## POINT DATA

	PN NC		OR N EASTING	ORTHO HT.	LATITUDE	LONGITUDE	ELLIP. HT.	GEOID. SEP.	COMBINED SCALE FACTOR	SCALE FACTOR
	1	364969.488	8676618.190	3714.26	44°39'11.0257" N	118°40'34.5828" W	3656.48	-57.779	0.99976014918	0.99993482205
	2	365218.939	8676252.901	3706.65	44'39'13.5696" N	118°40'39.5569" W	3648.80	-57.785	0.99976040621	0.99993471201
	3	363932.231	8676307.222	3703.07	44°39'00.8547" N	118'40'39.2074" W	3645.27	-57.795	0.99976112583	0.99993526354
	4	364305.207	8676810.628	3700.70	44°39'04.4247" N	118'40'32.1287" W	3642.92	-57.782	0.99971083440	0.99993510821
	5	363542.070	8679267.638	3746.97	44°38′56.3415″ N	118 <b>:</b> 39'58.3872" W	3689.22	-57.746	0.99975922357	0.99993546021
ŀ	6	362839.824	8679057.781	3726.47	44°38'49.4556" N	118'40'01.5098" W	3668.72	-57.756	0.99976050380	0.99993576118
	7	360734.602	8682969.373	3770.39	44°38'27.7922" N	118'39'08.0814" W	3712.69	-57.707	0.99975936265	0.99993671522
	ε	361646.662	8682117.912	3751.76	44°38'36.9886" N	118'39'19.5673" W	3694.05	-57.713	0.99975984170	0.99993630891
	10	292004.906	8583908.904	3189.56	44'27'29.2690" N	119°02'15.2165" W	3129.43	-60.131	0.99982139873	0.99997091028
	11	292252.552	8584072.657	3192.47	44°27′31.6848″ N	119°02′12.8972" W	3132.34	-60.125	0.99982111585	0.99997076647
ļ	12	289878.836	8584523.607	3199.36	44°27'08.1677" N	119'02'07.2739" W	3139.19	-60.171	0.99982219408	0.99997217210
	13	289247.654	8584153.758	3179.37	44°27'02.0020" N	119°02′12.5295″ W	3119.19	-60.187	0.99982352008	0.99997254274
	14	288256.044	8581939.300	3106.24	44°26′52.6064″ N	119'02'43.2989" W	3046.00	-60.233	0.99982758179	0.99997310924
	15	287931.785	8581154.839	3147.40	44°26′49.5442″ N	119'02'54.1915" W	3087.15	-60.246	0.99982580154	0.99997329431
OGILVI	20	274804.322	8604150.128	3670.82	44°24'35.7316" N	118°57′40.7036" W	3610.79	-60.039	0.99980908978	0.99998159351
DAY	21	280995.613	8603577.735	3290.09	44°25′36.9666″ N	118°57'46.9651" W	3230.01	-60.072	0.99982342736	0.99997774425
ВМ 366	6 25	367128.114	8673144.257	3665.76	44°39′33.1081″ N	118°41'21.9610" W	3607.94	-57.825	0.99976151739	0.99993387180

\* THE COORDINATES AND ELEVATIONS SHOWN ABOVE ARE IN US FEET.

## NARRATIVE

THIS SURVEY WAS PERFORMED AT THE REQUEST OF RUSS TIENSVOLD OF HORIZONS, INC. THE PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL FOR USE IN THE CONSTRUCTION OF THREE BEECH CREEK AND FOUR OXBOW RANCH FISH PASSAGE AND PROTECTIVE FACILITIES, JOHN DAY RIVER BASIN, A BUREAU OF RECLAMATION PROJECT.

THE BASIS OF BEARINGS IS THE OREGON COORDINATE SYSTEM OF 1983—NORTH ZONE BASED ON GPS OBSERVATIONS AT STATION OGILVIE.

