DN0436
 DN0436.The horizontal coordinates were scaled from a topographic map and have
 DN0436.an estimated accuracy of +/- 6 seconds.
 DN0436
 DN0436.The orthometric height was determined by differential leveling
 DN0436.and adjusted in June 1991.
 DN0436
 DN0436.The geoid height was determined by GEOID03.
 DN0436
 DN0436.The dynamic height is computed by dividing the NAVD 88
 DN0436.geopotential number by the normal gravity value computed on the
 DN0436.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DN0436.degrees latitude (g = 980.6199 gals.).
 DN0436
 DN0436.The modeled gravity was interpolated from observed gravity values.
 DN0436
 DN0436;                    North         East     Units  Estimated Accuracy
 DN0436;SPC TXNC     - 2,155,210.      782,200.      MT  (+/- 180 meters Scaled)
 DN0436
 DN0436                         SUPERSEDED SURVEY CONTROL
 DN0436
 DN0436  NGVD 29 (??/??/92)  171.075  (m)          561.27   (f) ADJ UNCH    2 0
 DN0436
 DN0436.Superseded values are not recommended for survey control.
 DN0436.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DN0436.See file dsdata.txt to determine how the superseded data were derived.
 DN0436
 DN0436_U.S. NATIONAL GRID SPATIAL ADDRESS: 14SQB288596(NAD 83)
 DN0436_MARKER: DB = BENCH MARK DISK
 DN0436_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 DN0436_SP_SET: SET IN TOP OF CONCRETE MONUMENT
 DN0436_STAMPING: R 924 1946
 DN0436_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 DN0436+STABILITY: SURFACE MOTION
 DN0436
```

GPS1

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5-18-09

Field Observation By: Luke Stoltenberg

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
TRIMBLE 5700							
0220311819	1002 NGS-C263	Bot of Ant. Mount		6.556	11:17	1:56	
0220311819	838	Bot of Ant. Mount		6.556	2:57	3:49	
0220311819	822	Bot of Ant. Mount		6.556	4:13	4:55	
0220311819	803	Bot. of Ant. Mount		6.556	5:23	5:57	
ZEPHYR GEODETIC ANT							
1 2422982							

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS2

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510					Date: 05/18/2009		Field Observation By: L. PIEPKORN
Receiver Serial Number	**Station Name**	**Antenna Type/ Measured to:***	**Antena Height**		**Start Time**	**End Time**	**Comments**
			Meters	**Feet**			
4438138574	1003 NGS-NEWSOME	R8/ BOTTOM OF ANTENNA MOUNT		6.560	11:35 AM	1:53 PM	
4438138574	837	R8/BOTTOM OF ANTENNA MOUNT		6.560	3:04 PM	3:49 PM	
4438138574	211 F2	R8/BOTTOM OF ANTENNA MOUNT		6.560	4:24 PM	4:57 PM	
4438138574	804	R8/BOTTOM OF ANTENNA MOUNT		6.560	5:23 PM	5:57 PM	

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS 3

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: CITY OF PLANO 0901-3510					Date: 5-18-09		Field Observation By: JAMES WALSTON
Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height		Start Time	End Time	Comments
			Meters	Feet			
4841159115	M1495	BOTTOM OF ANTENNA MOUNT	2.0	6.56	11:40	2:00	
4841159115	840	BOTTOM OF ANTENNA MOUNT	2.0	6.56	3:17	3:55	
4841159115	836	BOTTOM OF ANTENNA MOUNT	2.0	6.56	4:20	5:00	
4841159115	835	BOTTOM OF ANTENNA MOUNT	2.0	6.56	5:20	5:55	

* Antenna Mearured = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 4

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510					Date: 5-18-09		Field Observation By: MATT HAMMETT
Receiver Serial Number	**Station Name**	**Antenna Type/ Measured to:***	**Antena Height**		**Start Time**	**End Time**	**Comments**
			Meters	**Feet**			
4849161043	NGS-R924	BOTTOM OF ANTENA MOUNT	~~1.5~~ 1.497	~~4.921~~ 4.912	11:46	1:57	FIRST SETUP HAS BAD H.I. NEEDS TO BE DELETED. BASE COULDN'T BE SET AT 2M
4849161043	106 L2	BOTTOM OF ANTENA MOUNT	2M	6.553	3:06	3:51	
484916043	821	BOTTOM OF ANTENA MOUNT	2M	6.553	4:15	4:57	
484916043	505	BOTTOM OF ANTENA MOUNT	2M	6.553	5:21	5:57	

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS1

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-2510 **Date:** 5-19-09 **Field Observation By:** Luke Stoltenberg

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
0220311819	1001 NGS-ADS D	Bot of Ant. Mount		6.556	9:17	11:36	Possible Bird landed on reciever head
0220311819	310 B5 AZ MARK	Bot of Ant. Mount		6.556	12:15	1:00	
0220311819	805	Bot of Ant Mount		6.556	1:31	2:15	
0220311819	824	Bot of Ant Mount		6.556	2:42	3:16	
0220311819	828	Bot of Ant Mount		6.556	3:39	4:15	
0220311819	826	Bot. of Ant. Mount		6.556	4:37	5:10	
0220311819	214 K8	Bot of Ant. Mount		6.556	5:29	6:07	

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS2

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 05/19/2009

Field Observation By: L. PIEPKORN

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4438138574	310 B5 AZ MK	R8/BOTTOM OF ANTENNA MOUNT		6.560	8:57AM	11:36 AM	
4438138574	820	R8/BOTTOM OF ANTENNA MOUNT		6.560	12:08PM	1:01 PM	
4438138574	301 B8 AZ MK	R8/BOTTOM OF ANTENNA MOUNT		6.560	1:35 PM	2:15 PM	
4438138574	827	R8/BOTTOM OF ANTENNA MOUNT		6.560	2:37 PM	3:17 PM	
4438138574	829	R8/BOTTOM OF ANTENNA MOUNT		6.560	3:41 PM	4:15 PM	
4438138574	809	R8/BOTTOM OF ANTENNA MOUNT		6.560	4:35PM	5:10 PM	
4438138574	126 L8	R8/BOTTOM OF ANTENNA MOUNT		6.560	5:30PM	6:08PM	CAMERA DIED NO PICS

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS 3

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: CITY OF PLANO 0901-3510					Date: 5-19-09		Field Observation By: JAMES WALSTON
Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height		Start Time	End Time	Comments
			Meters	Feet			
4841159115	848	BOTTOM OF ANTENNA MOUNT	2.0	6.56	9:30	11:35	
4841159115	806	BOTTOM OF ANTENNA MOUNT	2.0	6.56	12:25	1:00	
4841159115	823	BOTTOM OF ANTENNA MOUNT	2.0	6.56	1:20	2:18	
4841159115	830	BOTTOM OF ANTENNA MOUNT	2.0	6.56	2:38	3:15	
4841159115	833	BOTTOM OF ANTENNA MOUNT	2.0	6.56	3:35	4:15	
4841159115	834	BOTTOM OF ANTENNA MOUNT	2.0	6.56	4:32	5:10	
4841159115	843	BOTTOM OF ANTENNA MOUNT	2.0	6.56	5:30	6:09	

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS 4

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5-19-09

Field Observation By: MATT HAMMETT

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4849161043	131	BOTTOM OF ANTENA MOUNT	2M	6.553	9:11	11:36	STATION NAME IS 131 BUT DISK READS 0-8
4849161043	825	BOTTOM OF ANTENA MOUNT	2M	6.553	12:06	1:00	
4849161043	807	BOTTOM OF ANTENA MOUNT	2M	6.553	1:42	2:16	
4849161043	831	BOTTOM OF ANTENA MOUNT	2M	6.553	2:41	3:17	
4849161043	832	BOTTOM OF ANTENA MOUNT	2M	6.553	3:43	4:17	
4849161043	844	BOTTOM OF ANTENA MOUNT	2M	6.553	4:34	5:11	TRIPOD WAS SLIGHTLY OUT OF PLUMB AT THE END OF THE SESSION
4849161043	845	BOTTOM OF ANTENA MOUNT	2M	6.553	5:36	6:08	

* Antenna Mearured = ARP (Antenna Reference Point) / BNGP (Bottom of Notch on Ground Plane / PC (Phase Center) / TN (Top of Notch) / CB (Center of Bumper 5800)

GPS 1

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5-20-09

Field Observation By: Luke Stoltenberg

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
0220311819	126 L8	Bot of Ant Mount		6.556	9:33	10:35	
0220311819	216 N5	Bot of Ant Mount		6.556	11:01	11:50	
0220311819	135 P4	Bot of Ant Mount		6.556	12:19	12:56	
0220311819	317 N2 az mrk	Bot of Ant Mount		6.556	1:18	2:08	TIP FELL OFF POINT
0220311819	317 N2 AZ MRK	Bot of Ant Mount		6.556	2:09	2:46	The Redo
0220311819	217 N2	Bot of Ant Mount		6.556	2:59	3:52	
0220311819	123 Q2	Bot of Ant Mount		6.556	4:12	4:53	
0220311819	836	Bot of Ant Mount		6.556	5:21	5:57	

* **Antenna Mearured = ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

GPS2

Job Number / Name: 0901-3510					Date: 05/20/09		Field Observation By: L. PIEPKORN
Receiver Serial Number	**Station Name**	**Antenna Type/ Measured to:***	**Antena Height**		**Start Time**	**End Time**	**Comments**
			Meters	**Feet**			
4438138574	131 08	R8/BOTTOM OF ANTENNA MOUNT		6.560	10:01 AM	10:35 AM	
4438138574	801	R8/BOTTOM OF ANTENNA MOUNT		6.560	10:54 AM	11:10 AM	SOMEONE BUMPED TRIPOD. RESET & RELEVELLED SEE BELOW
4438138574	801	R8/BOTTOM OF ANTENNA MOUNT		6.560	11:11 AM	11:50 AM	
4438138574	136 04	R8/BOTTOM OF ANTENNA MOUNT		6.560	12:10 PM	12:57 PM	
4438138574	842	R8/BOTTOM OF ANTENNA MOUNT		6.560	1:18 PM	2:46 PM	
4438138574	841	R8/BOTTOM OF ANTENNA MOUNT		6.560	3:16 PM	3:52 PM	
4438138574	847	R8/BOTTOM OF ANTENNA MOUNT		6.560	4:08 PM	4:53 PM	
4438138574	822	R8/BOTTOM OF ANTENNA MOUNT		6.560	5:22 PM	5:56 PM	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

GPS 3

Job Number / Name: CITY OF PLANO 0901-3510					Date: 9-20-09		Field Observation By: JAMES WALSTON
Receiver Serial Number	**Station Name**	**Antenna Type/ Measured to:***	**Antena Height**		**Start Time**	**End Time**	**Comments**
			Meters	**Feet**			
4841159115	845	BOTTOM OF ANTENNA MOUNT	2.0	6.56	9:27	10:37	
4841159115	808	BOTTOM OF ANTENNA MOUNT	2.0	6.56	11:02	11:51	
4841159115	802	BOTTOM OF ANTENNA MOUNT	2.0	6.56	12:00	12:57	
4841159115	800	BOTTOM OF ANTENNA MOUNT	2.0	6.56	1:14	1:38	STOPPED EARLY MISUNDERSTOOD LUKE
4841159115	800	BOTTOM OF ANTENNA MOUNT	2.0	6.56	2:02	2:47	RESTARTED
4841159115	318	BOTTOM OF ANTENNA MOUNT	2.0	6.56	3:15	3:53	
4841159115	219	BOTTOM OF ANTENNA MOUNT	2.0	6.56	4:08	4:54	
4841159115	837	BOTTOM OF ANTENNA MOUNT	2.0	6.56	5:21	5:57	

*** Antenna Mearured = ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 4

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510					Date: 5-20-09		Field Observation By: MATT HAMMETT
Receiver Serial Number	**Station Name**	**Antenna Type/ Measured to:***	**Antena Height**		**Start Time**	**End Time**	**Comments**
			Meters	**Feet**			
4849161043	808	BOTTOM OF ANTENA MOUNT	2M	6.553	9:37	10:37	
4849161043	846	BOTTOM OF ANTENA MOUNT	2M	6.553	10:58	11:52	
4849161043	124	BOTTOM OF ANTENA MOUNT	2M	6.553	12:05	12:58	
4849161043	137	BOTTOM OF ANTENA MOUNT	2M	6.553	1:11	2:48	
4849160043	138	BOTTOM OF ANTENA MOUNT	2M	6.553	3:01	3:52	
4849161043	849	BOTTOM OF ANTENA MOUNT	2M	6.553	4:18	4:55	
4849161043	106	BOTTOM OF ANTENA MOUNT	2M	6.553	5:18	5:58	
4849161043	838	BOTTOM OF ANTENA MOUNT	2M	6.553			
	803	BOTTOM OF ANTENA MOUNT					

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 1

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510 **Date:** 5-21-09 **Field Observation By:** Luke Stoltenberg

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
0220311819	1001 NGS-ADS D	Bot of Ant MOUNT		6.556	9:01	9:57	
0220311819	310 BS AZ MAK	Bot of Ant MOUNT		6.556	10:25	11:01	
0220311819	211 FZ	BOT OF ANT MOUNT		6.556	11:29	12:22	
0220311819	820	BOT OF ANT MOUNT		6.556	12:45	1:30	
0220311819	807	BOT OF ANT MOUNT		6.556	1:49	2:25	
0220311819	1002 NGS-C263	BOT OF ANT MOUNT		6.556	2:59	3:47	
0220311819	809	BOT OF ANT MOUNT		6.556	4:23	4:57	
0220311819	830	BOT OF ANT MOUNT		6.556	5:15	5:48	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 2

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 05/21/09

Field Observation By: L. PIEPKORN

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4438138574	835	R8/BOTTOM OF ANTENNA MOUNT		6.560	8:43AM	9:56AM	
4438138574	835	R8/ BOTTOM OF ANTENNA MOUNT		6.560	9:59AM	11:00AM	
4438138574	803	R8/BOTTOM OF ANTENNA MOUNT		6.560	11:13AM	12:23PM	
4438138574	505 505	R8/BOTTOM OF ANTENNA MOUNT		6.560	12:44PM	1:31PM	
4438138574	301 B8 AZ MK	R8/ BOTTOM OF ANTENNA MOUNT		6.560	1:48 PM	2:25PM	
4438138574	805	R8/ BOTTOM OF ANTENNA MOUNT		6.560	2:38 PM	3:47PM	
4438138574	828	R8/BOTTOM OF ANTENNA MOUNT		6.560	4:06PM	4:58PM	
4438138574	829	R8/ BOTTOM OF ANTENNA MOUNT		6.560	5:09PM	5:48PM	

* **Antenna Mearured = ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

GPS 3

Job Number / Name: CITY OF PLANO 0901-3510					Date: 5-21-09		Field Observation By: JAMES WALSTON
Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height		Start Time	End Time	Comments
			Meters	Feet			
4841159115	804	BOTTOM OF ANTENNA MOUNT	2.0	6.56	9:01	9:57	
4841159115	805	BOTTOM OF ANTENNA MOUNT	2.0	6.56	10:25	11:00	
4841159115	821	BOTTOM OF ANTENNA MOUNT	2.0	6.56	11:20	12:20	
4841159115	825	BOTTOM OF ANTENNA MOUNT	2.0	6.56	12:46	1:31	
4841159115	824	BOTTOM OF ANTENNA MOUNT	2.0	6.56	1:45	2:27	
4841159115	823	BOTTOM OF ANTENNA MOUNT	2.0	6.56	2:39	3:48	
4841159115	831	BOTTOM OF ANTENNA MOUNT	2.0	6.56	4:03	4:56	
4841159115	833	BOTTOM OF ANTENNA MOUNT	2.0	6.56	5:09	5:48	

* Antenna Mearured = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 4

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5/21/09

Field Observation By: JAIME RODRIGUEZ

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4849161043	211	BOTTOM OF ANTENA MOUNT	2 M	6.553	9:00 AM.	A M. 9:57	
4849161043	806	BOTTOM OF ANTENA MOUNT	2 M	6.553	A M. 10:19	A.M. 11:01	
4849161043	838	BOTTOM OF ANTENA MOUNT	2 M	6.553	A M 11.47	P. M. 12:21	
4849161043	803	BOTTOM OF ANTENA MOUNT	2 M	6.553	P. M. 12:56	P. M. 1:31	
4849161043	826	BOTTOM OF ANTENA MOUNT	2 M	6.553	P M 1:50	P.M 2:25	
4849161043	827	BOTTOM OF ANTENA MOUNT	2 M	6.553	P. M 2:47	P. M. 3:48	
4849161043	832	BOTTOM OF ANTENA MOUNT	2 M	6 553	4:15	4:56	
4849161043	834	BOTTOM OF ANTENA MOUNT	2 M	6.553	5:13	5:51	

* **Antenna Mearured = ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 1

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5-22-09

Field Observation By: Luke Stoltenberg

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
0220311819	832	BOT. OF ANT. MOUNT		6.556	9:17	10:30	
0220311819	809	BOT. OF ANT. MOUNT		6.556	10:48	11:37	
0220311819	824	BOT. OF ANT. MOUNT		6.556	11:53	12:33	
0220311819	822	BOT. OF ANT. MOUNT		6.556	12:55	1:44	
0220311819	841	BOT. OF ANT. MOUNT		6.556	2:05	2:37	

* **Antenna Mearured = ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 2

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510					Date: 05/22/09		Field Observation By: L. PIEPKORN
Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height		Start Time	End Time	Comments
			Meters	Feet			
4438158574	1003 NGS-NEWSOME	R8/ BOTTOM OF ANTENNA MOUNT		6.560	9:41 AM	10:31 AM	
4438138574	126 L8	R8/ BOTTOM OF ANTENNA MOUNT		6.560	10:55 AM	11:37 AM	
4438138574	825	R8/ BOTTOM OF ANTENNA MOUNT		6.560	11:59 AM	12:33 PM	
4438138574	106 L2	R8/ BOTTOM OF ANTENNA MOUNT		6.560	1:11 PM	1:44 PM	
4438138574	842	R8/ BOTTOM OF ANTENNA MOUNT		6.560	2:03 PM	2:37 PM	

* **Antenna Mearured = ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

GPS 3

Job Number / Name: CITY OF PLANO 0901-3510					Date: 5-22-06		Field Observation By: JAMES WALSTON
Receiver Serial Number	**Station Name**	**Antenna Type/ Measured to:***	**Antena Height**		**Start Time**	**End Time**	**Comments**
			Meters	**Feet**			
4841159115	844	BOTTOM OF ANTENNA MOUNT	2.0	6.56	9:32	10:31	
4841159115	214	BOTTOM OF ANTENNA MOUNT	2.0	6.56	10:44	11:39	11:39 IS TURN OFF TIME
4841159115	843	BOTTOM OF ANTENNA MOUNT	2.0	6.56	11:51	12:34	WENT TURN ON, WAS ALREADY ON. TURNED OFF & RESTARTED
4841159115	317	BOTTOM OF ANTENNA MOUNT	2.0	6.56	12:54	1:44	
4841159115	216	BOTTOM OF ANTENNA MOUNT	2.0	6.56	2:02	2:38	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 4

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5-22-09

Field Observation By: MATT HAMMETT

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4849161043	131	BOTTOM OF ANTENA MOUNT	2M	6.553	9:27	10:31	
4849161043	844	BOTTOM OF ANTENA MOUNT	2M	6.553	11:02	11:38	
4849161043	840	BOTTOM OF ANTENA MOUNT	2M	6.553	11:59	12:35	
4849161043	217	BOTTOM OF ANTENA MOUNT	2M	6.553	12:59	1:45	
4849161043	845	BOTTOM OF ANTENA MOUNT	2M	6.553	2:05	2:37	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 1

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901 - 3510

Date: 5-26-09

Field Observation By: Luke Stoltenberg

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
0220311819	318 02 AZ MAK	BOT. OF ANT. MOUNT		6.556	8:51	9:43	
0220311819	137 P-3	BOT. OF ANT. MOUNT		6.556	9:58	10:40	
0220311819	1005 NGS-R 924	BOT. OF ANT. MOUNT	1.5M	4.921	11:05	11:58	SET UP AT 1.5 METERS
0220311819	848	BOT. OF ANT. MOUNT		6.556	12:33	1:15	
0220311819	219 52	BOT. OF ANT. MOUNT		6.556	1:29	2:15	
0220311819	847	BOT. OF ANT. MOUNT		6.556	2:32	6:37	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 05/26/09

Field Observation By: L. PIEPKORN

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4438138574	800	R8/ BOTTOM OF ANTENNA MOUNT		6.560	8:30 AM	9:43 AM	
4438138574	135 P4	R8/ BOTTOM OF ANTENNA MOUNT		6.560	10:02 AM	10:39 AM	
4438138574	848	R8/BOTTOM OF ANTENNA MOUNT		6.560	11:07 AM	11:57 AM	
4438138574	124 Q4	R8/BOTTOM OF ANTENNA MOUNT		6.560	12:20 PM	1:15 PM	
4438138574	123 Q2	R8/BOTTOM OF ANTENNA MOUNT		6.560	1:26 PM	2:14 PM	
4438138574	1003 NGS-NEWSOME	R8/BOTTOM OF ANTENNA MOUNT		6.560	2:54 PM		RECIEVER POWERED OFF, REPLACED BATTERY SEE BELOW
4438138574	1003 NGS-NEWSOME	R8/BOTTOM OF ANTENNA MOUNT		6.560	4:35 PM	6:37 PM	RAINED FROM 6:15 - 6:35

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

GPS 3

Job Number / Name: CITY OF PLANO 0901-3510					Date: 5-26-09		Field Observation By: JAMES WALSTON
Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height		Start Time	End Time	Comments
			Meters	Feet			
4841159115	136	BOTTOM OF ANTENNA MOUNT	2.0	6.56	8:52	9:42	
4841159115	802	BOTTOM OF ANTENNA MOUNT	2.0	6.56	10:02	10:40	
4841159115	124	BOTTOM OF ANTENNA MOUNT	2.0	6.56	10:59	11:57	
4841159115	849	BOTTOM OF ANTENNA MOUNT	2.0	6.56	12:12	12:35	WIND BLEW TRIPOD UNLEVEL. STOPPED & RESTARTED
4841159115	849	BOTTOM OF ANTENNA MOUNT	2.0	6.56	12:39	1:15	
4841159115	137	BOTTOM OF ANTENNA MOUNT	2.0	6.56	1:35	2:13	
4841159115	1004	BOTTOM OF ANTENNA MOUNT	2.0	6.56	3:07	6:37	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

GPS 4

Gorrondona and Associates, Inc.
