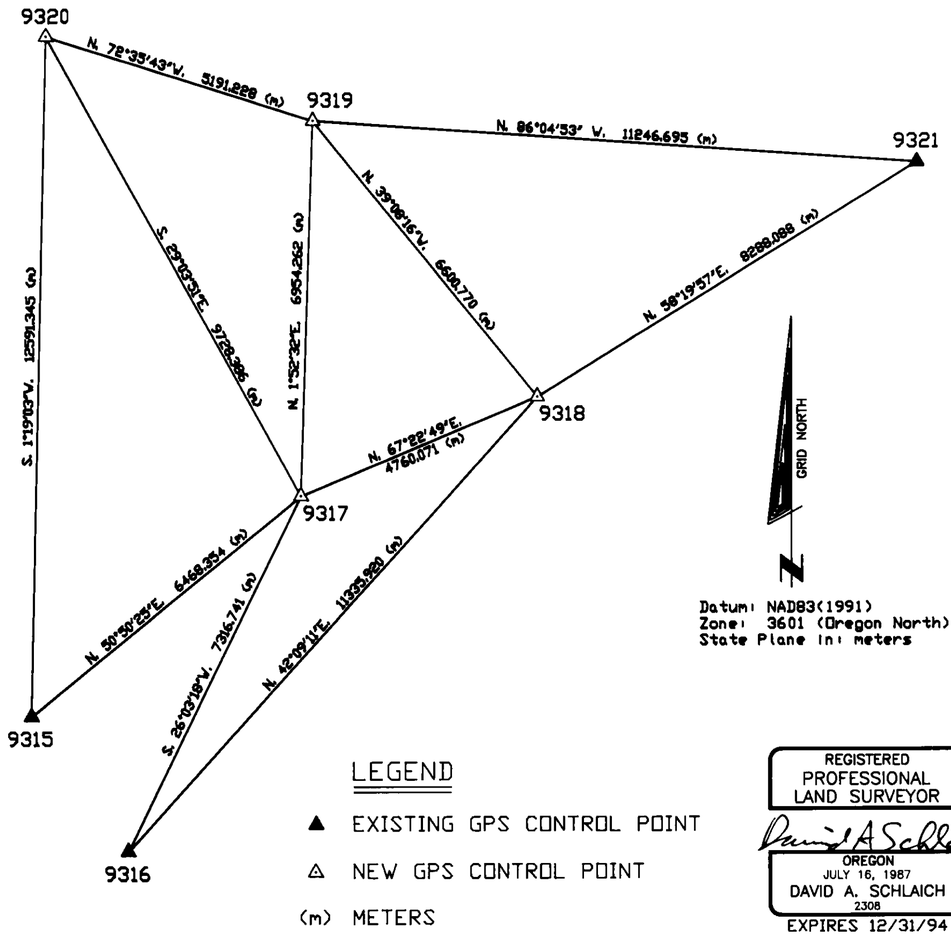
NORTH FORK UMATILLA GPS CONTROL SURVEY
FOR
UMATILLA NATIONAL FOREST
LOCATED IN
TOWNSHIP 2 NORTH, RANGE 37 EAST
TOWNSHIP 3 NORTH, RANGES 38 & 39 EAST
AND
TOWNSHIP 4 NORTH, RANGE 37 EAST
WILLAMETTE MERIDIAN
UMATILLA & UNION COUNTIES
OREGON
SEPTEMBER – OCTOBER 1993



LEGEND

▲ EXISTING GPS CONTROL POINT

△ NEW GPS CONTROL POINT

(m) METERS

SCALE: 1 INCH = 2000 METERS

4000 2000 0 6000 12000

SCALE IN METERS SCALE IN FEET

1 METER = 3.28084 FEET

REGISTERED
PROFESSIONAL
LAND SURVEYOR
David A Schlaich
OREGON
JULY 16, 1987
DAVID A. SCHLAICH
2308
EXPIRES 12/31/94

NARRATIVE:

THE PURPOSE OF THIS SURVEY WAS TO PROVIDE HORIZONTAL AND VERTICAL CONTROL FOR A PORTION OF THE NORTH FORK UMATILLA WILDERNESS.