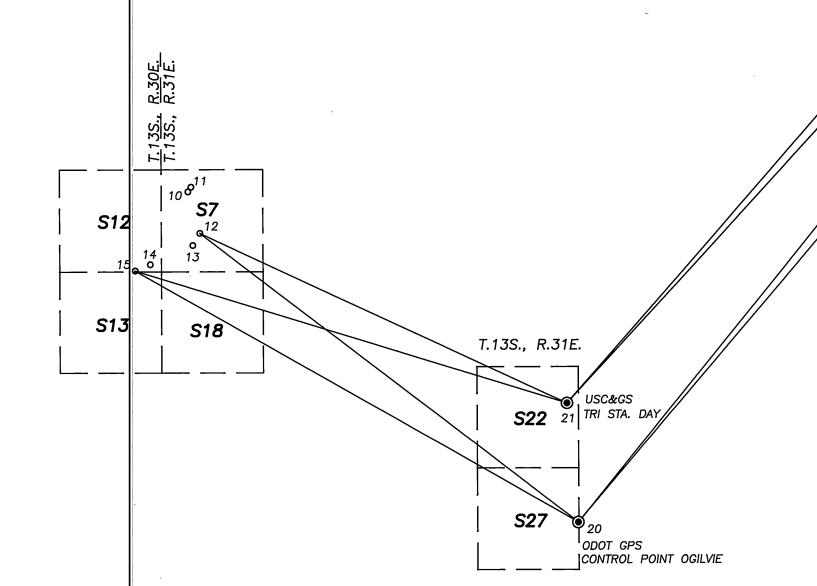
GPS MEASUREMENTS TO THE CONTROL AND OTHER RECOVERED MONUMENTS WERE MADE USING TWO LEICA 530 SYSTEM RECEIVERS.

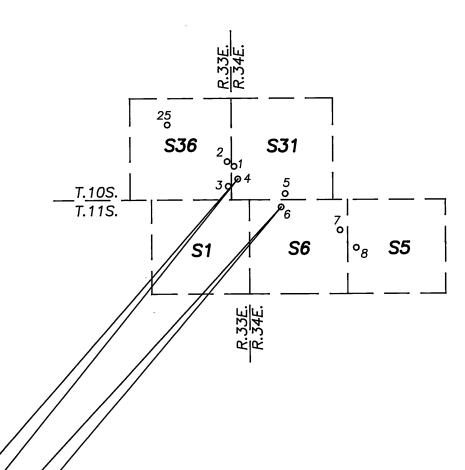
THE CONTROL POINTS ESTABLISHED, AS SHOWN HEREON, INCLUDED MEASUREMENTS TO STATION "OGILVIE" AND STATION "DAY" AND WAS CONSTRAINED TO THE PUBLISHED 1983(98) COORDINATE VALUES OF STATION "OGILVIE" AND THE 1983(91) COORDINATE VALUES OF STATION "DAY". THE MAXIMUM 95% CONFIDENCE REGION ERRORS WERE +/- 0.07 FEET

IN LATITUDE AND 0.06 FEET IN LONGITUDE WITH RESPECT TO THE CONSTRAINED POINTS.

THE ADJUSTED PUBLISHED GEOGRAPHIC COORDINATES ARE SHOWN HEREON.

GEOID MODEL — GEOID 99 AND REFERENCE ELLIPSOID— WGS 84 WERE USED.





#### TO REACH CONTROL POINTS

(1) 10.2 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO AN OLD ROAD. TURN RIGHT (NORTH) 0.1 MILES TO MIDDLE FORK OF JOHN DAY RIVER. WOOD BRIDGE ACROSS RIVER IS NOT OPEN TO VEHICLES, BUT CAN BE CROSSED ON FOOT. PROCEED ALONG OLD ROAD TO ITS TERMINUS AT INTERSECTION WITH RANCH ROAD. THE MONUMENT IS APPROXIMATELY 45 FEET SE OF THE CENTERLINE INTERSECTIONS OF THESE ROADS.

