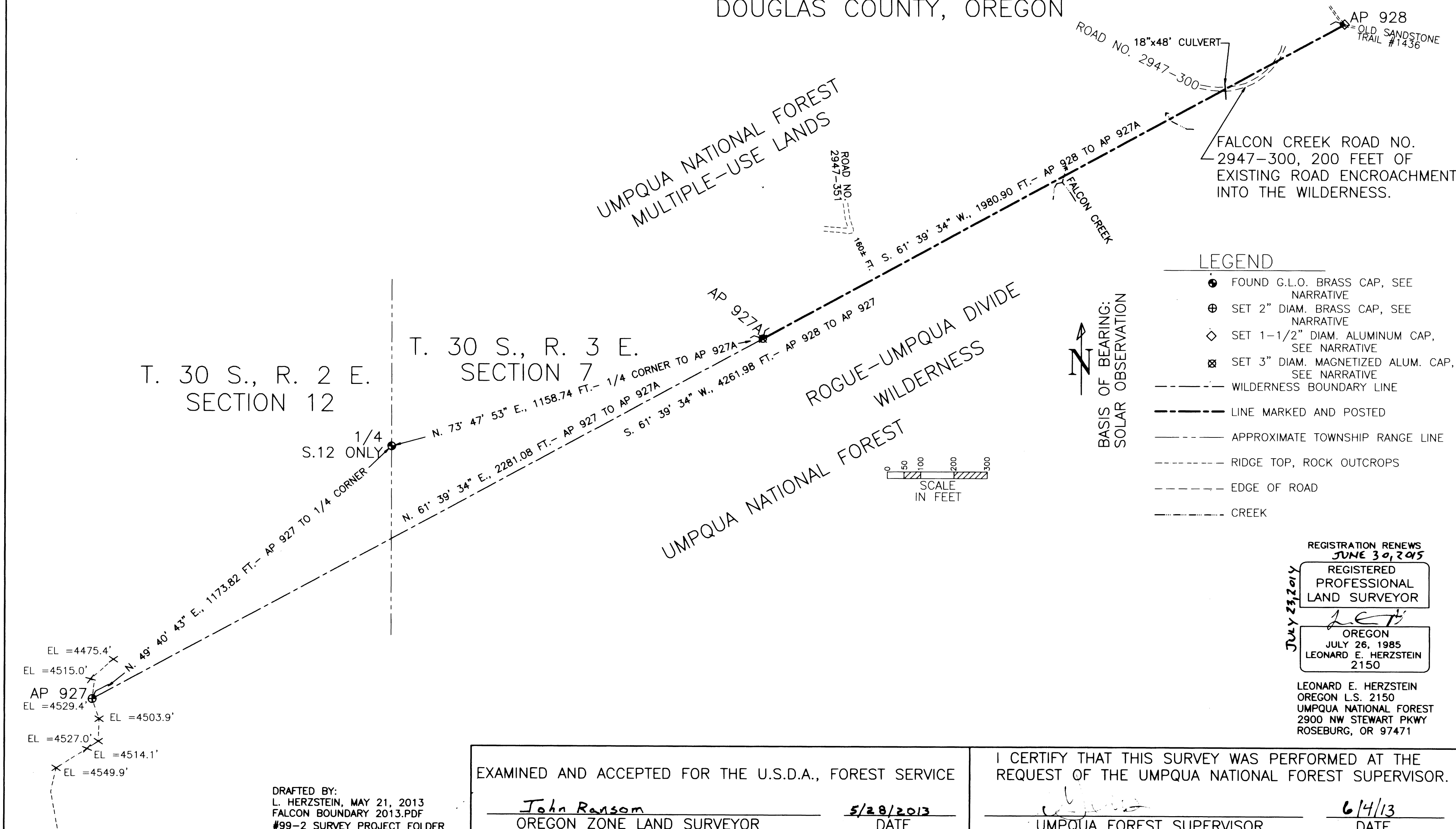


SURVEYED FROM JUNE, 1999 TO SEPT., 2001.
SEE SEPARATE SURVEY NARRATIVE

ROGUE-UMPQUA DIVIDE WILDERNESS BOUNDARY
AP 927 TO AP 928
AT FALCON CREEK ROAD NO. 2947-300
LOCATION AND MARKING SURVEY
SEC. 12, T. 30 S., R. 2 E., AND
SEC. 7, T. 30 S., R. 3 E., W. M.
FOR UMPQUA NATIONAL FOREST, TILLER RANGER DISTRICT
DOUGLAS COUNTY, OREGON