GPS Static Control Observations Sheet

Job Number / Name: 0901-3510

Date: 5-26-09

Field Observation By: MATT HAMMETT

Receiver Serial Number	Station Name	Antenna Type/ Measured to:*	Antena Height Meters	Antena Height Feet	Start Time	End Time	Comments
4849161043	801	BOTTOM OF ANTENA MOUNT	2m	6.553	8:34	9:44	
4849161043	808	BOTTOM OF ANTENA MOUNT	2m	6.553	9:59	10:40	
4849161043	846	BOTTOM OF ANTENA MOUNT	2m	6.553	10:54	11:57	
4849161043	137	BOTTOM OF ANTENA MOUNT	2m	6.553	12:17	1:15	
4849161043	138	BOTTOM OF ANTENA MOUNT	2m	6.553	1:38	2:16	
4849161043	848	BOTTOM OF ANTENA MOUNT	2m	6.553	2:37	6:37	

* **Antenna Mearured** = **ARP** (Antenna Reference Point) / **BNGP** (Bottom of Notch on Ground Plane / **PC** (Phase Center) / **TN** (Top of Notch) / **CB** (Center of Bumper 5800)

Baseline Processing Report

Project : TGO City of Plano 0901-3510 Static Survey

User name	mmcguinness	**Date & Time**	4:18:56 PM 6/24/2009
Coordinate System	US State Plane 1983	**Zone**	Texas North Central 4202
Project Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88	**Geoid Model**	GEOID03 (Conus)
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

Processing Summary

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B267	1003	TXCO	8822.212sft	L1 fixed	17.5	3.299	0.008m
B402	TXCO	1003	8822.247sft	L1 fixed	13.9	8.427	0.011m
B68	126	131	11665.993sft	L1 fixed	26.5	2.639	0.006m
B179	126	844	5484.851sft	L1 fixed	34.6	2.543	0.008m
B183	131	844	13440.636sft	L1 fixed	41.4	2.587	0.007m
B178	131	1003	32785.861sft	Iono free fixed	4.7	2.787	0.020m
B156	831	832	3039.130sft	L1 fixed	29.4	6.543	0.011m
B109	830	829	2244.134sft	L1 fixed	34.4	7.732	0.009m
B64	830	831	5042.744sft	L1 fixed	11.1	2.487	0.008m
B65	833	832	5164.368sft	L1 fixed	12.2	4.214	0.008m
B30	829	828	3154.335sft	L1 fixed	10.2	7.901	0.009m
B37	833	828	5136.359sft	L1 fixed	37.9	6.943	0.009m
B125	829	833	5984.869sft	L1 fixed	51.6	9.867	0.011m
B148	832	828	7689.747sft	L1 fixed	4.8	10.645	0.013m
B25	126	214	6605.231sft	L1 fixed	36.3	3.384	0.007m
B66	834	844	5781.211sft	L1 fixed	17.1	2.428	0.006m
B149	834	833	6082.280sft	L1 fixed	32.3	10.777	0.013m
B184	844	214	7834.337sft	L1 fixed	24.0	3.543	0.010m
B45	809	834	6283.865sft	L1 fixed	14.2	3.548	0.008m
B164	214	809	4249.527sft	L1 fixed	58.7	2.971	0.008m
B31	826	809	6525.771sft	L1 fixed	32.7	4.703	0.009m
B116	828	809	10529.568sft	L1 fixed	6.3	9.387	0.012m
B43	830	827	15562.739sft	L1 fixed	16.6	1.863	0.007m
B155	823	827	8733.338sft	L1 fixed	10.0	7.851	0.012m
B29	827	824	10265.338sft	L1 fixed	12.8	3.961	0.009m
B154	824	826	6074.065sft	L1 fixed	4.6	10.047	0.013m
B63	823	807	5859.500sft	L1 fixed	8.1	1.682	0.005m
B122	807	824	5617.264sft	L1 fixed	4.8	11.185	0.014m

B158	1003	832	28556.499sft	Iono free fixed	6.4	3.030	0.019m
B42	301	823	5114.251sft	L1 fixed	8.7	2.000	0.006m
B28	301	805	5400.051sft	L1 fixed	10.1	1.965	0.005m
B114	807	301	9106.627sft	L1 fixed	8.9	8.449	0.009m
B115	1002	805	30291.691sft	Iono free fixed	23.8	1.423	0.016m
B139	1002	827	21527.016sft	Iono free fixed	17.9	2.014	0.018m
B2	1003	1002	53026.283sft	Iono free fixed	16.0	2.350	0.017m
B263	1002	TXCO	61819.007sft	Iono free fixed	10.2	0.689	0.011m
B281	TXDE	1002	104344.290sft	Iono free fixed	1.9	0.898	0.013m
B285	TXDE	1003	155956.782sft	Iono free fixed	17.3	1.613	0.018m
B298	TXDE	TXCO	164461.723sft	Iono free fixed	24.7	0.562	0.012m
B472	TXCO	TXDE	164461.724sft	Iono free fixed	16.1	1.112	0.017m
B22	1005	1004	94898.589sft	Iono free fixed	7.0	1.732	0.014m
B222	848	1004	114985.736sft	Iono free fixed	14.0	2.176	0.020m
B104	846	808	5599.250sft	L1 fixed	30.9	2.235	0.008m
B224	808	802	4415.485sft	L1 fixed	40.8	9.759	0.014m
B203	802	135	4582.747sft	L1 fixed	21.0	8.200	0.011m
B190	135	137	4231.316sft	L1 fixed	12.4	9.489	0.012m
B219	137	124	5553.897sft	L1 fixed	3.2	9.491	0.012m
B105	802	124	8558.797sft	L1 fixed	39.3	3.073	0.006m
B225	846	124	5892.522sft	L1 fixed	26.9	3.468	0.008m
B96	131	808	8696.341sft	L1 fixed	50.8	1.653	0.005m
B82	131	845	6626.895sft	L1 fixed	79.2	2.285	0.006m
B83	808	801	7762.767sft	L1 fixed	52.5	3.143	0.009m
B39	126	843	5519.501sft	L1 fixed	41.1	2.789	0.007m
B60	843	845	6992.718sft	L1 fixed	59.2	3.652	0.007m
B70	136	135	5165.129sft	L1 fixed	11.5	5.055	0.009m
B84	802	136	6193.608sft	L1 fixed	69.3	4.308	0.008m
B223	801	136	4480.723sft	L1 fixed	33.9	4.953	0.010m
B167	216	842	6204.553sft	L1 fixed	7.6	6.688	0.013m
B69	801	216	5245.458sft	L1 fixed	25.9	4.491	0.009m
B182	216	845	7440.020sft	L1 fixed	6.8	6.956	0.014m
B108	849	219	1500.242sft	L1 fixed	57.8	3.567	0.008m
B87	219	847	3226.825sft	L1 fixed	103.6	3.364	0.008m
B199	849	848	6846.272sft	L1 fixed	10.3	4.549	0.007m
B209	848	847	9050.530sft	L1 fixed	5.9	10.303	0.012m
B73	847	123	3902.397sft	L1 fixed	101.8	5.980	0.010m
B206	124	849	6595.550sft	L1 fixed	4.3	4.919	0.008m
B220	123	138	3646.866sft	L1 fixed	6.9	5.187	0.010m
B200	137	219	10412.390sft	L1 fixed	6.7	9.242	0.015m
B228	138	137	4841.395sft	L1 fixed	4.1	10.403	0.014m
B218	848	846	17410.281sft	L1 fixed	32.9	3.180	0.008m
B106	800	137	5586.663sft	L1 fixed	8.4	3.171	0.009m
B107	138	318	3294.445sft	L1 fixed	13.9	3.285	0.009m

B86	318	841	2253.653sft	L1 fixed	10.6	9.435	0.014m
B189	800	318	4587.304sft	L1 fixed	30.7	5.141	0.009m
B202	136	800	4637.019sft	L1 fixed	26.2	4.617	0.009m
B71	842	317	4065.084sft	L1 fixed	7.8	6.008	0.010m
B171	106	317	5064.887sft	L1 fixed	7.5	3.676	0.007m
B186	317	217	2187.477sft	L1 fixed	13.1	1.985	0.005m
B72	841	217	5227.105sft	L1 fixed	10.9	7.998	0.010m
B85	800	842	5332.278sft	L1 fixed	7.6	7.861	0.013m
B157	842	841	7311.035sft	L1 fixed	5.6	8.476	0.011m
B61	848	131	31655.965sft	Iono free fixed	4.1	1.713	0.019m
B185	840	843	12987.343sft	L1 fixed	5.8	6.700	0.009m
B152	821	838	5202.487sft	L1 fixed	90.1	6.661	0.013m
B7	838	840	6025.142sft	L1 fixed	15.8	9.113	0.013m
B160	825	824	5064.689sft	L1 fixed	78.3	2.412	0.006m
B62	806	825	5538.297sft	L1 fixed	11.1	2.282	0.006m
B128	821	803	7635.591sft	L1 fixed	19.9	8.483	0.015m
B153	825	803	11031.426sft	L1 fixed	28.9	6.470	0.012m
B129	825	505	10568.820sft	L1 fixed	4.3	7.796	0.008m
B23	840	106	7571.109sft	L1 fixed	13.2	6.546	0.011m
B3	838	837	6591.141sft	L1 fixed	61.2	2.822	0.007m
B81	822	837	5873.764sft	L1 fixed	27.2	3.953	0.008m
B102	837	106	10761.176sft	L1 fixed	46.0	3.779	0.008m
B176	822	217	20903.841sft	Iono free fixed	8.0	1.232	0.014m
B12	211	836	4229.872sft	L1 fixed	18.5	2.224	0.006m
B112	803	211	4928.707sft	L1 fixed	29.3	8.215	0.012m
B8	836	822	6340.820sft	L1 fixed	19.7	2.200	0.006m
B20	211	821	9373.669sft	L1 fixed	71.2	2.258	0.007m
B74	837	836	9653.407sft	L1 fixed	21.0	5.048	0.009m
B9	835	804	2502.065sft	L1 fixed	56.4	2.235	0.006m
B126	835	804	2502.072sft	L1 fixed	35.9	1.500	0.005m
B1	804	803	7111.512sft	L1 fixed	72.4	2.060	0.005m
B21	505	835	8291.731sft	L1 fixed	8.5	5.818	0.010m
B150	804	211	5989.427sft	L1 fixed	10.1	1.376	0.005m
B170	843	825	24371.598sft	Iono free fixed	5.5	1.544	0.016m
B275	1005	TXCO	47896.602sft	Iono free fixed	5.9	1.747	0.017m
B393	TXCO	1005	47896.629sft	Iono free fixed	26.1	1.535	0.016m
B258	TXDA	1005	99040.697sft	Iono free fixed	2.0	2.473	0.020m
B421	TXDA	848	76708.688sft	Iono free fixed	5.1	2.080	0.020m
B426	TXDA	848	76708.674sft	Iono free fixed	8.9	1.338	0.017m
B10	1004	1003	135168.313sft	Iono free fixed	4.0	2.218	0.020m
B208	1004	1003	135168.339sft	Iono free fixed	1.5	3.397	0.023m
B250	TXDA	1003	131614.005sft	Iono free fixed	10.0	2.123	0.019m
B254	TXDA	1004	158570.180sft	Iono free fixed	9.5	1.425	0.017m
B430	1004	TXDA	158570.225sft	Iono free fixed	25.3	1.787	0.018m

B271	1004	TXCO	127476.802sft	Iono free fixed	17.8	0.773	0.013m
B403	1004	TXCO	127476.848sft	Iono free fixed	30.4	1.283	0.016m
B27	310	820	6378.182sft	L1 fixed	19.8	2.455	0.006m
B41	806	820	6941.150sft	L1 fixed	12.8	2.428	0.006m
B119	805	310	8601.908sft	L1 fixed	64.2	4.392	0.008m
B151	805	806	12662.137sft	L1 fixed	21.1	2.610	0.007m
B113	820	505	6477.079sft	L1 fixed	12.1	10.505	0.012m
B26	1001	310	24429.367sft	Iono free fixed	7.6	0.856	0.012m
B111	310	835	13256.144sft	L1 fixed	48.8	3.654	0.007m
B134	1001	211	18475.866sft	Iono free fixed	45.5	0.863	0.011m
B332	TXDA	1001	82824.141sft	Iono free fixed	14.4	1.232	0.014m
B300	TXAR	1001	104746.017sft	Iono free fixed	33.3	0.322	0.008m
B33	848	1001	70172.929sft	Iono free fixed	3.1	1.670	0.018m
B230	TXAR	1002	159236.366sft	Iono free fixed	33.6	0.559	0.010m
B305	TXAR	1002	159236.366sft	Iono free fixed	14.7	1.812	0.018m
B242	TXAR	1005	189504.827sft	Iono free fixed	2.2	1.721	0.016m
B261	TXDA	TXAR	119995.651sft	Iono free fixed	11.8	1.053	0.017m
B363	TXAR	TXDA	119995.653sft	Iono free fixed	10.1	1.431	0.019m
B296	TXDE	TXAR	167236.943sft	Iono free fixed	45.8	0.498	0.011m
B471	TXDE	TXAR	167236.965sft	Iono free fixed	11.6	0.998	0.016m

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Baseline ID	From	To	Baseline Length (m)	Solution Type	Ratio	Reference Variance	RMS (m)
B9	835	804	762.63	L1 fixed	56.4	2.24	0.01
B126	835	804	762.63	L1 fixed	35.9	1.50	0.01
B267	1003	TXCO	2,689.02	L1 fixed	17.5	3.30	0.01
B402	TXCO	1003	2,689.03	L1 fixed	13.9	8.43	0.01
B275	1005	TXCO	14,598.91	Iono free fixed	5.9	1.75	0.02
B393	TXCO	1005	14,598.92	Iono free fixed	26.1	1.54	0.02
B426	TXDA	848	23,380.85	Iono free fixed	8.9	1.34	0.02
B421	TXDA	848	23,380.85	Iono free fixed	5.1	2.08	0.02
B261	TXDA	TXAR	36,574.75	Iono free fixed	11.8	1.05	0.02
B363	TXAR	TXDA	36,574.75	Iono free fixed	10.1	1.43	0.02
B271	1004	TXCO	38,855.01	Iono free fixed	17.8	0.77	0.01
B403	1004	TXCO	38,855.02	Iono free fixed	30.4	1.28	0.02
B10	1004	1003	41,199.38	Iono free fixed	4.0	2.22	0.02
B208	1004	1003	41,199.39	Iono free fixed	1.5	3.40	0.02
B254	TXDA	1004	48,332.29	Iono free fixed	9.5	1.43	0.02
B430	1004	TXDA	48,332.30	Iono free fixed	25.3	1.79	0.02
B230	TXAR	1002	48,535.34	Iono free fixed	33.6	0.56	0.01
B305	TXAR	1002	48,535.34	Iono free fixed	14.7	1.81	0.02
B298	TXDE	TXCO	50,128.03	Iono free fixed	24.7	0.56	0.01
B472	TXCO	TXDE	50,128.03	Iono free fixed	16.1	1.11	0.02
B296	TXDE	TXAR	50,973.92	Iono free fixed	45.8	0.50	0.01
B471	TXDE	TXAR	50,973.93	Iono free fixed	11.6	1.00	0.02

Loop Closure Report

Project : TGO City of Plano 0901-3510 Static Survey

User name	mmcguinness	**Date & Time**	10:39:22 AM 5/29/2009
Coordinate System	US State Plane 1983	**Zone**	Texas North Central 4202
Project Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88	**Geoid Model**	GEOID03 (Conus)
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

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Summary

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Summary

Report includes both active and inactive solutions (if any).
Report applies to current selection only.

Legs in loop:	7
Number of Loops:	4545
Number Passed:	4545
Number Failed:	0

	Length	DHoriz	DVert	PPM
Pass/Fail Criteria				10.000
Best		0.000sft	0.000sft	0.006
Worst		0.190sft	0.812sft	9.090
Average Loop	705417.449sft	0.049sft	0.006sft	0.319
Standard Deviation	186435.086sft	0.029sft	0.220sft	0.427

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Network Adjustment Report

Project : TGO City of Plano 0901-3510 Static Survey

User name	mmcguinness	**Date & Time**	10:02:10 AM 5/29/2009
Coordinate System	US State Plane 1983	**Zone**	Texas North Central 4202
Project Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88	**Geoid Model**	GEOID03 (Conus)
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

Adjustment Style Settings - 95% Confidence Limits

Residual Tolerances

To End Iterations : 0.000033sft

Final Convergence Cutoff : 0.016404sft

Covariance Display

Horizontal

Propagated Linear Error [E] : U.S.

Constant Term [C] : 0.00000000sft

Scale on Linear Error [S] : 1.96

Three-Dimensional

Propagated Linear Error [E] : U.S.

Constant Term [C] : 0.00000000sft

Scale on Linear Error [S] : 1.96

Elevation Errors were used in the calculations.

