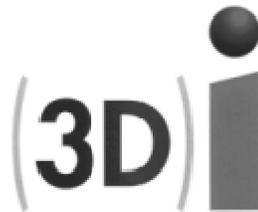


**GPS Photo Control  
For  
Ada County Aerial Mapping Project 2000**

**Located in Ada County, Idaho**

*Prepared At The Request Of*



The shape of information

3Di, LLC  
3400 West 11th Avenue  
Eugene, Oregon 97402-3039  
(541) 343-8877

*Prepared By*



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

*Project Number 00003  
June and September, 2000*

# GPS Photo Control For Ada County Aerial Mapping Project 2000

Located in Ada County, Idaho

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Prepared By



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Project Number 00003

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## I Scope of Project

This project was performed at the request of *3Di, LLC*, Eugene, Oregon.

The purpose of this project was to provide GPS photo control as a basis for creating a GIS base map which will cover essentially all of the land mass of Ada County with the exception of some unpopulated or undeveloped rural areas, primarily in the Southern portion of the County. The unmapped areas are largely comprised of those lands encompassing the Idaho National Guard Training Area and the Snake River Birds of Prey Natural Area. The project area includes all, or portions of Township 2 South through Township 5 North and Range 1 West through Range 4 East of the Boise Meridian.

## II Description of Methods Employed

The project required *Ada County Local Datum Plane Coordinates* (based on NAD 83(92) HARN) and NAVD 88 elevations to be established on 37 new points. In addition to the new points, existing points included in this project consisted of 14 points that were established during 1999 for a pilot mapping project, two points from the Boise River Study (BRS) project and seven NGS horizontal or vertical marks for a total of 60 stations. The 14 points were previously established by this firm. The two BRS points were established by Towill, Inc. during 1998. Forty-six of the 60 points were pre-marked prior to the aerial flight on April 30, 2000 and May 1, 2000. In addition to the ground control, this project utilized Airborne GPS Control, with a GPS receiver in the airplane interfaced with the aerial camera, and four GPS receivers on the ground simultaneously occupying four of the ground control points during flight operations. The stations that were occupied during both days of photography were P 84 RESET, 99-007-005 RESET, 00-003-069 and 00-003-071. The airborne portion of the project was under the supervision of Orion GPS and W&H Pacific. All of the airborne GPS was processed and quality checked by those firms. After the photography was developed it was decided to add seven auxiliary photo points to the project area for quality control of the airborne data and aerial triangulation checking purposes. These seven points were identified in the field and on the photography and then located by GPS. It is important to note that these seven points **ONLY** were surveyed as side shots (from HARN Station IDTD GPS) without the benefit of any field survey redundancy. This decision was made based on the fact that the coordinates were established on existing objects with no targets and no new monuments were set at these locations. In addition, since these were check points, the aerial triangulation adjustment software would provide a blunder check on the provided coordinates. These points fit well with the pre-marked points and no blunders were detected.

The survey was performed using static GPS methods. All measurements were made utilizing wooden slip leg tripods except for the auxiliary photo point side shots which were measured utilizing an adjustable height range pole with attached bipod. All measurements are in the U.S. Survey Foot system.

All measurements for determining the positions established by this survey were made using two Leica System 300 dual frequency Global Positioning System (GPS) receivers. The manufacturer's stated accuracy of this equipment is 5 mm ± 1 ppm for static surveys.

GPS baseline data was processed utilizing the NGS broadcast ephemeris with Leica SKI, Version 2.3. All measurements were simultaneously adjusted using the SKI adjustment software, and then translated to the final coordinates using the SKI Datum/Map module.

### **III Level of Accuracy**

The GPS baselines were combined in a minimally constrained least squares adjustment, holding NGS HARN Station IDTD GPS fixed, to check the validity of the GPS measurements within themselves, with the largest error ellipse ( $2\sigma$  / 95% confidence level) having a semi major axis of 0.07 feet (21 mm) at Station 00-003-029, with the largest vertical residual being 0.10 feet (30 mm) at Station 00-003-027. The network was then constrained to NGS HARN stations IDTD GPS, P 84 RESET, S67 A and SWAN FALLS (holding the ECEF Cartesian coordinates) with the largest error ellipse having a semi major axis of 0.06 feet (20 mm) at Station 00-003-009, with the largest vertical residual being 0.09 feet (27 mm) also at Station 00-003-009. The adjusted NAD 83(92) HARN based latitudes and longitudes were then transformed to *Ada County Local Datum Plane Coordinates* by applying the zone parameters to the GPS measurements.

Orthometric heights were derived by using the NGS geoid model GEOID99, then applying a mean local datum shift as determined at stations 99-007-015, 99-007-017, 99-007-019, 99-007-021, 99-007-027, 00-003-035, D 3423, F 141, IDTD GPS, P 84 RESET and SWAN FALLS by differencing the GPS derived heights with the leveled elevations per NGS, Ada County and *OrbiTech, LLC* for those stations. The resultant local datum shift was +0.0179 feet (+ 0.0055 meters). This local shift was then applied equally to all new non-leveled stations in the network.