FILED
Date: 7-23-2014 By: J.C.
This survey consists of:
Map: M168-30
Narrative: CS 65/84-7
Corner Pts: 675
DOUGLAS COUNTY
SURVEYOR

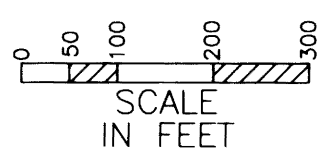
MAP FILE M168-30
CS 65/84-7 (W)



LEGEND

- FOUND G.L.O. BRASS CAP, SEE NARRATIVE
- ⊕ SET 2" DIAM. BRASS CAP, SEE NARRATIVE
- ◇ SET 1-1/2" DIAM. ALUMINUM CAP, SEE NARRATIVE
- ⊗ SET 3" DIAM. MAGNETIZED ALUM. CAP, SEE NARRATIVE
- WILDERNESS BOUNDARY LINE
- LINE MARKED AND POSTED
- APPROXIMATE TOWNSHIP RANGE LINE
- RIDGE TOP, ROCK OUTCROPS
- EDGE OF ROAD
- CREEK

BASIS OF BEARING:
SOLAR OBSERVATION



REGISTRATION RENEWS
JUNE 30, 2015
REGISTERED
PROFESSIONAL
LAND SURVEYOR
LET
OREGON
JULY 26, 1985
LEONARD E. HERZSTEIN
2150
LEONARD E. HERZSTEIN
OREGON L.S. 2150
UMPQUA NATIONAL FOREST
2900 NW STEWART PKWY
ROSEBURG, OR 97471

DRAFTED BY:
L. HERZSTEIN, MAY 21, 2013
FALCON BOUNDARY 2013.PDF
#99-2 SURVEY PROJECT FOLDER

EXAMINED AND ACCEPTED FOR THE U.S.D.A., FOREST SERVICE
John Ransom
OREGON ZONE LAND SURVEYOR
5/28/2013
DATE

I CERTIFY THAT THIS SURVEY WAS PERFORMED AT THE
REQUEST OF THE UMPQUA NATIONAL FOREST SUPERVISOR.
[Signature]
UMPQUA FOREST SUPERVISOR
6/4/13
DATE

MAP FILE M168-30
CS 65/84-7 (W)



SURVEY NARRATIVE FOR ROGUE-UMPQUA DIVIDE WILDERNESS BOUNDARY
AT FOREST SERVICE FALCON CREEK ROAD NO. 2947-300 SURVEY PLAT
SEC. 12, T. 30 S., R. 2 E., AND SEC. 7, T. 30 S., R. 3 E., W. M.

PURPOSE: This survey was performed at the request of the Tiller District Ranger to determine if a portion of Forest Service Road No. 2947-300 at approximate Mile Post 2.8 was inside the Wilderness boundary. From June, 1999, to September, 2001, I established Angle Point (AP) Nos. 927 and 928 of the Rogue-Umpqua Divide Wilderness boundary description and marked the boundary between Angle Point Nos. 927A and 928.

The official legal boundary description and index maps were prepared by the Forest Service and approved on May 4, 1987. For this survey, the Rogue-Umpqua Divide Wilderness boundary description is as follows:

- from AP 926 to AP 927 has no description;
- AP 927 "A point on ridge in Section 12 at elevation 4528 feet.";
- from AP 927 to AP 928 has no description;
- AP 928 "A point on USFS Trail No. 1436. Elevation 3400 feet.";
- from AP 928 to AP 929 has no description.