Adjustment Controls

Compute Correlations for Geoid : True

Horizontal and Vertical adjustment performed

Set-up Errors

GPS

Error in Height of Antenna : 0.000sft

Centering Error : 0.000sft

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Statistical Summary

Successful Adjustment in 1 iteration(s)

Network Reference Factor : 1.00
Chi Square Test (a=95%) : PASS
Degrees of Freedom : 198.00

GPS Observation Statistics

Reference Factor : 1.00
Redundancy Number (r) : 198.00

Individual GPS Observation Statistics

Observation ID	Reference Factor	Redundancy Number
B1	0.31	0.85
B2	0.46	2.59
B3	0.88	0.61
B7	0.89	1.56
B8	0.43	1.09
B9	0.65	2.27
B10	0.60	2.58
B12	1.01	0.90
B20	1.04	1.13
B21	1.02	1.71
B23	1.09	1.30
B25	0.58	1.11
B26	0.66	1.21
B27	0.63	0.83
B28	0.75	0.25
B29	0.49	0.84
B30	0.81	1.44
B31	0.42	0.32
B37	0.46	1.40
B39	1.37	0.93
B41	0.95	1.30
B42	0.21	0.52
B43	1.57	0.30
B45	1.17	1.35
B60	1.10	1.31
B61	0.74	1.93

B62	0.93	1.12
B63	0.69	0.43
B64	0.83	0.47
B65	0.68	1.24
B66	1.50	0.98
B68	1.42	1.26
B69	0.54	0.85
B70	0.75	1.70
B71	1.86	1.11
B72	2.22	1.60
B73	0.27	0.89
B74	0.35	1.32
B81	0.67	1.30
B82	1.51	0.88
B83	0.97	1.30
B84	0.54	1.81
B85	1.09	1.61
B86	2.09	2.19
B87	1.13	1.09
B96	1.28	0.47
B102	0.96	0.87
B104	0.59	0.81
B105	0.37	1.25
B106	0.88	1.11
B107	0.55	0.96
B108	0.47	1.22
B109	0.78	0.94
B111	0.86	0.91
B112	0.85	2.30
B113	0.92	1.85
B114	0.52	2.47
B115	1.00	2.04
B116	0.46	2.08
B119	0.75	1.19
B122	0.36	2.10
B125	0.29	1.55

B126	0.43	0.97
B128	0.78	1.85
B129	1.02	1.95
B134	0.79	1.20
B139	0.69	2.05
B148	0.74	2.41
B149	0.69	1.42
B150	0.56	0.53
B151	0.42	0.79
B152	1.55	1.70
B153	0.77	2.29
B154	0.36	1.98
B155	1.08	2.30
B156	0.90	1.12
B157	3.16	1.43
B158	1.15	1.50
B160	0.59	0.80
B164	1.62	0.64
B167	1.25	1.41
B170	0.40	2.50
B171	0.30	0.92
B176	1.10	1.52
B178	0.58	1.95
B179	1.36	1.80
B182	1.11	1.73
B183	1.18	0.93
B184	0.78	1.92
B185	1.52	1.75
B186	1.26	0.37
B189	1.28	0.41
B190	0.42	1.31
B199	0.45	1.36
B200	1.63	1.54
B202	0.89	0.87
B203	0.19	1.61
B206	0.27	1.82

B208	0.82	2.48
B209	0.58	0.93
B218	0.67	1.20
B219	0.20	2.03
B220	0.38	0.86
B223	1.20	0.83
B224	0.38	1.90
B225	0.17	1.33
B228	0.50	1.98
B230	0.72	2.05
B242	0.74	2.42
B250	0.39	2.72
B254	2.35	2.38
B258	0.24	2.56
B261	0.78	2.33
B263	1.36	2.14
B267	0.40	1.78
B271	1.20	2.23
B275	0.50	2.41
B281	0.65	2.40
B285	0.54	2.74
B296	1.79	1.16
B298	0.53	1.20
B300	0.79	0.75
B305	0.46	2.71
B332	0.21	1.85
B363	1.03	1.91
B393	0.74	1.55
B402	1.49	2.66
B403	2.16	1.70
B421	0.32	2.36
B426	1.31	2.41
B471	2.01	2.26
B472	0.87	2.26

Geoid Model Statistics

Reference Factor : 1.00

Redundancy Number (r) : 0.00

The GPS height errors exceed the geoid errors. Further scaling of the geoid errors is not recommended.

Weighting Strategies

GPS Observations

User-defined Scalar Applied to All Observations

Scalar : 3.88

Geoid Observations

User-defined Scalar Applied to All Observations

Scalar : 0.01

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Adjusted Coordinates

Adjustment performed in WGS-84

Number of Points : 67

Number of Constrained Points : 0

Adjusted Grid Coordinates

Errors are reported using 1.96s.

Point Name	Northing	N error	Easting	E error	Elevation	e error	Fix
804	7056816.857sft	0.017sft	2485082.739sft	0.014sft	620.829sft	0.044sft	
803	7060645.736sft	0.020sft	2491073.850sft	0.017sft	686.386sft	0.050sft	
1003	7110425.220sft	0.017sft	2532624.972sft	0.015sft	698.133sft	0.066sft	
1002	7105712.458sft	0.016sft	2479816.723sft	0.015sft	651.645sft	0.073sft	
838	7060953.236sft	0.024sft	2503900.282sft	0.022sft	711.926sft	0.065sft	
837	7054408.898sft	0.022sft	2504675.242sft	0.019sft	687.851sft	0.056sft	
840	7060905.826sft	0.026sft	2509924.047sft	0.025sft	654.584sft	0.085sft	
836	7056131.455sft	0.022sft	2495178.309sft	0.017sft	705.017sft	0.054sft	
822	7051540.499sft	0.023sft	2499550.536sft	0.018sft	690.685sft	0.056sft	
835	7056880.106sft	0.017sft	2482581.875sft	0.014sft	632.233sft	0.046sft	
1004	7068035.891sft	0.019sft	2660953.089sft	0.017sft	534.924sft	0.106sft	
211	7055718.887sft	0.017sft	2490969.293sft	0.014sft	692.299sft	0.043sft	
821	7061018.730sft	0.022sft	2498699.009sft	0.019sft	727.833sft	0.053sft	
505	7065045.045sft	0.032sft	2484018.612sft	0.034sft	668.924sft	0.098sft	
106	7055641.526sft	0.024sft	2515363.724sft	0.020sft	621.354sft	0.058sft	
126	7077331.764sft	0.016sft	2515228.734sft	0.013sft	643.865sft	0.042sft	

214	7077246.691sft	0.018sft	2508625.316sft	0.015sft	700.630sft	0.046sft
1001	7043042.548sft	0.016sft	2477532.051sft	0.013sft	637.286sft	0.045sft
310	7067258.444sft	0.016sft	2474337.999sft	0.013sft	614.613sft	0.049sft
820	7070143.105sft	0.021sft	2480024.995sft	0.019sft	688.091sft	0.066sft
301	7080387.851sft	0.022sft	2477696.831sft	0.020sft	699.119sft	0.060sft
805	7075847.906sft	0.018sft	2474775.501sft	0.016sft	620.282sft	0.055sft
827	7086747.604sft	0.021sft	2489995.086sft	0.020sft	719.975sft	0.058sft
824	7076648.314sft	0.021sft	2491824.587sft	0.020sft	681.482sft	0.056sft
829	7091155.160sft	0.027sft	2504121.807sft	0.024sft	749.875sft	0.070sft
828	7088003.308sft	0.031sft	2504233.977sft	0.024sft	747.350sft	0.084sft
826	7076770.008sft	0.030sft	2497896.322sft	0.024sft	725.162sft	0.062sft
809	7077476.493sft	0.020sft	2504382.685sft	0.017sft	707.468sft	0.049sft
833	7088267.269sft	0.024sft	2509362.564sft	0.021sft	704.884sft	0.066sft
843	7072003.701sft	0.018sft	2516666.147sft	0.017sft	674.585sft	0.052sft
806	7071788.473sft	0.018sft	2486767.148sft	0.018sft	663.602sft	0.058sft
823	7082727.642sft	0.025sft	2482243.562sft	0.023sft	699.198sft	0.064sft
830	7093397.792sft	0.023sft	2504062.698sft	0.020sft	708.414sft	0.060sft
834	7082252.620sft	0.021sft	2508464.673sft	0.017sft	684.620sft	0.053sft
845	7072361.349sft	0.017sft	2523648.535sft	0.015sft	636.193sft	0.046sft
848	7053643.597sft	0.017sft	2546888.812sft	0.015sft	570.161sft	0.049sft
131	7078154.755sft	0.014sft	2526863.827sft	0.012sft	607.768sft	0.039sft
825	7071606.923sft	0.020sft	2492301.551sft	0.020sft	686.574sft	0.062sft
807	7078901.093sft	0.029sft	2486679.836sft	0.025sft	698.860sft	0.068sft
831	7096124.364sft	0.027sft	2508303.461sft	0.023sft	652.834sft	0.067sft
832	7093420.124sft	0.026sft	2509689.301sft	0.021sft	642.547sft	0.070sft
844	7082723.170sft	0.016sft	2514225.803sft	0.013sft	679.380sft	0.042sft
801	7067350.914sft	0.020sft	2525356.899sft	0.017sft	595.838sft	0.046sft
216	7065675.392sft	0.025sft	2520387.402sft	0.019sft	651.837sft	0.049sft
136	7062879.082sft	0.020sft	2525626.806sft	0.017sft	619.301sft	0.047sft
135	7062913.310sft	0.023sft	2530790.498sft	0.020sft	544.116sft	0.061sft
842	7059471.813sft	0.032sft	2520408.592sft	0.021sft	662.331sft	0.051sft
317	7055407.388sft	0.026sft	2520422.385sft	0.021sft	641.045sft	0.056sft
841	7054236.430sft	0.035sft	2525509.966sft	0.031sft	613.614sft	0.087sft
217	7053220.657sft	0.026sft	2520383.397sft	0.023sft	623.635sft	0.062sft
847	7055061.184sft	0.020sft	2537951.384sft	0.017sft	548.206sft	0.066sft
123	7055807.894sft	0.030sft	2534121.929sft	0.023sft	591.369sft	0.070sft

808	7071207.554sft	0.015sft	2532092.493sft	0.013sft	577.539sft	0.040sft
802	7067399.631sft	0.020sft	2529858.734sft	0.019sft	551.862sft	0.056sft
800	7058242.910sft	0.021sft	2525596.408sft	0.017sft	636.916sft	0.047sft
318	7054200.466sft	0.024sft	2527763.070sft	0.020sft	602.406sft	0.054sft
219	7055662.289sft	0.026sft	2541121.182sft	0.019sft	529.766sft	0.061sft
846	7067325.617sft	0.018sft	2536126.434sft	0.016sft	580.694sft	0.046sft
124	7061435.452sft	0.020sft	2535995.458sft	0.021sft	566.481sft	0.055sft
137	7058699.297sft	0.021sft	2531163.318sft	0.018sft	585.565sft	0.051sft
138	7053860.231sft	0.026sft	2531039.361sft	0.022sft	586.701sft	0.064sft
849	7057158.489sft	0.022sft	2541014.946sft	0.020sft	542.802sft	0.062sft
TXAR	6962112.442sft	0.015sft	2411057.583sft	0.013sft	561.795sft	0.049sft
1005	7071011.379sft	0.043sft	2566115.258sft	0.033sft	561.954sft	0.161sft
TXDA	6978860.097sft	0.016sft	2529861.939sft	0.014sft	616.714sft	0.055sft
TXCO	7111974.860sft	0.016sft	2541308.295sft	0.013sft	619.456sft	0.066sft
TXDE	7125915.284sft	0.015sft	2377463.033sft	0.013sft	678.047sft	0.060sft

Adjusted Geodetic Coordinates

Errors are reported using 1.96s.

Point Name	Latitude	N error	Longitude	E error	Height	h error	Fix
804	33°00'58.63335"N	0.017sft	96°48'52.38987"W	0.014sft	534.286sft	0.041sft	
803	33°01'35.55917"N	0.020sft	96°47'41.30264"W	0.017sft	600.112sft	0.047sft	
1003	33°09'41.11522"N	0.017sft	96°39'23.03520"W	0.015sft	613.696sft	0.064sft	
1002	33°09'03.22911"N	0.016sft	96°49'45.09904"W	0.015sft	565.935sft	0.071sft	
838	33°01'36.51622"N	0.024sft	96°45'10.59737"W	0.022sft	626.102sft	0.063sft	
837	33°00'31.64023"N	0.022sft	96°45'02.77546"W	0.019sft	601.983sft	0.053sft	
840	33°01'35.05037"N	0.026sft	96°43'59.85821"W	0.025sft	568.958sft	0.083sft	
836	33°00'50.23378"N	0.022sft	96°46'53.96326"W	0.017sft	618.835sft	0.051sft	
822	33°00'04.10102"N	0.023sft	96°46'03.50818"W	0.018sft	604.607sft	0.053sft	
835	33°00'59.65518"N	0.017sft	96°49'21.74733"W	0.014sft	545.600sft	0.042sft	
1004	33°02'16.95195"N	0.019sft	96°14'24.39672"W	0.017sft	451.537sft	0.105sft	
211	33°00'46.83038"N	0.017sft	96°47'43.46965"W	0.014sft	605.958sft	0.040sft	
821	33°01'38.01591"N	0.022sft	96°46'11.67349"W	0.019sft	641.834sft	0.050sft	
505	33°02'20.21088"N	0.032sft	96°49'03.33900"W	0.034sft	582.461sft	0.097sft	
106	33°00'42.05702"N	0.024sft	96°42'57.02036"W	0.020sft	535.854sft	0.056sft	
126	33°04'16.67659"N	0.016sft	96°42'54.27753"W	0.013sft	558.603sft	0.039sft	
214	33°04'16.93833"N	0.018sft	96°44'11.88985"W	0.015sft	615.175sft	0.043sft	

1001	32°58'43.54072"N	0.016sft	96°50'23.61931"W	0.013sft	550.304sft	0.042sft
310	33°02'43.62965"N	0.016sft	96°50'56.64585"W	0.013sft	527.840sft	0.046sft
820	33°03'11.28085"N	0.021sft	96°49'49.29893"W	0.019sft	601.572sft	0.064sft
301	33°04'53.00618"N	0.022sft	96°50'14.74658"W	0.020sft	612.717sft	0.058sft
805	33°04'08.54476"N	0.018sft	96°50'49.91859"W	0.016sft	533.682sft	0.053sft
827	33°05'53.97898"N	0.021sft	96°47'49.00245"W	0.020sft	634.124sft	0.056sft
824	33°04'13.76508"N	0.021sft	96°47'29.42835"W	0.020sft	595.483sft	0.054sft
829	33°06'35.28918"N	0.027sft	96°45'02.08802"W	0.024sft	664.533sft	0.068sft
828	33°06'04.08735"N	0.031sft	96°45'01.38651"W	0.024sft	661.952sft	0.082sft
826	33°04'13.98638"N	0.030sft	96°46'18.05724"W	0.024sft	639.367sft	0.060sft
809	33°04'19.91379"N	0.020sft	96°45'01.69940"W	0.017sft	621.888sft	0.046sft
833	33°06'05.84970"N	0.024sft	96°44'01.04895"W	0.021sft	619.629sft	0.064sft
843	33°03'23.72055"N	0.018sft	96°42'38.45331"W	0.017sft	589.299sft	0.049sft
806	33°03'26.49260"N	0.018sft	96°48'29.77720"W	0.018sft	577.344sft	0.055sft
823	33°05'15.44045"N	0.025sft	96°49'20.87284"W	0.023sft	613.004sft	0.062sft
830	33°06'57.48671"N	0.023sft	96°45'02.34385"W	0.020sft	623.115sft	0.058sft
834	33°05'06.49208"N	0.021sft	96°44'12.79021"W	0.017sft	599.239sft	0.050sft
845	33°03'26.07476"N	0.017sft	96°41'16.34636"W	0.015sft	551.111sft	0.043sft
848	33°00'16.84006"N	0.017sft	96°36'47.25334"W	0.015sft	485.622sft	0.046sft
131	33°04'22.84209"N	0.014sft	96°40'37.38919"W	0.012sft	522.832sft	0.035sft
825	33°03'23.80983"N	0.020sft	96°47'24.78788"W	0.020sft	600.504sft	0.059sft
807	33°04'36.87743"N	0.029sft	96°48'29.45714"W	0.025sft	612.733sft	0.066sft
831	33°07'23.76087"N	0.027sft	96°44'11.94814"W	0.023sft	567.695sft	0.065sft
832	33°06'56.77574"N	0.026sft	96°43'56.18889"W	0.021sft	557.391sft	0.068sft
844	33°05'10.18574"N	0.016sft	96°43'04.98803"W	0.013sft	594.164sft	0.039sft
801	33°02'36.21129"N	0.020sft	96°40'57.29354"W	0.017sft	510.757sft	0.043sft
216	33°02'20.48107"N	0.025sft	96°41'56.00789"W	0.019sft	566.594sft	0.047sft
136	33°01'51.92229"N	0.020sft	96°40'55.03212"W	0.017sft	534.190sft	0.044sft
135	33°01'51.37262"N	0.023sft	96°39'54.37579"W	0.020sft	459.156sft	0.058sft
842	33°01'19.10114"N	0.032sft	96°41'57.00824"W	0.021sft	577.031sft	0.048sft
317	33°00'38.88652"N	0.026sft	96°41'57.66449"W	0.021sft	555.708sft	0.054sft
841	33°00'26.43458"N	0.035sft	96°40'58.16053"W	0.031sft	528.431sft	0.085sft
217	33°00'17.25820"N	0.026sft	96°41'58.56244"W	0.023sft	538.277sft	0.060sft
847	33°00'32.44123"N	0.020sft	96°38'31.90034"W	0.017sft	463.409sft	0.064sft
123	33°00'40.49675"N	0.030sft	96°39'16.71326"W	0.023sft	506.461sft	0.068sft
808	33°03'13.20743"N	0.015sft	96°39'37.37737"W	0.013sft	492.681sft	0.036sft

802	33°02'35.91956"N	0.020sft	96°40'04.40062"W	0.019sft	466.910sft	0.053sft
800	33°01'06.05869"N	0.021sft	96°40'56.33143"W	0.017sft	551.767sft	0.044sft
318	33°00'25.69236"N	0.024sft	96°40'31.71144"W	0.020sft	517.293sft	0.051sft
219	33°00'37.83214"N	0.026sft	96°37'54.55395"W	0.019sft	445.066sft	0.059sft
846	33°02'34.09970"N	0.018sft	96°38'50.78973"W	0.016sft	495.919sft	0.042sft
124	33°01'35.84757"N	0.020sft	96°38'53.54805"W	0.021sft	481.662sft	0.053sft
137	33°01'09.61620"N	0.021sft	96°39'50.86194"W	0.018sft	500.587sft	0.048sft
138	33°00'21.76152"N	0.026sft	96°39'53.31051"W	0.022sft	501.689sft	0.062sft
849	33°00'52.65365"N	0.022sft	96°37'55.48901"W	0.020sft	458.106sft	0.059sft
TXAR	32°45'32.49978"N	0.015sft	97°03'36.99020"W	0.013sft	472.507sft	0.046sft
1005	33°03'05.19371"N	0.043sft	96°32'57.71715"W	0.033sft	477.873sft	0.160sft
TXDA	32°47'59.92722"N	0.016sft	96°40'22.45372"W	0.014sft	531.240sft	0.053sft
TXCO	33°09'54.92700"N	0.016sft	96°37'40.57198"W	0.013sft	535.137sft	0.064sft
TXDE	33°12'37.61271"N	0.015sft	97°09'45.97081"W	0.013sft	590.491sft	0.057sft

Coordinate Deltas

Point Name	DNorthing	DEasting	DElevation	DHeight	DGeoid Separation
804	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
803	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
1003	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
1002	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
838	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
837	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
840	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
836	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
822	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
835	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
1004	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
211	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
821	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
505	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
106	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
126	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
214	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
1001	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
310	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft

820	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
301	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
805	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
827	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
824	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
829	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
828	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
826	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
809	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
833	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
843	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
806	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
823	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
830	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
834	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
845	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
848	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
131	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
825	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
807	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
831	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
832	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
844	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
801	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
216	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
136	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
135	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
842	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
317	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
841	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
217	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
847	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
123	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
808	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
802	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
800	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft

318	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
219	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
846	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
124	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
137	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
138	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
849	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
TXAR	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
1005	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
TXDA	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
TXCO	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft
TXDE	0.000sft	0.000sft	0.000sft	0.000sft	0.000sft

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Control Coordinate Comparisons

Values shown are control coord minus adjusted coord.

Point Name	DNorthing	DEasting	DElevation	DHeight
1003	-0.084sft	0.100sft	-0.156sft	-0.167sft
1002	N/A	N/A	0.187sft	N/A
1004	0.024sft	-0.010sft	0.049sft	0.026sft
1001	0.008sft	-0.048sft	N/A	-0.036sft
TXAR	-0.004sft	-0.007sft	N/A	-0.002sft
TXDA	0.005sft	-0.014sft	N/A	-0.051sft
TXCO	0.006sft	0.025sft	N/A	-0.056sft
TXDE	0.019sft	-0.001sft	N/A	-0.010sft

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Adjusted Observations

Adjustment performed in WGS-84

GPS Observations

Number of Observations : 132
Number of Outliers : 0

Observation Adjustment (Critical Tau = 3.81). Any outliers are in red.

