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BOUGUER GRAVITY ANOMALY MAP OF ARIZONA

SCALE: 1 : 1,000,000

10 0 10 20 30 40 MILES

BASE BY U.S. GEOLOGICAL SURVEY, 1955
LAMBERT CONFORMAL CONIC PROJECTION,
STANDARD PARALLELS 33° AND 45°
CONTOUR INTERVAL 5 MILLIGALS

By

ROBERT E. WEST and JOHN S. SUMNER

1973

Revision of "Regional Bouguer Gravity Anomaly Map of Arizona," 1972

Gravity data were obtained from surveys by the Laboratory of Geophysics of The University of Arizona, U.S. Defense Mapping Agency, U.S. Geological Survey, Exxon Corporation, and mining companies and contractors. The index map gives the primary sources of data for particular areas. A density of 2.67 gm/cm^3 was used for the Bouguer corrections. Terrain corrections are not included except where they were calculated by the original source of the data; these areas are indicated on the index map. The station interval ranges from approximately one to five miles; a stippled pattern indicates where the station interval is less than one mile. Elsewhere the contours are dashed. In the Grand Canyon area and the Santa Catalina and Pinaleno Mountains, Bouguer anomaly values with large terrain effects were not used in contouring.

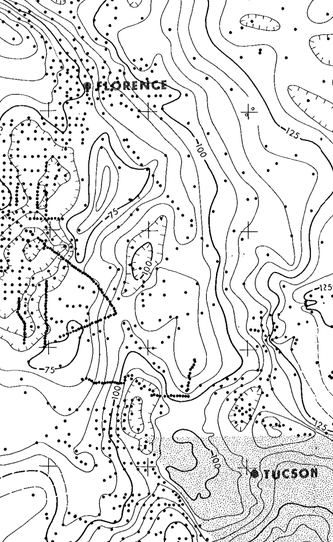
University of Arizona personnel who participated in regional gravity surveys to obtain data for this map include, in addition to the authors, Jerry Golden, William Johnson, Stephen Hench, Clifford Dewey, Robert Staley, Brian Hogan, Gene Reetz, Jonathan Earl, Carlos Aiken, James Schmidt, and Gary Young. Other University of Arizona gravity data used in this map are from M.S. and Ph.D. theses and dissertations, as noted on the index map.

U.S. Geological Survey data used in this map are from the surveys also noted on the index map. U.S. Defense Mapping Agency gravity survey field crews were directed by R. Iverson, P. B. Beruff, and C. H. Marcum.

Financial assistance for production of this map was provided by the National Science Foundation, AMAX Exploration Company, Exxon Corporation, The University of Arizona, the Arizona Water Resources Research Center, the U.S. Defense Mapping Agency, the State of Arizona Oil and Gas Conservation Commission, and the Four Corners Regional Commission.

Source of Data

1. Andrews Geophysical Company and Copeland, J. L., 1950, Gravity survey of Sulphur Springs Valley area, Cochise County, Arizona: Dallas, Texas.
2. Peterson, D. L., 1958, Bouguer gravity map of parts of Maricopa, Pima, Pinal, and Yuma Counties, Arizona, U.S. Geological Survey, GP-615.
3. Plouff, D., 1961, Gravity survey near Tucson, Arizona: U.S. Geological Survey Prof. Paper 424-D.
4. Plouff, D., 1962, Bouguer gravity anomaly map of the Twin Buttes area, Pima and Santa Cruz Counties, Arizona: U.S. Geological Survey open-file report.
5. Bhuyan, G., 1965, An analysis of some regional gravity data in Arizona: unpublished M.S. thesis, University of Arizona, 132 p.
6. Abuajamieh, M. M., 1966, The structure of the Pantano beds in the northern Tucson basin: unpublished M.S. thesis, University of Arizona, 71 p.
7. Peterson, D. L., 1966, Principal facts for gravity stations in Sulphur Springs Valley, Arizona: U.S. Geological Survey open-file report.
8. Eaton, G. P., and Timmons, C. E., 1966, Principal facts for gravity stations in Safford and San Simon Valleys, Arizona: U.S. Geological Survey open-file report.
9. Davis, R. W., 1967, A geophysical investigation of hydrologic boundaries in the Tucson Basin, Pima County, Arizona: Ph.D. dissertation, University of Arizona; Ann Arbor, University Microfilms Order #67-12,295, 64 p.
10. Hench, S. W., 1968, A reconnaissance gravity survey of the Ruby–Pena Blanca area, Santa Cruz County, Arizona: unpublished M.S. thesis, University of Arizona, 78 p.
11. Matis, J. R., 1968, Hydrogeology of the Sells area, Papago Indian Reservation, Arizona: unpublished M.S. thesis, University of Arizona, 59 p.
12. Popenoe, P., 1968, Principal facts for gravity stations in the area north of the Grand Canyon in Arizona: U.S. Geological Survey open-file report.
13. Peterson, D. L., Conradi, A., Zohdy, A., 1969, Principal facts for gravity stations in the Needles area, San Bernadino County, California, Mohave County, Arizona and Clark County, Nevada: U.S. Geological Survey open-file report.
14. Spangler, D. P., 1969, A geophysical study of the hydrogeology of the Walnut Gulch Experimental Watershed, Tombstone, Arizona: Ph.D. dissertation, University of Arizona; Ann Arbor, University Microfilms Order #69-18,411, 103 p.
15. West, R. E., 1970, Analysis of gravity data from the Avra Valley area, Pima County, Arizona: unpublished M.S. thesis, University of Arizona, 73 p.
16. Benham, W. J., 1972, The characteristics of the deeper crust of central Arizona: Department of Geosciences, University of Arizona, unpublished report, 218 p.
17. Lynch, D. J., 1972, Reconnaissance geology of the San Bernardino volcanic field, Cochise County, Arizona: unpublished M.S. thesis, University of Arizona, 78 p.
18. Case, J. E., and Joesting, H. R., 1973, Bouguer gravity anomaly map of northeast Arizona: U.S. Geological Survey open-file report.



INDEX MAP OF SOURCES OF DATA

APPROXIMATE MEAN DECLINATION

TERRAIN CORRECTED

STATION INTERVAL LESS THAN ONE MILE

• GRAVITY STATION

Drafted by: George S. Smith and B. Townsend Thomssen

PUBLISHED BY THE LABORATORY OF GEOPHYSICS,
DEPARTMENT OF GEOSCIENCES
UNIVERSITY OF ARIZONA, TUCSON, ARIZONA

mining
geophysical surveys

2400 EAST GRANT ROAD - TUCSON, ARIZONA 85719

TELEPHONE - 602 326-8619

September 12, 1972

Mr. E. Grover Heinrichs
Essex International, Inc.
1704 West Grant Road
Tucson, Arizona 85705

Project 0237

Dear Grover;

Rock and core samples from your Safford Project were lab tested for magnetic susceptibility and IP response. The results are as follows:

SAMPLE	MAGNETIC SUSCEPTIBILITY in 10^{-6} cgs units	IP RESPONSE (time domain) in millivolt seconds per volt	
Basalt 1	0	-	
2	720	-	not required
3	2010	-	
Core A-1	0	12.2	
2	0	12.2	
3	60	0.7	
4	910	3.5	
5	880	9.2	
6	2120	21.4	
7	2200	141.0	electrode effects not valid response
8	2540	383.0	
9	1820	6.5	
10	0	1.2	

11	0	-6.6	fracture problem
12	1650	6.8	not valid response
13	1710	7.3	
14	540	7.8	
15	370	1.7	
16	3210	11.4	
17	0	3.6	
18	220	1.3	
19	0	0.5	
20	0	2.4	
21	2320	25.7	
22	7880	16.6	
23	6400	17.3	
24	10400	50.7	

The magnetic susceptibility and induced polarization measurements were obtained by conventional laboratory techniques. Core samples were taken from the basalt surface specimens for the magnetic susceptibility tests, and where core samples were provided the specimen ends were cut to accomodate plate electrodes for the electrical measurements.

There are inherent limitations in extrapolating the data between surface and core specimens, and measurements obtained in the field. One obvious limitation is in the gross difference in the volume of rock tested in the laboratory and that sampled in the field. That difference alone is significant and merits a degree of caution in formulating interpretative ideas from lab data.

As noted certain specimens had characteristics that prevented a valid test of their electrical properties. Continuous veins of sulfides,or fractures from end to end in the specimen generally cause problems in the electrical measurements.

Let us know of any questions you may have.

Sincerely,

W. Gordon Wieduwilt

Core Samples for I.P.

Conglomerate ES-1	833'	Box	10	A-1
"	1358'	"	69	A-2
"	1986'	"	140	A-3
"	2309'	"	176	A-4
Andesite "	2493'	"	198	A-5
"	2689'	"	218	A-6
"	2902'	"	242	A-7
"	3129'	"	266	A-8
Agglomerate ES-2	2079'	"	111	A-9
"	2120'	"	116	A-10
"	2179'	"	122	A-11
"	2292'	"	129	A-12
Andesite "	2455'	"	152	A-13
"	2707'	"	180	A-14
"	2912'	"	202	A-15
"	3096'	"	220	A-16
Agglomerate ES-3	2152'	"	1	A-17
"	2224'	"	9	A-18
"	2295'	"	16	A-19
"	2340'	"	21	A-20
Andesite "	2509'	"	40	A-21
"	3058'	"	101	A-22
"	3522'	"	151	A-23
"	3989'	"	200	A-24

} cut 3 pcs

SAFFORD

914 Industrial Ave.,
Palo Alto, California
94303
April 17, 1972.

Mr. J. K. Jones,
Essex International,
1704 W. Grant Road,
Tucson, Arizona, 85705

Dear Ken,

Enclosed is a sketch of the magnetic map for the San Juan area. You will note that I have smoothed the data, and it now begins to resemble an aeromagnetic map. I have kept the original data, as well as a copy of this map; I would like to try applying some of the high powered interpretation techniques that we use here. There isn't a great deal that can be gotten out of this limited area, but I think the map , along with the one over the Winkler - Faulkner ground, does illustrate what could be accomplished on a district scale.

While applying only a qualitative interpretation, the main Butte fault is quite clear. The basalts to the south - west are easily identified. The two areas of different background in the north -east, and east central portions probably represent two types of volcanics.

The magnetic highs which surround the nonmagnetic intrusive area,- the San Juan intrusive, should be checked on the ground. The magnetic gap, or window coincides with a window in the pyrite halo, and it is quite possible that an alteration zone is being defined. I realize that there is an access problem, but the possibility of mapping an alteration trend through the destruction of magnetite is quite intriguing, and should be followed up.

In the past, the interpretation of magnetic maps has been limited by the immense amount of data processing involved. Geometrics has solved many of these problems, and offer interpretation services using their proprietary techniques. I'm sure that you would be impressed by what could be done at Safford, and I think it would be well worth your while to come out and have a look at what is being done elsewhere. The rocks at San Juan have such characteristic magnetic signatures, that I'm sure the magnetics could map various rock types, even at different levels. I know you're flat out every minute but it would be well worth it for you and Paul to see what can be done. It's much easier to show you, than to merely talk or write about the program. There is a clear application of the method to your program, and I would like to see you investigate it further.

Regards to you and Paul,

Dave

D. J. DeSa

To: P. I. Eimon
From: H. David Mac Lean

Subject: REview of Geophysical Data in Essex Files for the Safford Area, Graham County, Arizona.

March 28, 1972

General Remarks;

A quantity of geophysical data taken in the vicinity of the San Juan prospect, near Safford Arizona, has been made available to ESSEX INTERNATIONAL. A review of this data has been undertaken while visiting the property March thirteenth to sixteenth, for the purpose of assembling, organizing and reinterpreting the data, and to make recommendations as to how this and simaliar work could further contribute to the geological understanding of the area. The geophysical data available consists of ground magnetics and IP-REsistivity for two properties which adjoin the ground in which Essex has an interest. Unfortunately, this data was collected at different times for very restricted purposes and does not provide district wide information. However, it does provide and indication of the type of information which could be extracted from similar surveys elsewhere in the district.

The location of the properties for which information is available is shown in Fig. 1A, which is a compilation of two of the seven and one half minute quadrangles in the Safford Area (see Fig. 1.) This figure also shows in rough outline the location of the San Juan and Winkler- Fauldkner properties for which geophysical information herein discussed is available. The property boundaries shown are diagramatic; no attempt has been made to outline the property with any degree of precision. The survey grids which are shown on the figure are also approximate.The grid locations have been scaled onto this figure from other sources, but no information was available by which grid stations could be tied to specific topographic features or reference points.

Any description of topographic or geological features, such matters as access, water supply and other factors not directly related to , or bearing on the geophysical matters, is beyond the scope of these notes. These topics are either self evident, well known, or adequately discussed elsewhere in the Essex files.

A very preliminary examination of the available geophysical data indicates that the material is of little use for purposes of direct exploration in the classic sense of an orebody posessing certain physical properties which will permit its detection by surface measurement of these properties. Rather, the exploration problem here is one of projecting geological conditions from known to covered areas. Nevertheless, certain geological features do lend themselves to detection and mapping by geophysical methods and it is possible that these, or similar surveys might provide a guide to an understanding

of the geology of the area, and thus indirectly to an understanding of potential ore locations.

Geophysical Data Examined.

DAta available consisted of ground magnetic and IP's on the Winkler - Faulkner and San Juan properties. The magnetic surveys are both vertical intensity variations, measured by and Askania ground magnetometer in the case of the W.-F. ground, and presumably by a hand held fluxgate magnetometer in the case of the San Juan survey. Accordingly, the accuracy of the latter survey would be somewhat less than that of the former, but such a consideration is more or less irrelevant, since no information is available in either case which describes the method of drift recognition and removal, or the tolerances of magnetic tie points.. For the purposes of this discussion one can do nothing else but assume that all procedures were carried out in a professional manner by competant and qualified personnel.

The posted magnetic values show a high level of noise, which is probably due to the presence of magnetic boulders (of basalts). The magnetic data for the W. F. ground has been smoothed using a simple averaging technique; i.e. each point has been averaged with all neighbouring points within a radius of five hundred feet, with unit weight applied to each point. A description of the method used is not available, but this scheme appears to duplicate most of the smoothed data values. Similarly, the magnetic data from the San Juan property should be filtered either by this scheme or by a more advanced band pass filter operator before comparisons or interpretations are attempted. Magnetic data appears on Plates 1 & 1A.

The IP - REsistivity surveys in the two areas utilized quite different techniques.The survey on the W.-F. ground was run with conventional frequency domain gear, using the expanding Eltran array. All of this data is available in the Essex files (Heinrichs, 1970), and is presented on a line by line bais in pseudo- section format. The work on the San Juan property was run by the Anaconda company, using a variation of the three electrode array, with measurement of the IP effect made in terms of phase angles. The data is presented as a plan for two separate spacings, and is bound herewith as plates 2 & 2A (IP) and plates 2R & 2A(R) (Resistivity).

A few"rule of thumb" calculations will permit the conversion of data from one system to another:

$$\text{PFE} = \text{phase angle (minutes)} \cdot \frac{3.2}{60}$$

$$\text{Chargeability (milliseconds)} \approx \text{PFE.} \; 5 \approx \text{phase angle .}$$

Though a report is available for the IP work done on the W. F. ground, there is not any similar technical information

regarding the work which Anaconda did in the San Juan area . Again it must be assumed that in general the work was conducted in accordance with generally accepted procedures. Where discrepancies appear, they will be dealt with individually.

Discussion of Results.

IP- Resistivity. San Juan Area.

The strong IP response on Plates 2 sheets 1 & 2 is indicative of a strong mineralized zone. Reliable depths to the mineralization cannot be made since only two relatively wide spacings have been used for the measurements, but depth to source (sulfide material) is probably less than 400 feet. The strong responses are suggestive of heavy pyrite mineralization of about five to fifteen percent. The zone of mineralization has been outlined on Plate 3, which is a general interpretation map, and on Fig. 1A. The pattern is indicative of a mineralized halo which surrounds a weakly mineralized core. Since this core represents the ore of the San Juan mine, detection of this halo may be a guide to the location of ore on the hanging wall of the Butte fault,- the mineralized or anomalous zone terminates against the fault, indicating that there may be a continuation to the south west. The gap in the mineralized halo may be significant in that it may reflect a mineralization trend which should be followed during the course of exploration.

The halo could be significant in the exploration of the Essex ground. The idealized section, presented in Fig. 2 shows that the ore zone which Phelps-Dodge is now developing could extend onto the Essex ground. The halo could be traced to a depth of fifteen hundred feet, and possibly deeper by IP methods. Whether or not the delineation of this halo would constitute a material contribution to the geological understanding of the area is a question for the project geologist to answer, and the nature of this answer would dictate whether or not the survey would be justified.

It is interesting to note that the mineralized halo probably does not extend as far as the W.- F. ground to the south. The IP pseudo- sections show no evidence of mineralization except at the extreme south end. In Fig. 3 the source of the IP anomaly has been interpreted as a buried layer, at a depth of about 1,500 feet. This interpretation is reasonable, in that the resistivity interpretation indicates about 1,000 feet to bedrock. The mineralized layer should be somewhat deeper, due to weathering.

The two solutions in the figure are consistent between 1,000 and 1,500 feet. More spacings with different electrode separations would be required to obtain a more accurate interpretation. The geological significance of sulfided at 1,000 feet at the south end of the W.-F. property, and their complete absence, or at leas burial in excess of 1,500 or 2,000 feet is not immediately apparent, but is duly observed, and may have

relevance to the future development of geological thinking in the area.

Elsewhere on the W.-F. ground, the resistivity data would indicate that overburden is somewhat thinner. At Line 5 there is only about three hundred feet of gravel if it is assumed that the bedrock is the higher resistivity material, and the solution of the resistivity case in Line 3 would indicate about five hundred feet or so. Clearly, any mineralization would be much deeper, since there does not appear to have been a problem in getting current into the bedrock material.. In the event that mineralization were much deeper than 1,500 feet, it could probably not be detected by this survey, since the response would likely fall within the noise level.

It may be usefull to trace the pyrite halo south west of the Butte fault. This could be accomplished by surveying the grid of five lines, spaced at 2,000 foot intervals which is shown on Plate 3, and on Fig. 1A. These lines, each of which are about three miles long, could be surveyed with dipoles of five hundred or one thousand feet in length, - depending on the depth to sulfides, or responsive material,- at a cost of about seven thousand five hundred dollars. The proposed grid has been laid out so that the material could be traced onto the W.-F. ground so that the previous survey could be used to further extend the data..

The two magnetic surveys indicate that the various rock types in the area have quite characteristic magnetic properties.. The vertical component data is amenable to various interpretation procedures, and once the data has been collected on a district basis, it should be usefull for purposes of projecting the various geological units. On plate 3 a few of the relatively obvious interpretations have been shown, and this plate illustrates what might be attempted on a district wide scale.

Provided that this information is usefull, the magnetic survey should be continued onto the Essex property, and then tied into the San Juan and W. - F. surveys. Once the data is smoothed and filtered, it should be possible to determine the position and depth of the Lone Star Granite, and other geological units. The inferred fault, which parallels the Butte fault near the North Eastern boundary of the W. F ground may also show up, as well as other structural features. The basalts will certainly interfere with the interpretation of the magnetics, but features from this source should be easily identifiable..

A complete reprocessing, filtering and re interpretation of the magnetics from the San Juan area would require about ten days using hand methods. The small amount of material would not justify processing by automatic methods. This work is being undertaken on a time available basis to demonstrate the applicability of the technique.

Even without filtering, the magnetics show a number of

features. For instance the Butte fault marks the transition from high frequency to lower frequency magnetics.. A frequency analysis would enable this feature to be traced in covered areas. The broad highs,- not the isolated single point anomalies in the south east corner co-incide with the location of basalts. However, the high north of this feature is as yet unexplained, and one would be obliged to search for an intrusive rock or other magnetite bearing unit to account for this anomaly. In addition, the north west trending anomaly in the northwest corner of the property my reflect the trend of the San Juan Intrusive. Some filtering, and a much more detailed treatment of the map would be required to affix the boundaries of the feature, but even these unprocessed results may reflec some general trends..

The magnetic survey on the W.-F. ground has been employed to to trace the Lone Star granite south west from its outcrop position onto the W.-F. ground. In addition other occurences have been inferred, and a northwest trending fault has been identified. This information could be projected onto the Essex ground if the survey were continued.

Conclusions and Recommendations.

The IP data on the San Juan property indicates that the ore zone is surrounded by a halo of mineralization. Though this halo may not be everywhere visible, its presence is unmistakable. The halo has been truncated by the Butte fault but could easily be traced in the hanging wall. The proposed grid shown in Fig. 1A and in Plate 3 would permit the detection and delineation of this halo in the event that such an action would be of benefit to the development of geological information in the area.

The intrusive rock, the Lone Star granite, has an anomalously high magnetic susceptibility. The location,- position and depth,- of this unit could be approximated in many instances from the results of a magnetic survey. A ground magnetic survey which would tie into the previous work on the W.-F. and San Juan properties along the proposed grid shown in Fig. 1A and Plate 3 is recommended.

Considering the problem of access in this area the benefits which could derive from a low altitude magnetic survey should be given serious attention. The various rock types could be identified by their susceptibilities, and thus could be mapped without regard to trespass considerations. The area to be covered is shown on Fig. 1A. Cost of flying the 410 line miles,- quarter mile line spacing,- would be about eight thousand dollars. This survey is not recommended at this time, but is suggested as a means of expanding the area in which geological mapping is available.