FILED

Date: 7-23-2014 By: JC
This survey consists of:
Map: U1168-30
Narrative: CS65/84-7
Corner Rpt: GPS

DOUGLAS COUNTY
SURVEYOR

INVESTIGATION: For AP 928, preliminary research of the boundary location showed the trail location and the contour lines on the boundary index map to be only approximate locations. I determined Angle Point No. 928 should be located at the exact elevation of 3400 feet on the Sandstone Trail No. 1436.

The boundary is a straight line between AP 927 and AP 928, where no other description is given.

I found the AP 927 description could have two (2) possible interpretations. The first interpretation would use only the written description to place the Angle Point at the exact elevation of 4528 feet on the ridge.

My second interpretation used both the written legal description and the index map, which accompanies the legal description. The index map used the 1944 Abbott Butte NE Quadrangle 7.5 minute series as the base map. The Forest Service last updated this base map in 1981. Underlying the boundary drawn at



AP 927 on the index map is a gray "X" on the ridge with the elevation "4528" printed next to it. Cartographers used a gray "X" to show an unconfirmed spot elevation¹. This might typically be used for a prominent point or a recognizable feature.

Using a stereoscope and aerial photographs covering the area of the Angle Point No. 927, I find that the Angle Point location on the ridge is at a large area of exposed rock projecting over 100 feet high. One of the prominent points on the rock outcrops is probably the location of the "X". It would be the elevation nearest to 4528 feet.

In order to determine the validity of either interpretation, ground elevations would have to be determined on the ridge at Angle Point No. 927.

Based on my field survey, I made these further determinations:

- 1) The most northerly of the prominent points on the ridge at Angle Point No. 927 was determined to have an elevation of 4529.4 feet. The ridge descends steeply from this point northerly. Because this point is higher than the surrounding ridge, an elevation of 4528 feet can be located at three places on the ridge: 1 & 2) within 5 feet on either side of the this high point and 3) approximately 200 feet southerly of this point where the ridge again ascends.
- 2) Though it is not stated in the legal description, it is reasonable to assume that the scrivener was using the convenient description of a point on the ridge shown as "4528" on the map. (Otherwise, why not use an even elevation of 4500 feet or 4550 feet, which is the nearest contour line depicted on the base map.) Because the elevation (4529.4 feet) is within 2 feet of the spot elevation used on the base map (4928 feet), I use the most northerly prominent point as the position for Angle Point No. 927.

PROCEDURE: I utilized a Zeiss Ni2 level, a Sokkia C30 level, and 25-foot fiberglass rods to perform the differential level loop to establish AP 928. Third Order Bench Mark (BM) "12M 1944", with a 1965 published elevation of 2842.743 feet, was used to establish the 3400.00 feet elevation of AP 928. BM "12M 1944" is approximately 4 miles from AP 928. Each 1000 foot loop of the level traverse closed within 0.1 foot and each loop was not adjusted. The sum of the individual loop errors was 0.477 feet. A new trail location was constructed in 2005 and this section of trail is no longer used.

¹ Theodore D. Steger, *Topographic Maps* pamphlet (U. S. Dept. of Interior, Geological Survey, Government Printing Office, 1990) p. 20

I utilized a Sokkia Set5 electronic total-station to perform the boundary survey. The data was collected with a Sokkia SDR33. The field traverse had a horizontal closure of 1:5,600. The traverse was not adjusted. Elevations between AP 928 and AP 927 were determined by trigonometric leveling using this equipment. Distances over 2000 feet were adjusted for atmospheric and refraction correction. The trigonometric leveling had an error of 0.6 feet, which was averaged to obtain the elevations on the ridge. Distances on the survey plat are at ground elevation and are not converted to mean sea level.

AP 927A was established on line between AP 927 and AP 928. Due time and funding constraints, only the boundary between AP 928 and AP 927A was marked with 1) brown Carsonite posts with wilderness boundary decals attached and 2) a painted blazed line. New bearing trees have a ¾ inch diameter brass washer, stamped "LS 2150", attached to the base of the scribing. BT bearings are from the field traverse and are rounded to the nearest 15 minutes.