#### IV GPS Heights and Orthometric Elevations

Orthometric height elevations are not to be confused with GPS heights. GPS heights are based upon a mathematical surface called the *ellipsoid*, while orthometric elevations are based upon a surface called the *geoid*. Both of the surfaces are the “zero” points for their respective heights.

To convert the GPS ellipsoidal height to an orthometric height elevation, we need to know the difference in height between the two systems. This difference is not constant and changes gradually from point to point in any given area. It also varies due to changes in gravity associated with changing terrain, e.g. mountains. This change is referred to as the *geoidal undulation*.

Differential leveling measures the difference in height above the geoid between two benchmarks. GPS, on the other hand, measures the difference in height above the ellipsoid between the two marks. The relationship between the two systems can be represented by the following formula:

$$N + H = h \text{ where}$$

N is the geoidal separation, which varies  
H is the orthometric height  
h is the ellipsoidal height

To convert h to H, you need N. The accuracy of GPS derived elevations depends upon how well N is known.

Our firm employs the GEOID99 model developed by the National Geodetic Survey to determine the value of N. The GEOID99 model is known as a hybrid geoid model, combining gravimetric information with GPS ellipsoid heights on leveled bench marks. The GEOID99 model was developed to support direct conversion between NAD 83 GPS ellipsoidal heights and NAVD 88 orthometric heights.

When comparing the GEOID99 model with GPS ellipsoidal heights in the NAD 83 reference frame and leveling in the NAVD 88 datum, it is seen that GEOID99 has roughly a 4.6 cm (0.15 feet) absolute accuracy (one sigma) in the regions of GPS on Bench Mark coverage. In those states with sparse (150km+) GPS on Bench Mark coverage, less point accuracy may be evident; but relative accuracy at about a 1 to 2 part-per-million level, or better, should still be obtained.

Because GEOID99 is only a model and could contain small errors, we do not currently consider geoid-corrected GPS orthometric heights as a substitute for geodetic leveling in meeting the Federal Geodetic Control Subcommittee (FGCS) standards for vertical control networks. Work is under way on improving the model, and at present, many less stringent requirements can be met using the current model.

## V Data Presentation

The final survey data is presented in the following format:

NAD 83(92) HARN based *Ada County Local Datum Plane Coordinates* (Horizontal)  
 NAVD 88 (Vertical)

The horizontal control for the adjustment of the survey network was based upon the published positions for the following stations.

<u>Station Description</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Source</u>
IDTD GPS	43°38'01.84878" N	116°13'49.07487" W	NGS
P 84 RESET	43°25'33.43352" N	116°02'55.65184" W	NGS
S67 A	43°34'51.63801" N	116°31'17.73558" W	NGS
SWAN FALLS	43°14'19.72662" N	116°22'02.58817" W	NGS

The vertical control for the adjustment of the survey network was based upon the published (or leveled) elevations of the following stations.

<u>Station Description</u>	<u>NAVD 88 Elevation</u>	<u>Source</u>
99-007-015	2647.86 Feet	Ada County / <i>OrbiTech, LLC</i>
99-007-017	2661.63 Feet	NGS / <i>OrbiTech, LLC</i>
99-007-019	2660.96 Feet	NGS / <i>OrbiTech, LLC</i>
99-007-021	2652.85 Feet	NGS / <i>OrbiTech, LLC</i>
99-007-027	2673.26 Feet	Ada County / <i>OrbiTech, LLC</i>
00-003-035	2763.12 Feet	NGS / <i>OrbiTech, LLC</i>
D 3423	2833.48 Feet	NGS
F 141	2527.38 Feet	NGS
IDTD GPS	2666.17 Feet	NGS
P 84 RESET	3401.29 Feet	NGS
SWAN FALLS	3020.79 Feet	NGS

### Control Notes

See the vertical control discussion under the “Level of Accuracy” and “GPS Heights and Orthometric Elevations” sections above.

Station 00-003-035 elevation is based on a trigonometric elevation transfer from NGS Station Y 223. Those stations designated above with a “Source” of “NGS” were directly occupied with a GPS receiver. The 99-007-0xx series of stations are based on conventional differential levels, with the basis of the source bench mark as indicated in the table.

Station 0087 and 153 are recovered monuments set during the Restudy of the Boise River Flood Plain in Ada County, Idaho (a USGS/FEMA project with the field work performed by Towill, Inc. of Concord, CA during November and December, 1998). The values obtained during this survey agreed favorably with the Towill values; however, these stations were **not** held during the final adjustment of this project. The record Towill, Inc. values for points 0087 and 153 therefore vary slightly from those values shown in this report.

It should be noted that all of the stations from the 1999 Pilot Project as well as the stations from the current 2000 Project were combined for purposes of adjustment and adding interconnecting ties between the two projects. The previously published report and all of its values shall still hold for the points established during the 1999 Pilot Project. This current report will only list the information on the new points that were surveyed during the 2000 Project. As of the completion of the 2000 field work, the following 1999 stations are confirmed to either be destroyed or paved over: 99-007-001, 99-007-005 (replaced by nearby Station 99-007-005 RESET) and 99-007-007.