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96s)	Residual	Stand. Residual
B403	1004	TXCO	**Az.**	N68°36'06.7439"W	0°00'00.0191"	0°00'00.0154"	1.11
			DHt.	83.599sft	0.099sft	-0.113sft	-1.75
			Dist.	127474.037sft	0.012sft	-0.022sft	-3.74
B72	841	217	**Az.**	S79°47'01.3635"W	0°00'01.2543"	0°00'00.9015"	1.92
			DHt.	9.847sft	0.090sft	-0.045sft	-0.55
			Dist.	5226.897sft	0.031sft	-0.067sft	-3.66
B86	318	841	**Az.**	N88°05'25.5774"W	0°00'03.5339"	-0°00'04.7004"	-1.91
			DHt.	11.138sft	0.091sft	0.062sft	0.48
			Dist.	2253.678sft	0.033sft	0.107sft	3.50
B471	TXDE	TXAR	**Az.**	S10°51'39.0218"E	0°00'00.0063"	0°00'00.0035"	0.63
			DHt.	-117.984sft	0.046sft	0.000sft	0.00
			Dist.	167233.093sft	0.006sft	-0.016sft	-3.23
B254	TXDA	1004	**Az.**	N56°46'16.4206"E	0°00'00.0197"	0°00'00.0636"	2.84
			DHt.	-79.703sft	0.113sft	0.011sft	0.07
			Dist.	158566.855sft	0.015sft	0.040sft	2.98
B296	TXDE	TXAR	**Az.**	S10°51'39.0218"E	0°00'00.0063"	-0°00'00.0016"	-0.65
			DHt.	-117.984sft	0.046sft	0.014sft	0.72
			Dist.	167233.093sft	0.006sft	0.006sft	2.91
B157	842	841	**Az.**	S43°16'30.2553"E	0°00'00.9345"	-0°00'01.5747"	-2.77
			DHt.	-48.600sft	0.076sft	0.003sft	0.15
			Dist.	7310.735sft	0.038sft	0.052sft	1.35
B200	137	219	**Az.**	S72°02'15.9155"E	0°00'00.4837"	-0°00'00.7414"	-2.52
			DHt.	-55.521sft	0.050sft	-0.004sft	-0.18
			Dist.	10412.014sft	0.021sft	0.004sft	0.31
B82	131	845	**Az.**	S30°01'26.9072"W	0°00'00.3366"	-0°00'00.1597"	-1.59
			DHt.	28.278sft	0.032sft	-0.008sft	-0.58
			Dist.	6626.677sft	0.012sft	0.010sft	2.43
B71	842	317	**Az.**	S0°47'15.7938"W	0°00'01.1230"	0°00'00.2179"	0.49
			DHt.	-21.323sft	0.051sft	-0.012sft	-0.82
			Dist.	4064.965sft	0.035sft	0.046sft	2.38
B43	830	827	**Az.**	S65°39'09.2910"W	0°00'00.1942"	0°00'00.0526"	1.56
			DHt.	11.009sft	0.037sft	-0.003sft	-0.56

			Dist.	15562.268sft	0.016sft	-0.007sft	-2.29
B179	126	844	**Az.**	N9°33'51.9967"W	0°00'00.3455"	-0°00'00.4698"	-2.24
			DHt.	35.562sft	0.026sft	-0.014sft	-0.89
			Dist.	5484.595sft	0.012sft	0.009sft	0.98
B402	TXCO	1003	**Az.**	S80°54'08.8529"W	0°00'00.2585"	0°00'00.8321"	2.24
			DHt.	78.559sft	0.076sft	0.066sft	0.63
			Dist.	8821.622sft	0.012sft	-0.033sft	-1.69
B39	126	843	**Az.**	S14°07'27.9124"E	0°00'00.5335"	0°00'00.0203"	0.10
			DHt.	30.696sft	0.038sft	0.002sft	0.17
			Dist.	5519.255sft	0.014sft	-0.010sft	-2.17
B66	834	844	**Az.**	N86°17'31.9706"E	0°00'00.6934"	0°00'00.6521"	2.15
			DHt.	-5.075sft	0.041sft	-0.012sft	-0.73
			Dist.	5781.050sft	0.014sft	0.004sft	0.87
B164	214	809	**Az.**	N85°56'16.3717"W	0°00'00.6883"	-0°00'00.2920"	-1.80
			DHt.	6.713sft	0.032sft	0.020sft	2.11
			Dist.	4249.392sft	0.013sft	-0.007sft	-1.48
B152	821	838	**Az.**	S88°20'05.9659"E	0°00'01.0676"	-0°00'00.4342"	-0.53
			DHt.	-15.732sft	0.061sft	-0.012sft	-0.30
			Dist.	5202.347sft	0.024sft	0.040sft	2.05
B185	840	843	**Az.**	N32°14'33.9597"E	0°00'00.4600"	0°00'00.7025"	2.03
			DHt.	20.341sft	0.096sft	-0.013sft	-0.12
			Dist.	12986.981sft	0.032sft	0.009sft	0.32
B68	126	131	**Az.**	N86°55'38.9688"E	0°00'00.1879"	0°00'00.0977"	1.21
			DHt.	-35.770sft	0.025sft	-0.007sft	-0.67
			Dist.	11665.649sft	0.008sft	0.007sft	1.98
B186	317	217	**Az.**	S2°00'12.6958"W	0°00'01.3350"	0°00'00.2527"	0.93
			DHt.	-17.431sft	0.038sft	-0.010sft	-1.21
			Dist.	2187.356sft	0.014sft	0.005sft	1.92
B271	1004	TXCO	**Az.**	N68°36'06.7439"W	0°00'00.0191"	0°00'00.0011"	0.08
			DHt.	83.599sft	0.099sft	-0.140sft	-1.21
			Dist.	127474.037sft	0.012sft	0.024sft	1.91
B189	800	318	**Az.**	S27°11'56.3288"E	0°00'00.6661"	0°00'00.2982"	1.86
			DHt.	-34.474sft	0.029sft	0.006sft	1.08
			Dist.	4587.061sft	0.015sft	0.003sft	0.84

B60	843	845	**Az.**	N88°02'37.2164"E	0°00'00.4763"	-0°00'00.3951"	-1.81
			DHt.	-38.188sft	0.042sft	-0.012sft	-0.60
			Dist.	6992.432sft	0.015sft	0.006sft	0.76
B21	505	835	**Az.**	S10°53'50.6914"W	0°00'00.8645"	0°00'00.3332"	0.67
			DHt.	-36.860sft	0.093sft	0.086sft	1.77
			Dist.	8291.437sft	0.030sft	0.010sft	0.43
B263	1002	TXCO	**Az.**	N85°05'45.7724"E	0°00'00.0358"	-0°00'00.0268"	-0.91
			DHt.	-30.798sft	0.083sft	0.008sft	0.10
			Dist.	61817.404sft	0.010sft	-0.016sft	-1.76
B158	1003	832	**Az.**	S54°27'04.8765"W	0°00'00.1865"	0°00'00.0317"	0.30
			DHt.	-56.305sft	0.077sft	-0.026sft	-0.78
			Dist.	28555.631sft	0.027sft	-0.026sft	-1.73
B96	131	808	**Az.**	S35°58'19.0519"E	0°00'00.2286"	-0°00'00.0834"	-1.49
			DHt.	-30.152sft	0.026sft	-0.009sft	-1.67
			Dist.	8696.080sft	0.010sft	-0.001sft	-0.54
B363	TXAR	TXDA	**Az.**	N82°45'43.1633"E	0°00'00.0171"	0°00'00.0151"	1.61
			DHt.	58.733sft	0.049sft	0.046sft	0.83
			Dist.	119992.931sft	0.009sft	0.003sft	0.66
B167	216	842	**Az.**	S0°47'11.7805"W	0°00'00.7430"	-0°00'00.4584"	-1.27
			DHt.	10.437sft	0.050sft	0.019sft	0.88
			Dist.	6204.404sft	0.034sft	0.028sft	1.61
B23	840	106	**Az.**	S44°58'30.3919"E	0°00'00.7131"	-0°00'00.0675"	-0.20
			DHt.	-33.104sft	0.082sft	0.059sft	1.54
			Dist.	7570.834sft	0.019sft	-0.006sft	-0.75
B115	1002	805	**Az.**	S10°29'33.4528"W	0°00'00.1187"	-0°00'00.1604"	-1.53
			DHt.	-32.253sft	0.077sft	0.004sft	0.08
			Dist.	30290.890sft	0.020sft	0.001sft	0.05
B223	801	136	**Az.**	S2°27'46.1080"E	0°00'00.6250"	-0°00'00.1629"	-0.84
			DHt.	23.433sft	0.032sft	-0.014sft	-1.53
			Dist.	4480.541sft	0.018sft	-0.010sft	-1.53
B87	219	847	**Az.**	S80°16'51.9717"W	0°00'01.4552"	0°00'01.2793"	1.52
			DHt.	18.343sft	0.053sft	0.027sft	1.06
			Dist.	3226.700sft	0.014sft	-0.004sft	-0.87
B472	TXCO	TXDE	**Az.**	N84°06'55.1055"W	0°00'00.0075"	-0°00'00.0007"	-0.10

			DHt.	55.354sft	0.048sft	0.067sft	1.49
			Dist.	164457.718sft	0.005sft	0.000sft	-0.04
B182	845	216	**Az.**	S26°59'22.2830"W	0°00'00.6097"	-0°00'00.5380"	-1.46
			DHt.	15.483sft	0.048sft	0.005sft	0.23
			Dist.	7439.833sft	0.024sft	0.025sft	1.47
B156	831	832	**Az.**	S26°10'19.3250"E	0°00'01.4861"	0°00'00.7523"	1.44
			DHt.	-10.304sft	0.061sft	-0.021sft	-0.73
			Dist.	3039.047sft	0.026sft	0.014sft	0.93
B183	131	844	**Az.**	N69°07'54.3561"W	0°00'00.1597"	0°00'00.0792"	1.43
			DHt.	71.332sft	0.024sft	0.006sft	0.71
			Dist.	13440.091sft	0.009sft	-0.003sft	-1.08
B209	848	847	**Az.**	N79°57'29.4257"W	0°00'00.2865"	-0°00'00.0825"	-1.43
			DHt.	-22.213sft	0.061sft	0.004sft	0.09
			Dist.	9050.303sft	0.010sft	0.001sft	0.73
B111	310	835	**Az.**	S37°33'39.3490"E	0°00'00.1813"	-0°00'00.0763"	-1.38
			DHt.	17.761sft	0.038sft	0.010sft	0.85
			Dist.	13255.795sft	0.013sft	-0.002sft	-0.31
B12	211	836	**Az.**	N85°19'53.1411"E	0°00'01.0957"	0°00'00.6961"	1.07
			DHt.	12.876sft	0.048sft	-0.020sft	-0.76
			Dist.	4229.725sft	0.014sft	-0.005sft	-1.36
B7	838	840	**Az.**	S88°35'46.4024"E	0°00'00.8164"	-0°00'00.1053"	-0.26
			DHt.	-57.144sft	0.085sft	0.032sft	0.65
			Dist.	6024.718sft	0.024sft	0.017sft	1.35
B61	848	131	**Az.**	N38°13'07.8888"W	0°00'00.0909"	0°00'00.0297"	0.59
			DHt.	37.211sft	0.048sft	-0.033sft	-0.43
			Dist.	31655.204sft	0.016sft	0.011sft	1.34
B112	803	211	**Az.**	S2°08'44.6568"W	0°00'00.4777"	-0°00'00.3117"	-0.63
			DHt.	5.847sft	0.031sft	0.019sft	0.58
			Dist.	4928.585sft	0.015sft	0.022sft	1.34
B41	806	820	**Az.**	S77°12'29.3585"W	0°00'00.5622"	0°00'00.0281"	0.11
			DHt.	24.229sft	0.059sft	0.009sft	0.32
			Dist.	6940.903sft	0.017sft	-0.011sft	-1.33
B119	805	310	**Az.**	S3°49'02.1169"W	0°00'00.3208"	-0°00'00.1598"	-1.29
			DHt.	-5.842sft	0.047sft	0.003sft	0.14

			Dist.	8601.693sft	0.015sft	0.003sft	0.36
B62	806	825	**Az.**	S87°11'54.5677"E	0°00'00.6744"	0°00'00.1644"	0.55
			DHt.	23.160sft	0.059sft	0.002sft	0.07
			Dist.	5538.085sft	0.019sft	-0.010sft	-1.27
B184	844	214	**Az.**	S46°36'47.7844"W	0°00'00.3543"	-0°00'00.2770"	-0.87
			DHt.	21.010sft	0.032sft	0.029sft	1.26
			Dist.	7834.086sft	0.013sft	0.001sft	0.10
B113	820	505	**Az.**	S37°09'47.2377"E	0°00'00.9364"	-0°00'00.8575"	-1.26
			DHt.	-19.112sft	0.099sft	0.064sft	0.81
			Dist.	6476.872sft	0.036sft	0.003sft	0.10
B64	830	831	**Az.**	N58°12'55.2357"E	0°00'00.6801"	0°00'00.0833"	0.56
			DHt.	-55.420sft	0.045sft	0.002sft	0.20
			Dist.	5042.292sft	0.019sft	-0.006sft	-1.25
B128	821	803	**Az.**	S88°08'35.2134"W	0°00'00.5575"	-0°00'00.5373"	-1.24
			DHt.	-41.723sft	0.042sft	0.015sft	0.49
			Dist.	7635.248sft	0.017sft	-0.005sft	-0.33
B30	829	828	**Az.**	S1°05'02.7254"E	0°00'01.4131"	0°00'00.8525"	1.21
			DHt.	-2.581sft	0.081sft	-0.029sft	-0.57
			Dist.	3154.248sft	0.026sft	0.013sft	1.03
B176	822	217	**Az.**	N86°20'02.2249"E	0°00'00.2458"	-0°00'00.1522"	-1.20
			DHt.	-66.329sft	0.061sft	0.014sft	0.44
			Dist.	20903.158sft	0.024sft	-0.016sft	-1.20
B83	808	801	**Az.**	S61°12'32.0239"W	0°00'00.4879"	0°00'00.1759"	0.70
			DHt.	18.076sft	0.038sft	-0.007sft	-0.36
			Dist.	7762.554sft	0.015sft	-0.009sft	-1.19
B3	838	837	**Az.**	S5°48'01.7942"E	0°00'00.4937"	-0°00'00.1210"	-0.95
			DHt.	-24.119sft	0.053sft	-0.015sft	-0.94
			Dist.	6590.901sft	0.014sft	-0.004sft	-1.19
B45	809	834	**Az.**	N41°28'24.7156"E	0°00'00.6376"	0°00'00.4250"	1.18
			DHt.	-22.649sft	0.044sft	0.008sft	0.34
			Dist.	6283.635sft	0.017sft	-0.008sft	-0.99
B155	823	827	**Az.**	N63°30'12.6913"E	0°00'00.6473"	0°00'00.6306"	1.16
			DHt.	21.120sft	0.074sft	-0.037sft	-0.47
			Dist.	8733.018sft	0.029sft	-0.037sft	-1.18

B20	211	821	**Az.**	N56°29'36.1744"E	0°00'00.3673"	0°00'00.2771"	1.18
			DHt.	35.876sft	0.037sft	-0.024sft	-0.97
			Dist.	9373.324sft	0.016sft	-0.001sft	-0.08
B106	800	137	**Az.**	N86°18'16.6165"E	0°00'00.6478"	-0°00'00.2472"	-0.86
			DHt.	-51.180sft	0.033sft	-0.004sft	-0.34
			Dist.	5586.297sft	0.014sft	0.007sft	1.15
B81	822	837	**Az.**	N61°42'29.6194"E	0°00'00.5424"	0°00'00.2722"	1.14
			DHt.	-2.624sft	0.042sft	0.010sft	0.43
			Dist.	5873.592sft	0.016sft	-0.004sft	-0.40
B70	136	135	**Az.**	S89°23'17.6318"E	0°00'00.7468"	-0°00'00.6184"	-1.13
			DHt.	-75.034sft	0.051sft	-0.034sft	-0.82
			Dist.	5164.463sft	0.017sft	-0.001sft	-0.12
B28	301	805	**Az.**	S33°40'00.9376"W	0°00'00.5583"	0°00'00.0336"	0.36
			DHt.	-79.035sft	0.033sft	0.004sft	0.81
			Dist.	5399.323sft	0.015sft	-0.003sft	-1.12
B102	837	106	**Az.**	N84°22'32.0465"E	0°00'00.3291"	0°00'00.0343"	0.28
			DHt.	-66.129sft	0.046sft	-0.020sft	-1.11
			Dist.	10760.691sft	0.017sft	0.006sft	0.98
B109	830	829	**Az.**	S0°33'20.6033"E	0°00'01.8957"	0°00'00.6285"	0.88
			DHt.	41.418sft	0.059sft	0.016sft	0.68
			Dist.	2243.695sft	0.024sft	0.011sft	1.10
B218	848	846	**Az.**	N37°09'35.1663"W	0°00'00.1553"	0°00'00.0128"	0.17
			DHt.	10.297sft	0.039sft	0.018sft	1.06
			Dist.	17409.870sft	0.017sft	-0.006sft	-0.58
B202	136	800	**Az.**	S1°22'01.9783"W	0°00'00.5771"	-0°00'00.1907"	-1.02
			DHt.	17.577sft	0.031sft	-0.009sft	-1.05
			Dist.	4636.861sft	0.017sft	-0.006sft	-0.85
B27	310	820	**Az.**	N64°00'16.3745"E	0°00'00.6100"	-0°00'00.0783"	-0.31
			DHt.	73.733sft	0.051sft	-0.008sft	-0.40
			Dist.	6377.582sft	0.014sft	-0.005sft	-1.05
B85	800	842	**Az.**	N75°40'54.9280"W	0°00'01.2548"	0°00'00.3012"	0.35