REspectfully submitted,

H. DAvid Mac Lean, P. Geoph.

D D MacLean

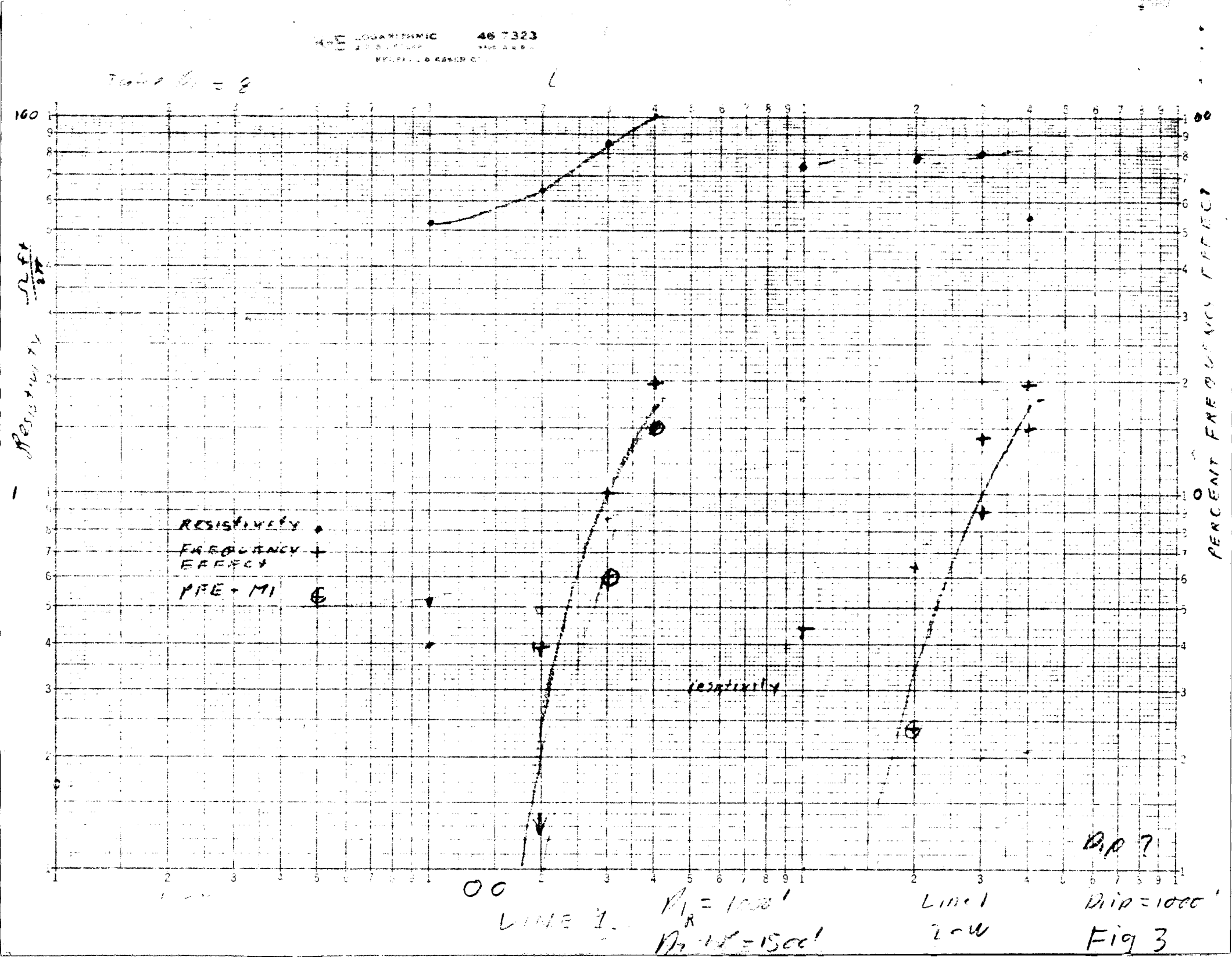
REferences;

Bell, J. D. ; "Exploration summary report, Winkler-FAulkner Project, Lone Star Mining District." Graham County, Arizona.

Ludwig, C. S.; (Heinrichs GeoExploration Co.;" Letter REport, Winkler - FAulkner Project" April 3, 1965 (Essex Files)

Rodriguez, R. G.;" IP Resistivity & Magnetic Surveys, San Juan Project, Graham County, Arizona," April 1968. Maps only Essex files.

Summary of maps and figures accompanying this report.


160
1
RESISTIVITY
FREQUENCY EFFECT
PFE + MI
PERCENT FREQUENCY EFFECT
resistivity
00
LINE 1
Line 1
2-W
Dip = 1000'
Fig 3

Kennecott Exploration, Inc.

Exploration Services Department

February 8, 1974

SXM

FEB 11 1974

RECEIVED

Mr. Paul I. Eimon
Manager of Exploration
Essex International, Inc.
1704 West Grant Road
Tucson, Arizona 85705

Dear Paul:

The data collected by Phil Nelson on KCC property with a transmitter located on Essex claims are attached. Phil describes the work as follows:

> "We spent January 4-7 attempting to map the Butte Fault with an EM method. To do so, we located an 8000-foot grounded dipole parallel to the fault and placed about a mile to the southwest. We read vertical and horizontal magnetic field amplitudes at 1740 Hertz which gave the highest sensitivity with the available coils.
>
> "A vertical or near-vertical conductor should exhibit a vertical field null directly above it providing that the primary vertical field is very small. However, if the primary field is large compared to the secondary, then the conductor will lie below the point of maximum slope of the total vertical field. We have assumed that the former condition holds, that our transmitter is sufficiently far removed from the fault that the primary field is virtually horizontal and that the conductor lies below a null in the vertical field. On the best nulls, an increase in the horizontal field was also discernible (data not shown) and the direction of the polarization ellipse minor axis also changed in crossing the conductor.
>
> "The vertical magnetic field data in Figure 2 exhibit nulls which are generally 20% or less than the adjacent maxima. Note that two nulls appear on Lines BF-1, BF-2, and BF3. On Lines BF-7 and BF-8 the null disappears and the tilt of the polarization ellipse remained more or less uniform along the line. Since these lines are entirely over gravel, we cannot say whether the conductor has terminated or is at a depth greater than detection capability. On the map in Figure 1 are plotted the locations of the nulls. The darkened squares are subjectively picked as being more definitive nulls than the undarkened."

2300 West 1700 South, Salt Lake City, Utah 84104 • Phone 801 - 486-6911 • TWX 910 - 925-5624

I hope these data are of some use to you.

Sincerely yours,

John C. Wilson

JCW/ac

Enclosure

cc: H. L. Bauer
N. Gambell

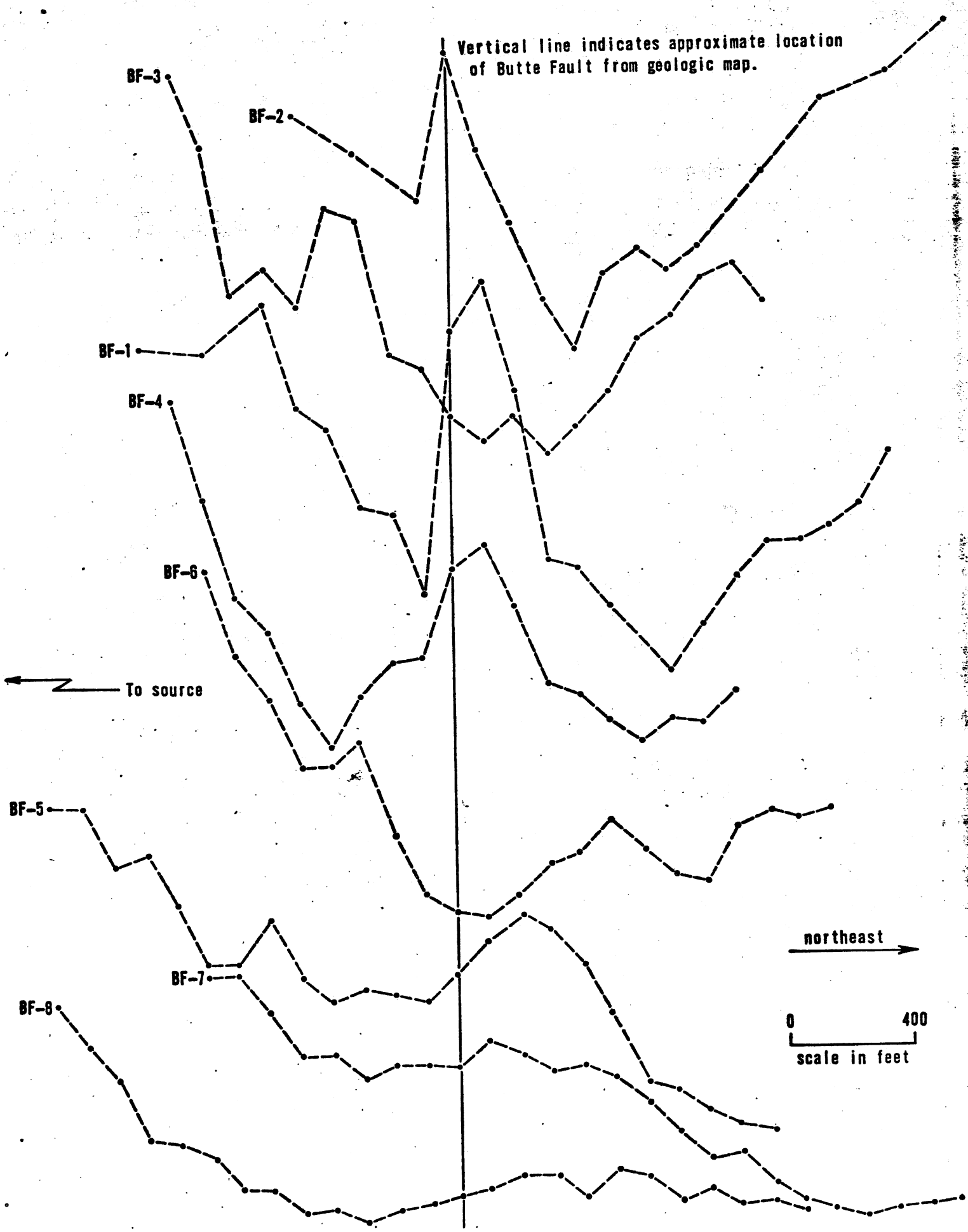
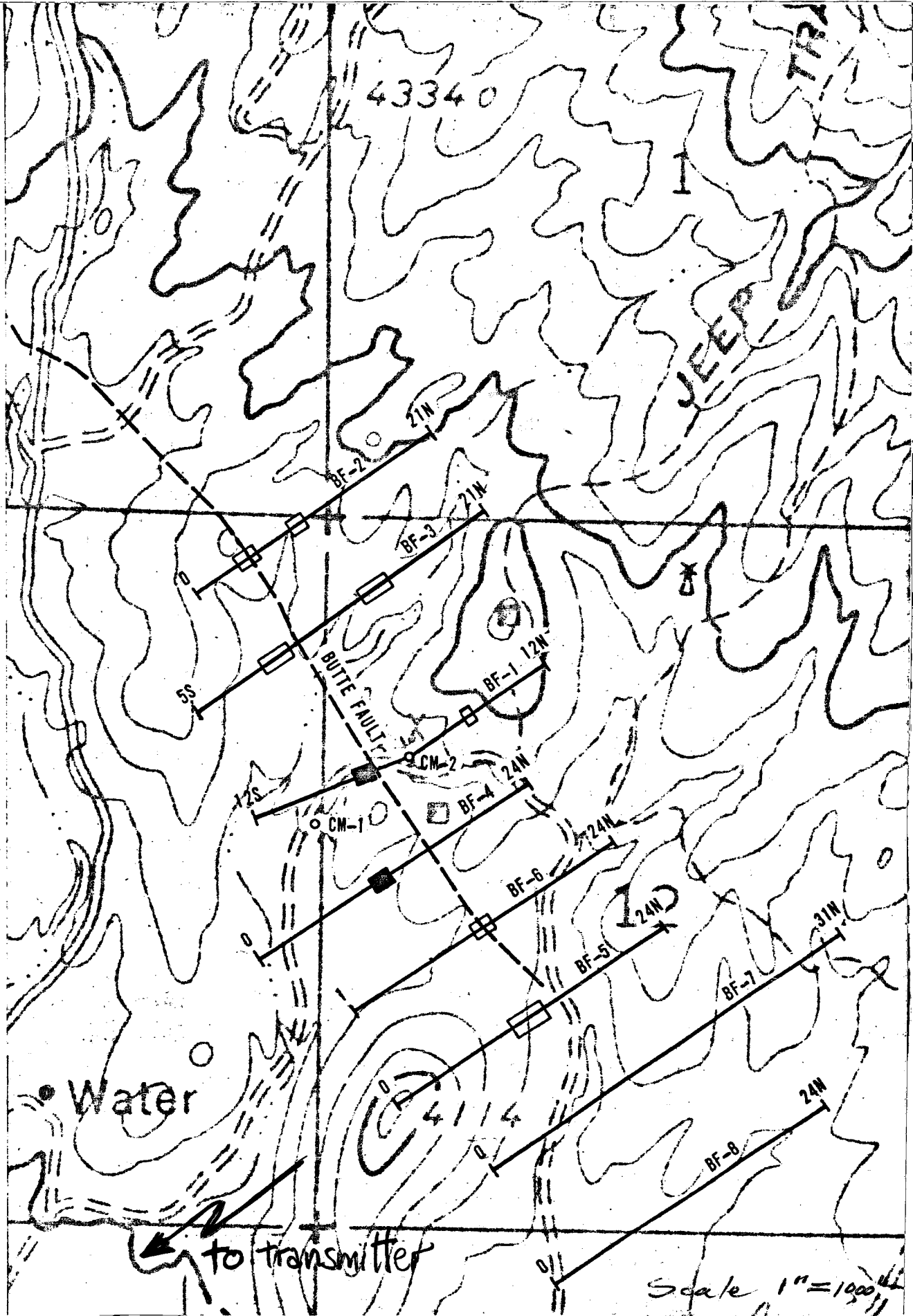


FIGURE 2. Vertical magnetic field amplitude at 1740 Hz across the Butte Fault at Safford. Vertical scale is about 32 microvolts (coil output) or 0.5 microamps/meter (field strength) per inch. The line spacing ranges between 700 and 1100 feet.

PHN 1/74 GD-R&D No. A4-518


43340
JEEP
BF-2
21N
BF-3
21N
BUTTE FAULT
BF-1
12N
5S
CM-2
CM-1
12S
BF-4
24N
24N
BF-6
124N
BF-5
31N
BF-7
24N
BF-8
Water
to transmitter
Scale 1"=1000'

250
14
236

38 | 550 = 14
38
170
132
18

9500
8550
1550

THESE ORANGE DASHED - LINE CLAIMS REPRESENT MISSING CLAIMS IN POSSIBLE LOCATION.

THESE ORANGE DASHED - LINE CLAIMS ARE INDICATED ON SOME MAPS

COFFEE SHOULD RUN DUE SOUTH ACCORDING TO LEGAL DESCRIPTION.

LOCATION OF COPPER FLAT # 24 WAS MADE ACCORDING TO LEGAL DESCRIPTION OF COPPER FLAT # 23 (AS ADJOINING CLAIM LYING TO THE WEST).

CF # 18 SHOULD LIE TO THE EAST OF CF # 19 ACCORDING TO LEGAL DESCRIPTION (OF ADJOINING OR CONTIGUOUS CLAIMS).

□ INDICATES LOCATION MONUMENT

NOTE: IN THE FLAT TOP AREA, LOCATION MONUMENTS WERE PLOTTED ACCORDING TO LEGAL DESCRIPTION OF CLAIM. SOME LOCATION MONUMENTS ARE QUESTIONED BECAUSE FIELD WORK INDICATES THAT THEY ARE LOCATED AT THE OPPOSITE END OF CLAIM. (IF THE NUMBERS OF THESE CLAIMS WERE REVERSED, THE ACTUAL LOCATION OF MONUMENTS & THE LEGAL DESCRIPTION WOULD MATCH.)

ORANGE COLORED AREAS ARE OVERSIZE PORTIONS OF CLAIMS (THAT IS, AREAS WHICH ARE MORE THAN 100' OVER THE LEGAL LIMIT.)

BLUE COLORED AREAS ARE THOSE WHICH (SUPPOSEDLY) ARE NOT COVERED BY A CLAIM.
THE MISSING CLAIMS - FLAT TOP # 33 & FLAT TOP # 36, & THE CLAIMS WHOSE PREVIOUS MAP LOCATION DID NOT FIT THEIR LEGAL DESCRIPTION - NAIL KEG # 23 & LAGGER NO. 10 HAVE BEEN ADDED (IN WHAT MIGHT SEEM TO BE A LOGICAL POSITION) TO COVER SOME OF THESE AREAS. THEIR LOCATION IS QUESTIONABLE.

NOTE: DATES ARE DATE OF LOCATION OF CLAIM

ESSEX PROPERTY
(LEASED OR NEGOTIATING)

1. NAIL KEG GROUP (1-19), A. CLARIDGE ET AL
2. NAIL KEG GROUP (20-24), A. CLARIDGE ET AL
3. REDHILL GROUP, A. CLARIDGE ET AL
4. BOHIEMA GROUP (1-24), (TECOTE 1,2 & FOOTHILL 59, 60) V. HOUSEHOLDER ET AL
5. COFFEE & COCHINO GROUP, V. HOUSEHOLDER
6. FLAT TOP GROUP, A. CLARIDGE ET AL
7. MELODY GROUP, CARRASCO & BELLMAN ET AL
8. LAGGER GROUP, M. GREEN
9. BIG BEN GROUP, A. CLARIDGE ET AL
10. BARDWELL GROUP, A. CLARIDGE ET AL
11. LEAD HILL GROUP, A. CLARIDGE ET AL
12. KEY GROUP, A. CLARIDGE ET AL
13. MESQUITE, B. JOHN
14. COPPER CHIEF GROUP (& EL RICO 3), P. LINES ET AL
15. SANDWASH GROUP, D. HAWKINS ET AL
16. PICKUP, L. WEST ET AL
17. SOTO STATE LEASE, M. GREEN
18. BOLD GROUP, R. CARRASCO ET AL
19. BIG BIRD GROUP (1-24 49,50), V. HOUSEHOLDER ET AL
20. BIG BIRD 51, V. HOUSEHOLDER ET AL
21. COPPER FLAT (11-23), V. HOUSEHOLDER ET AL

SAFFORD AREA PROPERTY and OWNERS

- HORSESHOE PATENTED CLAIMS (LONE STAR MINE), G. ANDERSON ET AL (under option to PRODUCERS MINERALS CORP.)
- BLUE BIRD GROUP (KNOB HILL CLAIMS), L. WEST ET AL (under option to PRODUCERS MINERALS CORP.)
- PHELPS DODGE GROUP, PHELPS DODGE
- KENNECOTT GROUP (BEAR CREEK MINING CO.)
- SAN JUAN GROUP, ETC., PRODUCERS MINERALS CORP.
- HARPOON GROUP, ETC., SANCHEZ & CARRASCO ET AL (leased to INSPIRATION CONSOLIDATED CORP.)
- BEN HUR GROUP, L. WEST ET AL (leased to INSPIRATION CONSOLIDATED CORP.)
- CENTER-WINKLER FAULKNER (BIG BIRD & COPPER FLAT GROUPS), WINKLER & FAULKNER ET AL
- EAST-WINKLER FAULKNER, WINKLER & FAULKNER ET AL
- WEST-WINKLER FAULKNER, WINKLER & FAULKNER ET AL

REVISED 11/18/71

PROJECT	SAFFORD
PROSPECT NUMBER	A021PB - 771
COUNTY, STATE	GRAHAM, ARIZ.
T.,R. & SECTION LATITUDE, LONGITUDE	5,6S; 26, 27E

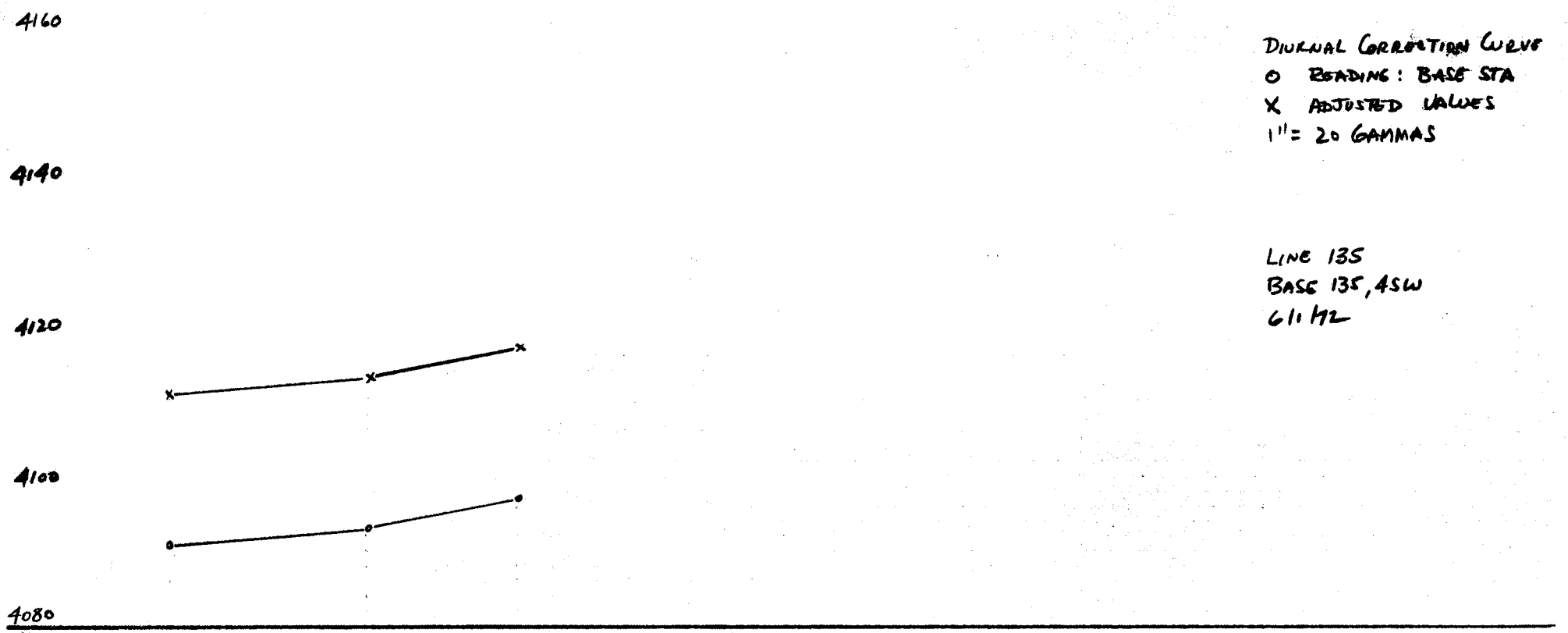
CLAIM MAP

SCALE	1" = 1,000'
DATE	11/10/71
DATA BY:	G.H.
PREPARED BY:	A.T.C.