The *Ada County Local Datum Plane Coordinates* are based on a 2700 foot elevation modification of the Idaho West (Zone 1103) NAD83 State Plane Coordinate system. The local coordinate system is a Transverse Mercator projection with the following parameters:

False east:	800143.9664 m
False north:	0.0000 m
Latitude of origin:	41° 40' 0.0000" N
Central meridian:	115° 45' 0.0000" W
Scale:	1.0001132793

The remainder of this report consists of a control placement diagram, a summary of station data and station description sheets.

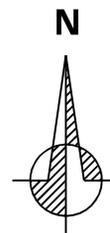
I hereby certify that this survey was conducted by me during June and September, 2000 at the request of *3Di, LLC*, Eugene, Oregon.



EXPIRATION: MAY 31, 2001

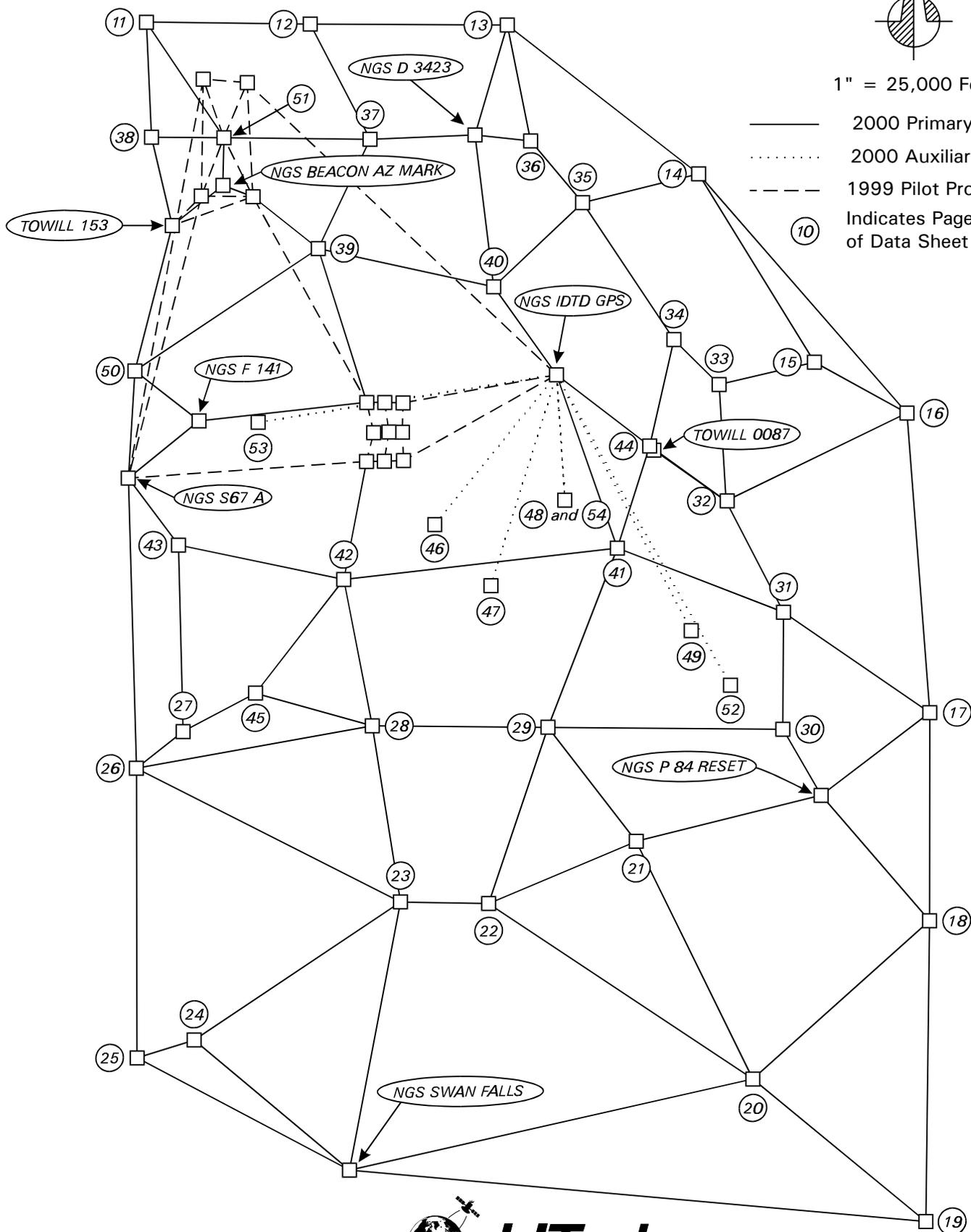
# GPS Photo Control For Ada County Aerial Mapping Project 2000

## Control Placement Diagram and Data Sheet Index



1" = 25,000 Feet

- 2000 Primary Control
- ..... 2000 Auxiliary Control
- - - - 1999 Pilot Project Control
- (10) Indicates Page Number of Data Sheet