Geodetic coordinates were determined with a Trimble Pro-XL GPS unit at AP 927. One session of 200 positions was acquired. These positions were differentially corrected, using a base station in Medford, Oregon, and have a standard deviation of 8.25 feet.

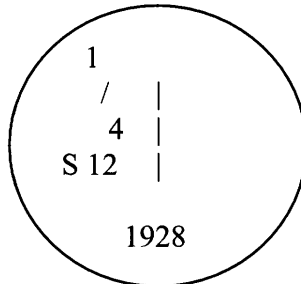
BASIS OF BEARINGS: A solar observation, using the hour-angle method, was taken on Forest Service Road No. 2947-300 to determine true geodetic bearings for this survey. A Lietz DT5 theodolite and Tripod Data Systems software on an HP-48SX hand-held calculator were used to perform the solar observation. The clock in the HP-48SX was standardized with the U. S. Naval Observatory clock the same morning. The average magnetic declination was found to be 15° East from 3 observations.

MONUMENTS FOUND:

Bench Mark 12M 1944 – Found a 3-½" diameter brass cap set in solid rock, pre-marked "U.S. GEOLOGICAL SURVEY BENCH MARK" "FOR INFORMATION WRITE THE DIRECTOR, WASHINGTON, D.C. COOPERATION WITH THE STATE" "ELEVATION ABOVE SEA FEET" and stamped "12M 2843 1944".

The Bench Mark is 20 feet northerly of the edge of Jackson Creek, 2 feet northerly of an old trail, and 3 feet southerly of a 30" diameter white fir. The tree is painted "USBM 2842.7" in white on a bark blaze. The Bench Mark is located in the NE1/4NW1/4 of section 36, Township 29 South, Range 2 East, Willamette Meridian, approximately 300 feet southwesterly of FS road No. 2947.

One-Quarter Corner of Section 12 Only – Found a 1" iron post projecting 6" above the ground, established by GLO Cadastral Engineer, Herbert N. Raymond, in 1928, with a 2-½" diameter brass cap attached, stamped as shown below:



From which, the following original bearing trees marked by Raymond in 1928:

- A 16" diam. Douglas fir, bears N. 68° W., 12.2 feet (rec. N. 69° W., 11.88 feet), with a healed single blaze.
- A roothole with a downed 18" diam. sugar pine log alongside, bears N. 27° 30' W., 23.1 feet (rec. N. 24° W.). I open a healed single blaze and find scribe marks "1/4 S12 BT".

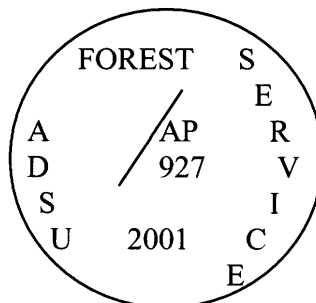
And new bearing objects I establish:

- A 12" diam. Douglas fir, bears S. 43° 30' W., 8.5 feet, I scribe "1/4 S12 BT" on a single blaze.
- A 6-foot brown Carsonite post driven 2 feet in the ground, bears N. 14° W., 1.8 feet, with "Land Survey Monument" decal attached.

I found the magnetic declination to be 15° East. The corner is on a flat spur ridge, sloping East.

MONUMENTS ESTABLISHED:

Angle Point 927 - On the top of an approximately 8-foot high rock outcrop on a narrow solid rock ridge top, I set a 2" diameter brass rock cap, set in cement. Elevation of brass cap is 4529.36 feet. I stamp the cap as shown below:



Rogue-Umpqua Divide Wilderness Boundary Survey

And from which, new objects I establish:

- A 6-foot brown carsonite post, bears N. 77° E., 6.3 feet, driven 1 foot in the ground with "Land Survey Monument" and "Wilderness Boundary" decals attached.
- A $3/8$ " diameter rebar, bears S. $38^{\circ} 15'$ W., 14.6 feet, 6" long, driven 6" in the ground, with a $7/8$ " diam. yellow plastic cap attached, pre-marked "R-U. D. W.". Elevation of plastic cap is 4521.70 feet.
- A 60 penny spike with broom, bears S. 56° E., 25.9 feet. Elevation of spike is 4520.64 feet.