			DHt.	25.263sft	0.050sft	-0.022sft	-0.95
			Dist.	5332.061sft	0.024sft	-0.016sft	-1.05
B242	TXAR	1005	**Az.**	N55°42'18.3671"E	0°00'00.0485"	0°00'00.0335"	0.65

			DHt.	5.365sft	0.161sft	0.407sft	1.03
			Dist.	189501.184sft	0.027sft	0.012sft	0.53
B129	825	505	**Az.**	S52°32'44.4116"W	0°00'00.7088"	-0°00'00.2904"	-0.56
			DHt.	-18.044sft	0.103sft	0.099sft	1.03
			Dist.	10568.527sft	0.030sft	0.018sft	0.91
B104	846	808	**Az.**	N45°05'22.9648"W	0°00'00.4280"	0°00'00.0809"	0.56
			DHt.	-3.238sft	0.031sft	0.008sft	1.01
			Dist.	5599.116sft	0.015sft	-0.002sft	-0.41
B10	1004	1003	**Az.**	N70°29'16.6878"W	0°00'00.0215"	0°00'00.0049"	0.22
			DHt.	162.158sft	0.105sft	-0.167sft	-1.00
			Dist.	135165.066sft	0.016sft	0.006sft	0.26
B153	825	803	**Az.**	S7°19'23.6887"W	0°00'00.4400"	0°00'00.3137"	0.70
			DHt.	-0.393sft	0.068sft	-0.071sft	-1.00
			Dist.	11031.131sft	0.023sft	0.019sft	0.89
B393	TXCO	1005	**Az.**	S30°10'39.3394"E	0°00'00.1161"	0°00'00.0940"	0.99
			DHt.	-57.264sft	0.149sft	-0.030sft	-0.50
			Dist.	47895.444sft	0.045sft	0.001sft	0.02
B65	833	832	**Az.**	N4°35'29.6896"E	0°00'00.7296"	0°00'00.1470"	0.49
			DHt.	-62.238sft	0.069sft	0.037sft	0.85
			Dist.	5163.859sft	0.023sft	0.011sft	0.98
B426	TXDA	848	**Az.**	N13°49'23.3118"E	0°00'00.0618"	-0°00'00.0916"	-0.97
			DHt.	-45.619sft	0.069sft	0.060sft	0.62
			Dist.	76706.839sft	0.025sft	0.005sft	0.15
B300	TXAR	1001	**Az.**	N40°11'04.6048"E	0°00'00.0207"	-0°00'00.0057"	-0.81
			DHt.	77.797sft	0.028sft	-0.005sft	-0.96
			Dist.	104743.532sft	0.014sft	-0.002sft	-0.36
B208	1004	1003	**Az.**	N70°29'16.6878"W	0°00'00.0215"	0°00'00.0033"	0.06
			DHt.	162.158sft	0.105sft	0.074sft	0.73
			Dist.	135165.066sft	0.016sft	-0.021sft	-0.96
B139	1002	827	**Az.**	S27°18'39.7829"E	0°00'00.2359"	0°00'00.1932"	0.94
			DHt.	68.188sft	0.083sft	0.028sft	0.43
			Dist.	21526.310sft	0.022sft	0.011sft	0.81
B134	1001	211	**Az.**	N47°34'28.0421"E	0°00'00.1548"	0°00'00.0444"	0.61
			DHt.	55.654sft	0.035sft	-0.009sft	-0.89

			Dist.	18475.272sft	0.015sft	-0.006sft	-0.68
B63	823	807	**Az.**	S48°18'19.3191"E	0°00'00.5653"	-0°00'00.1052"	-0.89
			DHt.	-0.271sft	0.034sft	0.006sft	0.76
			Dist.	5859.329sft	0.016sft	-0.002sft	-0.60
B9	835	804	**Az.**	S87°38'11.2627"E	0°00'00.7781"	-0°00'00.5160"	-0.83
			DHt.	-11.314sft	0.018sft	-0.015sft	-0.71
			Dist.	2501.982sft	0.007sft	0.007sft	0.88
B160	825	824	**Az.**	N4°28'19.6833"W	0°00'00.7122"	-0°00'00.1934"	-0.88
			DHt.	-5.022sft	0.055sft	-0.016sft	-0.67
			Dist.	5064.548sft	0.022sft	0.005sft	0.51
B285	TXDE	1003	**Az.**	S83°34'12.6140"E	0°00'00.0148"	-0°00'00.0080"	-0.36
			DHt.	23.205sft	0.077sft	-0.146sft	-0.85
			Dist.	155952.653sft	0.012sft	-0.004sft	-0.17
B126	835	804	**Az.**	S87°38'11.2627"E	0°00'00.7781"	0°00'00.0381"	0.12
			DHt.	-11.314sft	0.018sft	0.004sft	0.83
			Dist.	2501.982sft	0.007sft	0.000sft	-0.09
B281	TXDE	1002	**Az.**	S78°06'19.3152"E	0°00'00.0194"	0°00'00.0082"	0.44
			DHt.	-24.556sft	0.078sft	-0.041sft	-0.39
			Dist.	104341.504sft	0.011sft	-0.010sft	-0.82
B298	TXDE	TXCO	**Az.**	S84°24'29.0469"E	0°00'00.0075"	-0°00'00.0004"	-0.14
			DHt.	-55.354sft	0.048sft	0.017sft	0.81
			Dist.	164457.718sft	0.005sft	0.001sft	0.57
B149	834	833	**Az.**	N9°27'08.0286"E	0°00'00.8033"	-0°00'00.2238"	-0.50
			DHt.	20.390sft	0.067sft	0.032sft	0.80
			Dist.	6082.074sft	0.027sft	0.003sft	0.18
B261	TXDA	TXAR	**Az.**	S82°58'18.1779"W	0°00'00.0171"	-0°00'00.0116"	-0.80
			DHt.	-58.733sft	0.049sft	-0.050sft	-0.62
			Dist.	119992.931sft	0.009sft	0.006sft	0.80
B108	849	219	**Az.**	S3°02'33.6160"E	0°00'02.1025"	0°00'00.6470"	0.79
			DHt.	-13.040sft	0.053sft	-0.002sft	-0.06
			Dist.	1500.157sft	0.024sft	0.003sft	0.23
B84	802	136	**Az.**	S44°06'37.8620"W	0°00'00.6243"	-0°00'00.2019"	-0.45
			DHt.	67.280sft	0.050sft	-0.003sft	-0.07
			Dist.	6193.088sft	0.016sft	-0.008sft	-0.78

B26	1001	310	**Az.**	N6°36'30.5018"W	0°00'00.0782"	-0°00'00.0092"	-0.41
			DHt.	-22.464sft	0.048sft	0.022sft	0.54
			Dist.	24428.738sft	0.012sft	0.003sft	0.77
B25	126	214	**Az.**	N89°45'52.6395"W	0°00'00.4216"	-0°00'00.1483"	-0.76
			DHt.	56.572sft	0.032sft	0.010sft	0.62
			Dist.	6604.806sft	0.011sft	0.000sft	-0.03
B178	131	1003	**Az.**	N11°06'59.0911"E	0°00'00.1310"	-0°00'00.0595"	-0.63
			DHt.	90.863sft	0.072sft	-0.002sft	-0.05
			Dist.	32784.842sft	0.024sft	-0.015sft	-0.76
B114	807	301	**Az.**	N79°40'46.4606"W	0°00'00.4946"	0°00'00.4359"	0.75
			DHt.	-0.016sft	0.045sft	0.025sft	0.53
			Dist.	9106.367sft	0.020sft	0.003sft	0.15
B2	1003	1002	**Az.**	S85°54'21.2111"W	0°00'00.0538"	-0°00'00.0332"	-0.52
			DHt.	-47.761sft	0.092sft	0.076sft	0.47
			Dist.	53024.788sft	0.014sft	-0.014sft	-0.74
B37	833	828	**Az.**	S88°01'01.3715"W	0°00'01.0001"	0°00'00.1529"	0.35
			DHt.	42.324sft	0.077sft	0.032sft	0.72
			Dist.	5136.027sft	0.020sft	-0.002sft	-0.21
B29	827	824	**Az.**	S9°20'20.5090"E	0°00'00.4104"	-0°00'00.1034"	-0.71
			DHt.	-38.641sft	0.052sft	-0.004sft	-0.23
			Dist.	10264.967sft	0.020sft	0.000sft	0.04
B116	828	809	**Az.**	S0°08'41.6089"W	0°00'00.5150"	-0°00'00.0031"	-0.01
			DHt.	-40.064sft	0.086sft	-0.041sft	-0.49
			Dist.	10529.205sft	0.036sft	0.033sft	0.70
B69	801	216	**Az.**	S72°21'32.7257"W	0°00'00.8395"	-0°00'00.0175"	-0.06
			DHt.	55.837sft	0.040sft	0.010sft	0.69
			Dist.	5245.025sft	0.015sft	-0.003sft	-0.66
B190	135	137	**Az.**	S4°03'18.5020"E	0°00'00.7808"	-0°00'00.0319"	-0.10
			DHt.	41.431sft	0.049sft	-0.001sft	-0.06
			Dist.	4231.011sft	0.019sft	-0.006sft	-0.69
B107	138	318	**Az.**	N83°04'13.1759"W	0°00'01.1428"	0°00'00.1764"	0.59
			DHt.	15.604sft	0.054sft	-0.018sft	-0.66
			Dist.	3294.328sft	0.017sft	-0.001sft	-0.16
B31	826	809	**Az.**	N84°43'35.5699"E	0°00'00.7870"	0°00'00.0004"	0.00

			DHt.	-17.480sft	0.047sft	-0.006sft	-0.65
			Dist.	6525.555sft	0.019sft	0.001sft	0.28
B305	TXAR	1002	**Az.**	N26°22'18.1651"E	0°00'00.0140"	0°00'00.0128"	0.48
			DHt.	93.428sft	0.072sft	0.051sft	0.65
			Dist.	159232.763sft	0.010sft	0.000sft	0.00
B199	849	848	**Az.**	S58°05'06.5470"E	0°00'00.5331"	-0°00'00.0930"	-0.38
			DHt.	27.516sft	0.050sft	0.001sft	0.07
			Dist.	6846.070sft	0.017sft	0.006sft	0.64
B275	1005	TXCO	**Az.**	N30°08'04.8372"W	0°00'00.1160"	-0°00'00.0273"	-0.28
			DHt.	57.264sft	0.149sft	-0.238sft	-0.62
			Dist.	47895.444sft	0.045sft	0.011sft	0.23
B148	832	828	**Az.**	S46°10'01.3819"W	0°00'00.6677"	-0°00'00.2101"	-0.17
			DHt.	104.561sft	0.088sft	-0.033sft	-0.29
			Dist.	7688.788sft	0.030sft	-0.026sft	-0.60
B230	TXAR	1002	**Az.**	N26°22'18.1651"E	0°00'00.0140"	-0°00'00.0070"	-0.60
			DHt.	93.428sft	0.072sft	0.035sft	0.43
			Dist.	159232.763sft	0.010sft	0.000sft	0.07
B154	824	826	**Az.**	N89°47'00.9124"E	0°00'01.2117"	-0°00'00.0523"	-0.05
			DHt.	43.885sft	0.074sft	-0.029sft	-0.60
			Dist.	6073.728sft	0.030sft	-0.001sft	-0.04
B150	804	211	**Az.**	S78°30'54.9623"E	0°00'00.3507"	-0°00'00.0524"	-0.56
			DHt.	71.672sft	0.018sft	0.002sft	0.59
			Dist.	5988.838sft	0.007sft	0.000sft	0.06
B105	802	124	**Az.**	S44°49'03.6991"E	0°00'00.3605"	-0°00'00.0587"	-0.33
			DHt.	14.752sft	0.050sft	-0.015sft	-0.57
			Dist.	8558.590sft	0.020sft	-0.003sft	-0.37
B151	805	806	**Az.**	S70°23'47.3853"E	0°00'00.2198"	-0°00'00.0370"	-0.46
			DHt.	43.662sft	0.044sft	0.009sft	0.57
			Dist.	12661.731sft	0.013sft	0.000sft	-0.07
B250	TXDA	1003	**Az.**	N2°11'58.5980"E	0°00'00.0228"	-0°00'00.0078"	-0.21
			DHt.	82.455sft	0.082sft	-0.110sft	-0.57
			Dist.	131610.580sft	0.014sft	-0.004sft	-0.19
B122	807	824	**Az.**	S65°25'46.8823"E	0°00'01.1163"	-0°00'00.5383"	-0.54
			DHt.	-17.250sft	0.070sft	0.017sft	0.36

			Dist.	5617.073sft	0.029sft	-0.004sft	-0.16
B228	138	137	**Az.**	N2°28'05.7596"E	0°00'00.8577"	-0°00'00.2913"	-0.42
			DHt.	-1.101sft	0.052sft	0.012sft	0.43
			Dist.	4841.269sft	0.024sft	-0.011sft	-0.54
B170	825	843	**Az.**	N89°59'58.2796"E	0°00'00.2508"	-0°00'00.2312"	-0.49
			DHt.	-11.205sft	0.083sft	-0.081sft	-0.44
			Dist.	24370.931sft	0.027sft	0.017sft	0.50
B125	829	833	**Az.**	S60°11'20.9529"E	0°00'00.8057"	0°00'00.0204"	0.04
			DHt.	-44.905sft	0.061sft	-0.001sft	-0.03
			Dist.	5984.525sft	0.020sft	0.006sft	0.47
B73	847	123	**Az.**	N77°57'10.9964"W	0°00'01.4853"	0°00'00.0414"	0.06
			DHt.	43.052sft	0.057sft	0.000sft	0.01
			Dist.	3902.073sft	0.019sft	0.003sft	0.46
B220	123	138	**Az.**	S58°43'13.6652"W	0°00'01.4678"	0°00'00.2408"	0.43
			DHt.	-4.772sft	0.048sft	-0.004sft	-0.29
			Dist.	3646.778sft	0.023sft	0.002sft	0.29
B171	106	317	**Az.**	S86°22'36.8683"E	0°00'00.8652"	0°00'00.0203"	0.07
			DHt.	19.855sft	0.052sft	-0.002sft	-0.08
			Dist.	5064.721sft	0.020sft	0.003sft	0.43
B1	804	803	**Az.**	N58°20'12.7065"E	0°00'00.3282"	0°00'00.0052"	0.06
			DHt.	65.825sft	0.029sft	-0.002sft	-0.13
			Dist.	7111.019sft	0.012sft	0.002sft	0.42
B421	TXDA	848	**Az.**	N13°49'23.3118"E	0°00'00.0618"	-0°00'00.0296"	-0.41
			DHt.	-45.619sft	0.069sft	-0.009sft	-0.15
			Dist.	76706.839sft	0.025sft	-0.009sft	-0.35
B206	124	849	**Az.**	S48°33'23.9831"E	0°00'00.6006"	0°00'00.2124"	0.39
			DHt.	-23.556sft	0.063sft	-0.026sft	-0.34
			Dist.	6595.358sft	0.023sft	-0.004sft	-0.21
B224	808	802	**Az.**	S31°23'58.4072"W	0°00'00.8479"	-0°00'00.1798"	-0.38
			DHt.	-25.771sft	0.049sft	-0.006sft	-0.14
			Dist.	4415.305sft	0.016sft	-0.004sft	-0.35
B258	TXDA	1005	**Az.**	N22°28'18.6857"E	0°00'00.0811"	0°00'00.0319"	0.33
			DHt.	-53.368sft	0.166sft	0.171sft	0.37
			Dist.	99038.365sft	0.036sft	-0.016sft	-0.37

B267	1003	TXCO	**Az.**	N80°53'12.8026"E	0°00'00.2585"	-0°00'00.0564"	-0.36
			DHt.	-78.559sft	0.076sft	0.023sft	0.35
			Dist.	8821.622sft	0.012sft	-0.001sft	-0.10
B42	301	823	**Az.**	N63°40'33.5214"E	0°00'00.6526"	0°00'00.0227"	0.15
			DHt.	0.287sft	0.035sft	-0.001sft	-0.11
			Dist.	5114.102sft	0.015sft	-0.001sft	-0.34
B74	837	836	**Az.**	N78°45'55.5311"W	0°00'00.3700"	0°00'00.0300"	0.16
			DHt.	16.852sft	0.042sft	0.008sft	0.34
			Dist.	9653.115sft	0.014sft	0.000sft	-0.06
B8	836	822	**Az.**	S42°39'53.6469"E	0°00'00.4710"	0°00'00.0569"	0.21
			DHt.	-14.228sft	0.038sft	0.007sft	0.28
			Dist.	6340.620sft	0.015sft	-0.001sft	-0.15
B225	846	124	**Az.**	S2°17'03.1880"W	0°00'00.6871"	-0°00'00.0604"	-0.15
			DHt.	-14.257sft	0.045sft	0.006sft	0.26
			Dist.	5892.371sft	0.018sft	0.002sft	0.20
B332	TXDA	1001	**Az.**	N38°11'42.5243"W	0°00'00.0363"	0°00'00.0030"	0.09
			DHt.	19.063sft	0.046sft	0.002sft	0.13
			Dist.	82822.046sft	0.014sft	-0.003sft	-0.25
B203	802	135	**Az.**	S10°44'01.4648"E	0°00'00.7748"	0°00'00.0861"	0.22
			DHt.	-7.754sft	0.055sft	0.003sft	0.08
			Dist.	4582.643sft	0.018sft	0.002sft	0.17
B219	137	124	**Az.**	N61°28'51.4602"E	0°00'00.8028"	0°00'00.1239"	0.20
			DHt.	-18.925sft	0.054sft	0.004sft	0.07
			Dist.	5553.735sft	0.019sft	-0.002sft	-0.11

Geoid Observations

Number of Observations : 67
Number of Outliers : 0

Observation Adjustment (Critical Tau = 3.81). Any outliers are in red.