GPS Surveying, Consulting and Training

# GPS Photo Control For Ada County Aerial Mapping Project 2000

Located in Ada County, Idaho

Horizontal Datum: NAD 83(92) HARN  
Ada County Local Datum Plane Coordinates

Vertical Datum: NAVD 88  
All units are in U.S. Survey Feet

Station	Latitude (N)	Longitude (W)	Northing (Y)	Easting (X)	Elevation (Z)	Convergence	Grid Factor	Elevation Factor	Combined Factor
00-003-001	43°48'25.88366"	116°30'43.60311"	781149.82	2423923.10	2913.82	-0°31'39.274"	1.00015952	0.99986346	1.00002296
00-003-003	43°48'25.02376"	116°24'00.33939"	780810.42	2453497.84	2893.26	-0°27'00.091"	1.00014693	0.99986440	1.00001131
00-003-005	43°48'25.75135"	116°15'55.04204"	780633.53	2489090.19	3576.88	-0°21'24.140"	1.00013442	0.99983168	0.99996608
00-003-007	43°44'01.77124"	116°08'02.58135"	753712.33	2523616.53	5326.00	-0°15'55.799"	1.00012505	0.99974809	0.99987311
00-003-009	43°38'26.58646"	116°03'15.77264"	719681.60	2544552.25	4316.00	-0°12'36.234"	1.00012070	0.99979632	0.99991699
00-003-011	43°36'56.26294"	115°59'28.59683"	710479.98	2561232.94	3270.33	-0°09'59.175"	1.00011794	0.99984625	0.99996418
00-003-013	43°28'01.75453"	115°58'30.39655"	656341.13	2565368.47	3685.93	-0°09'17.505"	1.00011736	0.99982642	0.99994375
00-003-015	43°21'50.11898"	115°58'29.48839"	618708.23	2565333.94	3326.45	-0°09'15.820"	1.00011736	0.99984361	0.99996096
00-003-017	43°12'53.02477"	115°58'36.67456"	564323.40	2564655.38	3074.52	-0°09'19.207"	1.00011746	0.99985561	0.99997305
00-003-019	43°17'06.44064"	116°05'39.69247"	590091.12	2533431.96	3207.56	-0°14'09.975"	1.00012289	0.99984929	0.99997216
00-003-021	43°24'09.74941"	116°10'27.36356"	633053.78	2512369.15	2998.16	-0°17'29.495"	1.00012780	0.99985934	0.99998712
00-003-023	43°22'17.24885"	116°16'27.45697"	621812.95	2485710.72	2883.98	-0°21'36.184"	1.00013548	0.99986481	1.00000027
00-003-025	43°22'18.89059"	116°20'02.78459"	622084.86	2469805.40	2873.74	-0°24'04.075"	1.00014084	0.99986530	1.00000612
00-003-027	43°18'09.64256"	116°28'24.37787"	597135.99	2432533.66	2786.49	-0°29'46.270"	1.00015565	0.99986950	1.00002513
00-003-029	43°17'36.88099"	116°30'43.26712"	593909.86	2422231.89	2267.61	-0°31'21.219"	1.00016031	0.99989430	1.00005459
00-003-031	43°26'13.78221"	116°30'51.44618"	646257.85	2422106.38	2837.70	-0°31'31.840"	1.00016036	0.99986707	1.00002741
00-003-033	43°27'20.19397"	116°28'58.03718"	652907.75	2430534.14	2712.02	-0°30'14.475"	1.00015653	0.99987307	1.00002959



# GPS Photo Control For Ada County Aerial Mapping Project 2000

Located in Ada County, Idaho

Horizontal Datum: NAD 83(92) HARN  
Ada County Local Datum Plane Coordinates

Vertical Datum: NAVD 88  
All units are in U.S. Survey Feet

Station	Latitude (N)	Longitude (W)	Northing (Y)	Easting (X)	Elevation (Z)	Convergence	Grid Factor	Elevation Factor	Combined Factor
00-003-035	43°27'33.02635"	116°21'14.97354"	653933.08	2464703.30	2763.12	-0°24'56.058"	1.00014268	0.99987061	1.00001327
00-003-037	43°27'32.46099"	116°14'05.01939"	653668.53	2496418.34	3000.35	-0°20'00.302"	1.00013220	0.99985925	0.99999144
00-003-039	43°27'30.98210"	116°04'29.83624"	653312.56	2538845.94	3401.39	-0°13'24.653"	1.00012178	0.99984005	0.99996181
00-003-041	43°30'59.95425"	116°04'29.16388"	674473.67	2538978.09	3154.50	-0°13'25.050"	1.00012176	0.99985183	0.99997357
00-003-043	43°34'18.20154"	116°06'51.47635"	694592.57	2528578.37	2846.21	-0°15'03.957"	1.00012393	0.99986657	0.99999048
00-003-045	43°37'46.00427"	116°07'09.81742"	715641.84	2527321.53	3608.95	-0°15'17.570"	1.00012421	0.99983012	0.99995431
00-003-047	43°39'05.60607"	116°09'01.21129"	723740.81	2519166.59	3725.93	-0°16'34.835"	1.00012611	0.99982455	0.99995063
00-003-049	43°43'09.35146"	116°12'47.30099"	748510.73	2502679.99	3608.73	-0°19'12.327"	1.00013041	0.99983016	0.99996054
00-003-051	43°44'58.96753"	116°14'55.99286"	759666.20	2493294.71	3365.92	-0°20'41.963"	1.00013313	0.99984177	0.99997488
00-003-053	43°45'00.05220"	116°21'30.70788"	759969.69	2464319.34	2740.28	-0°25'14.934"	1.00014282	0.99987171	1.00001451
00-003-055	43°45'00.44286"	116°30'28.38351"	760334.74	2424848.89	2693.56	-0°31'26.775"	1.00015910	0.99987398	1.00003306
00-003-057	43°41'44.34229"	116°23'36.25421"	740220.14	2454949.15	2541.75	-0°26'40.168"	1.00014636	0.99988121	1.00002755
00-003-059	43°40'38.18891"	116°16'24.42215"	733297.75	2486636.35	2612.63	-0°21'41.393"	1.00013519	0.99987779	1.00001296
00-003-061	43°32'53.14541"	116°11'17.35331"	686073.84	2508957.13	2924.09	-0°18'06.750"	1.00012870	0.99986289	0.99999157
00-003-063	43°31'53.89622"	116°22'27.45487"	680389.27	2459554.87	2736.76	-0°25'47.978"	1.00014459	0.99987188	1.00001646
00-003-065	43°32'52.99737"	116°29'13.16863"	686618.73	2429716.34	2567.90	-0°30'27.988"	1.00015690	0.99987997	1.00003685
00-003-069	43°35'55.54807"	116°09'59.28436"	704515.36	2514799.94	2738.52	-0°17'13.922"	1.00012718	0.99987174	0.99999891



