

DALE GPS CONTROL SURVEY
FOR
UMATILLA NATIONAL FOREST
IN
SECTION 34, T. 6 S., R. 31 E.
AND
SECTIONS 1, 3, 9, 10, AND 11,
T. 7 S., R. 31 E.,
WILLAMETTE MERIDIAN
GRANT & UMATILLA COUNTIES
OREGON
NOVEMBER 1992

NARRATIVE:

THE PURPOSE OF THIS SURVEY WAS TO PROVIDE HORIZONTAL CONTROL FOR A PROPERTY SURVEY OF SECTIONS 2, 10, AND 11 OF T. 7 S., R. 31 E., W.M.

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 IN THE OREGON HIGH PRECISION GPS CONTROL NETWORK.

THE SURVEY WAS CONDUCTED USING TWO TRIMBLE 4000ST AND ONE TRIMBLE 4000SE GLOBAL POSITIONING SYSTEM 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 ALTHOUGH 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 HELD FIXED. THE SECOND PHASE BEING A CONSTRAINED ADJUSTMENT USING THE THREE EXISTING GPS CONTROL POINTS (9220, 9221 AND 9224) AS FIXED POINTS BOTH HORIZONTALLY (LATITUDE & LONGITUDE) AND VERTICALLY (ELLIPSOID HEIGHT). POINT 9220 (FDRE 1989) IS AN OREGON HIGH PRECISION NETWORK STATION, AND POINTS 9221 (STINKING WATER 1989) AND 9224 (BENCH MARK N11-43) ARE POINTS WHOSE COORDINATES WERE ESTABLISHED BY DAVID EVANS AND ASSOCIATES UNDER CONTRACT TO THE USDA-FOREST SERVICE.

COMPUTER SOFTWARE USED IN THIS SURVEY CONSISTED OF TRIMBLE'S TRIMVEC (REV. E) PROGRAM WHICH WAS USED FOR DOWNLOAD AND BASELINE PROCESSING, TRIMBLE'S TRIMNET (VERSION 91.06) PROGRAM FOR NETWORK ADJUSTMENTS, AND THE NATIONAL GEODETIC SURVEY'S GEOD90 PROGRAM WHICH INTERPOLATED THE GEOD SEPARATION FOR EACH STATION WHICH WAS USED TO DETERMINE ORTHOMETRIC HEIGHTS.

THE NEW GPS POINTS WHICH WERE ESTABLISHED ARE 3 1/4" DIAMETER ALUMINUM CAPS, SET ON 5/8" REBAR, MARKED WITH LOGO AS SHOWN, AND STAMPED AS SHOWN IN THE NAME COLUMN BELOW.



I, DAVID A. SCHLAICH, A REGISTERED LAND SURVEYOR IN THE STATE OF OREGON, HEREBY CERTIFY THAT THIS PLAT AND THE NOTES HEREIN ARE A TRUE AND CORRECT REPRESENTATION OF A GPS CONTROL SURVEY I CONDUCTED FROM OCTOBER 13 THROUGH NOVEMBER 11 OF 1992, AT THE REQUEST OF THE UMATILLA NATIONAL FOREST, IN ACCORDANCE WITH THE STATUTES OF THE STATE OF OREGON.

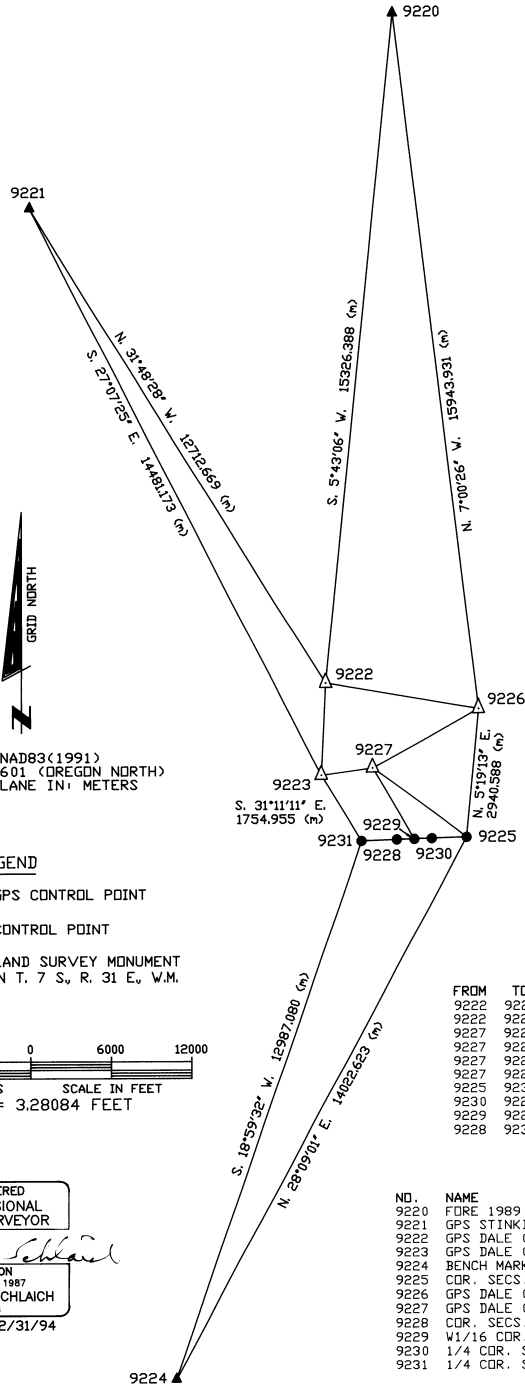
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UMATILLA NATIONAL FOREST
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PENDLETON, OREGON 97801
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REVISIONS
Date of _____
By _____
No. _____

