

Bonneville Power Administration  
Geodetic Control Data Sheet

Station: WM034 (234)  
 Project: Wallula-Smiths Harbor-McNary  
 Section: NW 1/4 8 Township: 5 North Range: 31 East Meridian: Willamette  
 County: Umatilla State: OR USGS Quad: Juniper Canyon, Oregon  
 Surveyor: M R Heidecke Date Surveyed: July, 2001

Instrument:

The horizontal coordinates and orthometric elevation were established by GPS observations using six Trimble 4000 SSI dual frequency receivers with Compact L1/L2 antennae with ground plane.

Adjustment:

The Basis of Coordinates for this survey is the Oregon State Coordinate System, North Zone, NAD 83 (1998). The horizontal component of the least squares adjustment was constrained by holding NGS Stations B 340 (A), B 502 (B), PENDLETON (B), STANFIELD EAST BASE RESET (B), and BURDEN (B). The vertical component of the least squares adjustment was constrained by holding NGS Benchmarks B 340 (First Order Class II), B 502 (First Order Class II), BURDEN (Second Order Class II), V 203 (Second Order Class 0), G 640 (First Order Class I). The elevation for point 106, 201, 249, and 255 were determined by differential leveling from G 640, D 502, E 525 and F 431 respectively and held.

Horizontal Datum: NAD83 (1998) Linear Unit: International Feet  
 Vertical Datum: NAVD88 Linear Unit: U.S. Survey Feet

Latitude: <u>N 45-56-09.09866</u>	Longitude: <u>W 118-58-08.18158</u>
US State Plane Coordinate System: <u>Oregon North Zone - 3601</u>	
Northing: <u>831,006.239</u>	Easting: <u>8,591,630.597</u>
Orthometric Elevation: <u>1160.67</u>	Ellipsoid Height: <u>1090.41</u>
Combined Factor: <u>0.99993231</u>	Convergence: <u>- 1-05-09</u>
Confidence: <u>95% Confidence ("1.96 Sigma") Values</u>	
<u>Northing-0.009</u>	<u>Easting-0.006</u> <u>Elevation-0.111</u>

Monumentation: BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.  
 Stamping: U.S.D.O.E. Bonneville Pwr. Adm., WM034 - FEC-01 - ATB - GPS

To-Reach Description:

Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway 730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 6.2 miles to tower 47/2. From this tower pack or ATV to the station which is about 7000 feet southwest on BLM grazing land. Advise using hand held GPS equipment and ATV to locate point.  
 Witness post is a yellow carsonite marker inscribed with BPA logo, bearing and distance to station.

RECEIVED BY  
**Umatilla County Surveyor**  
 Date \_\_\_\_\_  
 Rec'd By \_\_\_\_\_  
 No. 02-19-9  
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