CONFIDENTIAL

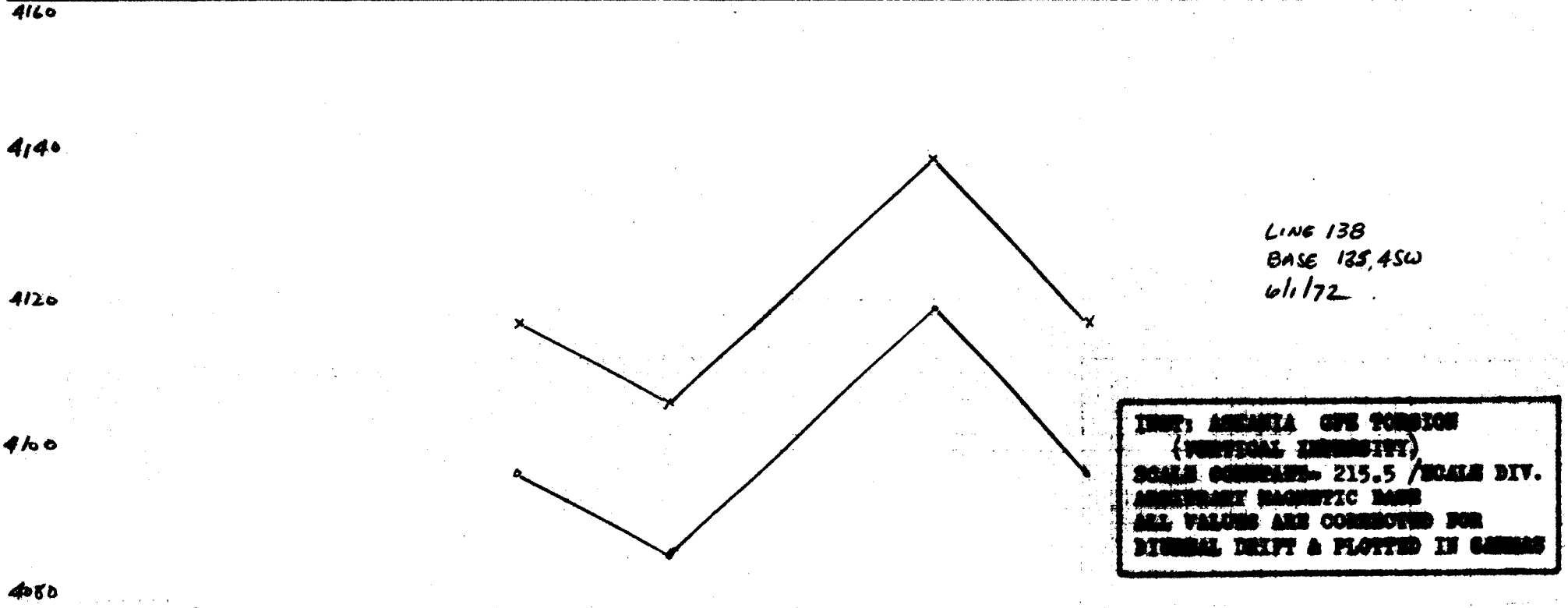
FIELD WORK MAP

REVISED 12/15/71



DIURNAL CORRECTION CURVE
O READING : BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

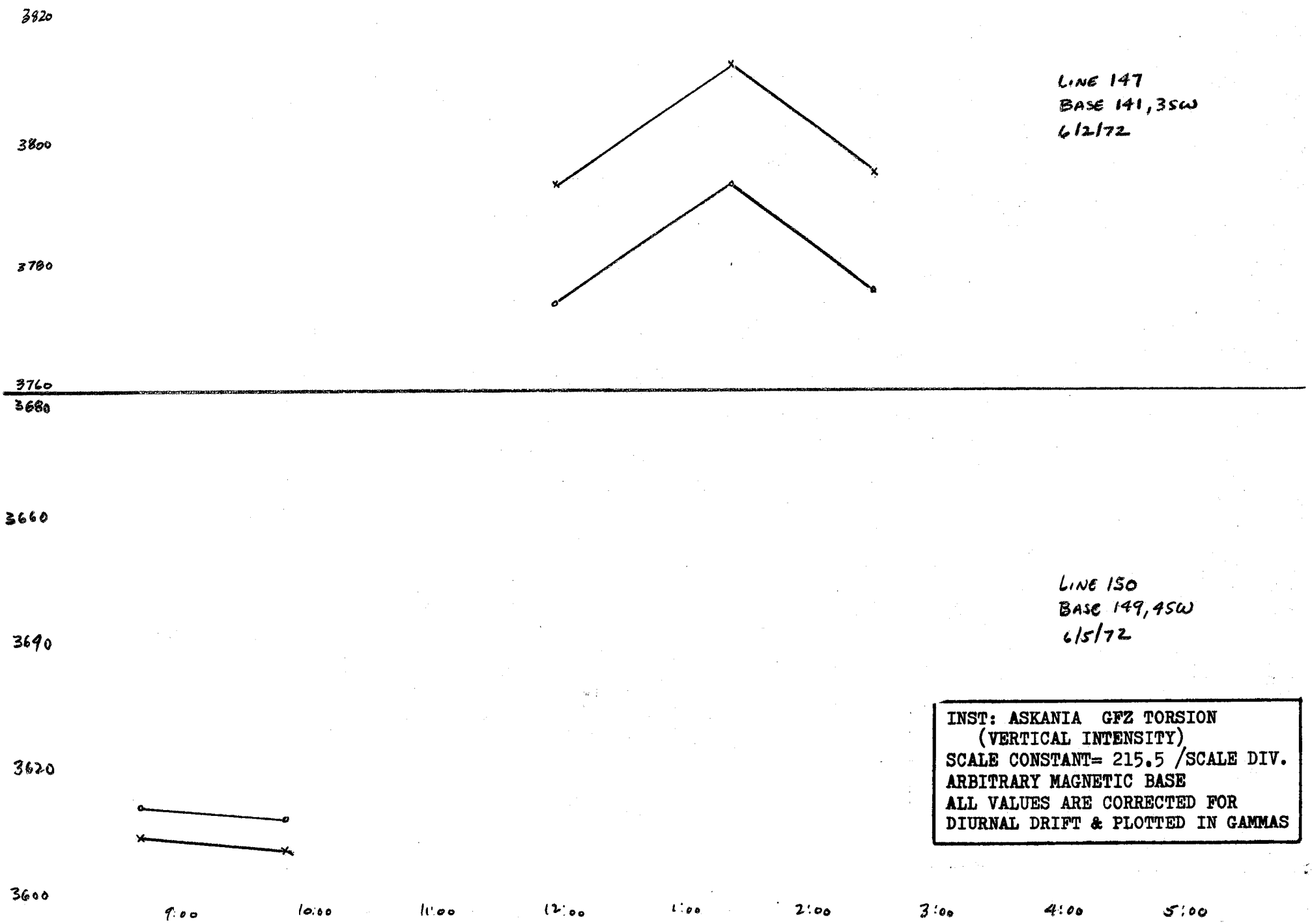
LINE 135
BASE 135, 4SW
6/1/72



LINE 138
BASE 135, 4SW
6/1/72

INST: ASKANIA GVS TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

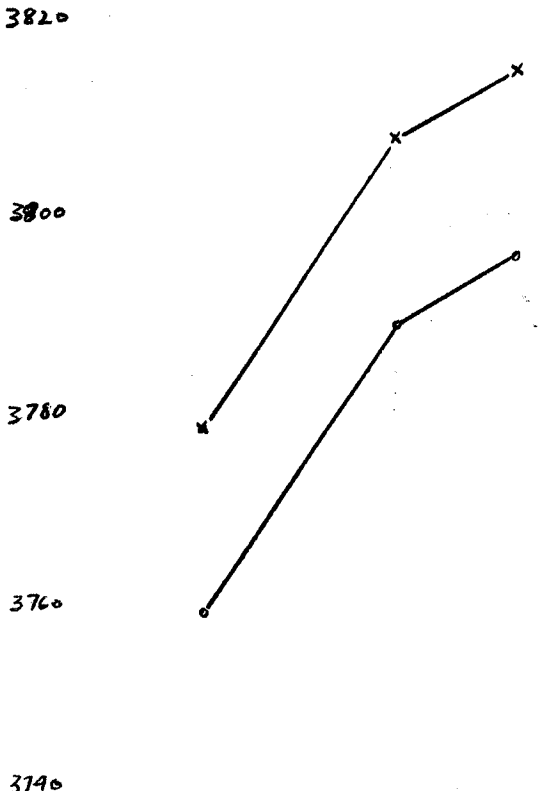
DIURNAL CORRECTION CURVE
o READING : BASE STA
× ADJUSTED VALUES
1" = 20 GAMMAS



LINE 147
BASE 141,35W
6/12/72

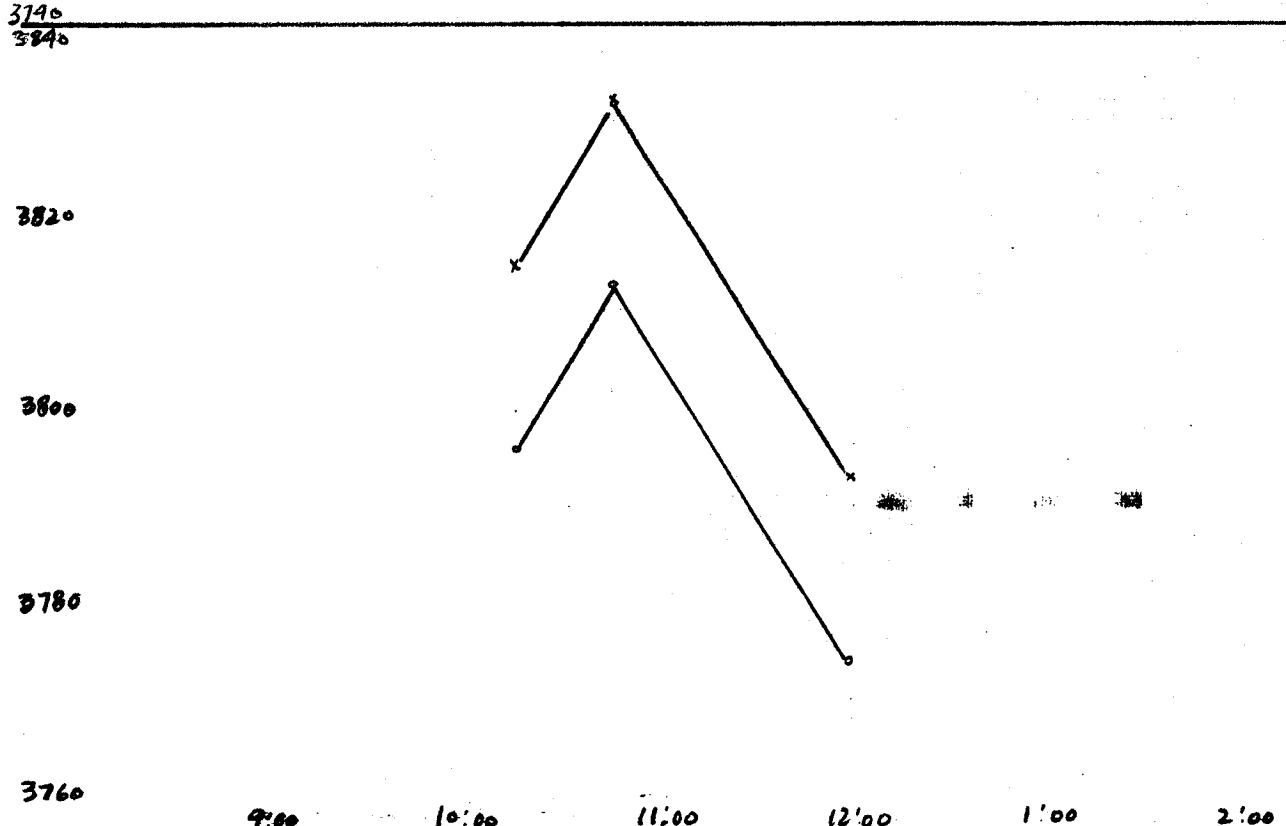
LINE 150
BASE 149,45W
6/5/72

INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS



DIURNAL CORRECTION CURVE
o READING: BASE STA
x ADJUSTED VALUES
1" = 20 GAMMAS

LINE 141
BASE 141 3,SW
6/2/72



LINE 144
BASE 141 3,SW
6/2/72

[illegible]

STA	1ST READING	2ND READING	AUG. E' S	TIME OF DAY	REMARKS

SAFFORD Proj.

VERTICAL INTENSITY

MAGNETOMETER NOTES

INST. ASKANIA GFZ

660/378

Scale Const. 238.5

Instrument Read by B.B.

4/25 STA	1ST Read	2nd Read	Avg.	S/S.D. FACTOR	Time
STA.	is Located	0f 5/4 8/9	200' S.	& 185' WEST	
LINE S 5000 W			T.	R.	
Mag. Base	97.62	97.62			1 25
	~~95.45~~	97.60	97.61		11 15
4750 W	97.67	97.73			
	97.70	97.72	97.71		11 20
4500 W	97.45	97.40	97.42		
	97.41				
4250 W	97.40	97.44	97.40		11 30
	97.38	97.38			
4000 W	97.25	97.25	97.25		
3750 W	97.00	96.98	96.99		11 40
3500 W	97.16	97.18	97.17		
3250 W	97.15	97.12	97.12		11 45
	97.10	97.12			
3000 W	96.94	96.94	96.94		11 50
BASE 5000 W	~~97.70~~	~~97.60~~			12 03
	97.55	97.55			
	97.56	97.57			
	97.57	97.56			

	Diurnal Corr	Reading		Remarks (See Note Below)
Beginning		S. 52 E.		
	-.11	23,254 1379		Base Correction 97.50
				Rotate 90°
97.61	-.10	23280 1405		67
97.32	-.09	2331- 1335		73 70 !
				43
97 31	-.09	23308 1333		MAIN Rd. EAST Side of
~~97 30~~	~~-.08~~			
97 17	-.08	1300		West Side of WASH
96 92	-.07	1240		IN WASH
97 10	-.07	1253		
97 05	-.07	1271		
96 88	-.06	1231		
				Return to base

To compute value multiply Avg. reading by scale constant (238.5) then subtract 21375 to correct to an arbitrary base

4/25 W5 STA	1ST READ	2ND READ	AVG	% S.D FACTOR	TIME
BASE 5000(W)	97 57	97 57			1:55
3000 W	96 95	97 00	96 97		2:29
2750 W	95 96	95 94	95 95		2:40
2500 W	96 95	96 95	96 95		2:47
2250 W	96 85	96 87	96 86		2:54
2000 W	96 90	96 90	96 90		2:59
1750 W	96 75	96 77	96 76		3:04
1500 W	96 94	96 94	96 94		3:11
1250 W	96 80	96 82	96 81		3:16
1000 W	96 88	69 86	96 87		3:25
750 W	96 95	96 95	96 95		3:36
500 W	97 07	97 05	97 06		3:42
250 W	96 80	96 82	96 81		3:50
STATELE 0 E/W	97 05	97 03	97 04		3:57
250 E	96 96	96 96	96 96		4:03
BASE 5000 W	97 78	97 80	97 79		4:40

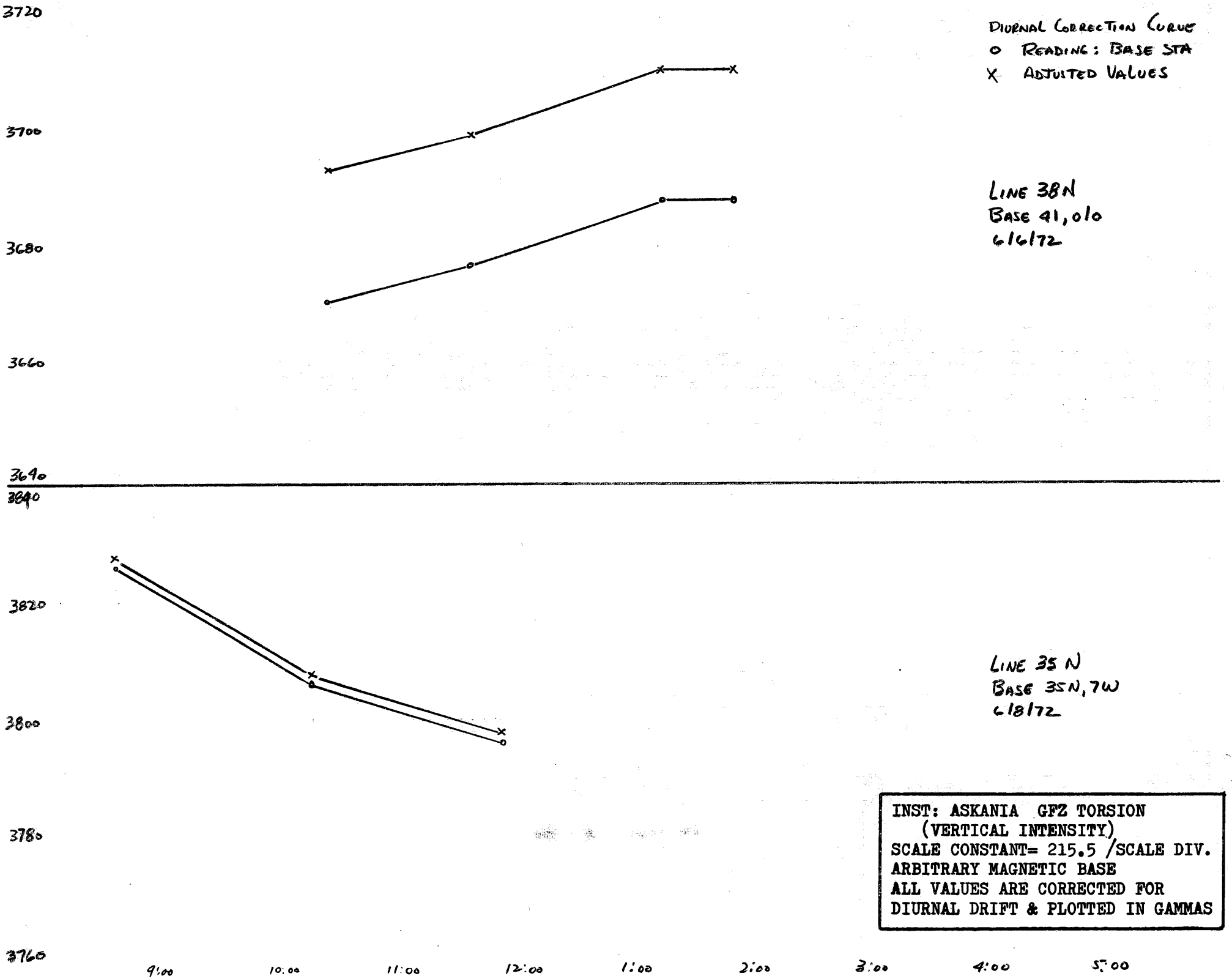
	DIURAL COLOR	δ READING	δ	REMARKS
				BASE
	-.10	96.87	1231 1228	FLAT
	-.11	95.84	983	"
	-.12	96 83	1219	"
	-.13	96 83	1195	"
	-.13	96 77	1205	WASH
	-.14	96.62	1169	E of WASH
	-.15	96 79	1209	FLAT
	-.16	96 66	1178	EDGE OF WASH
	-.17	96 80	1212	
	-.18	96 77	1205	
	-.19	96 87	1229	Slope of RIDGE
	-.19	96 62	1169	BIG WASH
	-.20	96 84	1221	FLAT
	-.22	96 74	1197	130' N of SW SLOPE OF RED HILL #2
	-.29			BASE