# GPS Photo Control For Ada County Aerial Mapping Project 2000

Located in Ada County, Idaho

Horizontal Datum: NAD 83(92) HARN  
Ada County Local Datum Plane Coordinates

Vertical Datum: NAVD 88  
All units are in U.S. Survey Feet

Station	Latitude (N)	Longitude (W)	Northing (Y)	Easting (X)	Elevation (Z)	Convergence	Grid Factor	Elevation Factor	Combined Factor
00-003-071	43°28'29.68393"	116°26'01.24154"	659833.68	2443633.95	2746.89	-0°28'13.468"	1.00015091	0.99987140	1.00002229
00-003-073	43°33'33.05288"	116°18'45.44195"	690313.67	2475979.91	2742.04	-0°23'15.763"	1.00013869	0.99987162	1.00001029
00-003-075	43°31'44.65746"	116°16'26.78155"	679270.28	2486122.09	2790.60	-0°21'39.488"	1.00013535	0.99986929	1.00000462
00-003-077	43°34'17.94324"	116°13'26.85620"	694713.22	2499467.40	2821.94	-0°19'36.484"	1.00013132	0.99986778	0.99999908
00-003-079	43°30'26.49590"	116°08'15.55107"	671156.96	2522278.81	3136.42	-0°16'00.772"	1.00012536	0.99985272	0.99997807
00-004-145	43°38'03.15138"	116°31'03.96262"	718100.62	2421845.84	2502.28	-0°31'47.3381"	1.00016048	0.99988311	1.00004357
0087	43°35'48.20366"	116°09'48.78319"	703767.76	2515569.07	2746.33	-0°17'06.642"	1.00012699	0.99987136	0.99999834
153	43°42'23.33487"	116°29'35.56205"	744389.54	2428583.85	2468.09	-0°30'48.772"	1.00015740	0.99988475	1.00004214
99-007-001	43°46'44.97931"	116°28'22.58627"	770838.51	2434176.07	2673.61	-0°30'00.729"	1.00015493	0.99987493	1.00002984
99-007-003	43°46'39.42713"	116°26'34.43017"	770208.40	2442107.26	2928.36	-0°28'45.844"	1.00015154	0.99986275	1.00001427
99-007-005	43°45'01.00933"	116°27'30.66783"	760276.65	2437895.49	2679.49	-0°29'23.877"	1.00015332	0.99987465	1.00002795
99-007-005 RESET	43°45'00.97109"	116°27'29.96547"	760272.34	2437947.02	2681.94	-0°29'23.390"	1.00015330	0.99987453	1.00002781
99-007-007	43°43'16.34003"	116°28'24.39708"	749711.04	2433858.71	2559.25	-0°30'00.079"	1.00015507	0.99988039	1.00003544
99-007-009	43°43'15.97980"	116°26'17.85845"	749595.42	2443152.07	2576.88	-0°28'32.612"	1.00015110	0.99987955	1.00003063
99-007-011	43°37'10.40147"	116°21'34.38559"	712411.34	2463699.87	2623.93	-0°25'13.864"	1.00014305	0.99987728	1.00002031
99-007-013	43°37'10.45014"	116°20'50.14137"	712392.62	2466954.92	2636.32	-0°24'43.340"	1.00014186	0.99987668	1.00001852
99-007-015	43°37'09.74742"	116°20'05.34334"	712298.00	2470250.18	2647.86	-0°24'12.428"	1.00014068	0.99987613	1.00001679



