SURVEY FOR

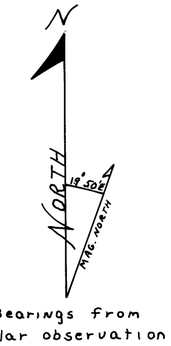
U.S. FOREST SERVICE

SMITH - UMP CADASTRAL

CONTRACT NO. 53-04TO-3-0935N

SECTION 27, T21S, R11W, W. M.

DOUGLAS COUNTY, OREGON



Bearings from Solar observation

SCALE 1" = 500'

500 0 500

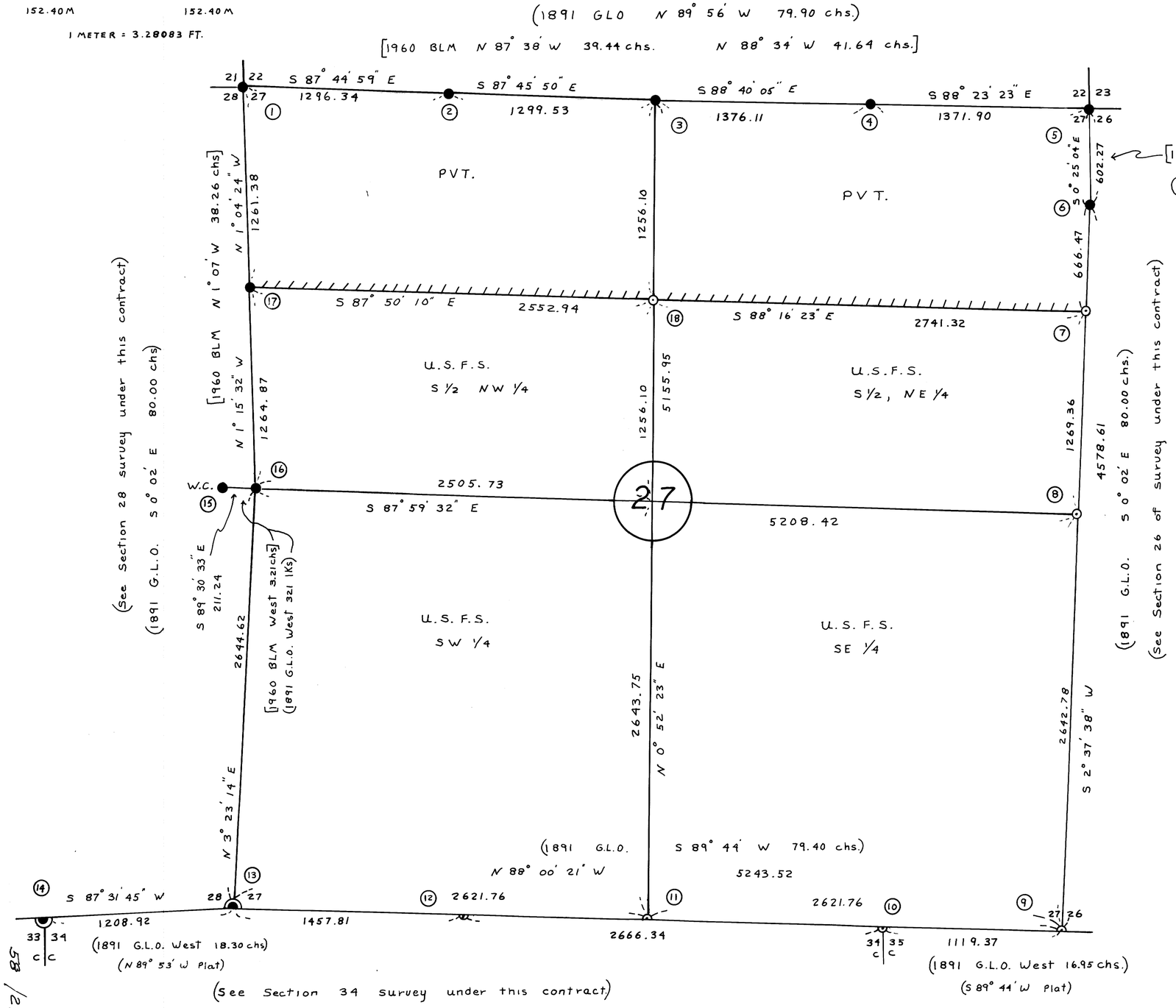
152.40M 152.40M

1 METER = 3.28083 FT.

FEBRUARY 24, 1984

LEGEND

- ● Corner evidence found
- ◉ Corner evidence found from adjacent survey under this contract.
- ⊙ Corner set by survey
- ////// Property line posted with 6 ft. fiberglass posts with F.S. decals 54-2a or ½" x 5' rebar with F.S. signs 54-2.
- [ ] Bearings and distances of record by other surveys.
- ( ) Bearings and distances of record from original survey



NARRATIVE: This survey is a closed traverse by T-16 theodolite and DI-4 EDM, and T1-A theodolite and citation 450 EDM, made by Jackson & Prochnau, Inc., P.O. Box 177, ALbany, Oregon, 97321. The original subdivisions in this portion of the township were done by William Thiel in 1891. The Southeast corner of Section 27, corner ⑨ was set at the record latitude from the witness point, corner ⑥ and at record departure from the Southwest corner, ⑬, as recommended by the BLM. The N 1/16 27/26, corner ⑦ was set at the mid-point in latitude between the NE corner, ⑤, and the ¼ 27/26, corner ⑧, on line between ⑥ and ⑧. Corner numbers ⑧ ⑩ ⑪ and ⑫ were set by single proportion measure.

I, James W. Prochnau, a registered land surveyor in the State of Oregon, hereby certify that this plat and the notes hereon, or attached, are a correct representation of a survey I performed during October 1983 through February 1984 for the U.S. Forest Service in accordance with the statutes of the State of Oregon and with the articles of my contract.

James W. Prochnau
PLS 1305, Oregon

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
SEPTEMBER 21, 1977
JAMES W. PROCHNAU
1305

58/294
M96-61A

SB 1/294
M96-618

SECTION 27, T21S, R11W, W.M.

SMITH-UMP CADASTRAL

NOTE: All new BT's are faced with a double blaze and marked per BLM manual, and in addition have a brass washer marked L.S. 1305 nailed flush in lower blaze. New BT's are tagged with U.S.F.S. signs 54-4 and 54-3, and painted with a 6" red band. All corner monuments set are stamped per the BLM manual, plus Township, Range, 1984, and PLS 1305. Reference monuments at property corners were set within 1 minute of true bearing. 6 ft. fiberglass posts with decals LSM 130, or ½" x 5 ft. rebar with signs 54-4 were set 3 to 5 ft. from all corners set as per contract. Field notes are in books 1, 2, 4, 5, 6 and 13. Contract No. 53-04T0-3-0935N.