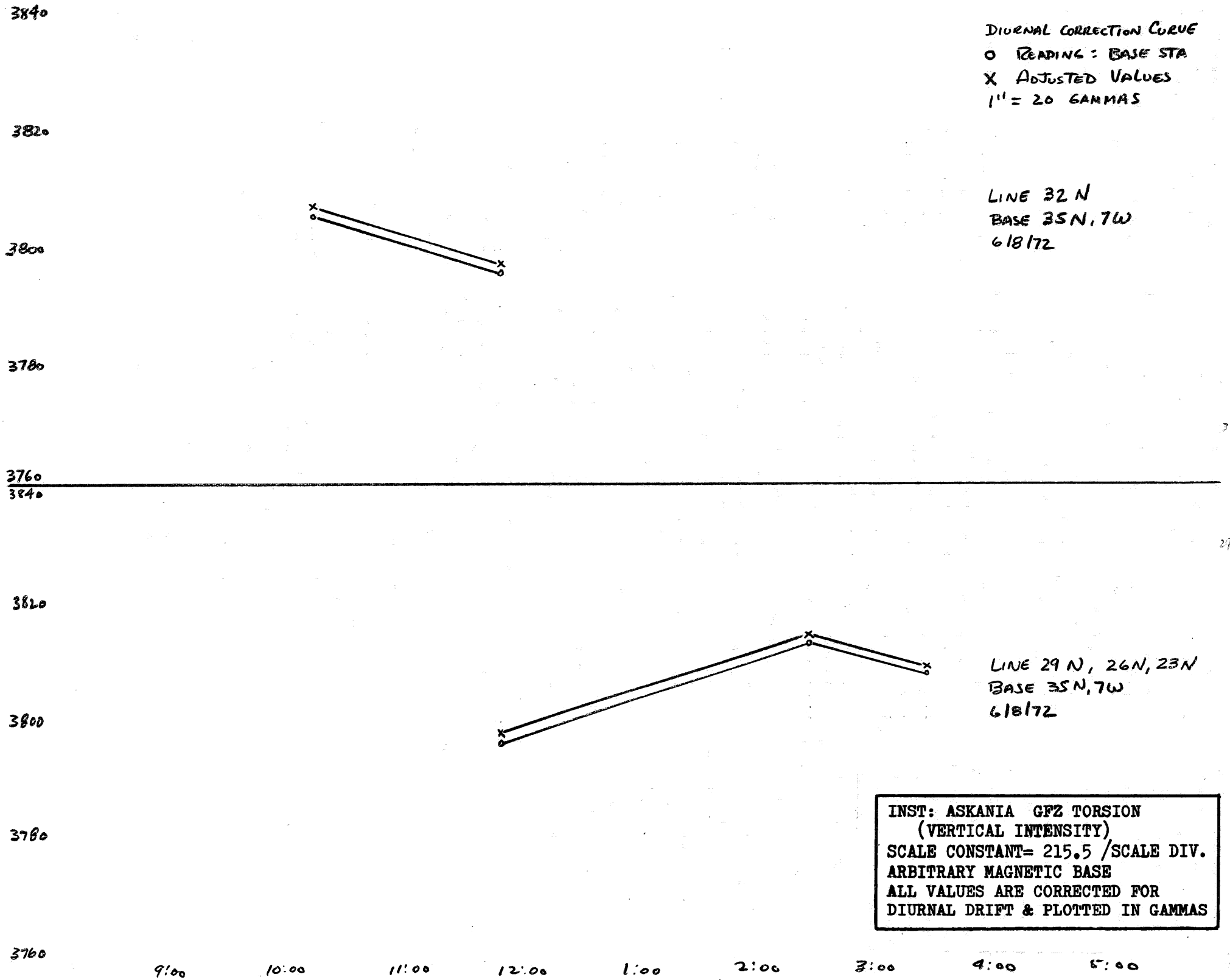
4/24 LNS STA	1ST READ	2ND READ	AVG.	DES. ELEV	TIME
BASE 5000 W	97 72	97 74	97 73		9:07
500 E	97 18	97 20	97 19		10:05
750 E	97 20	97 18	97 19		10:15
1000 E	96 13	96 13	96 13		10:37
STAKE 1250 E	97 15	97 15	97 15		10:45
1500 E	97 16	97 16	97 16		10:50
1750	97 32	97 32	97 32		10:55
2000	97 10	97 12	97 11		
2250	95 15	95 17	95 16		
STAKE 2500 E	97 33	97 36	97 34		11:24
2750	96 60	96 60	96 60		
3000	96 30	96 30	96 30		
3250	97 20	97 20	97 20		
3500	97 09	97 10	97 09		11:52
STAKE 3750	97 27	97 29	97 28		
4000 E	97 24	97 24	97 24		12:07

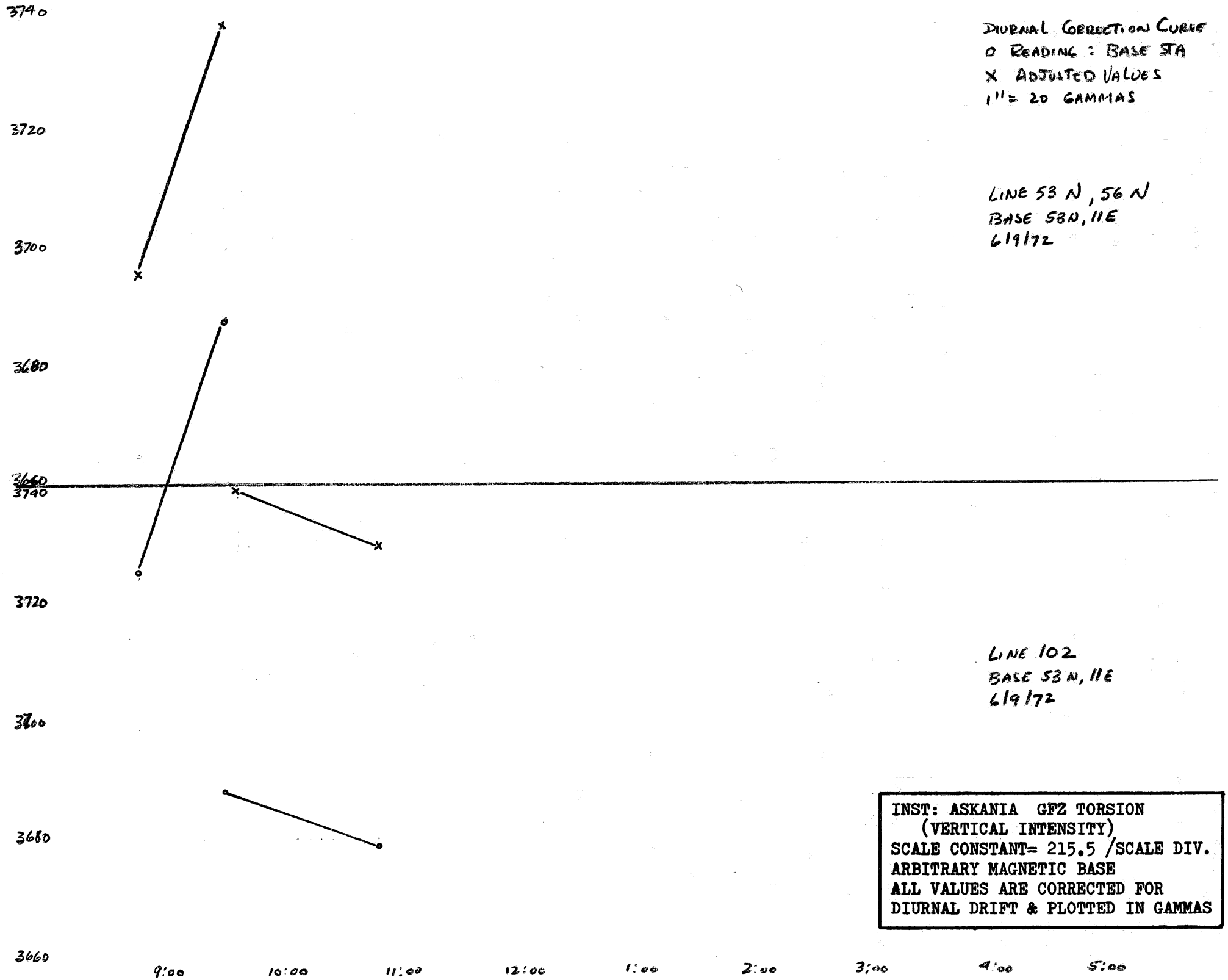
	Drift & Corr	δ Reading			Remarks
					BASE
	-.22	96 97	1252		FLAT
	-.22	96 97	1252		
	-.22	95 91	1000		1/4 COR SEC 9
	-.22	96 93	1243		200' N 55 E
	-.22	96 94	1245		FENCE 100' EAST
	-.22	97 10	1283		
	-.22	96 89	1233		EDGE OF WASH
	-.22	94 94	768	?	SLOPE OF BASALT HILL
	-.22	97 12	1288		"
	-.21	96 39	1114		"
	-.21	96 09	1042		BASE OF BASALT HILL
	-.21	96 99	1257		LUNCH
	-.21	96 88	1231		ROAD & WASH
	-.21	97 07	1276		SE COR FT 28 SE COR 26 155' SOE
	-.21	97 03	1267		

4/24 LN6 STA	1ST READ	2ND READ	AVG		TIME
START 4000 E	97.80	97.78	97.79		12:32
3750 E	97.30	97.30	97.30		
3500 E	97.30	97.30	97.30		
3250 E	97.50	97.48	97.49		12:49
3000 E	97.45	97.43	97.44		
STAKE 2750 E	97.57	97.57	97.57		
2500 E	97.75	97.77	97.76		
BASE 5000 W	97.70	97.68	97.69		1:46
2250	97.51	97.56	97.53		2:32
4/25	LINE 6				
5000 W BASE	97.84	97.84	97.81		8:47
2000 E	98.05	98.07	98.06		9:17
1750 E	97.71	97.73	97.72		
STA 1800 E	97.60	97.62	97.61		
1250	97.55	97.53	97.54		
1200	97.48	97.48	97.48		9:39

	DIURAL CORR	$\frac{\delta}{\text{READ}}$		REMARKS	
	-.21	$97\frac{58}{}$			
	-.21	$97\frac{09}{}$			
	-.21	$97\frac{09}{}$			
	-.21	$97\frac{28}{}$			WASH
	-.21	$97\frac{23}{}$			
	-.20	$97\frac{37}{}$			EDGE OF WASH
	-.20	$97\frac{06}{}$			
	-.20	$97\frac{36}{}$			
					100 L' OF FENCE
					150 L' OF FENCE


3720
3700
3680
3660
3640
3840
3820
3800
3780
3760
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00
DIURNAL CORRECTION CURVE
o READING : BASE STA
X ADJUSTED VALUES
LINE 38N
BASE 41,010
6/6/72
LINE 35 N
BASE 35N, 7W
6/8/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS


3840
3820
3800
3780
3760
DIURNAL CORRECTION CURVE
O READING : BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS
LINE 32 N
BASE 35N, 7W
6/8/72
3840
3820
3800
3780
3760
LINE 29 N, 26N, 23N
BASE 35N, 7W
6/8/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00

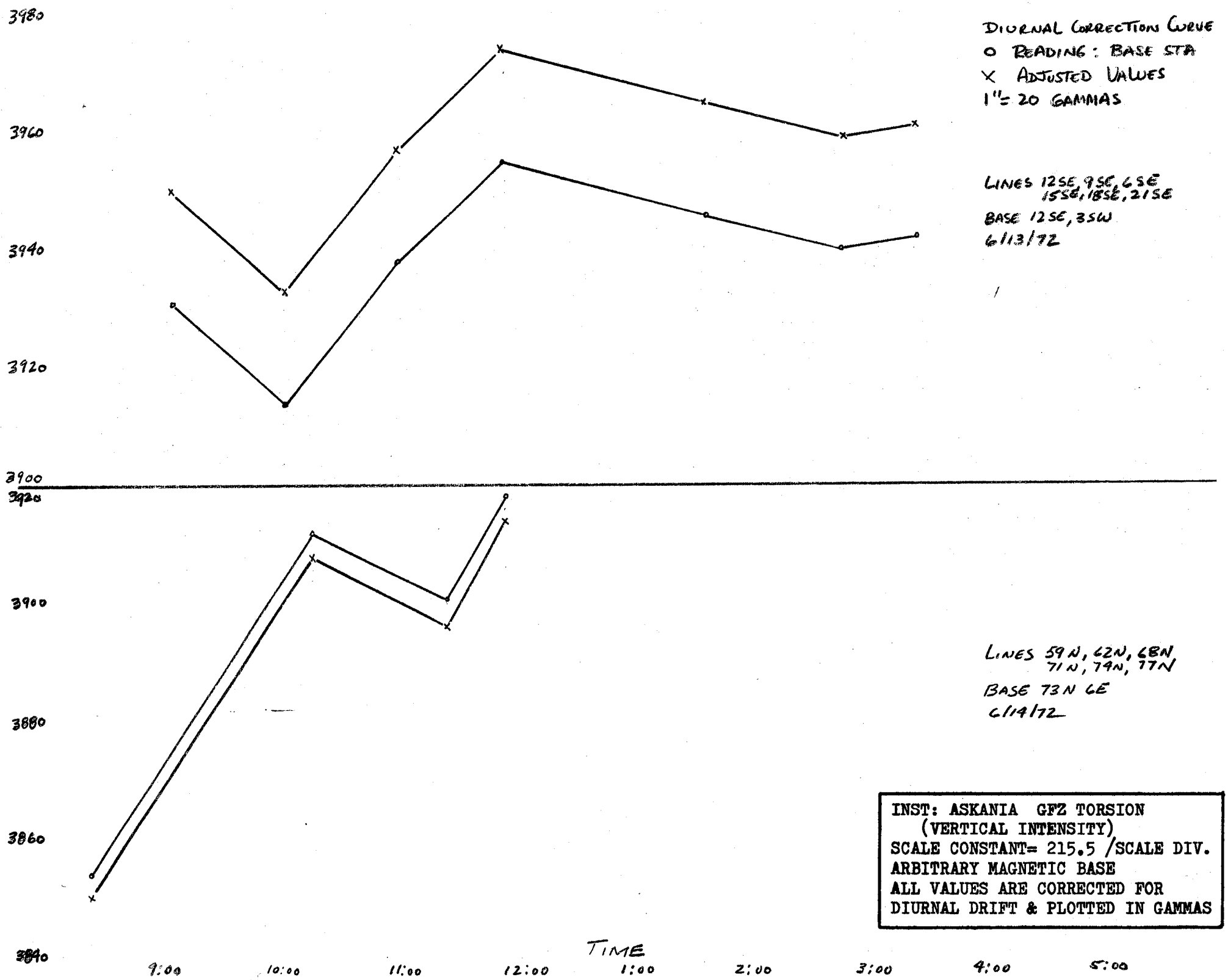


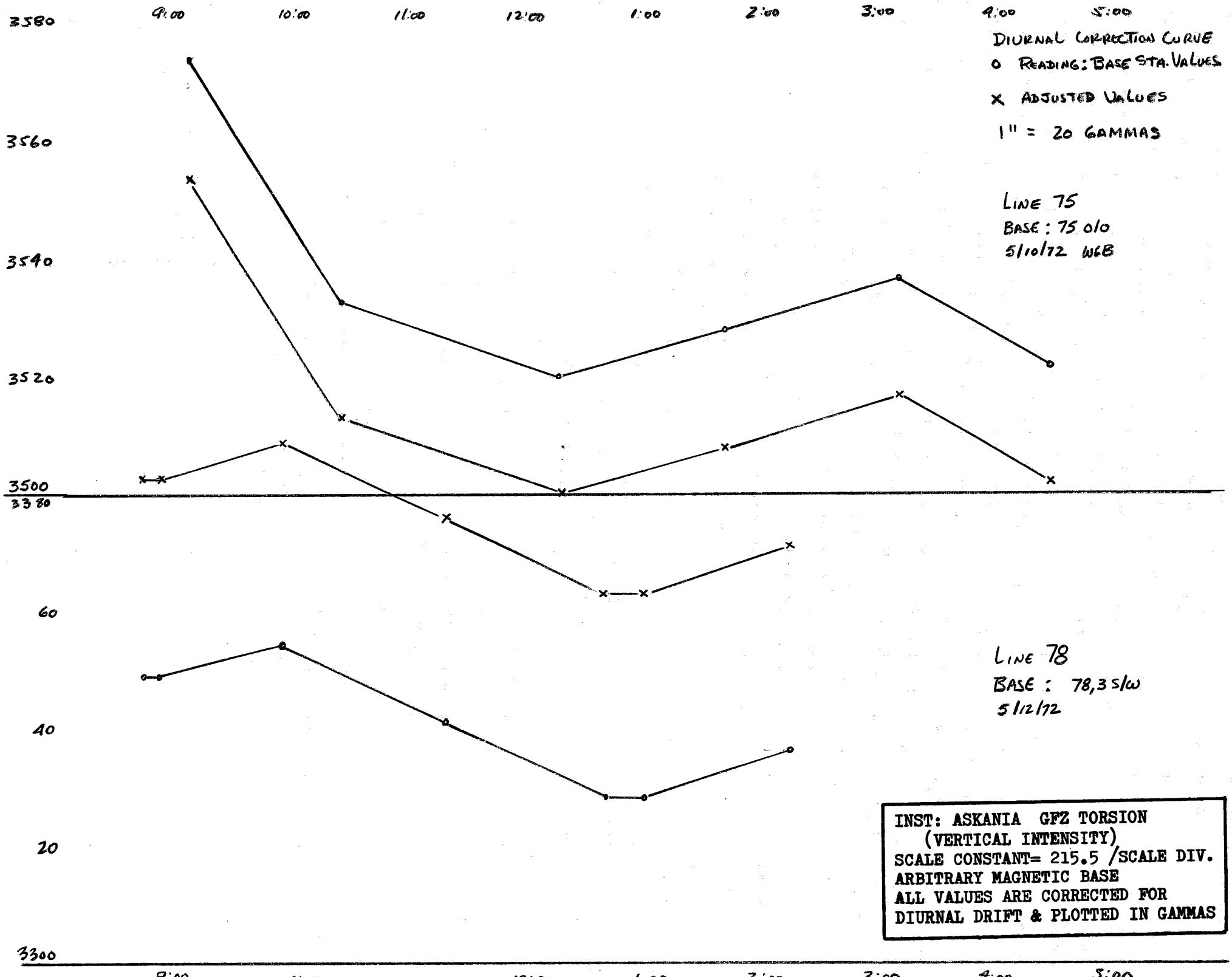
DIURNAL CORRECTION CURVE
O READING : BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