# GPS Photo Control For Ada County Aerial Mapping Project 2000

Located in Ada County, Idaho

Horizontal Datum: NAD 83(92) HARN  
Ada County Local Datum Plane Coordinates

Vertical Datum: NAVD 88  
All units are in U.S. Survey Feet

Station	Latitude (N)	Longitude (W)	Northing (Y)	Easting (X)	Elevation (Z)	Convergence	Grid Factor	Elevation Factor	Combined Factor
99-007-017	43°36'16.50342"	116°21'16.81147"	706943.84	2464953.06	2661.63	-0°25'01.327"	1.00014259	0.99987547	1.00001804
99-007-019	43°36'17.86896"	116°20'39.45124"	707062.29	2467703.29	2660.96	-0°24'35.570"	1.00014159	0.99987551	1.00001708
99-007-021	43°36'17.41878"	116°20'06.32581"	706999.39	2470140.58	2652.85	-0°24'12.719"	1.00014072	0.99987589	1.00001659
99-007-023	43°35'25.04680"	116°21'33.73752"	701742.14	2463669.29	2653.50	-0°25'12.605"	1.00014306	0.99987586	1.00001890
99-007-025	43°35'25.47771"	116°20'50.37336"	701762.60	2466861.42	2661.67	-0°24'42.707"	1.00014189	0.99987547	1.00001734
99-007-027	43°35'26.96056"	116°20'03.33501"	701888.15	2470324.73	2673.26	-0°24'10.284"	1.00014065	0.99987492	1.00001555
BEACON AZ MARK	43°43'35.60856"	116°27'31.80567"	751628.96	2437737.98	2571.70	-0°29'23.900"	1.00015339	0.99987979	1.00003316
D 3423	43°45'09.24358"	116°17'13.03443"	760769.73	2483241.18	2833.48	-0°22'16.802"	1.00013628	0.99986722	1.00000348
F 141	43°36'34.99055"	116°28'25.47625"	709068.18	2433424.95	2527.38	-0°29'57.158"	1.00015526	0.99988190	1.00003714
F 415	43°28'49.05312"	116°06'38.99258"	661257.52	2529352.96	3352.72	-0°14'53.850"	1.00012376	0.99984238	0.99996612
H 141	43°36'33.22008"	116°26'00.67672"	708798.63	2444078.03	2572.94	-0°28'17.260"	1.00015072	0.99987972	1.00003042
IDTD GPS	43°38'01.84878"	116°13'49.07487"	717396.61	2497962.57	2666.17	-0°19'53.158"	1.00013175	0.99987522	1.00000696
P 84 RESET	43°25'33.43352"	116°02'55.65184"	641383.23	2545750.78	3401.29	-0°12'19.424"	1.00012048	0.99984005	0.99996051
S67 A	43°34'51.63801"	116°31'17.73558"	698716.16	2420652.67	2530.0	-0°31'54.975"	1.00016104	0.99988179	1.00004280
SWAN FALLS	43°14'19.72662"	116°22'02.58817"	573628.06	2460596.82	3020.79	-0°25'22.595"	1.00014420	0.99985827	1.00000245
T 86	43°34'17.89740"	116°13'26.85520"	694708.58	2499467.44	2823.13	-0°19'36.483"	1.00013132	0.99986773	0.99999903



# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-001

Station Location: S31-T6N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.018 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°48'25.88366"N  
Longitude: 116°30'43.60311"W  
Ellipsoid Height: 870.977 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 238,052.102 Meters  
Easting: 738,680.306 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

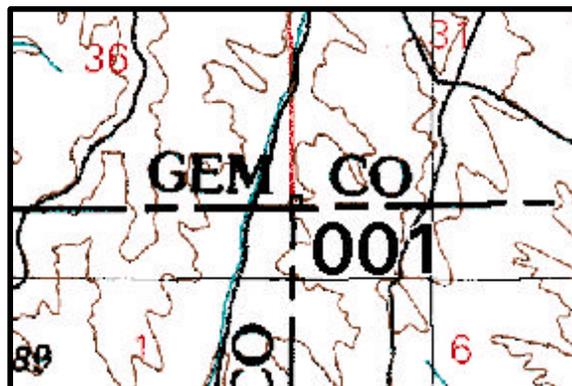
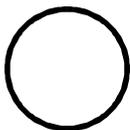
Northing: 781,149.82 US Feet  
Easting: 2,423,923.10 US Feet  
θ: -0°31'39.274"

Scale Factor: 1.00015952  
Elevation Factor: 0.99986346  
Combined Factor: 1.00002296

## NAVD 88 Orthometric Elevation

888.134 Meters      2,913.82 US Feet

Found a 5/8" diameter rebar protruding 0.53 feet. To reach from the intersection of State Route (SR) 16 and SR 44, take SR 16 North for 9.3 miles (1 mile North of the Ada/Gem County line) to a dirt road on left (West) side of SR 16 at a cattle corral. Station bears S 59°W, 1.9 miles from here. Follow dirt road SW for 1.8 miles to gate on left (South) side of road. Pass through gate, leaving main dirt road and go South for 0.25 miles to gate on track road, pass through gate and go South/SW for 0.5 miles to ridge line to NW, leave track road and follow ridge line N 30°W for 0.3 miles, then bear West down another ridge for 700 feet to the station for a total travel distance of 3.0 miles from SR 16. Station is Easterly of the Township corner.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-003

Station Location: S1-T5N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.019 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43° 48' 25.02376"N  
Longitude: 116° 24' 00.33939"W  
Ellipsoid Height: 864.957 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 237,948.671 Meters  
Easting: 747,693.085 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