(2) 10.2 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO AN OLD ROAD. TURN RIGHT (NORTH) 0.1 MILES TO MIDDLE FORK OF JOHN DAY RIVER. WOOD BRIDGE ACROSS RIVER IS NOT OPEN TO VEHICLES, BUT CAN BE CROSSED ON FOOT. PROCEED ALONG OLD ROAD TO ITS TERMINUS AT INTERSECTION WITH RANCH ROAD. THE MONUMENT IS APPROXIMATELY N. 59° W. 412 FEET OF THE CENTERLINE INTERSECTIONS OF THESE ROADS.

(3) 10.2 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO AN OLD ROAD. TURN RIGHT (NORTH) APPROXIMATELY 60 FEET. THE MONUMENT IS APPROXIMATELY 200 FEET LEFT OF THE CENTERLINE OF THIS ROAD.

(4) 10.2 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO AN OLD ROAD. TURN RIGHT (NORTH) 0.1 MILES TO MIDDLE FORK OF JOHN DAY RIVER. PROCEED ON FOOT EASTERLY ALONG FENCE LINE APPROXIMATELY 280 FEET. THE MONUMENT IS APPROXIMATELY 3 FEET SOUTH OF FENCE LINE.

(5) 7.6 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO USFS ROAD 4550, THE OXBOW RANCH ROAD. PROCEED ALONG RANCH ROAD 1 MILE TO A FORK IN THE ROAD, GO LEFT AT FORK FOR 0.9 MI TO A POINT OPPOSITE THE CONFLUENCE OF RUBY CREEK AND THE MIDDLE FORK OF THE JOHN DAY RIVER. THE MONUMENT IS BETWEEN THE RIVER AND THIS ROAD, APPROXIMATELY N. 5° W., 208 FEET FROM SAID CONFLUENCE.

(6) 9.5 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO RUBY CREEK. PROCEED ON FOOT ALONG EAST BANK OF RUBY CREEK TO ITS CONFLUENCE WITH THE UPPER CHANNEL. BACK TRACK 200 FEET UP EAST BANK OF RUBY CREEK THEN TURN LEFT (EAST), CROSSING THE FENCE 65 FEET TO THE MONIMENT.

(7) 7.6 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 7 TO USFS ROAD 4550, OXBOW RANCH ROAD. PROCEED ALONG RANCH ROAD 1 MILE TO FORK IN ROAD, TURN LEFT AT FORK, 0.3 MI TO OXBOW RANCH HEADQUARTERS. PROCEED SOUTHWESTERLY ON FOOT THROUGH TURN GATE IN FENCE, PROCEED SOUTHWESTERLY ACROSS FIELD TO ANOTHER TURN GATE IN RIPARIAN FENCE, PROCEED THROUGH GATE SOUTHWESTERLY APPROXIMATELY 100 FEET TO MONUMENT.

(8) 8.6 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 20 TO BUTTE CREEK. THE MONUMENT IS ON THE RIGHT (NORTH) SHOULDER OF THE ROAD, APPROXIMATELY S.44\*W., 200 FEET FROM THE FISH SCREEN ON BUTTE

(10) 5.25 MILES NORTH ALONG US HIGHWAY 395 FROM THE POST OFFICE IN MT. VERNON. THE MONUMENT IS ON THE EAST SIDE OF BEECH CREEK ABOUT 110 FEET EAST OF THE CENTERLINE OF THE HIGHWAY. IT IS N.07°E., FROM THE EAST END OF THE DIVERSION POINT BARRIER ON BEECH CREEK.

(11) 5.30 MILES NORTH ALONG US HIGHWAY 395 FROM THE POST OFFICE IN MT. VERNON. THE MONUMENT IS WITHIN THE HIGHWAY RIGHT OF WAY, APPROXIMATELY 50 FEET WEST OF THE CENTERLINE STRIPE AND APPROXIMATELY 70 FEET NORTH OF A GRAVEL ACCESS DRIVE AND 15 FEET EAST OF THE RIGHT OF WAY FENCE.