Observation ID	Point Name	Separation	A-posteriori Error (1.96s)	Residual	Standardized Residual
G194	840	-85.627sft	0.017sft	0.000sft	0.00
G225	825	-86.070sft	0.017sft	0.000sft	0.00
G201	505	-86.463sft	0.017sft	0.000sft	0.00

G230	801	-85.081sft	0.017sft	0.000sft	0.00
G196	822	-86.078sft	0.017sft	0.000sft	0.00
G235	317	-85.336sft	0.017sft	0.000sft	0.00
G203	126	-85.263sft	0.017sft	0.000sft	0.00
G189	803	-86.274sft	0.017sft	0.000sft	0.00
G202	106	-85.501sft	0.017sft	0.000sft	0.00
G192	838	-85.824sft	0.017sft	0.000sft	0.00
G237	217	-85.357sft	0.017sft	0.000sft	0.00
G223	845	-85.082sft	0.017sft	0.000sft	0.00
G240	808	-84.858sft	0.017sft	0.000sft	0.00
G234	842	-85.300sft	0.017sft	0.000sft	0.00
G218	843	-85.286sft	0.017sft	0.000sft	0.00
G239	123	-84.908sft	0.017sft	0.000sft	0.00
G231	216	-85.243sft	0.017sft	0.000sft	0.00
G204	214	-85.455sft	0.017sft	0.000sft	0.00
G197	835	-86.632sft	0.017sft	0.000sft	0.00
G245	846	-84.775sft	0.017sft	0.000sft	0.00
G229	844	-85.216sft	0.017sft	0.000sft	0.00
G193	837	-85.868sft	0.017sft	0.000sft	0.00
G242	800	-85.149sft	0.017sft	0.000sft	0.00
G214	826	-85.795sft	0.017sft	0.000sft	0.00
G232	136	-85.111sft	0.017sft	0.000sft	0.00
G236	841	-85.184sft	0.017sft	0.000sft	0.00
G249	849	-84.696sft	0.017sft	0.000sft	0.00
G224	131	-84.935sft	0.017sft	0.000sft	0.00
G243	318	-85.113sft	0.017sft	0.000sft	0.00
G248	138	-85.013sft	0.017sft	0.000sft	0.00
G247	137	-84.978sft	0.017sft	0.000sft	0.00
G217	833	-85.256sft	0.017sft	0.000sft	0.00
G252	TXDA	-85.473sft	0.017sft	0.000sft	0.00
G254	TXDE	-87.556sft	0.017sft	0.000sft	0.00
G220	823	-86.195sft	0.017sft	0.000sft	0.00
G215	809	-85.580sft	0.017sft	0.000sft	0.00
G228	832	-85.156sft	0.017sft	0.000sft	0.00

G244	219	-84.700sft	0.017sft	0.000sft	0.00
G199	211	-86.341sft	0.017sft	0.000sft	0.00
G250	TXAR	-89.288sft	0.017sft	0.000sft	0.00
G222	834	-85.381sft	0.017sft	0.000sft	0.00
G253	TXCO	-84.319sft	0.017sft	0.000sft	0.00
G205	1001	-86.982sft	0.017sft	0.000sft	0.00
G200	821	-85.999sft	0.017sft	0.000sft	0.00
G209	805	-86.600sft	0.017sft	0.000sft	0.00
G190	1003	-84.437sft	0.017sft	0.000sft	0.00
G238	847	-84.797sft	0.017sft	0.000sft	0.00
G246	124	-84.819sft	0.017sft	0.000sft	0.00
G188	804	-86.543sft	0.017sft	0.000sft	0.00
G226	807	-86.128sft	0.017sft	0.000sft	0.00
G191	1002	-85.710sft	0.017sft	0.000sft	0.00
G213	828	-85.398sft	0.017sft	0.000sft	0.00
G211	824	-86.000sft	0.017sft	0.000sft	0.00
G208	301	-86.402sft	0.017sft	0.000sft	0.00
G241	802	-84.952sft	0.017sft	0.000sft	0.00
G233	135	-84.960sft	0.017sft	0.000sft	0.00
G198	1004	-83.386sft	0.017sft	0.000sft	0.00
G216	848	-84.539sft	0.017sft	0.000sft	0.00
G219	806	-86.258sft	0.017sft	0.000sft	0.00
G195	836	-86.182sft	0.017sft	0.000sft	0.00
G207	820	-86.519sft	0.017sft	0.000sft	0.00
G221	830	-85.299sft	0.017sft	0.000sft	0.00
G212	829	-85.341sft	0.017sft	0.000sft	0.00
G227	831	-85.138sft	0.017sft	0.000sft	0.00
G206	310	-86.773sft	0.017sft	0.000sft	0.00
G210	827	-85.851sft	0.017sft	0.000sft	0.00
G251	1005	-84.082sft	0.017sft	0.000sft	0.00

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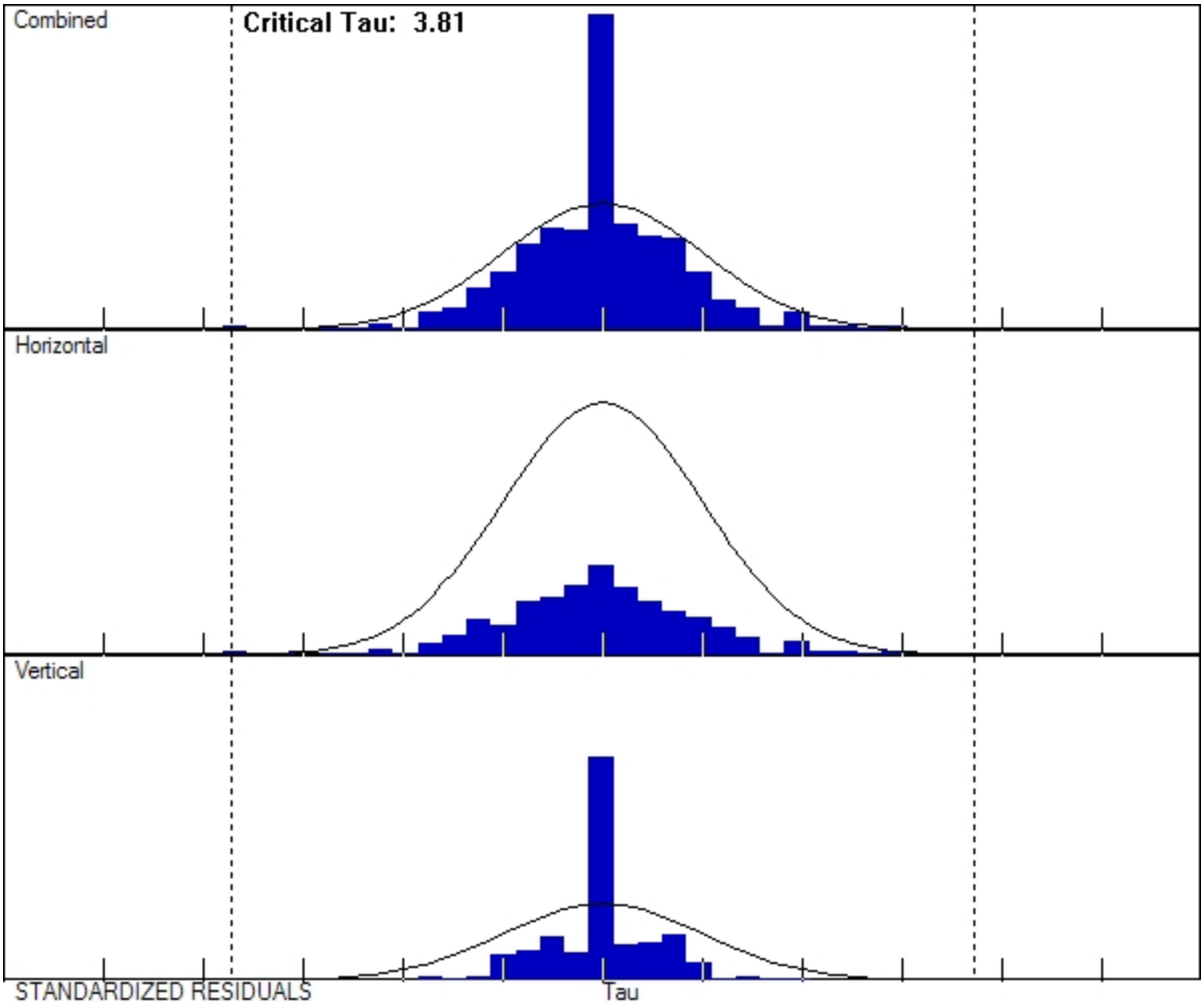
Histograms of Standardized Residuals



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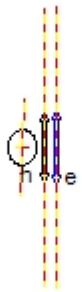
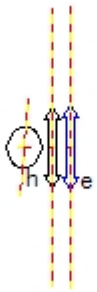
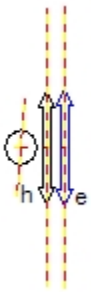
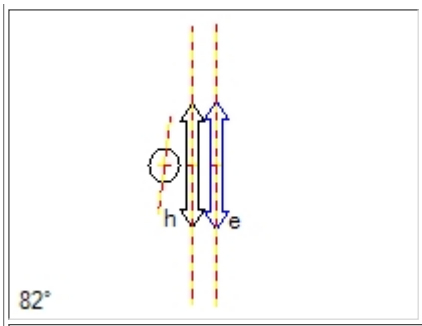
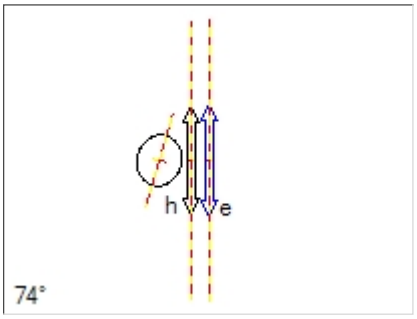
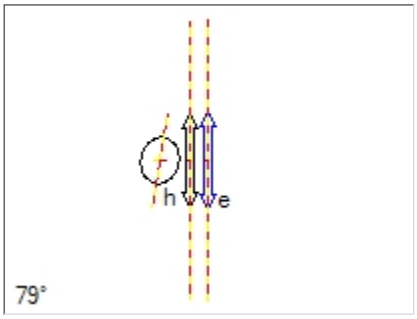
Point Error Ellipses

804	803	1003
 87°	 83°	 84°
Tick Size: 0.0100sft Horizontal Bivariate Scalar: 2.45s Vertical Univariate Scalar: 1.96s		
1002	838	837

		
Tick Size: 0.0100sft Horizontal Bivariate Scalar: 2.45s Vertical Univariate Scalar: 1.96s		
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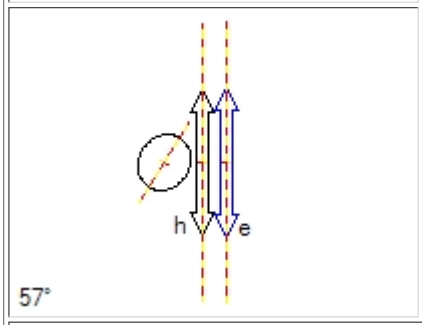	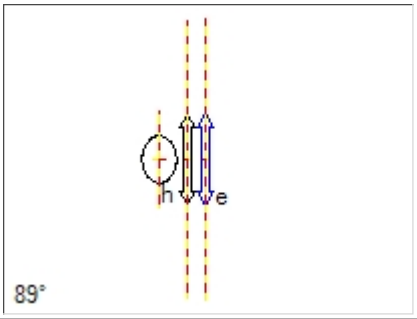	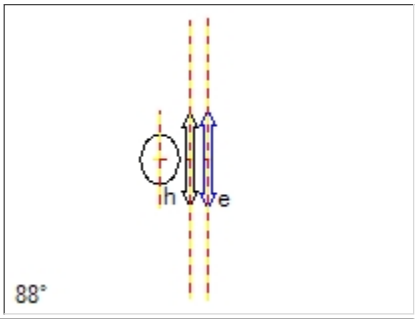
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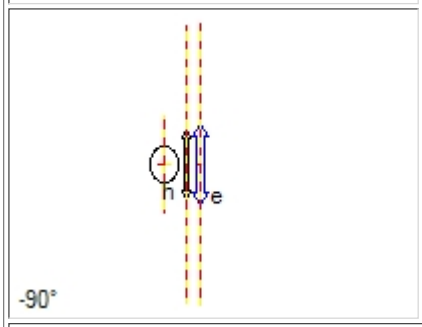	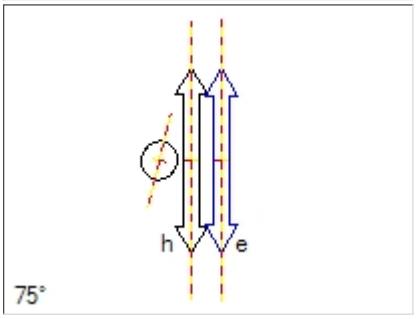	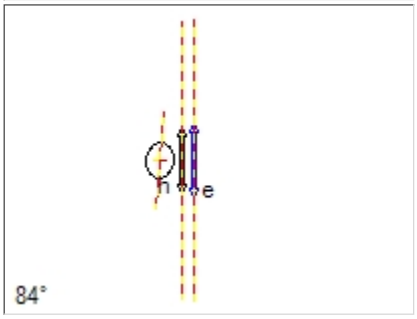
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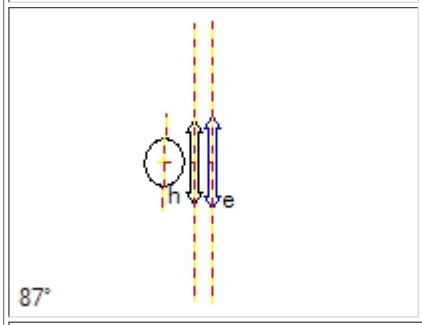	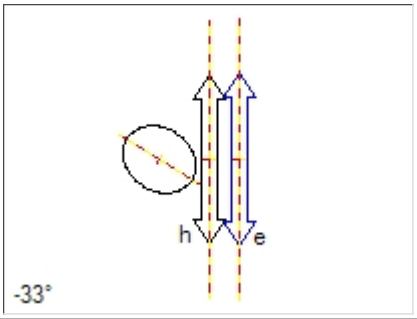	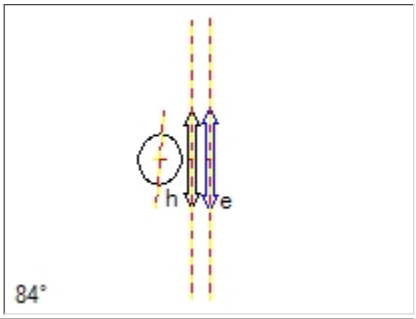
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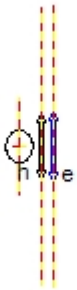
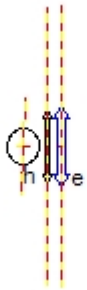
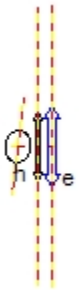
126	**214**	**1001**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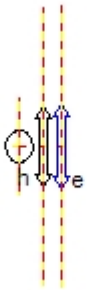	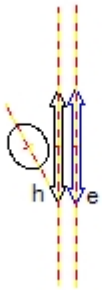	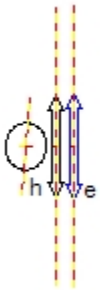
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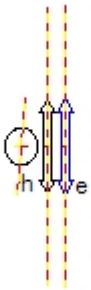	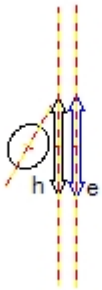	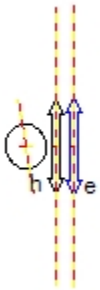
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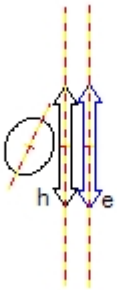	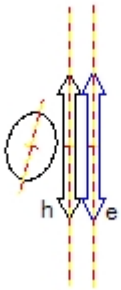	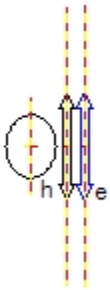
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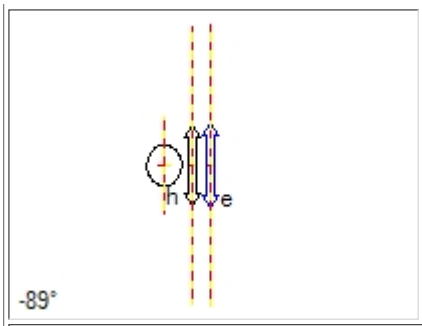	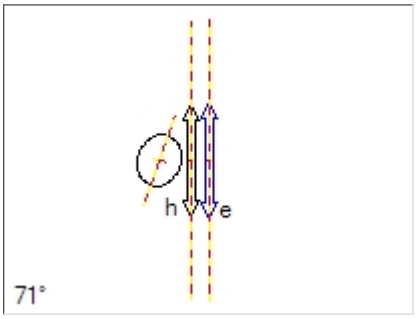	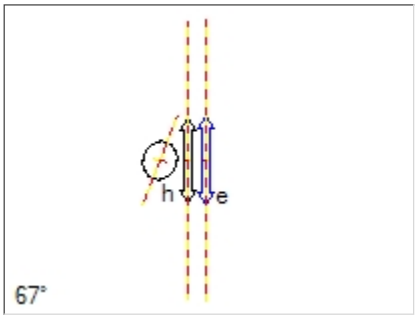
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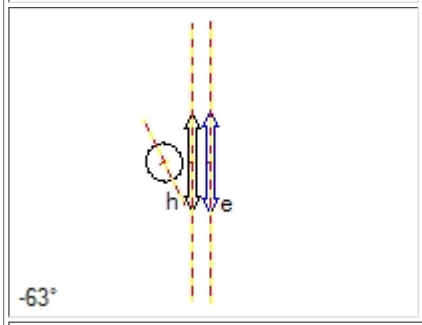	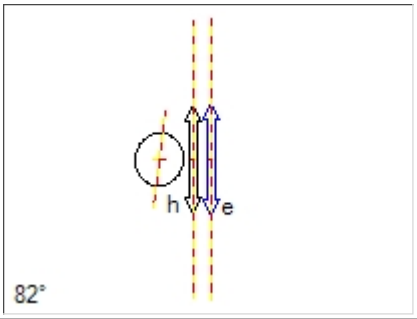	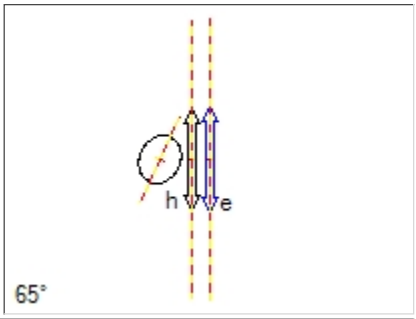
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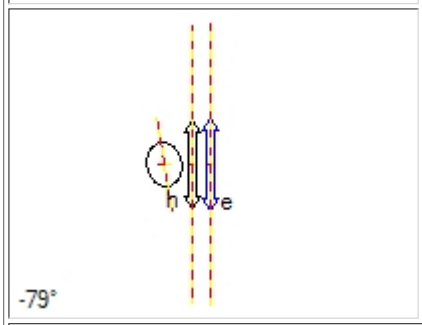	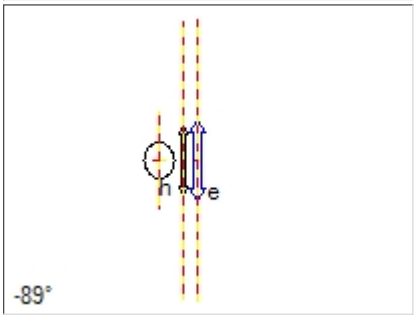	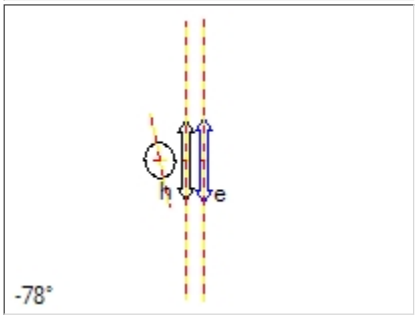
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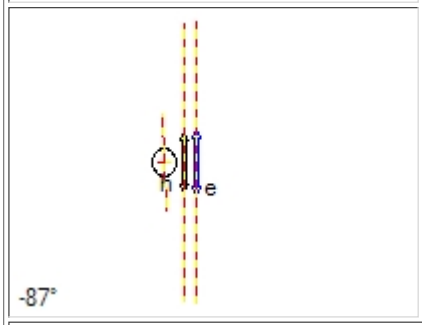
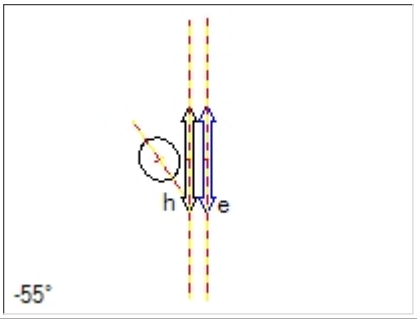
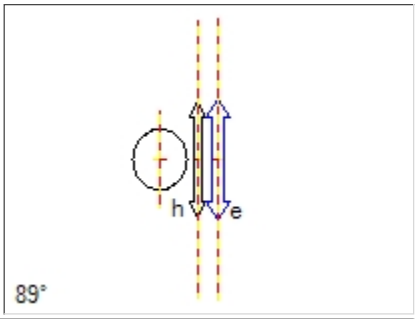
131	**825**	**807**
		
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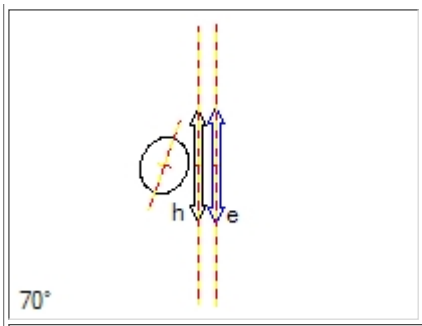
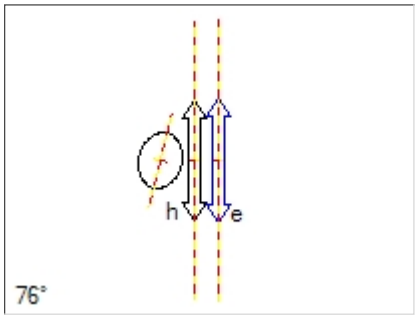
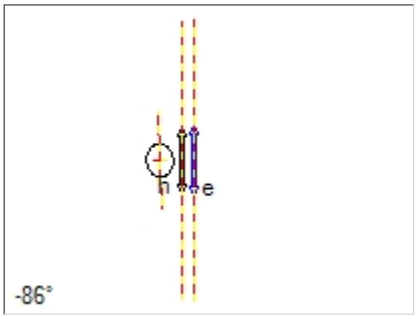
831	**832**	**844**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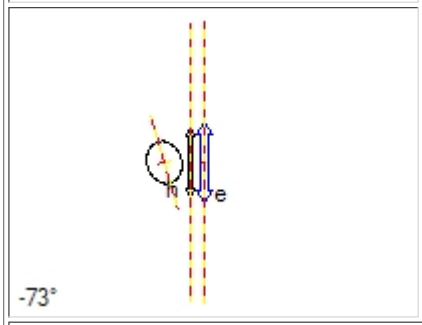
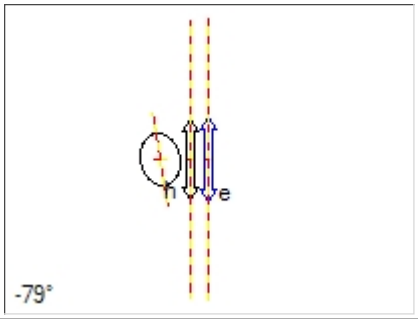
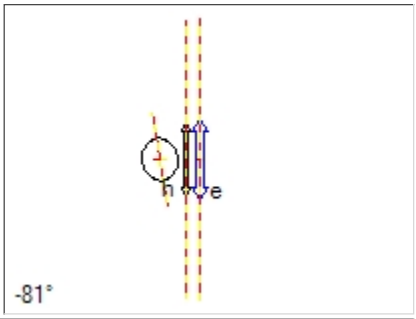
801	**216**	**136**
		
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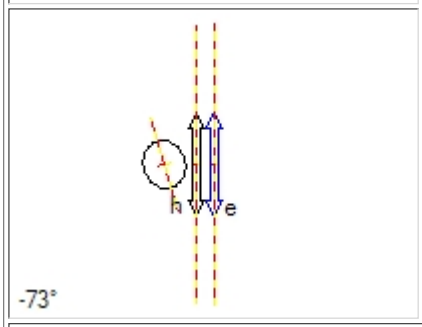
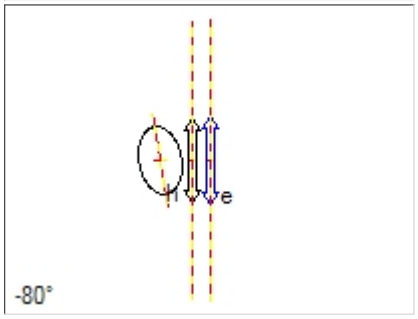
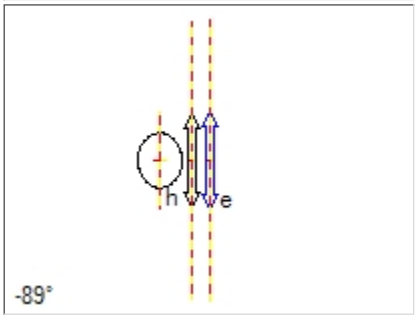
135	**842**	**317**
		
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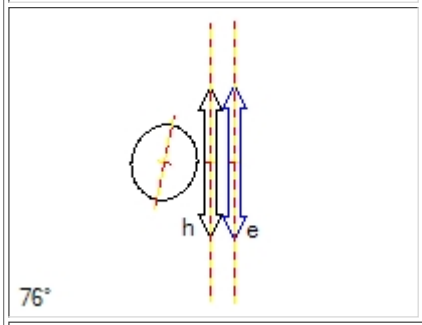
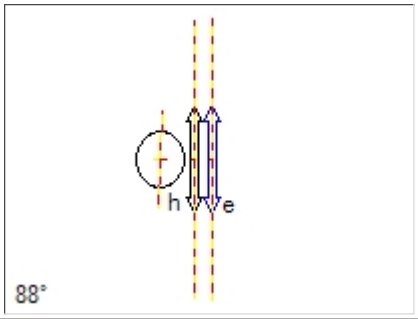
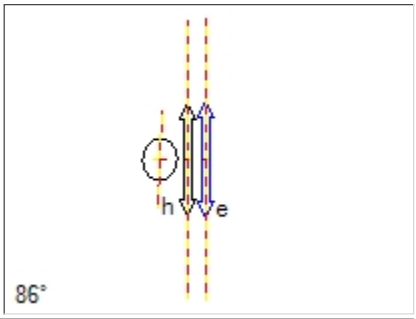
841	**217**	**847**
		
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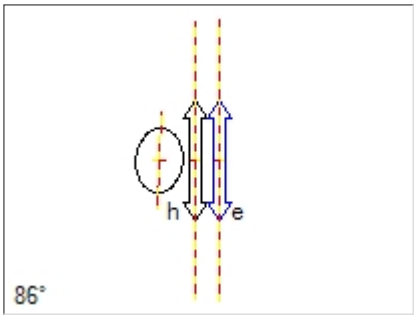
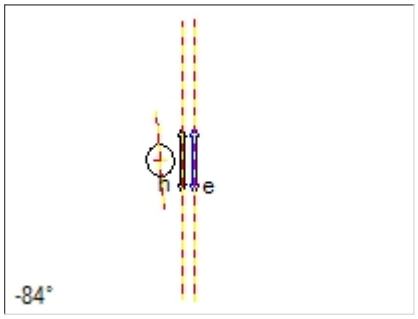
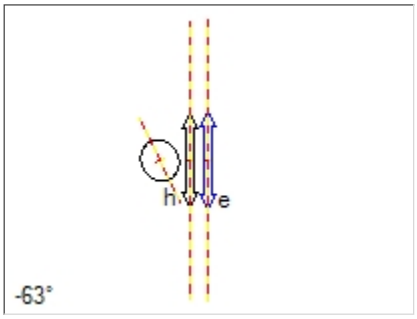
123	**808**	**802**

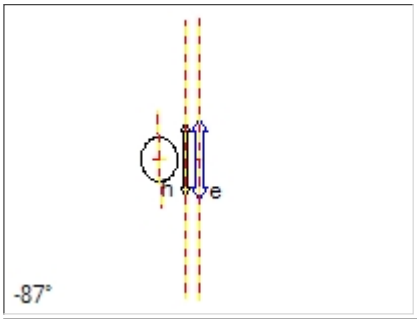


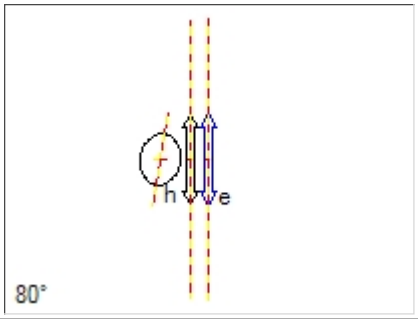


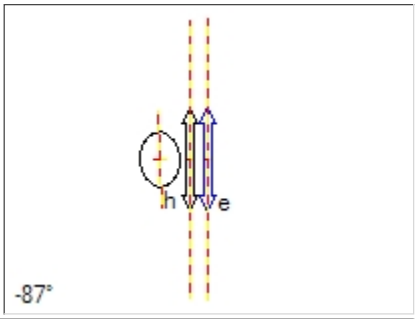


Tick Size: 0.0100sft Horizontal Bivariate Scalar: 2.45s Vertical Univariate Scalar: 1.96s

800	318	219







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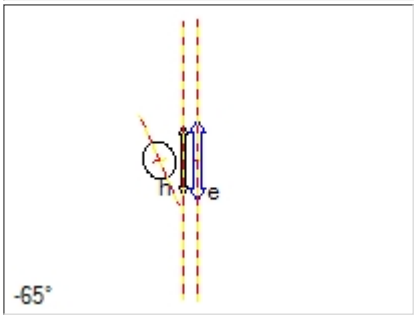
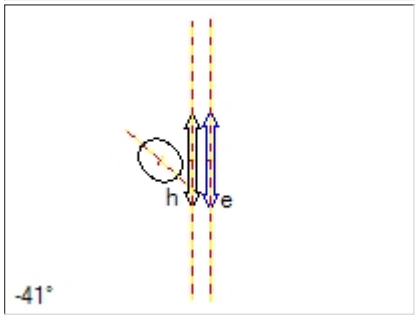
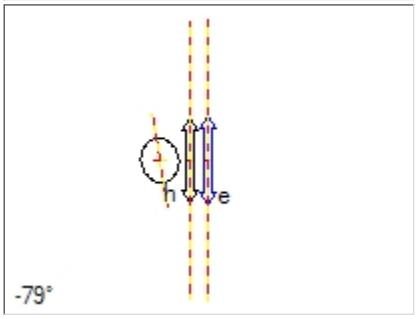
846	124	137







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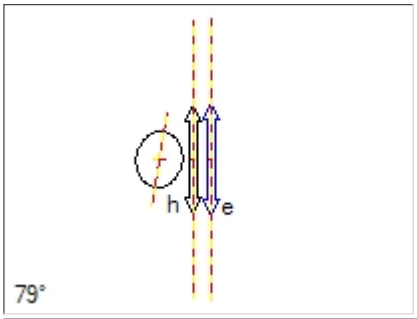
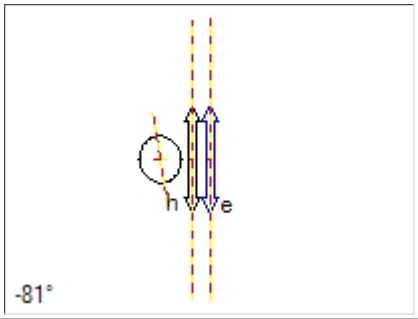
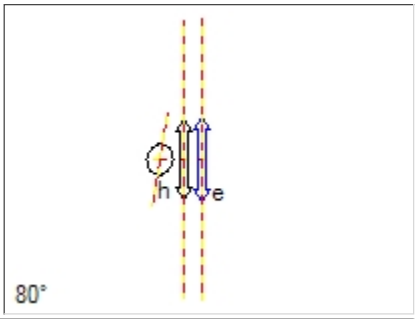
138	849	TXAR

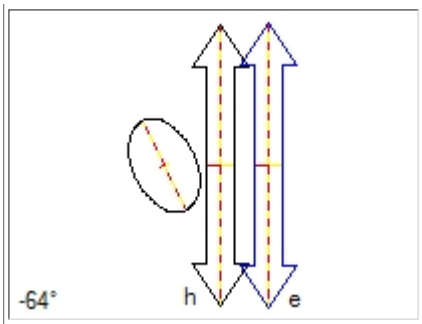


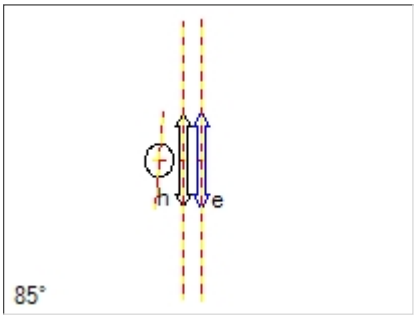


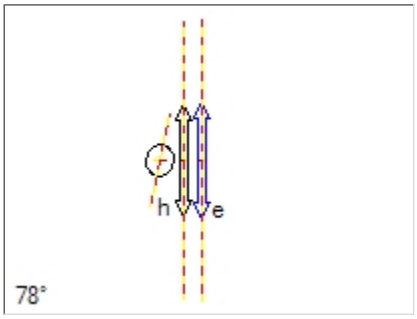


Tick Size: 0.0100sft Horizontal Bivariate Scalar: 2.45s Vertical Univariate Scalar: 1.96s

1005	TXDA	TXCO

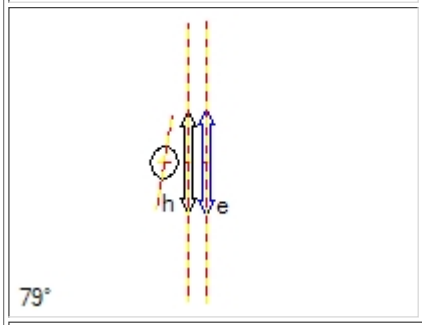






Tick Size: 0.0100sft Horizontal Bivariate Scalar: 2.45s Vertical Univariate Scalar: 1.96s

TXDE



Tick Size: 0.0100sft Horizontal Bivariate Scalar: 2.45s Vertical Univariate Scalar: 1.96s

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Covariant Terms

Adjustment performed in WGS-84

From Point	To Point		Components	A-posteriori Error (1.96s)	Horiz. Precision (PPM)	3D Precision (PPM)
804	803	**Az.**	N58°20'12.7065"E	0°00'00.3282"	1.684403	1.684403
		DHt.	65.825sft	0.029sft		
		DElev.	65.557sft	0.037sft		
		Dist.	7111.019sft	0.012sft		
804	835	**Az.**	N87°37'55.2664"W	0°00'00.7781"	2.847547	2.847547
		DHt.	11.314sft	0.018sft		
		DElev.	11.403sft	0.030sft		
		Dist.	2501.982sft	0.007sft		
804	211	**Az.**	S78°30'54.9623"E	0°00'00.3507"	1.248260	1.248260
		DHt.	71.672sft	0.018sft		
		DElev.	71.470sft	0.030sft		
		Dist.	5988.838sft	0.007sft		
803	211	**Az.**	S2°08'44.6568"W	0°00'00.4777"	2.993837	2.993837

		DHt.	5.847sft	0.031sft		
		DElev.	5.913sft	0.039sft		
		Dist.	4928.585sft	0.015sft		
803	821	**Az.**	N88°07'46.3626"E	0°00'00.5575"	2.161170	2.161170
		DHt.	41.723sft	0.042sft		
		DElev.	41.447sft	0.048sft		
		Dist.	7635.248sft	0.017sft		
803	825	**Az.**	N7°19'14.6841"E	0°00'00.4399"	2.127213	2.127213
		DHt.	0.393sft	0.068sft		
		DElev.	0.189sft	0.072sft		
		Dist.	11031.131sft	0.023sft		
1003	1002	**Az.**	S85°54'21.2111"W	0°00'00.0538"	0.268756	0.268756
		DHt.	-47.761sft	0.092sft		
		DElev.	-46.488sft	0.095sft		
		Dist.	53024.788sft	0.014sft		
1003	1004	**Az.**	S70°42'55.0943"E	0°00'00.0215"	0.116601	0.116601
		DHt.	-162.158sft	0.105sft		
		DElev.	-163.209sft	0.107sft		
		Dist.	135165.066sft	0.016sft		
1003	131	**Az.**	S11°07'39.7147"W	0°00'00.1312"	0.726448	0.726448
		DHt.	-90.863sft	0.072sft		
		DElev.	-90.366sft	0.076sft		