I found the magnetic declination to be 15° East.

Angle Point 927 NAD 83 coordinates:

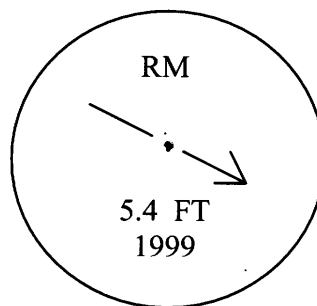
Latitude $43^{\circ} 18' 21.1''$ North

Longitude $122^{\circ} 49' 53.0''$ West

Angle Point 928 - At the 3400-foot elevation in the centerline of Forest Service Trail No. 1436, I set a $5/8$ " diameter iron rod, 18" long, driven flush with the trail, with a $1\text{-}1/2$ " diameter aluminum cap attached, stamped "AP 928 1999". Elevation of the cap is 3400.00 feet.

And from which, new objects I establish:

- A 4"x4" treated wood post, 6 feet long, bears S. 66° W., 3.5 feet, set 18 inches in the ground with "Land Survey Monument", "Wilderness Boundary", and "Location" signs attached.
- A 3" diameter magnetized aluminum cap on a $2\text{-}1/2$ " diameter, 28" long, aluminum pipe, bears N. $79^{\circ} 57'$ W., 5.37 feet, firmly set 28" in the ground, flush with a 2-foot diameter mound of stone. Cap is pre-stamped "U.S. DEPT. OF AGRICULTURE UNLAWFUL TO DISTURB CADASTRAL SURVEY FOREST SERVICE" and marked as shown:



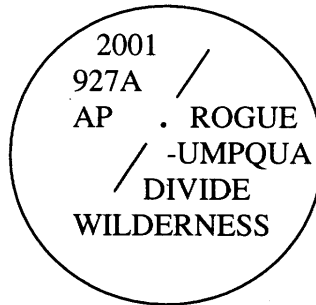
An 18" diam. incense cedar, bears N. 12° W., 11.9 feet, I scribe "AP928 RUDW BT" on a single blaze.

Rogue-Umpqua Divide Wilderness Boundary Survey

The Reference Monument is West of the trail and the bearing tree is East of the trail. A 42" Douglas fir snag, bears N. 60° W., approximately 13 feet, with an 18" by 24" wooden sign marked "ROGUE-UMPQUA DIVIDE WILDERNESS UMPQUA NATIONAL FOREST" nailed to the Northwest side of the tree. In 2005, a new trail location was rerouted to the East.

Angle Point 928 NAD 83 coordinates:
Latitude 42° 58' 44.8" North
Longitude 122° 30' 36.9" West

Angle Point 927A - On the wilderness boundary between AP 927 and AP 928, I set a 2" by 30" long aluminum pipe, set 18" in the ground, with a 3-foot diameter mound of stone to the top, with a 2" diameter magnetized aluminum cap attached. I stamp the cap as shown below:



And from which, new objects I establish:

- A 6-foot brown carsonite post, bears N. 50° 30' E., 2.1 feet, driven 18" in the ground with "Land Survey Monument" and "Wilderness Boundary" decals attached.
- A 5" diam. white fir, bears N. 88° 15' W., 7.0 feet, I scribe "AP927A R-UDW BT" on a single blaze.
- A 5" diam. white fir, bears N. 49° W., 13.2 feet, I scribe "AP BT" on a single blaze.

Corner is on a steep northeast slope.

LEONARD E. HERZSTEIN
Oregon Land Surveyor No. 2150
Umpqua National Forest
2900 NW Stewart Parkway
Roseburg, OR 97471

REGISTRATION RENEWS:

JUNE 30, 2015

JULY 23, 2014