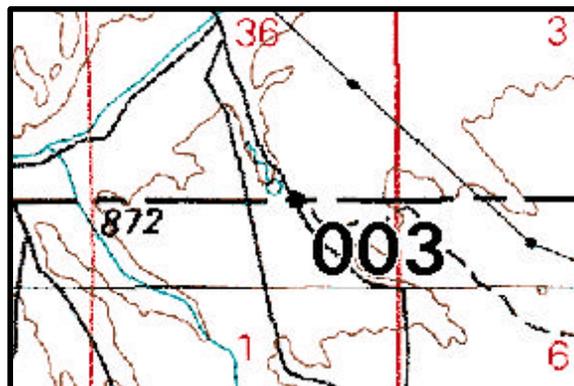
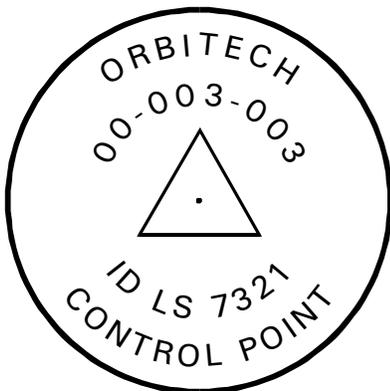
Northing: 780,810.42 US Feet  
Easting: 2,453,497.84 US Feet  
θ: -0° 27' 00.091"

Scale Factor: 1.00014693  
Elevation Factor: 0.99986440  
Combined Factor: 1.00001131

## NAVD 88 Orthometric Elevation

881.866 Meters      2,893.26 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the SW side of Willow Creek Road near the Ada/Gem County line. To reach from the intersection of State Route (SR) 16 and SR 44, take SR 16 North for 6.3 miles to Chapparral Road on right (East) side of SR 16 (this is the 2nd and most Northerly intersection of Chapparral Road and SR 16). Take Chapparral Road NE for 4.6 miles (2.2 miles after end of pavement) to intersecting Willow Creek Road. Follow Willow Creek Road South/SE for 0.6 miles to county line sign and the station on the right. Located in flat bottom ditch, 45 feet SW of centerline of road and 56.7 feet due South of metal sign "Entering Ada County".



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-005

Station Location: S6-T5N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.017 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43° 48' 25.75135"N  
Longitude: 116° 15' 55.04204"W  
Ellipsoid Height: 1,073.772 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 237,894.764 Meters  
Easting: 758,539.703 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

Northing: 780,633.53 US Feet  
Easting: 2,489,090.19 US Feet  
θ: -0° 21' 24.140"

Scale Factor: 1.00013442

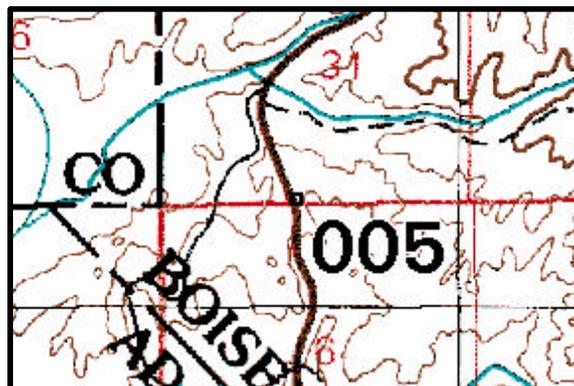
Elevation Factor: 0.99983168

Combined Factor: 0.99996608

## **NAVD 88 Orthometric Elevation**

1,090.237 Meters      3,576.88 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the East side of State Route (SR) 55 at mile post 54.5. To reach from the intersection of SR 44 and SR 55, take SR 55 North for 9.9 miles to station on right (East) side of SR 55. Located 49 feet Easterly of the centerline of the highway (measured from the centerline of the pavement, which is the center of the uphill passing lane), 21 feet Easterly of the Easterly guardrail.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-007

Station Location: S31-T5N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.018 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°44'01.77124"N  
Longitude: 116°08'02.58135"W  
Ellipsoid Height: 1,607.280 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 229,690.642 Meters  
Easting: 769,061.458 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

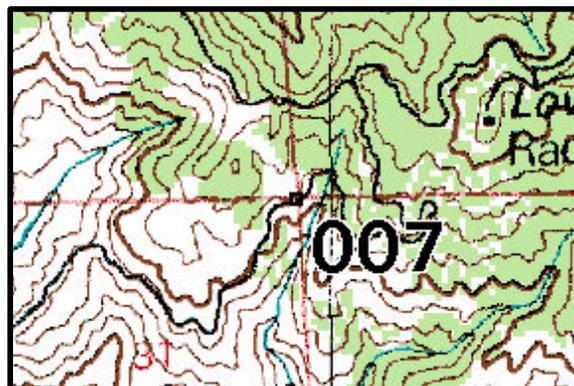
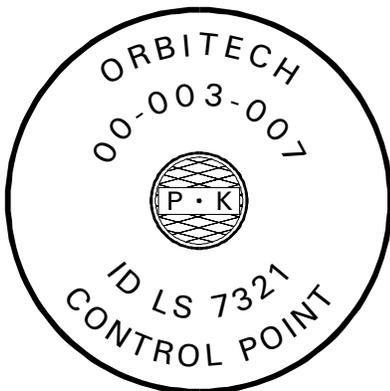
Northing: 753,712.33 US Feet  
Easting: 2,523,616.53 US Feet  
θ: -0°15'55.799"