		Dist.	32784.842sft	0.024sft		
1003	832	**Az.**	S54°27'04.8765"W	0°00'00.1865"	0.943522	0.943522
		DHt.	-56.305sft	0.077sft		
		DElev.	-55.587sft	0.080sft		
		Dist.	28555.631sft	0.027sft		
1003	TXDA	**Az.**	S2°12'30.9430"W	0°00'00.0229"	0.108770	0.108770
		DHt.	-82.455sft	0.082sft		
		DElev.	-81.419sft	0.086sft		
		Dist.	131610.580sft	0.014sft		
1003	TXCO	**Az.**	N80°53'12.8026"E	0°00'00.2585"	1.304121	1.304121
		DHt.	-78.559sft	0.076sft		
		DElev.	-78.677sft	0.080sft		
		Dist.	8821.622sft	0.012sft		

1003	TXDE	**Az.**	N83°17'34.8114"W	0°00'00.0148"	0.080082	0.080082
		DHt.	-23.205sft	0.077sft		
		DElev.	-20.086sft	0.081sft		
		Dist.	155952.653sft	0.012sft		
1002	805	**Az.**	S10°29'33.4528"W	0°00'00.1187"	0.656037	0.656037
		DHt.	-32.253sft	0.077sft		
		DElev.	-31.363sft	0.081sft		
		Dist.	30290.890sft	0.020sft		
1002	827	**Az.**	S27°18'39.7829"E	0°00'00.2359"	1.027850	1.027850
		DHt.	68.188sft	0.083sft		
		DElev.	68.329sft	0.087sft		
		Dist.	21526.310sft	0.022sft		
1002	TXAR	**Az.**	S26°29'50.7000"W	0°00'00.0141"	0.059899	0.059899
		DHt.	-93.428sft	0.072sft		
		DElev.	-89.850sft	0.076sft		
		Dist.	159232.763sft	0.010sft		
1002	TXCO	**Az.**	N85°05'45.7724"E	0°00'00.0358"	0.168926	0.168926
		DHt.	-30.798sft	0.083sft		
		DElev.	-32.189sft	0.087sft		
		Dist.	61817.404sft	0.010sft		
1002	TXDE	**Az.**	N77°55'22.0996"W	0°00'00.0194"	0.101254	0.101254
		DHt.	24.556sft	0.078sft		
		DElev.	26.402sft	0.082sft		
		Dist.	104341.504sft	0.011sft		
838	837	**Az.**	S5°48'01.7942"E	0°00'00.4937"	2.196175	2.196175
		DHt.	-24.119sft	0.053sft		
		DElev.	-24.075sft	0.058sft		
		Dist.	6590.901sft	0.014sft		
838	840	**Az.**	S88°35'46.4024"E	0°00'00.8164"	4.044703	4.044703
		DHt.	-57.144sft	0.085sft		
		DElev.	-57.342sft	0.088sft		
		Dist.	6024.718sft	0.024sft		
838	821	**Az.**	N88°19'32.6773"W	0°00'01.0676"	4.560609	4.560609
		DHt.	15.732sft	0.061sft		
		DElev.	15.907sft	0.065sft		

		Dist.	5202.347sft	0.024sft		
837	836	**Az.**	N78°45'55.5311"W	0°00'00.3700"	1.490606	1.490606
		DHt.	16.852sft	0.042sft		
		DElev.	17.166sft	0.048sft		
		Dist.	9653.115sft	0.014sft		
837	822	**Az.**	S61°43'02.7012"W	0°00'00.5424"	2.791685	2.791685
		DHt.	2.624sft	0.042sft		
		DElev.	2.833sft	0.048sft		
		Dist.	5873.592sft	0.016sft		
837	106	**Az.**	N84°22'32.0465"E	0°00'00.3291"	1.571630	1.571630
		DHt.	-66.129sft	0.046sft		
		DElev.	-66.497sft	0.052sft		
		Dist.	10760.691sft	0.017sft		
840	106	**Az.**	S44°58'30.3919"E	0°00'00.7131"	2.564474	2.564474
		DHt.	-33.104sft	0.082sft		
		DElev.	-33.230sft	0.085sft		
		Dist.	7570.834sft	0.019sft		
840	843	**Az.**	N32°14'33.9597"E	0°00'00.4600"	2.453121	2.453121
		DHt.	20.341sft	0.096sft		
		DElev.	20.001sft	0.099sft		
		Dist.	12986.981sft	0.032sft		
836	822	**Az.**	S42°39'53.6469"E	0°00'00.4710"	2.321707	2.321707
		DHt.	-14.228sft	0.038sft		
		DElev.	-14.332sft	0.045sft		
		Dist.	6340.620sft	0.015sft		
836	211	**Az.**	S85°20'20.1140"W	0°00'01.0957"	3.423619	3.423619
		DHt.	-12.876sft	0.048sft		
		DElev.	-12.718sft	0.053sft		
		Dist.	4229.725sft	0.014sft		
822	217	**Az.**	N86°20'02.2249"E	0°00'00.2458"	1.126324	1.126324
		DHt.	-66.329sft	0.061sft		
		DElev.	-67.050sft	0.066sft		
		Dist.	20903.158sft	0.024sft		
835	505	**Az.**	N10°53'40.6580"E	0°00'00.8643"	3.622130	3.622130
		DHt.	36.860sft	0.093sft		

		DElev.	36.691sft	0.096sft		
		Dist.	8291.437sft	0.030sft		
835	310	**Az.**	N37°32'47.6205"W	0°00'00.1813"	0.999950	0.999950
		DHt.	-17.761sft	0.038sft		
		DElev.	-17.620sft	0.045sft		
		Dist.	13255.795sft	0.013sft		
1004	TXDA	**Az.**	S57°00'23.1561"W	0°00'00.0197"	0.092376	0.092376
		DHt.	79.703sft	0.113sft		
		DElev.	81.790sft	0.115sft		
		Dist.	158566.855sft	0.015sft		
1004	TXCO	**Az.**	N68°36'06.7439"W	0°00'00.0191"	0.093014	0.093014
		DHt.	83.599sft	0.099sft		
		DElev.	84.532sft	0.102sft		
		Dist.	127474.037sft	0.012sft		
211	821	**Az.**	N56°29'36.1744"E	0°00'00.3673"	1.655163	1.655163
		DHt.	35.876sft	0.037sft		
		DElev.	35.534sft	0.044sft		
		Dist.	9373.324sft	0.016sft		
211	1001	**Az.**	S47°35'55.2563"W	0°00'00.1548"	0.816549	0.816549
		DHt.	-55.654sft	0.035sft		
		DElev.	-55.013sft	0.043sft		
		Dist.	18475.272sft	0.015sft		
505	820	**Az.**	N37°09'22.1752"W	0°00'00.9363"	5.613764	5.613764
		DHt.	19.112sft	0.099sft		
		DElev.	19.167sft	0.102sft		
		Dist.	6476.872sft	0.036sft		
505	825	**Az.**	N52°31'50.6679"E	0°00'00.7086"	2.836758	2.836758
		DHt.	18.044sft	0.103sft		
		DElev.	17.651sft	0.106sft		
		Dist.	10568.527sft	0.030sft		
106	317	**Az.**	S86°22'36.8683"E	0°00'00.8652"	3.978989	3.978989
		DHt.	19.855sft	0.052sft		
		DElev.	19.691sft	0.058sft		
		Dist.	5064.721sft	0.020sft		
126	214	**Az.**	N89°45'52.6395"W	0°00'00.4216"	1.712672	1.712672

		DHt.	56.572sft	0.032sft		
		DElev.	56.765sft	0.040sft		
		Dist.	6604.806sft	0.011sft		
126	843	**Az.**	S14°07'27.9124"E	0°00'00.5335"	2.525709	2.525709
		DHt.	30.696sft	0.038sft		
		DElev.	30.720sft	0.045sft		
		Dist.	5519.255sft	0.014sft		
126	131	**Az.**	N86°55'38.9688"E	0°00'00.1879"	0.726270	0.726270
		DHt.	-35.770sft	0.025sft		
		DElev.	-36.098sft	0.034sft		
		Dist.	11665.649sft	0.008sft		
126	844	**Az.**	N9°33'51.9967"W	0°00'00.3455"	2.172439	2.172439
		DHt.	35.562sft	0.026sft		
		DElev.	35.515sft	0.035sft		
		Dist.	5484.595sft	0.012sft		
214	809	**Az.**	N85°56'16.3717"W	0°00'00.6883"	3.081918	3.081918
		DHt.	6.713sft	0.032sft		
		DElev.	6.837sft	0.040sft		
		Dist.	4249.392sft	0.013sft		
214	844	**Az.**	N46°36'11.2699"E	0°00'00.3543"	1.701148	1.701148
		DHt.	-21.010sft	0.032sft		
		DElev.	-21.250sft	0.040sft		
		Dist.	7834.086sft	0.013sft		
1001	310	**Az.**	N6°36'30.5018"W	0°00'00.0782"	0.482194	0.482194
		DHt.	-22.464sft	0.048sft		
		DElev.	-22.674sft	0.053sft		
		Dist.	24428.738sft	0.012sft		
1001	TXAR	**Az.**	S40°18'15.1830"W	0°00'00.0208"	0.130234	0.130234
		DHt.	-77.797sft	0.028sft		
		DElev.	-75.491sft	0.037sft		
		Dist.	104743.532sft	0.014sft		
1001	TXDA	**Az.**	S38°17'08.9690"E	0°00'00.0363"	0.163805	0.163805
		DHt.	-19.063sft	0.046sft		
		DElev.	-20.572sft	0.052sft		
		Dist.	82822.046sft	0.014sft		

310	820	**Az.**	N64°00'16.3745"E	0°00'00.6100"	2.203813	2.203813
		DHt.	73.733sft	0.051sft		
		DElev.	73.479sft	0.056sft		
		Dist.	6377.582sft	0.014sft		
310	805	**Az.**	N3°48'58.4473"E	0°00'00.3207"	1.705740	1.705740
		DHt.	5.842sft	0.047sft		
		DElev.	5.670sft	0.052sft		
		Dist.	8601.693sft	0.015sft		
820	806	**Az.**	N77°11'45.9836"E	0°00'00.5621"	2.441090	2.441090
		DHt.	-24.229sft	0.059sft		
		DElev.	-24.489sft	0.063sft		
		Dist.	6940.903sft	0.017sft		
301	805	**Az.**	S33°40'00.9376"W	0°00'00.5583"	2.846837	2.846837
		DHt.	-79.035sft	0.033sft		
		DElev.	-78.836sft	0.041sft		
		Dist.	5399.323sft	0.015sft		
301	823	**Az.**	N63°40'33.5214"E	0°00'00.6526"	2.978828	2.978828
		DHt.	0.287sft	0.035sft		
		DElev.	0.080sft	0.042sft		
		Dist.	5114.102sft	0.015sft		
301	807	**Az.**	S79°41'43.9272"E	0°00'00.4947"	2.182911	2.182911
		DHt.	0.016sft	0.045sft		
		DElev.	-0.258sft	0.051sft		
		Dist.	9106.367sft	0.020sft		
805	806	**Az.**	S70°23'47.3853"E	0°00'00.2198"	1.009406	1.009406
		DHt.	43.662sft	0.044sft		
		DElev.	43.320sft	0.050sft		
		Dist.	12661.731sft	0.013sft		
827	824	**Az.**	S9°20'20.5090"E	0°00'00.4104"	1.915351	1.915351
		DHt.	-38.641sft	0.052sft		
		DElev.	-38.492sft	0.057sft		
		Dist.	10264.967sft	0.020sft		
827	823	**Az.**	S63°31'02.8525"W	0°00'00.6474"	3.313559	3.313559
		DHt.	-21.120sft	0.074sft		
		DElev.	-20.776sft	0.078sft		

		Dist.	8733.018sft	0.029sft		
827	830	**Az.**	N65°37'38.2610"E	0°00'00.1942"	1.000174	1.000174
		DHt.	-11.009sft	0.037sft		
		DElev.	-11.561sft	0.044sft		
		Dist.	15562.268sft	0.016sft		
824	826	**Az.**	N89°47'00.9124"E	0°00'01.2117"	4.936507	4.936507
		DHt.	43.885sft	0.074sft		
		DElev.	43.680sft	0.078sft		
		Dist.	6073.728sft	0.030sft		
824	825	**Az.**	S4°28'22.2150"E	0°00'00.7123"	4.309871	4.309871
		DHt.	5.022sft	0.055sft		
		DElev.	5.092sft	0.060sft		
		Dist.	5064.548sft	0.022sft		
824	807	**Az.**	N65°25'14.1236"W	0°00'01.1162"	5.084264	5.084264
		DHt.	17.250sft	0.070sft		
		DElev.	17.378sft	0.074sft		
		Dist.	5617.073sft	0.029sft		
829	828	**Az.**	S1°05'02.7254"E	0°00'01.4131"	8.297055	8.297055
		DHt.	-2.581sft	0.081sft		
		DElev.	-2.525sft	0.085sft		
		Dist.	3154.248sft	0.026sft		
829	833	**Az.**	S60°11'20.9529"E	0°00'00.8057"	3.277767	3.277767
		DHt.	-44.905sft	0.061sft		
		DElev.	-44.990sft	0.066sft		
		Dist.	5984.525sft	0.020sft		
829	830	**Az.**	N0°33'20.4635"W	0°00'01.8956"	10.626889	10.626889
		DHt.	-41.418sft	0.059sft		
		DElev.	-41.461sft	0.064sft		
		Dist.	2243.695sft	0.024sft		
828	809	**Az.**	S0°08'41.6089"W	0°00'00.5150"	3.376677	3.376677
		DHt.	-40.064sft	0.086sft		
		DElev.	-39.882sft	0.089sft		
		Dist.	10529.205sft	0.036sft		
828	833	**Az.**	N88°00'28.4198"E	0°00'01.0001"	3.865126	3.865126
		DHt.	-42.324sft	0.077sft		

		DElev.	-42.466sft	0.080sft		
		Dist.	5136.027sft	0.020sft		
828	832	**Az.**	N46°09'25.7693"E	0°00'00.6677"	3.912603	3.912603
		DHt.	-104.561sft	0.088sft		
		DElev.	-104.803sft	0.091sft		
		Dist.	7688.788sft	0.030sft		
826	809	**Az.**	N84°43'35.5699"E	0°00'00.7870"	2.955733	2.955733
		DHt.	-17.480sft	0.047sft		
		DElev.	-17.695sft	0.053sft		
		Dist.	6525.555sft	0.019sft		
809	834	**Az.**	N41°28'24.7156"E	0°00'00.6376"	2.770696	2.770696
		DHt.	-22.649sft	0.044sft		
		DElev.	-22.847sft	0.050sft		
		Dist.	6283.635sft	0.017sft		
833	834	**Az.**	S9°27'14.4394"W	0°00'00.8035"	4.381094	4.381094
		DHt.	-20.390sft	0.067sft		
		DElev.	-20.264sft	0.071sft		