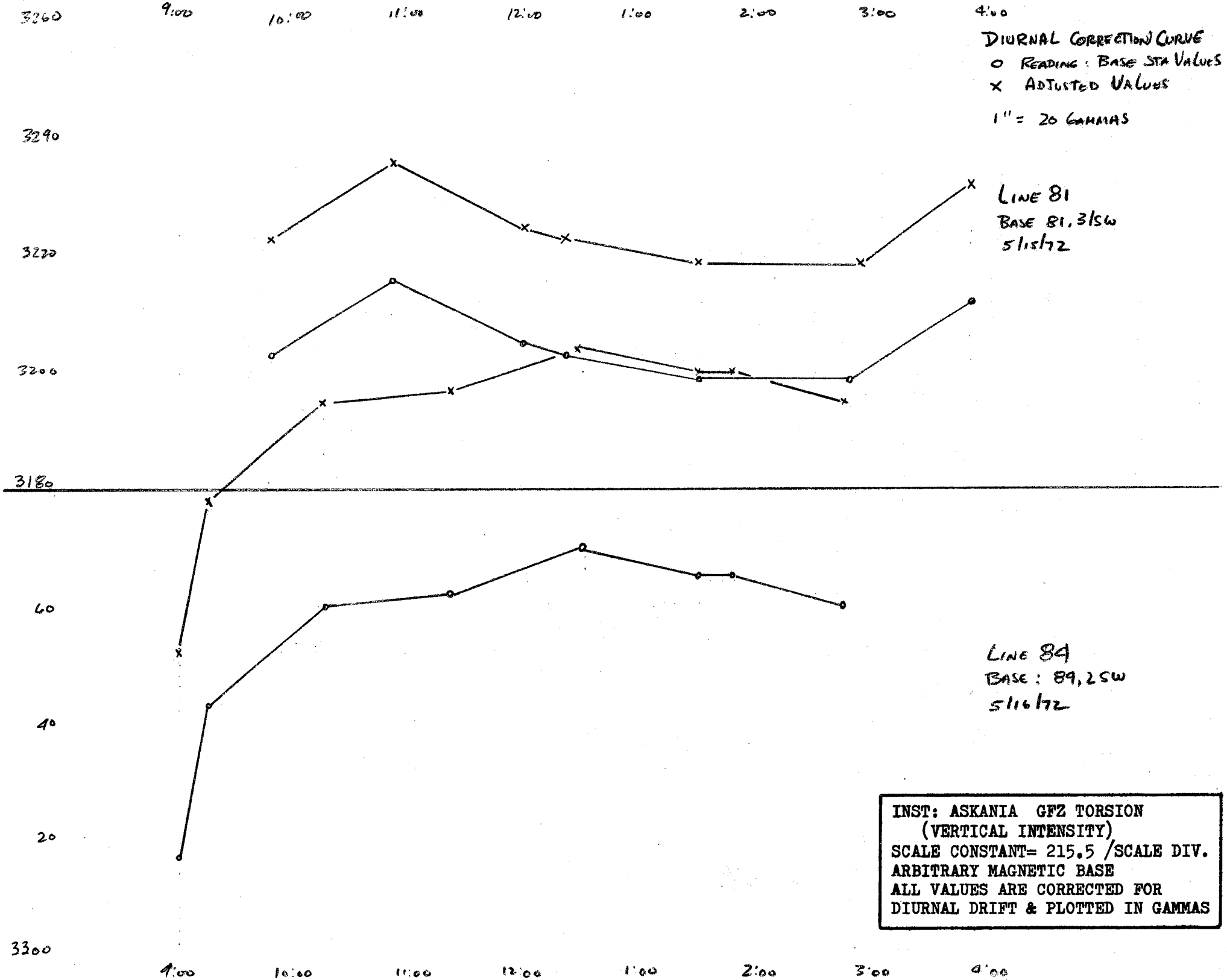
LINE 53 N, 56 N
BASE 58N, 11E
6/9/72

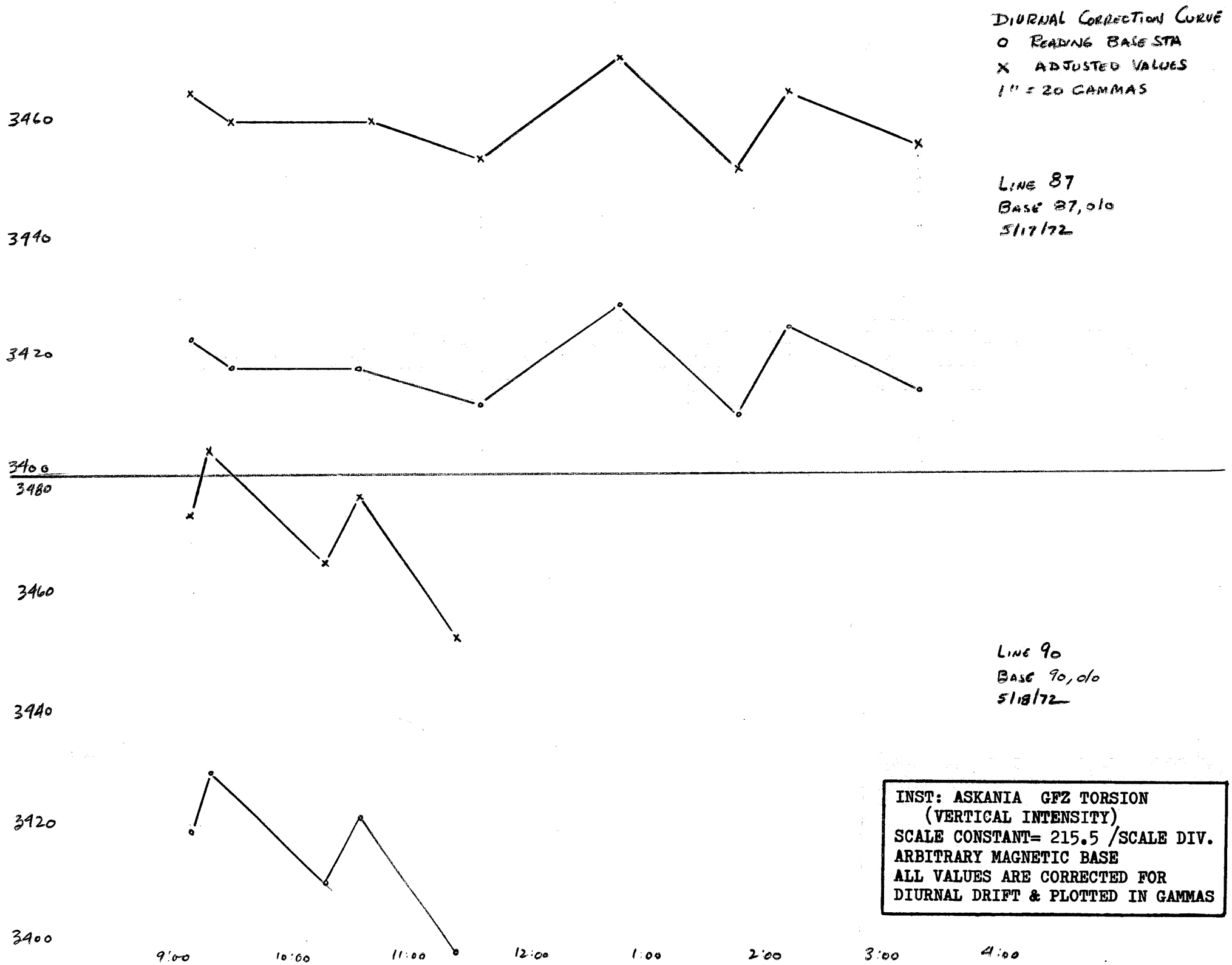
LINE 102
BASE 53 N, 11E
6/9/72

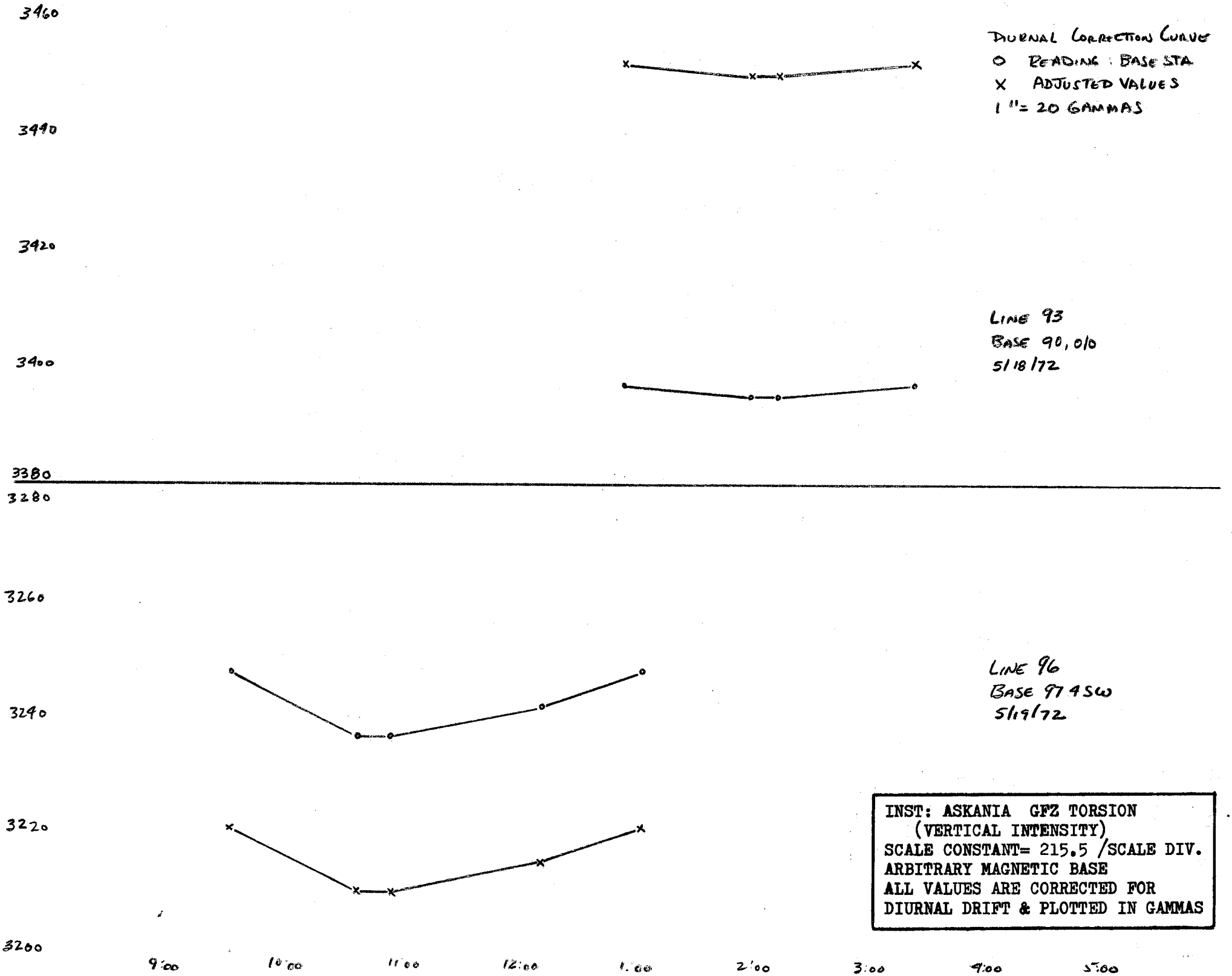
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS


3980
3960
3940
3920
3900
DIURNAL CORRECTION CURVE
O READING : BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS
LINES 12SE, 9SE, 6SE
15SE, 18SE, 21SE
BASE 12SE, 3SW
6/13/72
3920
3900
3880
3860
3840
LINES 59N, 62N, 65N
71N, 74N, 77N
BASE 73N 6E
6/14/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS
TIME
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00


9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00
3580
3560
3540
3520
3500
3380
60
40
20
3300
DIURNAL CORRECTION CURVE
o READING: BASE STA. VALUES
× ADJUSTED VALUES
1" = 20 GAMMAS
LINE 75
BASE: 75 o/o
5/10/72 WGB
LINE 78
BASE: 78,3 s/w
5/12/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

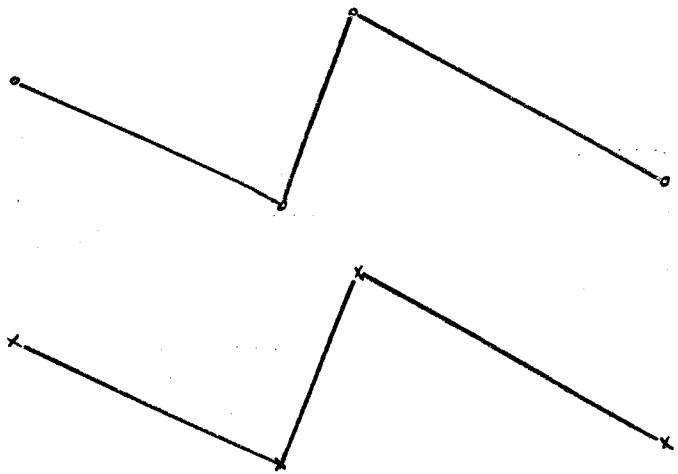

9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
3260
3240
3220
3200
3180
60
40
20
3300
DIURNAL CORRECTION CURVE
o READING : BASE STA VALUES
x ADJUSTED VALUES
1" = 20 GAMMAS
LINE 81
BASE 81, 3 1/2 S W
5/15/72
LINE 84
BASE : 89, 2 S W
5/16/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS


DIURNAL CORRECTION CURVE
O READING BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS
LINE 87
BASE 87,0/0
5/17/72
LINE 90
BASE 90,0/0
5/18/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS
3460
3440
3420
3400
3480
3460
3440
3420
3400
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00


3460
3440
3420
3400
3380
3280
3260
3240
3220
3200
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00
DIURNAL CORRECTION CURVE
O READING : BASE STA.
X ADJUSTED VALUES
1 "= 20 GAMMAS
LINE 93
BASE 90, 0/0
5/18/72
LINE 96
BASE 97 4 SW
5/19/72
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 200 GAMMAS

LINE 99
BASE 97, 4SW
5/19/72



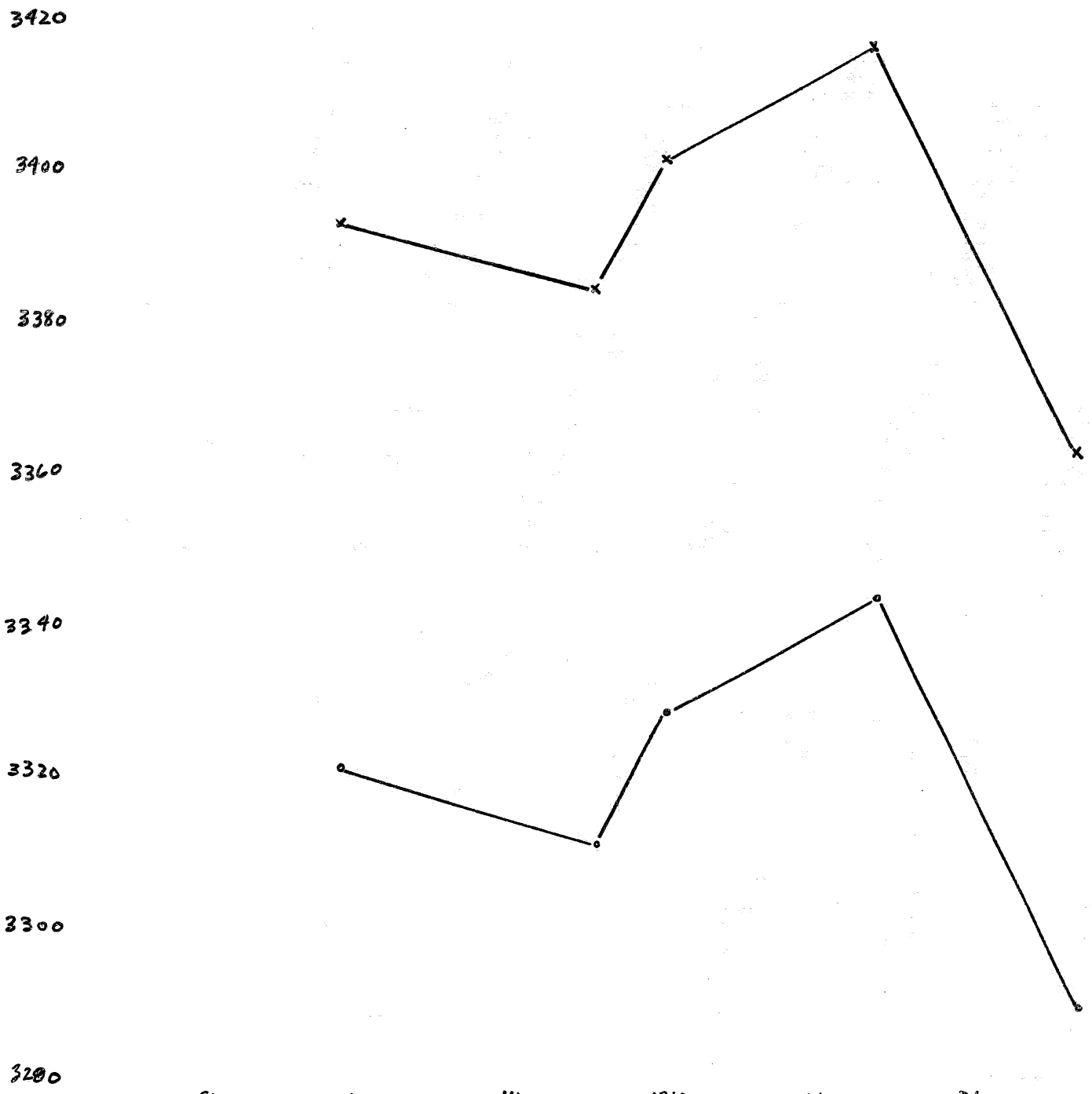
LINE 102
BASE 97, 4SW
5/23/72

INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

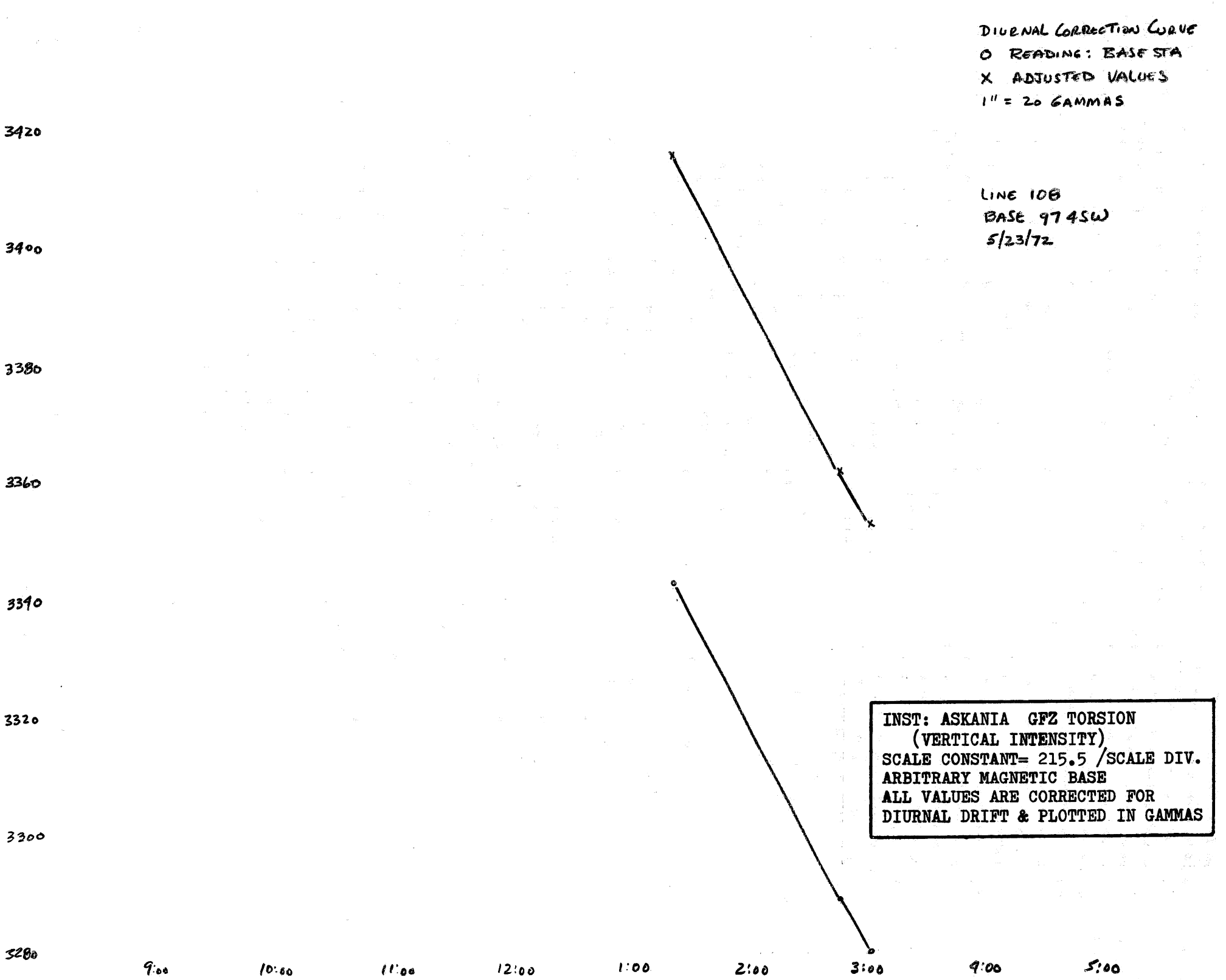
3260
3290
3220
3200
3400
3380
3360
3340
3320
3300
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00

DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

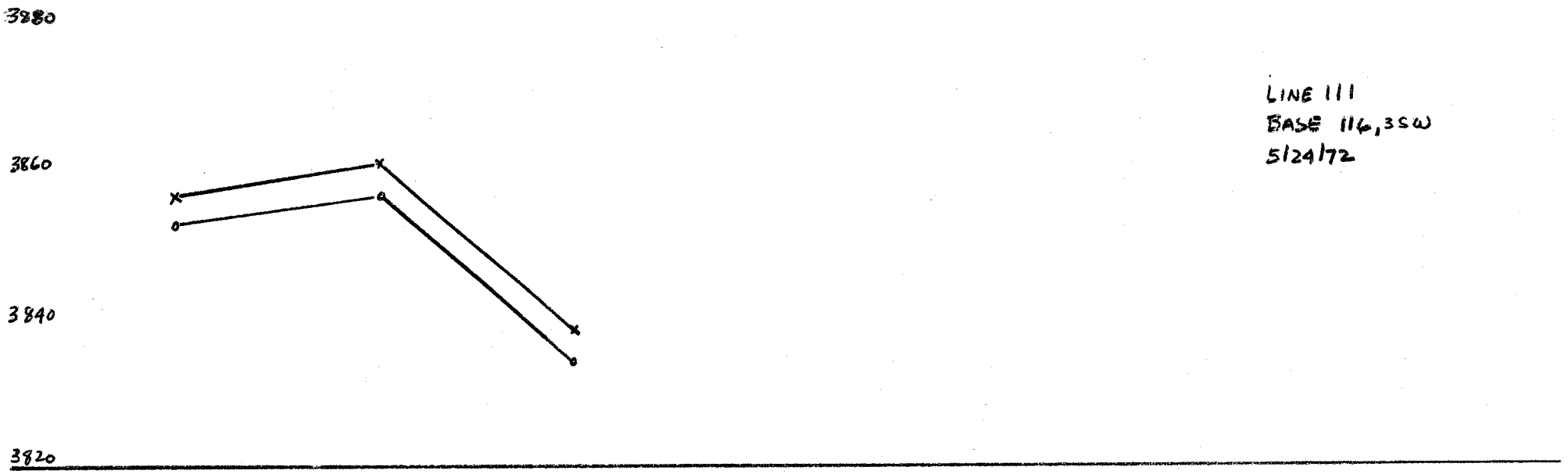
LINE 105
BASE 97,45W
5/23/72



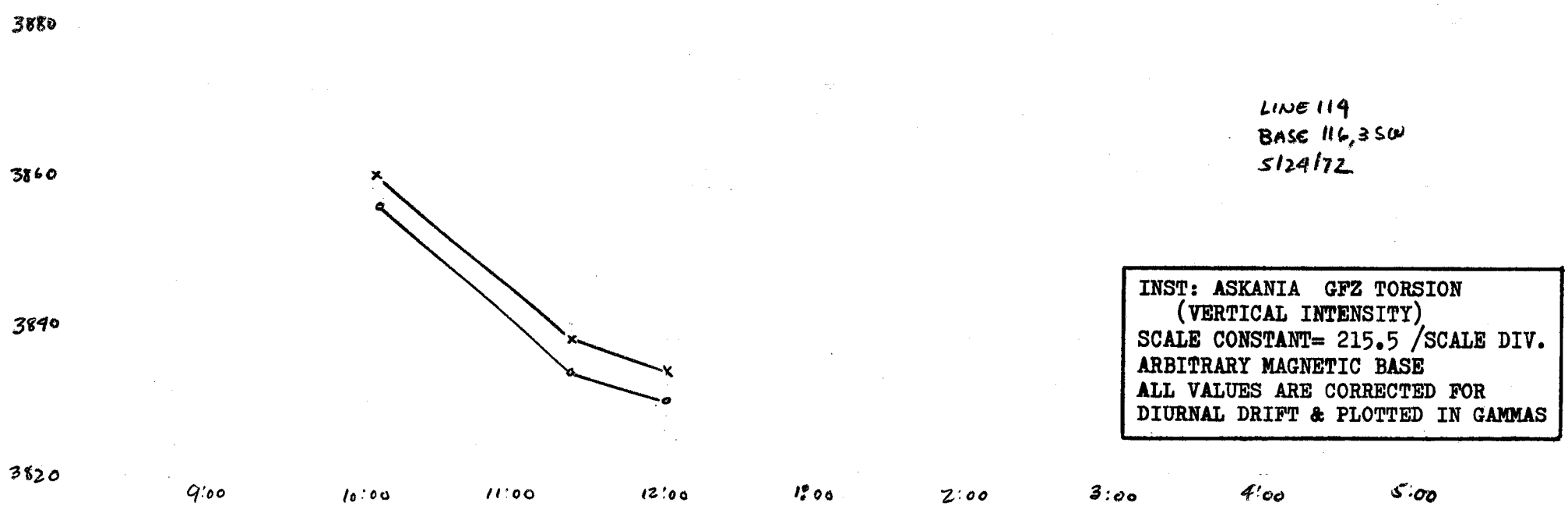
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS


DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS
LINE 10B
BASE 9745W
5/23/72
3420
3400
3380
3360
3340
3320
3300
3280
9:00
10:00
11:00
12:00
1:00
2:00
3:00
9:00
5:00
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS



LINE 111
BASE 116,350
5/24/72

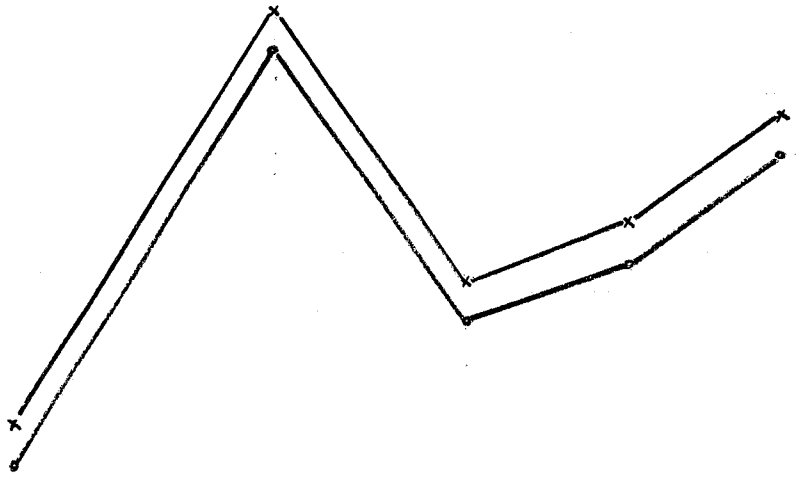


LINE 114
BASE 116,350
5/24/72

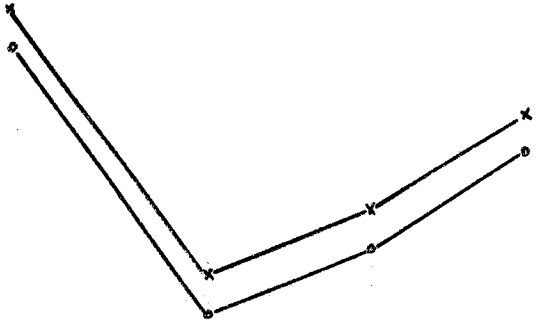
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

LINE 117
BASE 116, 35W
5/24/72



LINE 120
BASE 116, 35W
5/24/72

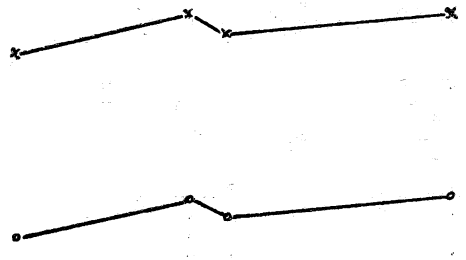


3880
3860
3840
3820
3800
3860
3840
3820
3800

9:00 10:00 11:00 12:00 1:00 2:00 3:00 4:00 5:00

INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

DIURNAL CORRECTION CURVE
o READING : BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

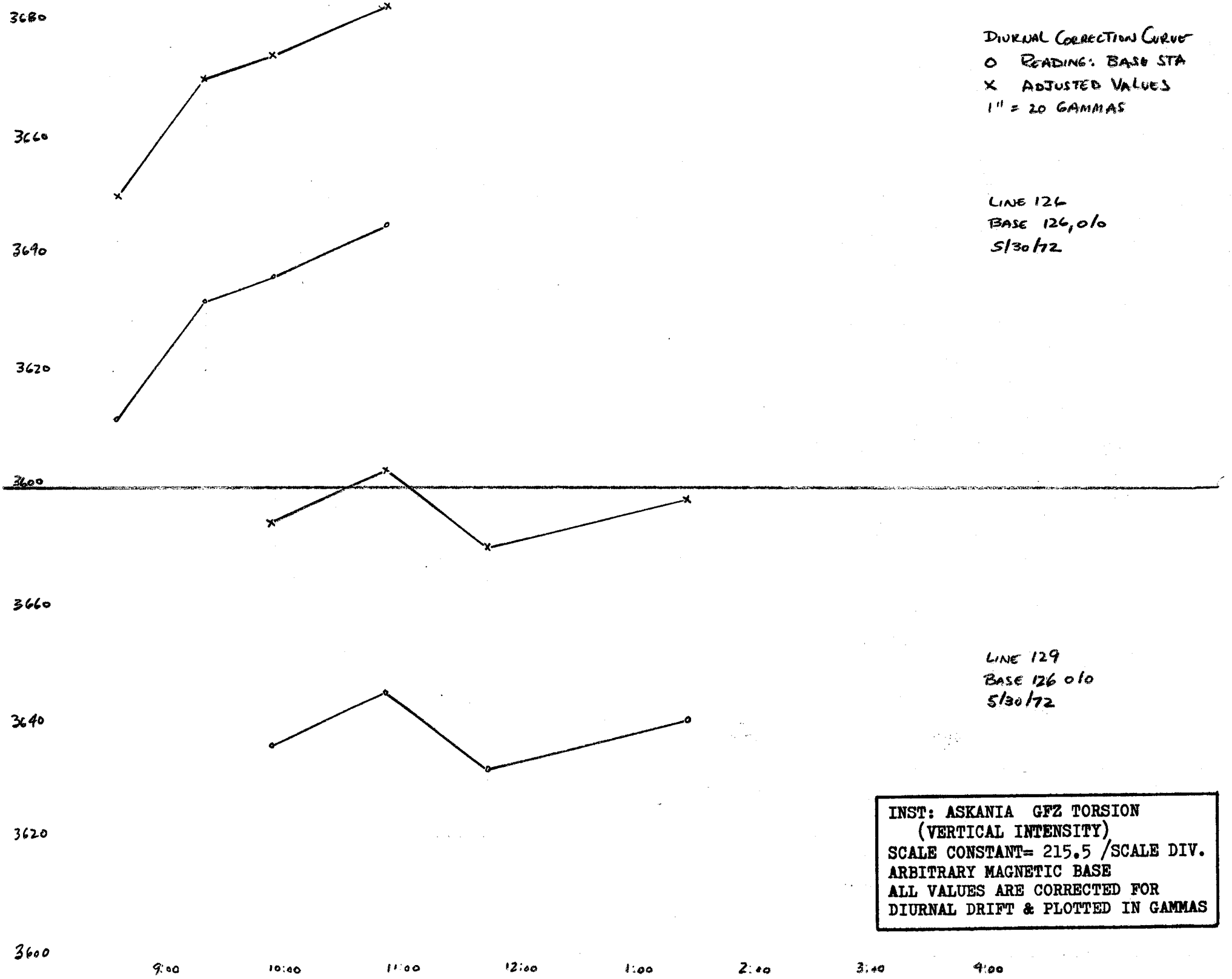


3700
3680
3660
3690
3620
3600

LINE 123
BASE 123,010
5/25/72

INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

9:00 10:00 11:00 12:00 1:00 2:00 3:00 4:00



DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

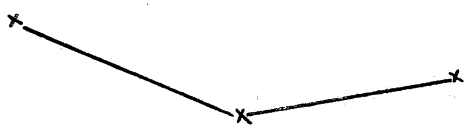
LINE 126
BASE 126,0/0
5/30/72

LINE 129
BASE 126 0/0
5/30/72

INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

3680

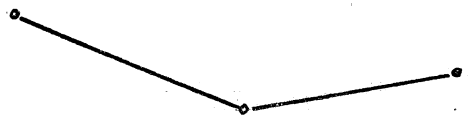
DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS



3660

LINE 132
BASE 126, 310
5/30/72

3640



3620

3600

3660

3600

3620

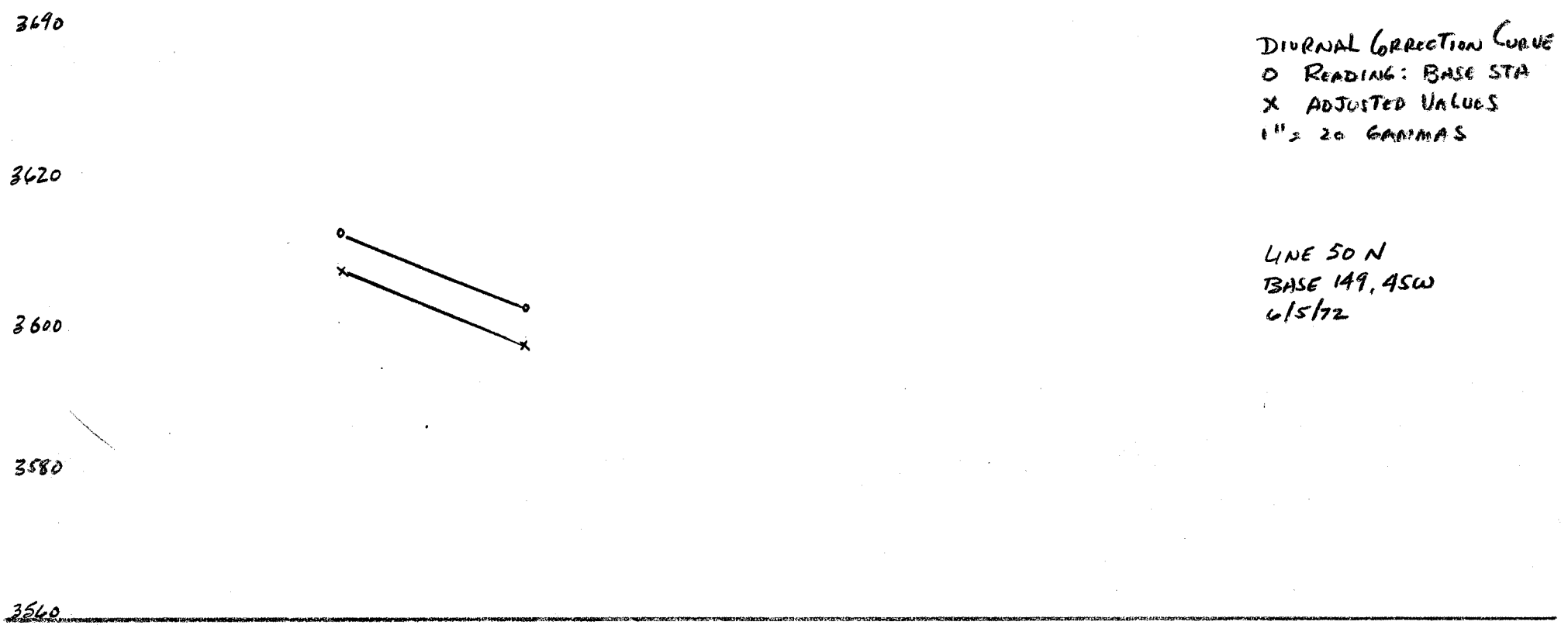
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