BEARING AND DISTANCE TABLE

FROM	TO	GRID BEARING	GRID DIST. (m)	RECORD MEASUREMENT (BISHOP 1981) GEODETIC BEARING	GROUND DIST. (m)
9222	9223	S. 2°42'03" W.	2087.444		
9220	9226	S. 80°36'06" E.	3519.447		
9227	9223	S. 81°43'49" W.	1175.161		
9227	9226	N. 60°52'34" E.	2756.080		
9227	9225	S. 53°22'59" E.	2659.927		
9227	9229	S. 30°10'27" E.	1881.644		
9225	9230	S. 88°07'37" W.	791.802	S. 89°12'23" W.	792.092
9230	9229	S. 87°56'47" W.	398.077	S. 89°01'33" W.	398.182
9229	9228	S. 87°54'26" W.	397.729	S. 89°01'33" W.	398.182
9228	9231	S. 87°55'08" W.	803.024	S. 88°59'30" W.	803.332

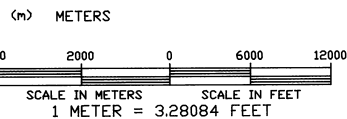
NO.	NAME	LATITUDE	LONGITUDE	NORTHING (m)	EASTING (m)	ELLIPSOID HEIGHT (m)	SEPARATION (m)	ORTHOMETRIC HEIGHT (m)	CONVERGENCE	SCALE FACTOR
9220	FDRE 1989	45°08'15.86357" N	118°57'27.86563" W	164625.221	2621290.441	992.552	-17.420	1009.972	1°05'37.496"	0.999894728
9221	GPS STINKING WATER 1989	45°05'56.74536" N	119°03'48.02551" W	160178.582	2613062.835	1373.687	-17.360	1391.047	1°01'07.891"	0.999895318
9222	GPS DALE 01 1992	45°00'02.83235" N	118°58'50.87817" W	149375.102	2619763.340	836.836	-17.306	854.142	1°04'38.624"	0.999898859
9223	GPS DALE 03 1992	44°58'55.35180" N	118°58'57.15731" W	147289.977	2619664.974	1009.591	-17.290	1026.881	1°04'34.171"	0.999899867
9224	BENCH MARK N11-43	44°51'30.93241" N	119°01'40.04719" W	133508.544	2616347.187	932.787	-17.322	950.109	1°06'38.652"	0.999891555
9225	CDR. SECS. 11, 12, 13 & 14	44°58'07.40233" N	118°56'27.86923" W	145872.463	2622962.886	1184.521	-17.174	1201.695	1°06'20.030"	0.999900647
9226	GPS DALE 02 1992	44°59'42.0707" N	118°56'12.86287" W	148800.383	2623235.545	944.809	-17.195	962.004	1°06'30.686"	0.999899158
9227	GPS DALE 04 1992	44°59'00.11576" N	118°58'03.93406" W	147459.004	2620827.916	1133.654	-17.254	1150.908	1°05'11.916"	0.999899792
9228	CDR. SECS. 10, 11, 14 & 15	44°58'06.61693" N	118°57'40.33557" W	145817.794	2621376.222	999.116	-17.220	1016.336	1°05'28.652"	0.999900660
9229	W/16 CDR. SECS. 11 & 14	44°58'06.84176" N	118°57'22.18688" W	145832.319	2621773.686	1134.985	-17.209	1152.194	1°05'41.523"	0.999900656
9230	1/4 CDR. SECS. 11 & 14	44°58'07.05712" N	118°57'04.02208" W	145846.583	2622171.507	1162.743	-17.197	1179.940	1°05'54.405"	0.999900653
9231	1/4 CDR. SECS. 10 & 15	44°58'06.16588" N	118°58'16.97818" W	145788.633	2620573.728	989.076	-17.241	1006.317	1°05'02.666"	0.999900668



DATUM: NAD83(1991)
ZONE: 3601 (OREGON NORTH)
STATE PLANE IN: METERS

LEGEND

- ▲ EXISTING GPS CONTROL POINT
- △ NEW GPS CONTROL POINT
- EXISTING LAND SURVEY MONUMENT LOCATED IN T. 7 S., R. 31 E., W.M.



REGISTERED
PROFESSIONAL
LAND SURVEYOR

David A. Schlaich

OREGON
JULY 16, 1987
DAVID A. SCHLAICH
2308

EXPIRES 12/31/94