		Dist.	6082.074sft	0.027sft		
833	832	**Az.**	N4°35'29.6896"E	0°00'00.7296"	4.463583	4.463583
		DHt.	-62.238sft	0.069sft		
		DElev.	-62.338sft	0.073sft		
		Dist.	5163.859sft	0.023sft		
843	845	**Az.**	N88°02'37.2164"E	0°00'00.4763"	2.100125	2.100125
		DHt.	-38.188sft	0.042sft		
		DElev.	-38.392sft	0.048sft		
		Dist.	6992.432sft	0.015sft		
843	825	**Az.**	N89°57'25.5342"W	0°00'00.2508"	1.121770	1.121770
		DHt.	11.205sft	0.083sft		
		DElev.	11.989sft	0.086sft		
		Dist.	24370.931sft	0.027sft		
806	825	**Az.**	S87°11'54.5677"E	0°00'00.6744"	3.479295	3.479295
		DHt.	23.160sft	0.059sft		
		DElev.	22.972sft	0.064sft		
		Dist.	5538.085sft	0.019sft		
823	807	**Az.**	S48°18'19.3191"E	0°00'00.5653"	2.789743	2.789743

		DHt.	-0.271sft	0.034sft		
		DElev.	-0.338sft	0.042sft		
		Dist.	5859.329sft	0.016sft		
830	831	**Az.**	N58°12'55.2357"E	0°00'00.6801"	3.722575	3.722575
		DHt.	-55.420sft	0.045sft		
		DElev.	-55.580sft	0.051sft		
		Dist.	5042.292sft	0.019sft		
834	844	**Az.**	N86°17'31.9706"E	0°00'00.6934"	2.374403	2.374403
		DHt.	-5.075sft	0.041sft		
		DElev.	-5.240sft	0.048sft		
		Dist.	5781.050sft	0.014sft		
845	131	**Az.**	N30°01'05.6524"E	0°00'00.3365"	1.856758	1.856758
		DHt.	-28.278sft	0.032sft		
		DElev.	-28.425sft	0.040sft		
		Dist.	6626.677sft	0.012sft		
845	216	**Az.**	S26°59'22.2830"W	0°00'00.6097"	3.185314	3.185314
		DHt.	15.483sft	0.048sft		
		DElev.	15.644sft	0.053sft		
		Dist.	7439.833sft	0.024sft		
848	131	**Az.**	N38°13'07.8888"W	0°00'00.0909"	0.496424	0.496424
		DHt.	37.211sft	0.048sft		
		DElev.	37.607sft	0.054sft		
		Dist.	31655.204sft	0.016sft		
848	847	**Az.**	N79°57'29.4257"W	0°00'00.2865"	1.051028	1.051028
		DHt.	-22.213sft	0.061sft		
		DElev.	-21.955sft	0.066sft		
		Dist.	9050.303sft	0.010sft		
848	846	**Az.**	N37°09'35.1663"W	0°00'00.1553"	0.986710	0.986710
		DHt.	10.297sft	0.039sft		
		DElev.	10.533sft	0.045sft		
		Dist.	17409.870sft	0.017sft		
848	849	**Az.**	N58°04'29.3735"W	0°00'00.5330"	2.466640	2.466640
		DHt.	-27.516sft	0.050sft		
		DElev.	-27.359sft	0.056sft		
		Dist.	6846.070sft	0.017sft		

848	TXDA	**Az.**	S13°51'20.2107"W	0°00'00.0619"	0.327030	0.327030
		DHt.	45.619sft	0.069sft		
		DElev.	46.553sft	0.073sft		
		Dist.	76706.839sft	0.025sft		
131	844	**Az.**	N69°07'54.3561"W	0°00'00.1597"	0.641663	0.641663
		DHt.	71.332sft	0.024sft		
		DElev.	71.613sft	0.034sft		
		Dist.	13440.091sft	0.009sft		
131	808	**Az.**	S35°58'19.0519"E	0°00'00.2286"	1.141120	1.141120
		DHt.	-30.152sft	0.026sft		
		DElev.	-30.229sft	0.035sft		
		Dist.	8696.080sft	0.010sft		
831	832	**Az.**	S26°10'19.3250"E	0°00'01.4861"	8.490995	8.490995
		DHt.	-10.304sft	0.061sft		
		DElev.	-10.287sft	0.066sft		
		Dist.	3039.047sft	0.026sft		
801	216	**Az.**	S72°21'32.7257"W	0°00'00.8395"	2.927893	2.927893
		DHt.	55.837sft	0.040sft		
		DElev.	55.999sft	0.047sft		
		Dist.	5245.025sft	0.015sft		
801	136	**Az.**	S2°27'46.1080"E	0°00'00.6250"	3.981046	3.981046
		DHt.	23.433sft	0.032sft		
		DElev.	23.463sft	0.040sft		
		Dist.	4480.541sft	0.018sft		
801	808	**Az.**	N61°11'48.4417"E	0°00'00.4878"	1.945999	1.945999
		DHt.	-18.076sft	0.038sft		
		DElev.	-18.299sft	0.045sft		
		Dist.	7762.554sft	0.015sft		
216	842	**Az.**	S0°47'11.7805"W	0°00'00.7430"	5.455787	5.455787
		DHt.	10.437sft	0.050sft		
		DElev.	10.494sft	0.055sft		
		Dist.	6204.404sft	0.034sft		
136	135	**Az.**	S89°23'17.6318"E	0°00'00.7468"	3.370660	3.370660
		DHt.	-75.034sft	0.051sft		
		DElev.	-75.185sft	0.056sft		

		Dist.	5164.463sft	0.017sft		
136	802	**Az.**	N44°06'10.2585"E	0°00'00.6242"	2.554369	2.554369
		DHt.	-67.280sft	0.050sft		
		DElev.	-67.439sft	0.055sft		
		Dist.	6193.088sft	0.016sft		
136	800	**Az.**	S1°22'01.9783"W	0°00'00.5771"	3.747615	3.747615
		DHt.	17.577sft	0.031sft		
		DElev.	17.615sft	0.039sft		
		Dist.	4636.861sft	0.017sft		
135	802	**Az.**	N10°43'55.9994"W	0°00'00.7747"	4.012713	4.012713
		DHt.	7.754sft	0.055sft		
		DElev.	7.746sft	0.060sft		
		Dist.	4582.643sft	0.018sft		
135	137	**Az.**	S4°03'18.5020"E	0°00'00.7808"	4.428934	4.428934
		DHt.	41.431sft	0.049sft		
		DElev.	41.449sft	0.054sft		
		Dist.	4231.011sft	0.019sft		
842	317	**Az.**	S0°47'15.7938"W	0°00'01.1230"	8.617393	8.617393
		DHt.	-21.323sft	0.051sft		
		DElev.	-21.287sft	0.056sft		
		Dist.	4064.965sft	0.035sft		
842	841	**Az.**	S43°16'30.2553"E	0°00'00.9345"	5.206948	5.206948
		DHt.	-48.600sft	0.076sft		
		DElev.	-48.717sft	0.079sft		
		Dist.	7310.735sft	0.038sft		
842	800	**Az.**	S75°41'27.9929"E	0°00'01.2548"	4.507574	4.507574
		DHt.	-25.263sft	0.050sft		
		DElev.	-25.415sft	0.055sft		
		Dist.	5332.061sft	0.024sft		
317	217	**Az.**	S2°00'12.6958"W	0°00'01.3350"	6.564397	6.564397
		DHt.	-17.431sft	0.038sft		
		DElev.	-17.410sft	0.045sft		
		Dist.	2187.356sft	0.014sft		
841	217	**Az.**	S79°47'01.3635"W	0°00'01.2543"	6.020170	6.020170
		DHt.	9.847sft	0.090sft		

		DElev.	10.021sft	0.093sft		
		Dist.	5226.897sft	0.031sft		
841	318	**Az.**	S88°05'39.9854"E	0°00'03.5339"	14.837012	14.837012
		DHt.	-11.138sft	0.091sft		
		DElev.	-11.209sft	0.094sft		
		Dist.	2253.678sft	0.033sft		
847	123	**Az.**	N77°57'10.9964"W	0°00'01.4853"	4.825811	4.825811
		DHt.	43.052sft	0.057sft		
		DElev.	43.163sft	0.062sft		
		Dist.	3902.073sft	0.019sft		
847	219	**Az.**	N80°16'31.6260"E	0°00'01.4552"	4.412895	4.412895
		DHt.	-18.343sft	0.053sft		
		DElev.	-18.440sft	0.058sft		
		Dist.	3226.700sft	0.014sft		
123	138	**Az.**	S58°43'13.6652"W	0°00'01.4678"	6.321829	6.321829
		DHt.	-4.772sft	0.048sft		
		DElev.	-4.667sft	0.054sft		
		Dist.	3646.778sft	0.023sft		
808	802	**Az.**	S31°23'58.4072"W	0°00'00.8479"	3.671830	3.671830
		DHt.	-25.771sft	0.049sft		
		DElev.	-25.677sft	0.054sft		
		Dist.	4415.305sft	0.016sft		
808	846	**Az.**	S45°05'48.3711"E	0°00'00.4281"	2.601029	2.601029
		DHt.	3.238sft	0.031sft		
		DElev.	3.155sft	0.039sft		
		Dist.	5599.116sft	0.015sft		
802	124	**Az.**	S44°49'03.6991"E	0°00'00.3605"	2.331054	2.331054
		DHt.	14.752sft	0.050sft		
		DElev.	14.619sft	0.056sft		
		Dist.	8558.590sft	0.020sft		
800	318	**Az.**	S27°11'56.3288"E	0°00'00.6661"	3.229345	3.229345
		DHt.	-34.474sft	0.029sft		
		DElev.	-34.510sft	0.038sft		
		Dist.	4587.061sft	0.015sft		
800	137	**Az.**	N86°18'16.6165"E	0°00'00.6478"	2.547237	2.547237

		DHt.	-51.180sft	0.033sft		
		DElev.	-51.351sft	0.041sft		
		Dist.	5586.297sft	0.014sft		
318	138	**Az.**	S83°04'34.0942"E	0°00'01.1428"	5.136147	5.136147
		DHt.	-15.604sft	0.054sft		
		DElev.	-15.704sft	0.059sft		
		Dist.	3294.328sft	0.017sft		
219	137	**Az.**	N72°01'12.5442"W	0°00'00.4837"	1.994527	1.994527
		DHt.	55.521sft	0.050sft		
		DElev.	55.799sft	0.055sft		
		Dist.	10412.014sft	0.021sft		
219	849	**Az.**	N3°02'33.1065"W	0°00'02.1024"	15.947566	15.947566
		DHt.	13.040sft	0.053sft		
		DElev.	13.036sft	0.058sft		
		Dist.	1500.157sft	0.024sft		
846	124	**Az.**	S2°17'03.1880"W	0°00'00.6871"	3.039638	3.039638
		DHt.	-14.257sft	0.045sft		
		DElev.	-14.213sft	0.051sft		
		Dist.	5892.371sft	0.018sft		
124	137	**Az.**	S61°29'22.6949"W	0°00'00.8029"	3.383731	3.383731
		DHt.	18.925sft	0.054sft		
		DElev.	19.084sft	0.059sft		
		Dist.	5553.735sft	0.019sft		
124	849	**Az.**	S48°33'23.9831"E	0°00'00.6006"	3.547090	3.547090
		DHt.	-23.556sft	0.063sft		
		DElev.	-23.679sft	0.068sft		
		Dist.	6595.358sft	0.023sft		
137	138	**Az.**	S2°28'07.0936"W	0°00'00.8578"	5.054257	5.054257
		DHt.	1.101sft	0.052sft		
		DElev.	1.136sft	0.057sft		
		Dist.	4841.269sft	0.024sft		
TXAR	1005	**Az.**	N55°42'18.3671"E	0°00'00.0485"	0.144471	0.144471
		DHt.	5.365sft	0.161sft		
		DElev.	0.159sft	0.163sft		
		Dist.	189501.184sft	0.027sft		

TXAR	TXDA	**Az.**	N82°45'43.1633"E	0°00'00.0171"	0.071590	0.071590
		DHt.	58.733sft	0.049sft		
		DElev.	54.918sft	0.055sft		
		Dist.	119992.931sft	0.009sft		
TXAR	TXDE	**Az.**	N10°48'18.1414"W	0°00'00.0063"	0.033371	0.033371
		DHt.	117.984sft	0.046sft		
		DElev.	116.252sft	0.052sft		
		Dist.	167233.093sft	0.006sft		
1005	TXDA	**Az.**	S22°32'20.4234"W	0°00'00.0813"	0.365139	0.365139
		DHt.	53.368sft	0.166sft		
		DElev.	54.760sft	0.168sft		
		Dist.	99038.365sft	0.036sft		
1005	TXCO	**Az.**	N30°08'04.8372"W	0°00'00.1160"	0.932366	0.932366
		DHt.	57.264sft	0.149sft		
		DElev.	57.502sft	0.151sft		
		Dist.	47895.444sft	0.045sft		
TXCO	TXDE	**Az.**	N84°06'55.1055"W	0°00'00.0075"	0.031834	0.031834
		DHt.	55.354sft	0.048sft		
		DElev.	58.591sft	0.054sft		
		Dist.	164457.718sft	0.005sft		

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City of Plano

Monument Overview Map

Source: City of Plano, GIS Division
Date: February, 2010

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Legend

- 2009 Survey Monuments
- Plano City Limits
- Major Roads

HWY 121
MCDERMOTT RD
HEDGCOXE RD
ROBINSON RD
LEGACY
TENNYSON
DALLAS
PKWY
PRESTON
OHIO DR
DR
MIDWAY RD
W SPRING CREEK PKWY
COIT RD
INDEPENDENCE
CUSTER RD
CENTRAL EXPWY
K AVE
E SPRING CREEK PKWY
LOS RIOS
BLVD
YEARY RD
NORTH TOLLWAY
PARKWOOD BLVD
PARKER RD
E PARKER RD
JUPITER RD
FM 544
MARSH LN
PARK BLVD
15TH ST
14TH ST
SHILOH
GEORGE BUSH EXPWY
PLANO PKWY
RD

831 830 832 829 833 828 205 827 203 305 823 844 118 121 834 201 301 202 807 206 805 824 826 809 214 126 131 132 129 207 115 825 806 113 114 215 843 845 808 820 309 133 210 310 209 111 213 127 128 801 802 846 505 216 316 136 135 220 320 821 838 840 107 124 100 101 321 803 842 800 137 849 835 804 311 836 211 103 837 105 106 317 318 841 217 123 219 847 138 822 312

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