CORNER NO.	MONUMENT	ACCESSORIES
(1) GENERAL LAND OFFICE · T21S R11W · S21 | S22 / S28 | S27 · 1960	Fd. 3" brass cap on 1" iron pipe. Set by BLM.	Fd. BLM BT's: 15" D.Fir bears N 37½° E, 17.8 ft., healed; 17" Maple bear S 79 3/4°, 40.9 ft., healed; 12" x 10" Cedar snag bears S 30° W, 43.6 ft., healed; 14" D.Fir bears N 59° W 40.3 ft., healed.
(2) W1/16 S22 / S27 · 1960 · B-L-M	Fd. 3" brass cap on 2½" G.I. pipe. Set by BLM.	Fd. BLM BT's: 13" D.Fir bears N53° E, 23.1 ft. (rec. N 52° E) healed face; 13" D.Fir stump bears S 12° E, 41.6 ft. (rec. S 15° E) rotted face.
(3) 1/4 S22 / S27 · T21S R11W · 1960 · B-L-M	Fd. 3" brass cap on 2½" iron pipe. Set by BLM. Fd. 1" iron pipe (no record) along SW side of cap.	Fd. orig. BT's: 29" Fir stump bears N 64 ½° E, 201.3 ft., axe marks; 43" Maple bears S 43° W 19.1 ft., no visible marks. Fd. BLM BT's: 12" Fir stump bears N 72 3/4° W., 39.6 ft., healed face; 24" Fir stump bears S 80½° W., 56.1 ft., visible scribe.
(4) E1/16 S22 / S27 · 1960 · B-L-M	Fd. 3" brass cap on 2½" G.I.P. Set by BLM.	Fd. BLM BT's: 12" D.Fir bears N 72° W., 18.6 ft. (rec. N 71½° W 29 lks.) healed face; 21" D.Fir stump bears S 28° W, 13.9 ft., healed face.
(5) T21S R11W · S22 | S23 / S27 | S26 · 1960 · B-L-M	Fd. 3" brass cap on 2½" G.I. pipe. Set by BLM.	Fd. BLM BT: 14" D.Fir bears N 13° W, 17.2 ft. healed face. Fd. Stuntzner BT's: 10" D.Fir bears N 22° E. 21.7 ft., healed face; 26" Maple bears S 48° E 110.0 ft. Set R.M.: 3" alum. cap on 2½" x 30" alum. pipe bears N 55° 56' 51" E 48.55 ft. marked RM S22 · S23 · S27 · S26, 1984, PLS 1305 48.55.
(6) T21S R11W · W.P. · S27 | S26 · 1984 · PLS 1305	Set 3" alum. cap on 2½" x 30" alum. pipe. Rock mound.	Fd. orig. BT: 62" D.Fir high stump bears N 29° E, 31.02 ft., visible scribe. New BT's: 10" Alder bears N 77° E, 42.8 ft. bark scribed "X" BT; 5" Maple bears N 21° W 49.3 ft. scribed "X" BT.
(7) T21S R11W · N 1/16 · S27 | S26 · 1984 · PLS 1305	Set 3" alum. cap on 2½" x 30" alum. pipe. Rock mound.	New BT: 7" Alder bears N 24° W 72.1 ft., bark scribed N 1/16 S 27 BT. Set R.M.: 2" alum. cap on ½" x 12" iron rod bears S 28° 47' 39" E. 61.77 ft. marked RM N 1/16 · S 26, 1984, PLS 1305 61.77.
(8) T21S R11W · 1/4 · S27 | S26 · 1984 · PLS 1305	Set 3" alum. cap on 2½" x 30" alum. pipe. Rock mound.	New BT's: 23" D.Fir bears N 31° W, 18.2 ft. scribed 1/4 S 27 BT; 26" D.Fir bears N 47° E 16.2 ft., scribed 1/4 S 26 BT.
(9) T21S R11W · S27 | S26 / S35 · 1984 · PLS 1305	Set 3" alum. cap on 2½" x 30" alum. pipe.	New BT's: 40" D.Fir bears N 78° W 44.9 ft. scribed T21S R11W S 27 BT; 20" D.Fir bears N 5° E 83.5 ft., scribed T21S R11W S 26 BT.
(10) T21S R11W · S27 / S34 | S35 · CC · 1984 · PLS 1305	Set 3" alum. cap on 2½" x 30" alum. pipe. Rock mound.	New BT's: 34" D.Fir bears S 13° W 40.3 ft. scribed T21S R11W CC S 34 BT; 32" D.Fir bears S 40° E 35.5 ft., scribed T21S R11W CC S 35 BT.
(11) T21S R11W · 1/4 · S27 · 1984 · PLS 1305	Set 3" alum cap on 2½" x 30" alum. pipe. Rock mound.	New BT's: 38" D.Fir bears N 38° E 60.2 ft., scribed 1/4 S 27 BT; 22" Maple bears N 69° W 55.6 ft. scribed 1/4 S 27 BT.