THIS SURVEY WAS CONDUCTED USING FEDERAL GEODETIC CONTROL COMMITTEE (FGCC) ORDER C, SECOND ORDER, CLASS 1 GPS SURVEY SPECIFICATIONS. ALL HORIZONTAL CONTROL MEETS OR EXCEEDS THESE SPECIFICATIONS. ALL COORDINATES PROVIDED ARE NAD83(1991) VALUES BASED ON THE OREGON HIGH PRECISION GPS CONTROL NETWORK.

THE SURVEY WAS CONDUCTED USING TWO TRIMBLE 4000ST AND ONE TRIMBLE 4000SE, SINGLE FREQUENCY, GLOBAL POSITIONING RECEIVERS, NIKON TRIBRACHS AND STANDARD SURVEY TRIPODS. THE ANTENNA HEIGHT MEASUREMENTS WERE MADE USING THE INTERNAL MEASURING TAPES OF THE RECEIVERS AND WERE RECORDED IN METERS.

STATIC SURVEY, CARRIER PHASE MEASUREMENTS AND DATA PROCESSING WAS USED ON ALL BASELINE MEASUREMENTS. ALL BASELINES FOR EACH SESSION WERE PROCESSED, ALTHOUGHT ONLY THE INDEPENDENT (N–1) BASELINES WERE USED IN THE NETWORK. BASELINES WERE EVALUATED BY EXAMINATION OF THE STATISTICAL QUALITY INDICATORS AND LOOP CLOSURE ANALYSIS. ALL INDEPENDENT BASELINES WERE THEN ADJUSTED IN A LEAST SQUARES ADJUSTMENT PROGRAM IN TWO PHASES. THE FIRST PHASE WAS A MINIMALLY CONSTRAINED ADJUSTMENT USING THE CENTER OF THE SURVEY AREA. THE SECOND PHASE BEING A CONSTRAINED ADJUSTMENT USING THE THREE EXISITING GPS CONTROL POINTS (9315, 9316 AND 9321) AS FIXED POINTS HORIZONATLLY (LATITUDE & LONGITUDE). THE COORDINATES OF THESE POINTS WERE ESTABLISHED BY DAVID EVANS AND ASSOCIATES UNDER CONTRACT TO THE USDA–FOREST SERVICE. THIS SURVEY WAS CONSTRAINED VERTICALLY (ORTHOMETRIC HEIGHT) USING POINTS 9318 (ECCENTRIC TO B.M. W–514), 9319 (B.M. T–279) AND 9320 (ECCENTRIC TO B.M. 3096–16). THE ORTHOMETRIC HEIGHTS OF POINTS 9318 AND 9320 WERE DETERMINED USING THREE WIRE DIFFERENTIAL LEVELING TECHNIQUES FROM THEIR ASSOCIATED BENCH MARKS.

COMPUTER SOFTWARE USED IN THIS SURVEY CONSISTED OF TRIMBLE NAVIGATION'S TRIMVEC (REV. E) PROGRAM WHICH WAS USED FOR DOWNLOAD AND BASELINE PROCESSING AND TRIMNET (VERSION 91.060) WHICH WAS USED FOR NETWORK ADJUSTMENTS. THE NATIONAL GEODETIC SURVEY'S GEOID93 PROGRAM WAS USED TO INTERPOLATE THE GEOID SEPERATION FOR EACH STATION.

9315
WHITMAN 1989 (T. 2 N., R. 37 E., SECTION 2)

FOUND A 3 1/4" ALUMINUM CAP SET FLUSH WITH THE GROUND MARKED AS SHOWN.

9316
ROUND 1989 (T. 2 N., R. 37 E., SECTION 13)

FOUND A 3 1/4" ALUMINUM CAP SET FLUSH WITH THE GROUND MARKED AS SHOWN.

9317
SCHLAICH 1993 (T. 3 N., R. 38 E., SECTION 29)

SET A 5/8 BY 36 INCH REBAR, WITH A 3 1/4" ALUMINUM CAP, 28 INCHES IN THE GROUND, MARKED AS SHOWN.

9318
ECCENTRIC BM W–514 (T. 3 N., R. 38 E., SEC. 23)

SET A 5/8 BY 36 INCH REBAR, WITH A 3 1/4" ALUMINUM CAP, 38 INCHES IN THE GROUND, MARKED AS SHOWN.