(12) 4.8 MILES NORTH ALONG US HIGHWAY 395 FROM THE POST OFFICE IN MT. VERNON TO A PRIVATE DRIVEWAY. TURN RIGHT (EAST) 0.1 MI THE MONUMENT IS APPROXIMATELY 510 FEET NORTH OF THE DIVERSION POINT AND BARRIER ON LITTLE BEECH CREEK, ON A WEST SLOPE APPROXIMATELY N.40°E., 105 FEET FROM THE ROCK CHIMNEY OF AN OLD LOG HOMESTEAD.

(13) 4.8 MILES NORTH ALONG US HIGHWAY 395 FROM THE POST OFFICE IN MT. VERNON TO A PRIVATE DRIVEWAY. TURN RIGHT (EAST) 0.1 MI TO THE DIVERSION POINT AND BARRIER ON LITTLE BEECH CREEK. THE MONUMENT IS ON THE SOUTH SIDE OF LITTLE BEECH CREEK APPROXIMATELY S.56°., 260 FEET FROM SAID BARRIER.

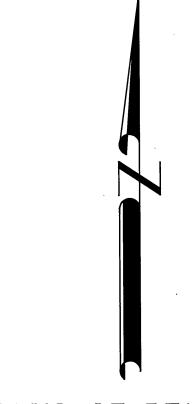
(14) 4.4 MILES NORTH ALONG US HIGHWAY 395 FROM THE POST OFFICE IN MT. VERNON. THE MONUMENT IS ON THE EAST SIDE OF BEECH CREEK NEAR A ROCK OUTCROP, APPROXIMATELY N.79°., 242 FEET FROM THE SOUTH END OF THE DAM OR BARRIER ON BEFCH CREEK.

(15) 4.2 MILES NORTH ALONG US HIGHWAY 395 FROM THE POST OFFICE IN MT. VERNON TO A FARM ACCESS ROAD. TURN RIGHT ON ACCESS ROAD (EAST) 100 FEET TO A GATE. TURN RIGHT (WEST) WALK S.73\*W., 85 FEET TO MONUMENT. THE MONUMENT IS APPROXIMATELY 90 FEET RIGHT (EAST) OF THE CENTERLINE OF THE HIGHWAY AND IS BEHIND A HIGHWAY CUT.

(20) "OGILVIE" SEE NGS SHEET QC1049

(21) "DAY" SEE NGS SHEET QC0105

(25) BENCH MARK 3666 ADJ 1903 —(1905). 10.8 MILES WEST ALONG COUNTY ROAD 20 FROM ITS INTERSECTION WITH STATE HIGHWAY 20. 30 FEET SOUTH OF ROAD 75 FEET NORTH OF MIDDLE FORK OF JOHN DAY RIVER, IN LARGE BOULDER, ALUMINUM TABLET STAMPED 3666 ADJ 1903—(1905).



# BASIS OF BEARINGS

OREGON COORDINATE SYSTEM, OREGON NORTH ZONE BASED ON GPS OBSERVATIONS AT STATION "OGILVIE"

### REFERENCE

NGS DATA SHEETS FOR CONTROL POINTS DAY AND OGILVIE

## LEGENI

- FOUND 4" BRASS DISK SET IN CONCRETE
- O SET 5/8"X30" IRON PIN WITH ATTACHED YELLOW PLASTIC CAP MARKED BGB SURVEY MARKER

RECEIVED AND FILED

NOV. 6, 2001 OFFICE OF COUNTY SURVEYOR

ATTEST: Muhal C. Spany.



9	TT, GRIFFITH &  N. Canyon Blvd. John Day,					
SITUATED IN SI SEC.'S 5 & 6,	MAP OF SURVEY GEODETIC CONTROL SURVEY EC. 36. T.10S., R.33E.; SEC. 3 T.11S., R.34E.; SEC.'S 12 & 1 C.'S 7, 18, 22 & 27 T.13S., R. GRANT COUNTY, OREGON	1, T.10S., R.34E.; 13, T.13S., R.30E.;				
SURVEYED FOR	HORIZONS, INC.					
SURVEYED BY	RDB, DEM & MCS	10/25/2001				
Scale: 1"=5000"	Drawn by: MCS					