CORNER NO.	MONUMENT	ACCESSORIES
(12) T21S R11W · 1/4 S34 · 1984 · PLS 1305	Set 2" alum. cap on ½" x 30" iron rod. Rock mound.	New BT's: 32" D.Fir bears S 43° E 13.9 ft. scribed 1/4 S 34 BT; 6" Alder bears S 14° W 17.1 ft. bark scribed 1/4 S 34 BT.
(13) T21S R11W · S28 | S27 · 1984 · PLS 1305	Fd. 3" alum. cap on 2½" x 30" alum. pipe. Set by Jackson & Prochnau.	Fd. Jackson & Prochnau BT's: 7" D.Fir bears N 67° W 6.9 ft., visible scribe; 7" D.Fir bears N 21° E 26.9 ft., visible scribe.
(14) T21S R11W · S28 / S33 | S34 · CC 1984 · PLS 1305	Fd. 3" alum. cap on 2½" x 30" alum. pipe in rock mound, set by Jackson & Prochnau. Fd. 1" I.P. set by Hootman, LS 399, bears S 3° 05' 28" E, 18.82 ft.	Fd. Jackson & Prochnau BT's: 24" D.Fir bears S 38° W 37.5 ft., visible scribe; 34" D.Fir bears S 58° E 65.0 ft., visible scribe. Fd. Hootman BT's from pipe: 36" D.Fir snag bears S 39° E 58 ft., healed face; 29" D.Fir bears S 65° W 26 ft., healed face; 12" D.Fir bears N 19° E 41 ft., healed.
(15) T21S R11W · WC 1/4 · S28 · S27 · 1984 · PLS 1305	Fd. 3/4" G.I.P. set by BLM. Replaced pipe with 2" alum. cap on 1/4" x 18" rod in root structure of BT.	Fd. orig. BT's: 69" burned Fir snag bears N 58½° E 5.4 ft. (rec. East 2 lks); 24" Fir snag bears S 82° W 9.5 ft. (rec. West 12 lks.) Fd. unrecorded BT's: 18" D.Fir bears S 18° W 24.6 ft., healed face; 33" D.Fir bears S 30° E 1.9 ft., healed face.
(16) 1/4 · S28 | S27 · T21S R11W · 1960 · B-L-M	Fd. 3½" brass cap on 2½" G.I.P. set by BLM.	Fd. BLM BT's: 50" Cedar bears N 45° E 114.4 ft. (rec. N 37½° E 172 lks.) healed face; 25" Cedar bears N 49° W 42.1 ft. (rec. 66 lks) healed face.
(17) N 1/16 · S28 | S27 · 1960 · B-L-M	Fd. 3½" brass cap on 1" G.I.P. Set by BLM.	Fd. BLM BT's: 14" D.Fir bears N 33° W 4.0 ft. (rec. N 45° W) healed face; 12" D.Fir stump bears N 55° W 14.4 ft. (rec. N 54½° E 201 lks) healed face. Set RM: 2" alum. cap on 5/8" x 24" iron rod bears N 48° 19' 07" E. 50.68 ft., marked RM N 1/16 · S 27 1984 PLS 1305 50.68
(18) T21S R11W · N1/16 | S27 · C · 1984 · PLS 1305	Set 3" alum. cap on 2½" x 30" alum. pipe. Rock mound.	New BT: 12" D.Fir bears S 50° W 22.9 ft., scribed CN 1/16 S 27 BT. Set RM: 3" alum. cap on 2½" x 30" alum. pipe brs. S 23° 32' 17" W 46.08 ft. marked RM CN 1/16 · S 27 1984 PLS 1305 46.08

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
SEPTEMBER 21, 1977
JAMES W. PROCHNAU
1305

SB 1/294
M96-618

M 96-61 A&B, M 96-62, M 96-63 A&B,
M 96-64 A&B, M 96-65 A&B

IN REPLY REFER TO

United States Department of the Interior

9641 (942)

BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
P.O. Box 2965 (825 N.E. Multnomah Street)
Portland, Oregon 97208

January 26

FILED
RECEIVED
MAY 16 1984
COUNTY SURVEYOR
DOUGLAS COUNTY, ORE.

Mr. James W. Prochnau
Jackson and Prochnau, Inc.
P. O. Box 177
Albany, Oregon 97321

Dear Mr. Prochnau:

This is in response to your request for our opinion concerning survey procedure in T. 21 S., R. 11 W., Willamette Meridian, Oregon, as discussed in your meeting with Dan Berry on January 24, 1984.

As you point out in your letter accompanying the material presented in the meeting, this situation was previously addressed in a letter from this office to the Douglas County Surveyor, dated January 25, 1974. The procedures for reestablishing lost corners outlined in that letter were those which would normally be used when considering the methods originally used to establish the section corners involved.

Based on the ground conditions you have developed, your submitted material contains several proposed methods, including the 1974 BLM recommendation, all of which indicate some distortion in bearings and/or distances from the original record. The 1974 BLM recommendation (your method No. 1) creates what we consider to be minor distortion in bearing but produces distances that in most cases are closer to matching the record than the alternatives; i.e, some bearing distortion gives way to generally good distance relationships.