3620

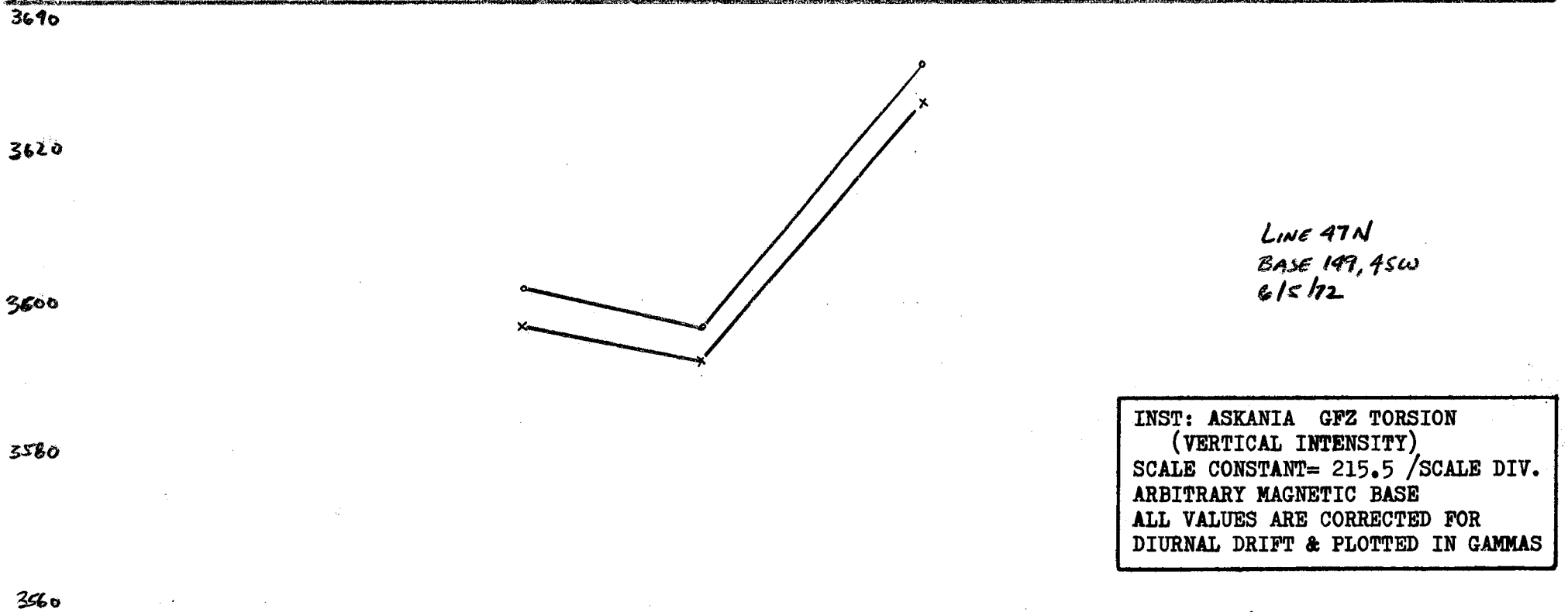
3600

9:00 10:00 11:00 12:00 1:00 2:00 3:00 4:00

DIURNAL CORRECTION CURVE
O READING: BASE STA
X ADJUSTED VALUES
1" = 20 GAMMAS

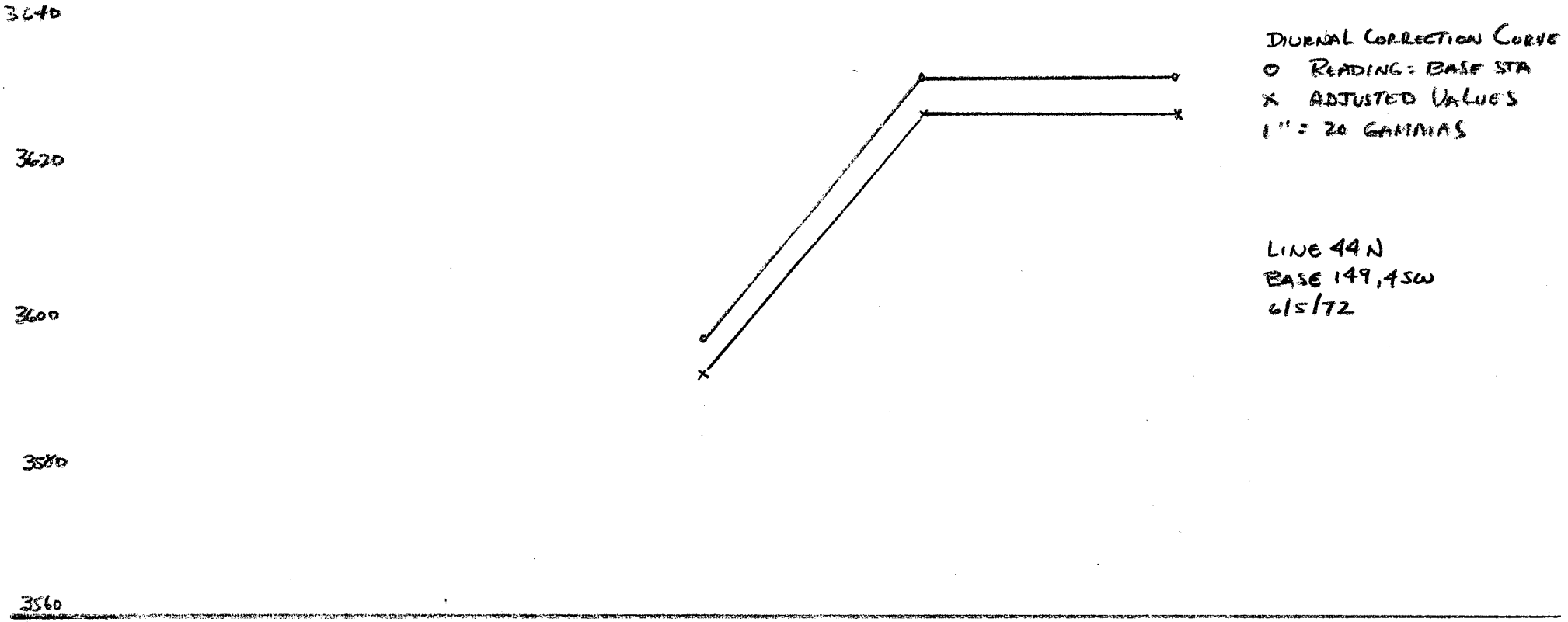


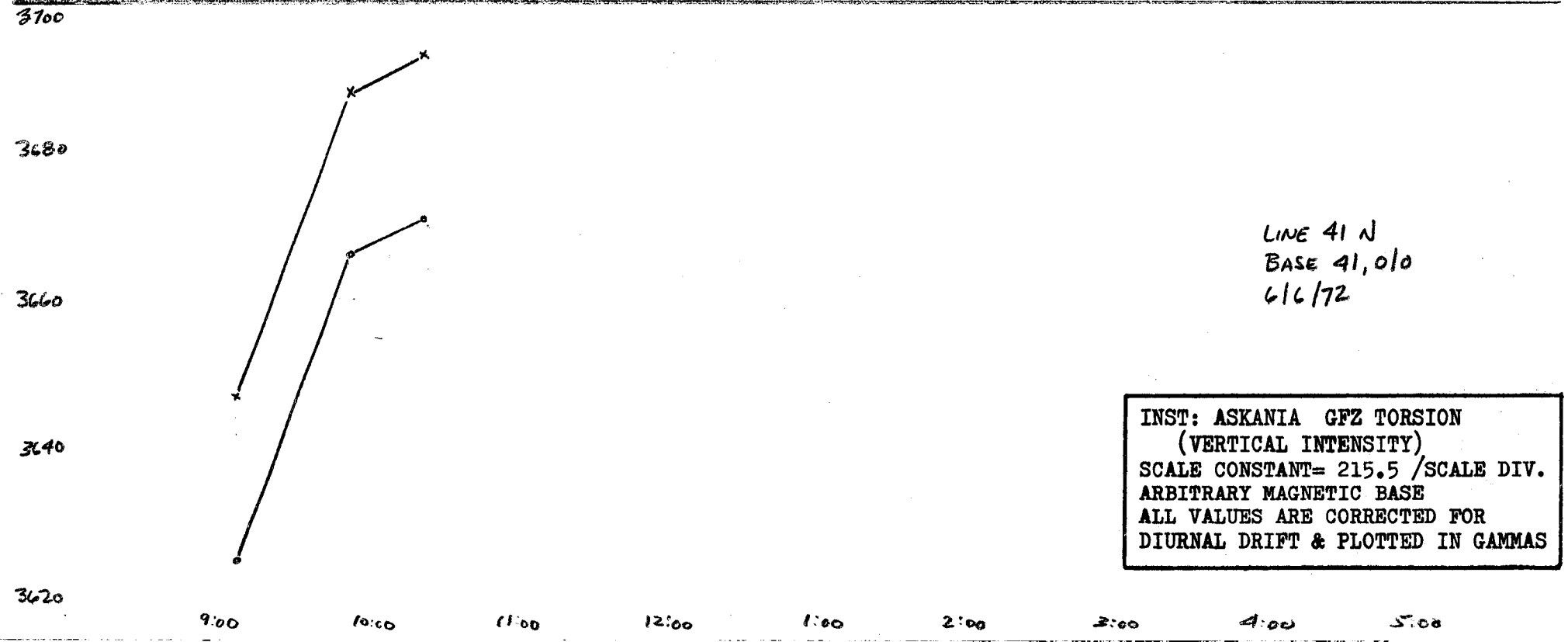
LINE 50 N
BASE 149, 45W
6/5/72



LINE 47N
BASE 149, 45W
6/5/72

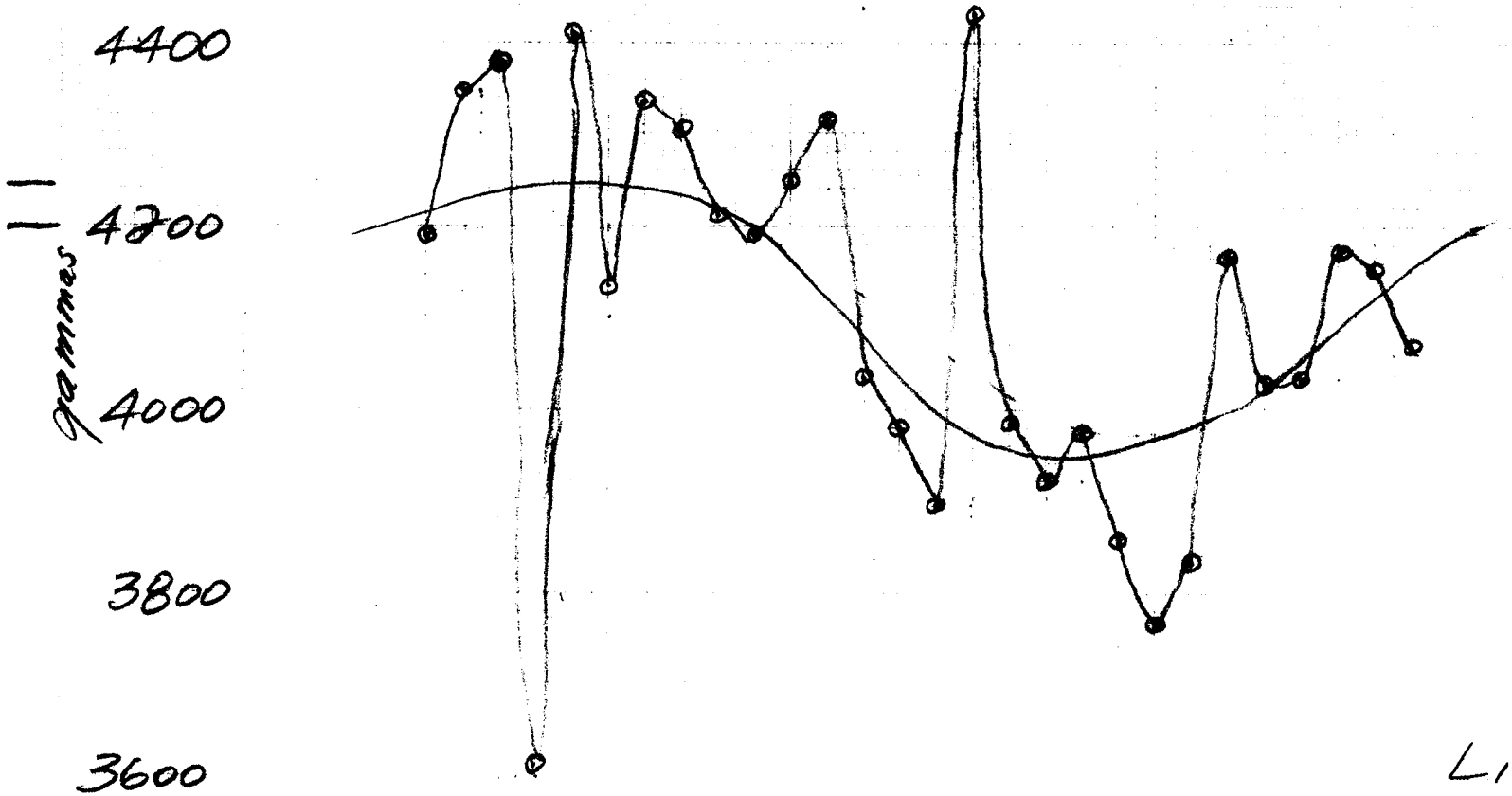
INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS





INST: ASKANIA GFZ TORSION
(VERTICAL INTENSITY)
SCALE CONSTANT= 215.5 /SCALE DIV.
ARBITRARY MAGNETIC BASE
ALL VALUES ARE CORRECTED FOR
DIURNAL DRIFT & PLOTTED IN GAMMAS

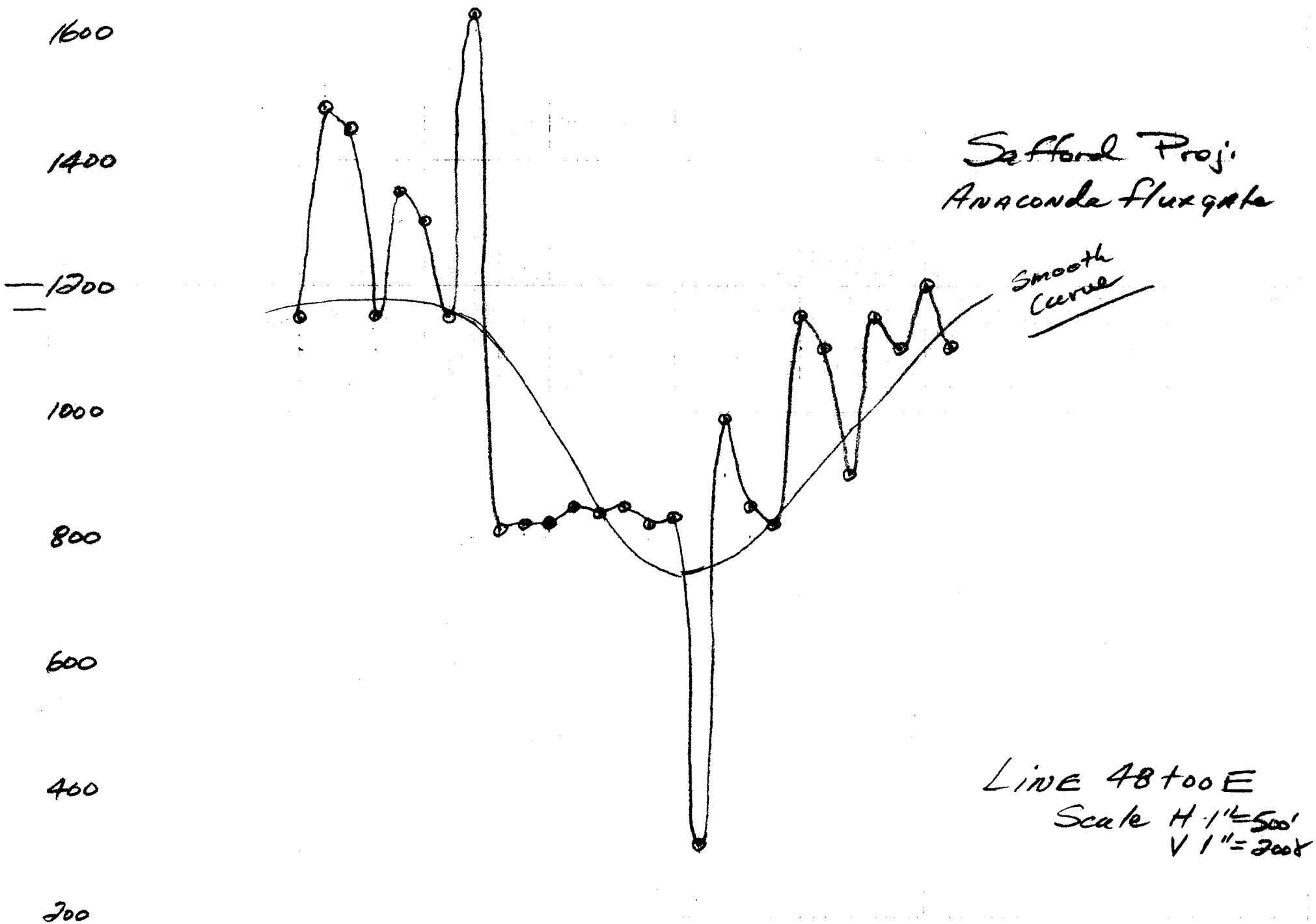
Safford Proj:
Askmin 620263
215.58 Scale Constant

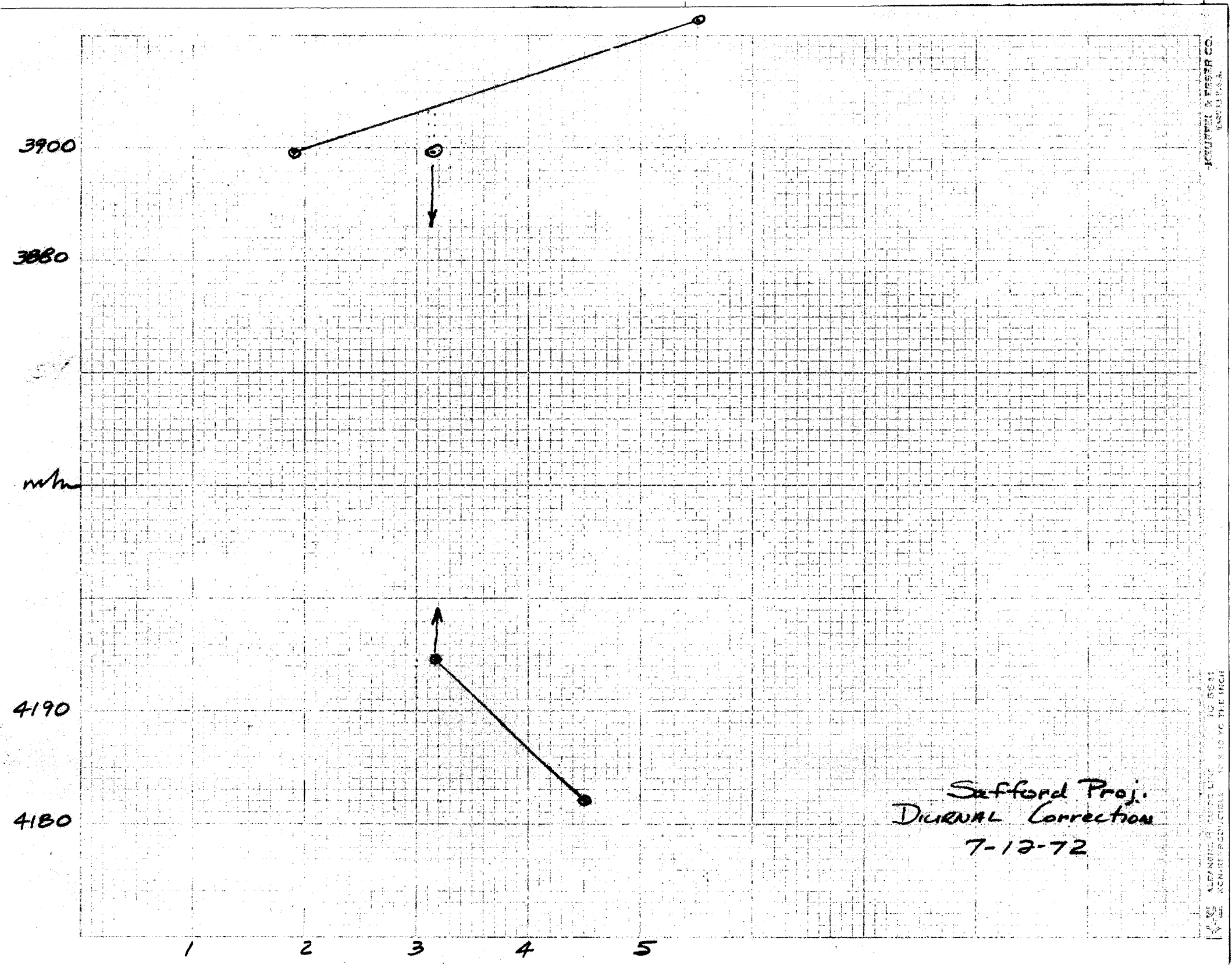


LINE 48+00 E
Scale H 1"=500'
V 1"=200'

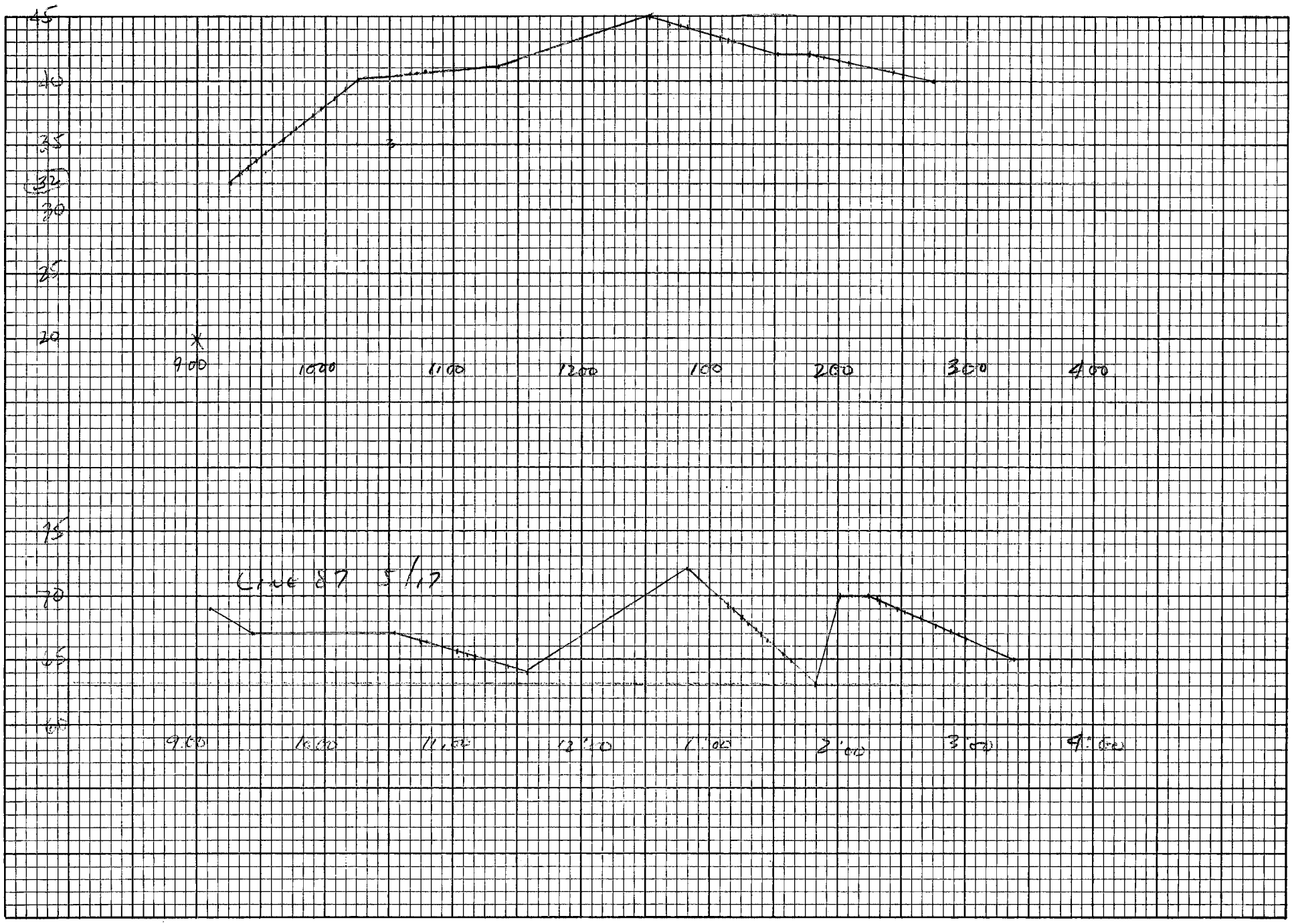
-18+00

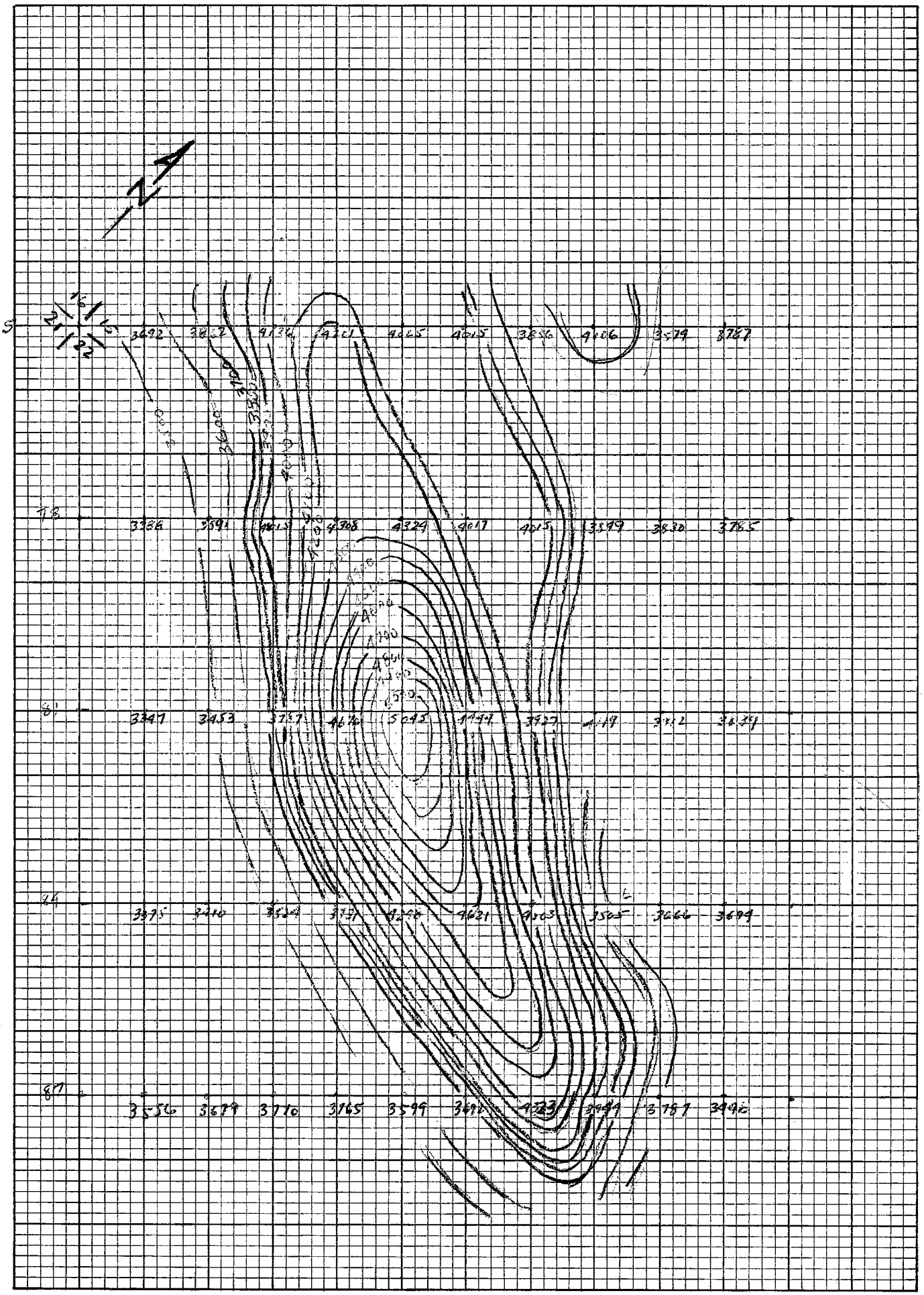
STATION

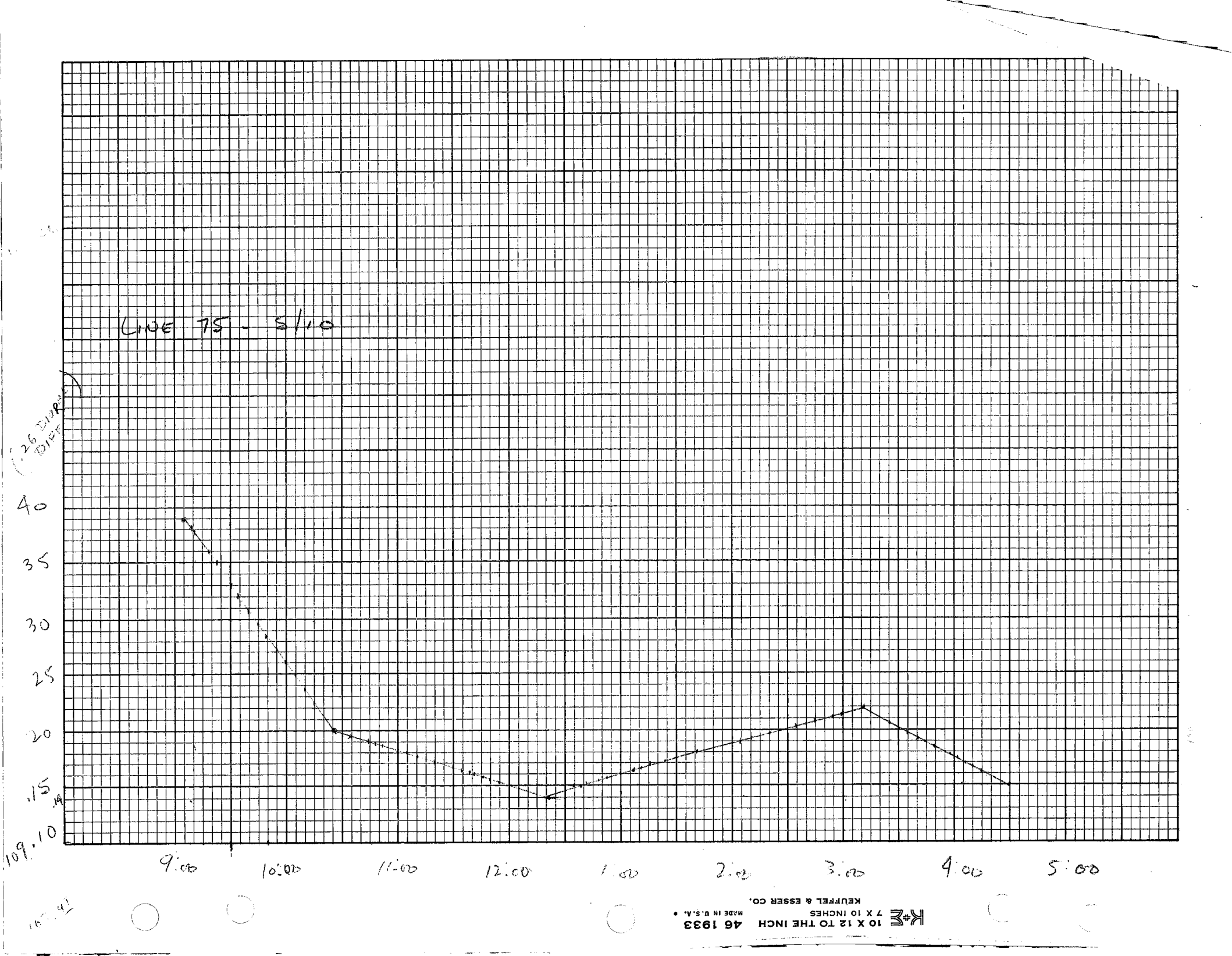

1600
1400
1200
1000
800
600
400
200
Safford Proj:
Anaconda fluxgate
Smooth Curve
Line 48+00E
Scale H 1"=500'
V 1"=200'