U.S. DEPT. OF AGRICULTURE GPS △ WHITMAN 1989 FOREST SERVICE

9319
BENCH MARK T–279 (T. 3 N., R. 38 E., SECTION 5)

FOUND A BRONZE DISK SET IN CONCRETE FLUSH WITH THE GROUND, MARKED AS SHOWN.

U.S. DEPT. OF AGRICULTURE GPS △ ROUND 1989 FOREST SERVICE

9320
ECCENTRIC BM 3096–16 (T. 4 N., R. 37 E., SEC. 25)

SET A 5/8 BY 36 INCH REBAR, WITH A 3 1/4" ALUMINUM CAP, 30 INCHES IN THE GROUND, MARKED AS SHOWN.

U.S. DEPT. OF AGRICULTURE GPS △ SCHLAICH 1993 FOREST SERVICE

9321
LUGER 1988 (T. 3 N., R. 39 E., SECTION 4)

FOUND A 3 1/4" ALUMINUM CAP SET FLUSH WITH THE GROUND, MARKED AS SHOWN.

U.S. DEPT. OF AGRICULTURE GPS △ ECCENTRIC BM W–514 1993 FOREST SERVICE

DEPT. OF AGRICULTURE PLEASE DO NOT DISTURB ELEVATION + 4966 FEET NO T279 1934 BUREAU OF PUBLIC ROADS

U.S. DEPT. OF AGRICULTURE GPS △ ECCENTRIC BM 3096–16 1993 FOREST SERVICE

U.S. DEPT. OF AGRICULTURE LUGER △ 1988 FOREST SERVICE

UNION COUNTY SURVEYOR
Date Received 2-1-94
Date Approved 2-2-94
By R. Robinson, Deputy
File 007-1994

I, DAVID A. SCHLAICH, A REGISTERED LAND SURVEYOR IN THE STATE OF OREGON HEREBY CERTIFY THAT THIS PLAT AND THE NOTES HEREON ARE A TRUE AND CORRECT REPRESENTATION OF A GPS CONTROL SURVEY I CONDUCTED IN SEPTEMBER AND OCTOBER OF 1993, AT THE REQUEST OF THE UMATILLA NATIONAL FOREST, IN ACCORDANCE WITH THE STATUTES OF THE STATE OF OREGON.

David A Schlaich

DAVID A. SCHLAICH -- RLS 2308
UMATILLA NATIONAL FOREST
2517 S.W. HAILEY AVENUE
PENDLETON, OREGON 97801
PHONE: (503) 278–3747

REVIEWED BY:
Dennis K. Gaylord 1/20/94
SIGNATURE DATE

I CERTIFY THAT THIS SURVEY WAS PERFORMED AT THE REQUEST OF THE UMATILLA NATIONAL FOREST SUPERVISOR
John P. Kline 1/20/94
SIGNATURE DATE

No.	Latitude	Longitude	Northing (m)	Easting (m)	Ellipsoid Height(m)	Geoid Separation(m)	Orthometric Height (m)	Convergence	Scale factor
9315	45°40'32.30772" N	118°08'56.01446" W	225909.209	2683147.773	1401.780	-18.288	1420.068	1°40'02.540"	0.999933705
9316	45°39'10.02807" N	118°07'36.17526" W	223420.725	2684949.483	1399.887	-18.153	1418.040	1°40'59.161"	0.999930252
9317	45°42'39.76773" N	118°04'58.71972" W	229993.880	2688163.255	1474.194	-18.174	1492.368	1°42'50.826"	0.999939370
9318	45°43'34.73516" N	118°01'33.06432" W	231824.660	2692557.174	1494.463	-18.069	1512.532	1°45'16.674"	0.999941932
9319	45°46'24.58455" N	118°04'38.56608" W	236944.417	2688390.851	1495.064	-18.324	1513.388	1°43'05.118"	0.999950300
9320	45°47'19.60766" N	118°08'25.65643" W	238497.225	2683437.303	1349.175	-18.615	1367.790	1°40'24.069"	0.999953158
9321	45°45'48.47975" N	117°56'00.59446" W	236175.798	2699611.251	1108.406	-17.999	1126.405	1°49'12.457"	0.999948464

Survey No. 007-1994