After examining all possible methods that you have proposed, it appears that no one method can be adopted that will not create some distortion. Considering this, we feel the factor that should determine the method used is that which would normally be called for in such instances, according to the BLM Manual and common practice.. Therefore, it is our opinion that the procedures outlined to Mr. Ingram in 1974, and reiterated in your letter, are still valid and would probably be used by this office if we were conducting the survey.

1 of 4

C.S. File No. 58/294-1A

With regard to the monument at the ¼ section corner of sections 21 and 28 which the BLM reestablished in 1960, and you found to be approximately 25 feet from its proper position, we feel it should remain as is. This decision is based on (1) its length of existence, (2) the fact that its position was used by a 1977 private survey, and (3) its position does not constitute what we consider to be gross error.

Sincerely,

Bill

William W. Glenn
Chief, Branch of Cadastral Survey

2 of 4

C.S. File No. 58/294-1b

IN REPLY REFER TO

United States Department of the Interior

9641.5 (942)

BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
P.O. Box 2965 (825 N.E. Multnomah Street)
Portland, Oregon 97208

February 9, 1984

FILED
RECEIVED
MAY 16 1984
COUNTY SURVEYOR
DOUGLAS COUNTY, ORE.

Mr. James W. Prochnau
Jackson & Prochnau Inc.
P. O. Box 177
Albany, Oregon 97321

Dear Mr. Prochnau:

This is in response to your letter dated January 30, 1984, concerning survey procedure in T. 21 S., R. 11 W., Willamette Meridian, Oregon.

The problem you have posed is not to calculate the position for the southeast corner of section 34, but rather to restore the meander corner of sections 34 and 35. The point for the section corner mentioned in Byars' record falls in a meandered river and hence does not exist either in theory or practice.

The Manual (Section 5-40) prescribes that meander corners on lines projected across meandered bodies of water will usually be reestablished by single proportionate measurement (occasionally, by single point control), or in extreme cases, by adjustment of the record meanders. It also allows for special cases (Section 5-46) where the surveyor's experience and judgment may properly override or modify these principles.

In our opinion, the meander corner of sections 34 and 35 should, in this case, be reestablished at record bearing, South, from the original ¼ section corner of sections 34 and 35, and at record distance, 17.89 chains, from the ¼ section corner if this distance places the meander corner on or very near the present meander line. If the record distance falls close, but not on the meander line, the present shoreline may be treated "as an identified natural feature" (Section 5-40) and the meander corner reestablished on it.

There are many potential pitfalls in using control south of the river to restore the meander corner in question. You refer to some of these in your letter. Whenever possible, survey errors or discrepancies should be isolated where they "properly belong" (Section 5-23) and should not effect proportioning of lost corners beyond their immediate area. In line with this principle, projecting Byars' survey across the river through his 23.22 chain triangulation would probably introduce more error than using his 17.89 chain tie to the ¼ section corner.

(3)of4

C.S. File No. 58/224-1C

In addition, it makes little sense to extend possible distortion from questionable corners, which are 74 to 96 chains away, across a river, and in another township, when the original ¼ section corner of sections 34 and 35 is much closer, probably more reliable, and in the same township. While certain aspects of Haines' work are debatable, it is not necessary to pass judgment on his survey one way or another, as the method we suggest for restoring the meander corner ignores his survey and conforms to the Manual.

A second best solution might be to reestablish the meander corner by single proportionate measurement between the corner of sections 3 and 10, T. 22 S., R. 11 W., and the ¼ section corner of sections 34 and 35, since these two seem generally accepted as original corners. From your data, it appears that such a restoration would place the meander corner about 8 links south and 30 links west of a point at record bearing and distance from the ¼ section corner of sections 34 and 35. The two locations are favorably related and tend to confirm one another, but all things considered, a single point control restoration is preferable.

We hope that this information is helpful to you.

Sincerely,

Bill

William W. Glenn
Chief, Branch of Cadastral Survey

cc: Dennis Moonier
Larry Hunnemuller

4 of 4

C.S. File No. 58/294-1d