3900
3880
4190
4180
1
2
3
4
5
Safford Proj.
DIURNAL Correction
7-12-72

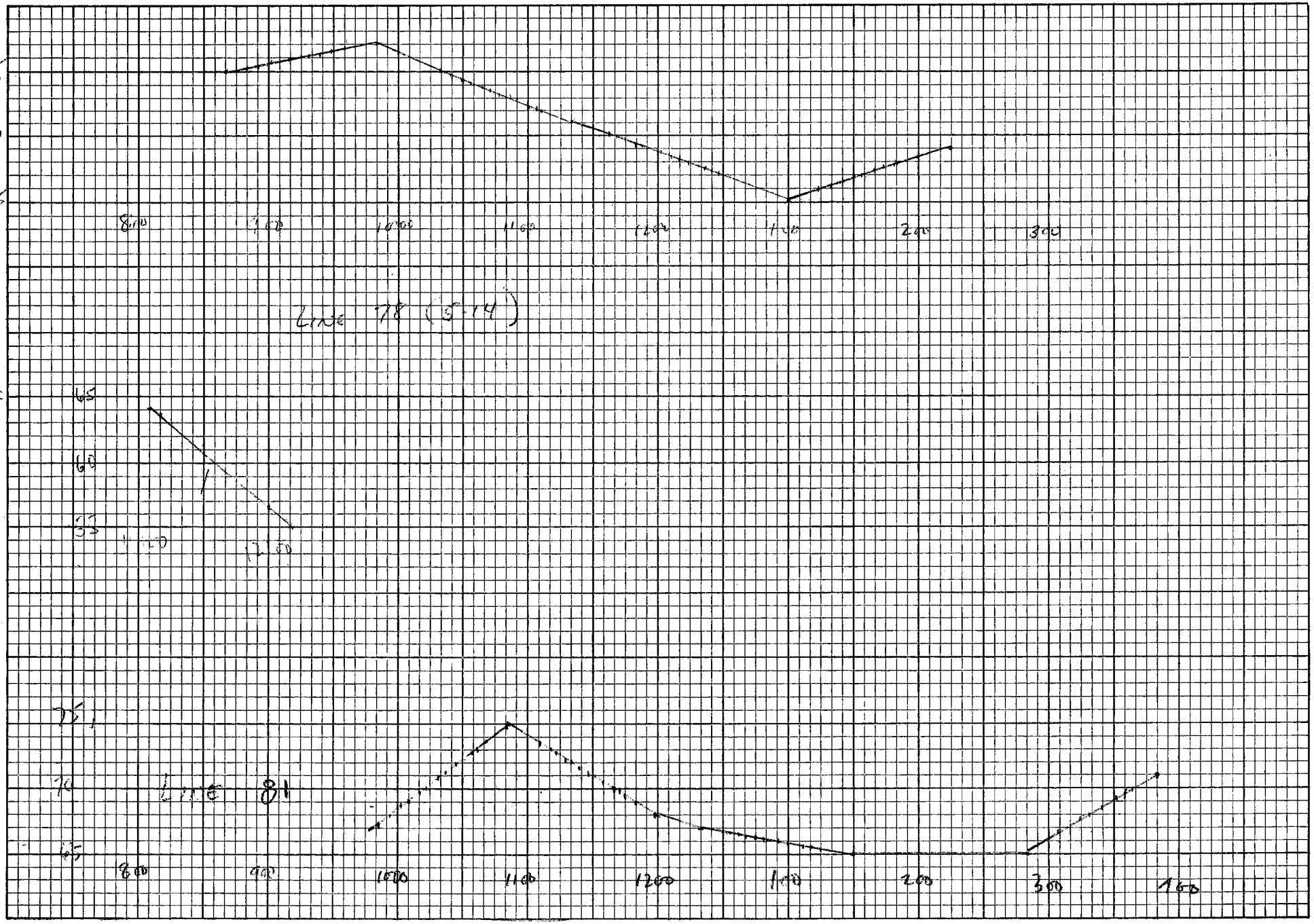
May 5 1972
+ Reading BASE L0,00
x Adjusted value
Vertical Component
Note: Reading at base - 20,000 γ
Correction
Base L75N4,00
May 10
1" = 200 γ
Correction Curve
May 20
Base Value
May 15
Link 81
49 - 51 - 66
Base
CORR TO MAIN BASE
May 12
May 14
L78, 7N
Base Sta Corr
3414

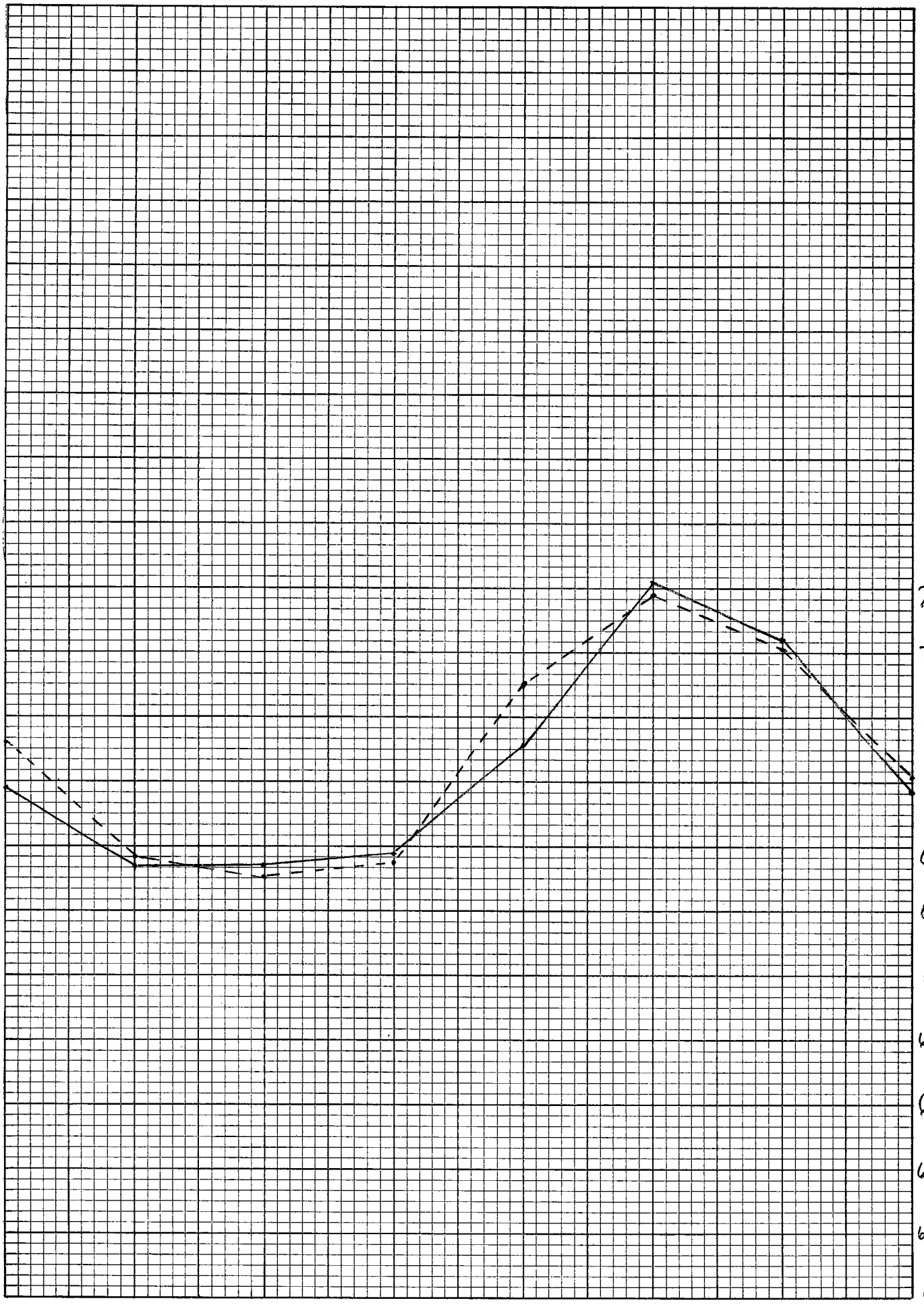


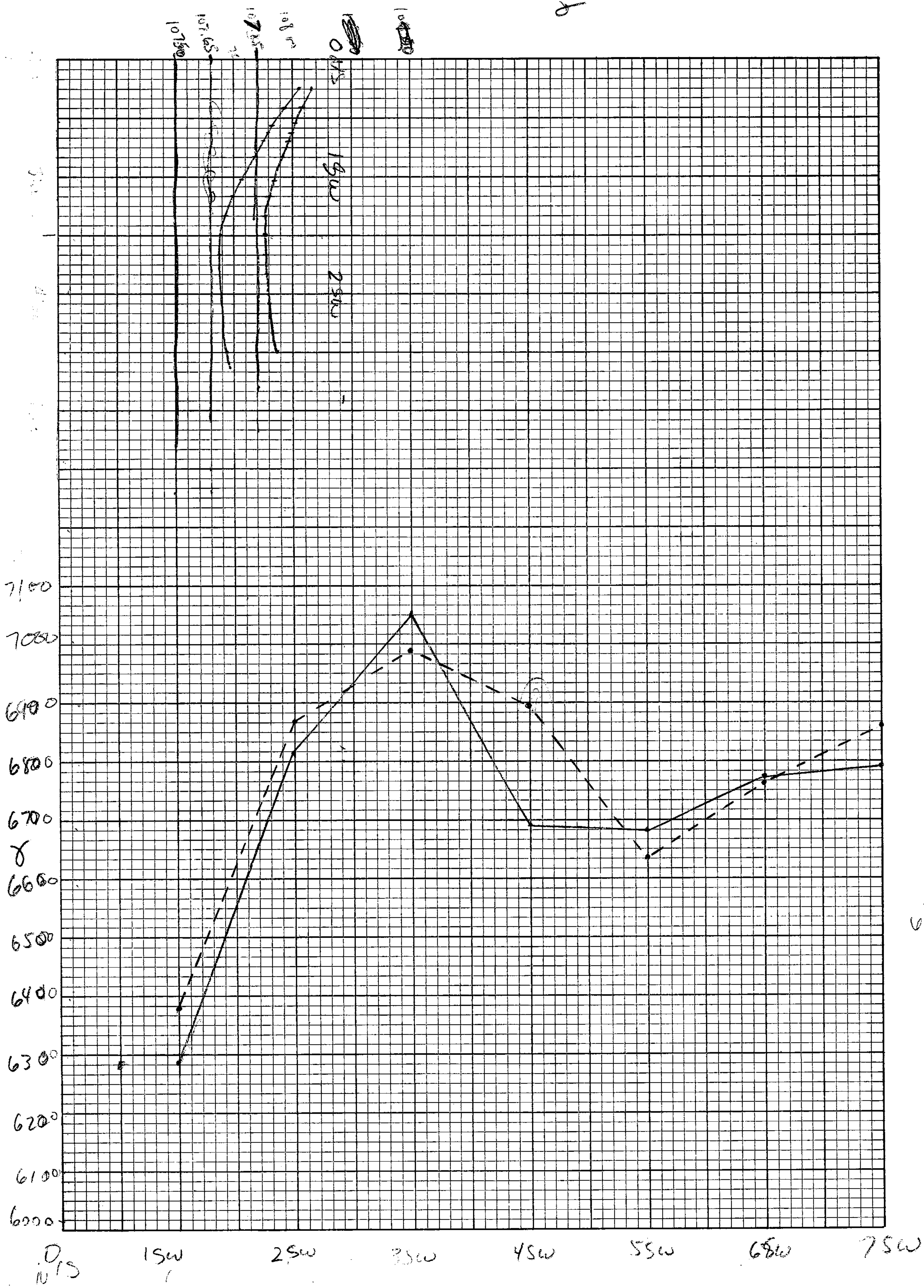


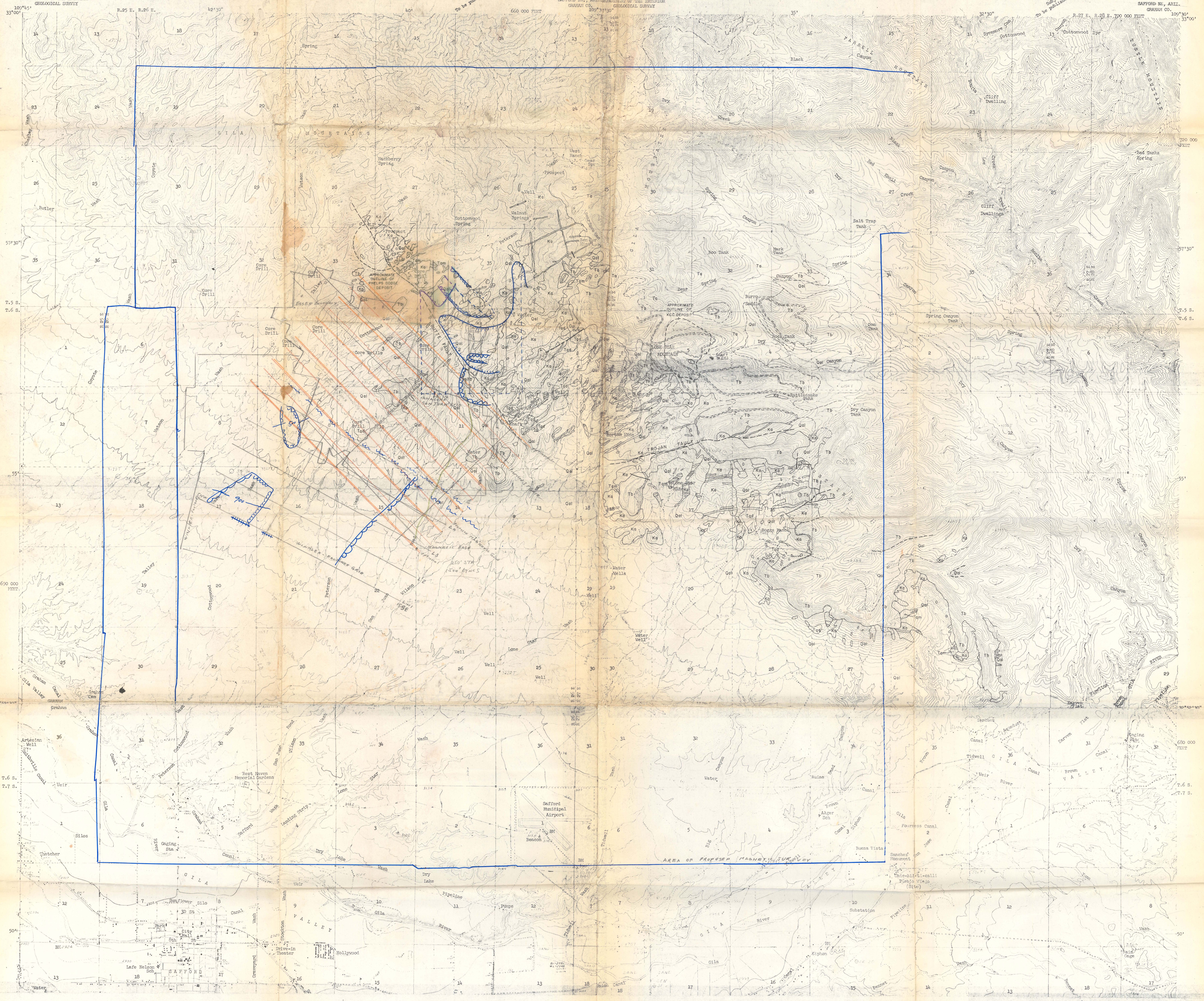


.12 DIAGONAL DIFF - 5-12 LINE 78









SEDIMENTARY	INTRUSIVE IGNEOUS	EXTRUSIVE IGNEOUS

QUATERNARY — Qal: Alluvium and Gravel

MIDDLE (?) TERTIARY — Tb: Basalt with Interlayered Tuff Lenses (Younger Volcanic Series); Ta: Andesite, Dacite and Tuffs (Intermediate Volcanic Series)

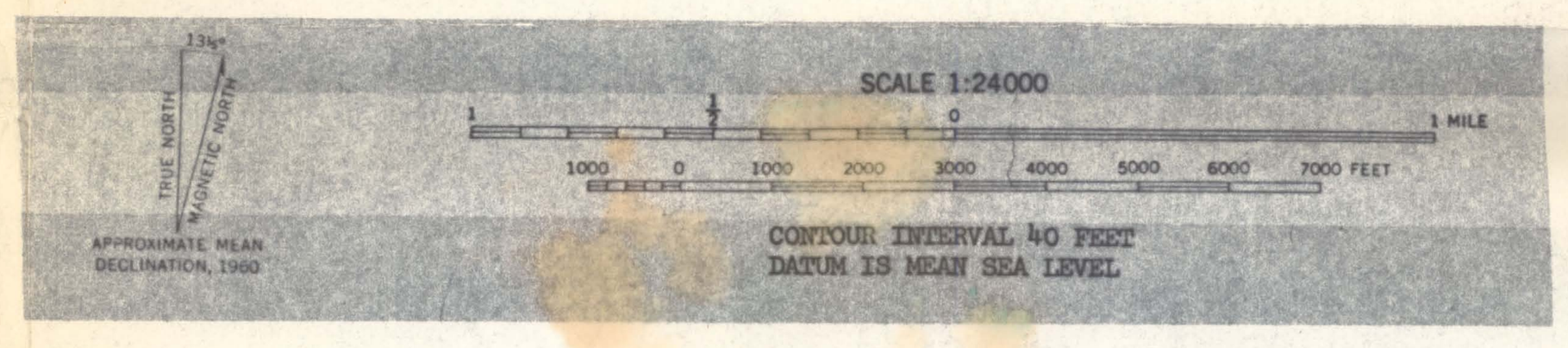
EARLY TERTIARY — Tl: Rhyolite, Latite, Quartz Latite and Related Dikes; Tt: Lithic Tuff and Grit; Tqm: Quartz Monzonite Porphyry; Tgd: Granodiorite; Tqd: Quartz Diorite and Quartz Diorite Porphyry

CRETACEOUS (?) — Ka: Andesite and Dacite and Related Dikes (Older Volcanic Series)

CAMBRIAN (?) — Ꞓq: Quartzite

Mineralized Zone

Bp: Breccia Pipes



ESSEX

ESSEX INTERNATIONAL, INC.
1704 WEST GRANT RD., TUCSON, ARIZONA 85705
PHONE (602) 624-7421

PROJECT:
PROSPECT: SAFFORD AREA (NAIL KEG etc.)
NUMBER: A021
COUNTY, STATE: GRAHAM, ARIZONA
T., R. & SECTION: T5S R26E, T6S R26E, T5S R27E & T6S R26E
LATITUDE, LONGITUDE:

SCALE: 1:24000
DATE: 2/25/71
DATA BY:
PREPARED BY: B.L.R.

Proposed Magnetic Grid
Proposed IP Grid
Inferred Fault/Magnetics
Inferred Contact
Property Boundary
Approximate Survey Limit or Property Boundary
Magnetic High
IP Zone

Fig 1A Location & Compilation

FIG. 1A Location & Compilation