Scale Factor: 1.00012505  
Elevation Factor: 0.99974809  
Combined Factor: 0.99987311

## NAVD 88 Orthometric Elevation

1,623.369 Meters      5,326.00 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located on the right (Southerly) shoulder of Bogus Basin Road. To reach from the intersection of Harrison Boulevard/Bogus Basin Road/Hill Road in Boise, take Bogus Basin Road Northerly for 11.4 miles to the station on the right (Southerly) side of the road at an uphill traffic slow vehicle turnout. Located 18.3 feet SE of the double yellow centerline stripes and approximately S 20°W from the GLO brass capped iron pipe for the section corner for S29-S30-S31-S32 T5N, R3E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-009

Station Location: S36-T4N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.020 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°38'26.58646"N  
Longitude: 116°03'15.77264"W  
Ellipsoid Height: 1,299.437 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 219,319.923 Meters  
Easting: 775,441.531 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

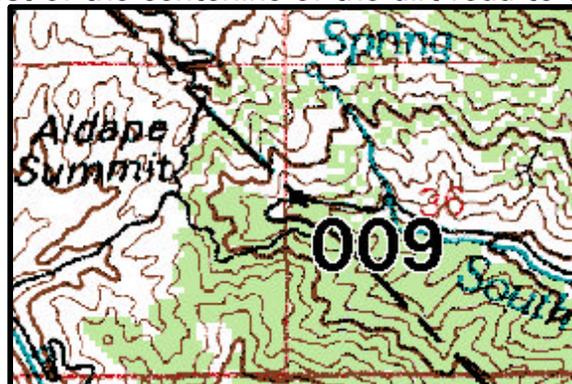
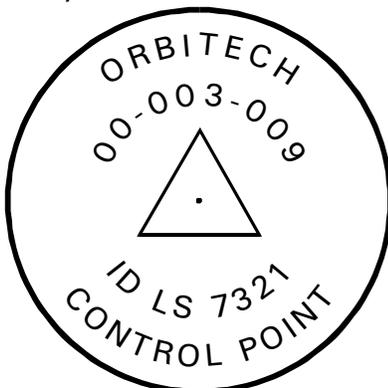
Northing: 719,681.60 US Feet  
Easting: 2,544,552.25 US Feet  
θ: -0°12'36.234"

Scale Factor: 1.00012070  
Elevation Factor: 0.99979632  
Combined Factor: 0.99991699

## NAVD 88 Orthometric Elevation

1,315.520 Meters 4,316.00 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the South side of Rocky Canyon Road in the Aldape Summit area on the East side of the summit near the crossing of the Ada/Boise County line. To reach from the intersection of State Route (SR) 21 (mile post 22) and Robie Creek Road (17.25 miles East of the SR 21 and I-84 interchange at Exit 57), take Robie Creek Road for 3.55 miles to the intersection with Rocky Canyon Road on the left. Take Rocky Canyon Road for 2.45 miles to the station on the left (South) side of the road at the intersection of a dirt road to the South. Located 0.9 miles East of the summit (by road), 34 feet South of the centerline of Rocky Canyon Road and 26 feet West of the centerline of the dirt road to the South.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-011

Station Location: S9-T3N-R4E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.017 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°36'56.26294"N  
Longitude: 115°59'28.59683"W  
Ellipsoid Height: 980.766 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 216,515.766 Meters  
Easting: 780,524.900 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

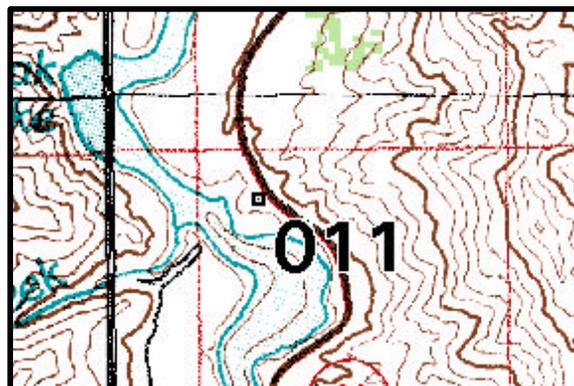
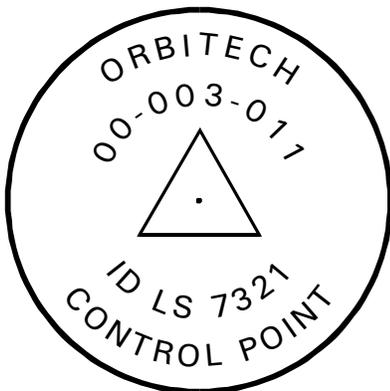
Northing: 710,479.98 US Feet  
Easting: 2,561,232.94 US Feet  
θ: -0°09'59.175"

Scale Factor: 1.00011794  
Elevation Factor: 0.99984625  
Combined Factor: 0.99996418

## NAVD 88 Orthometric Elevation

996.797 Meters 3,270.33 US Feet

Set a 5/8" diameter X 16" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the West side of State Route (SR) 21. To reach from the intersection of SR 21 and I-84 interchange at Exit 57, take SR 21 Easterly for 14.55 miles to a turnout on the SW side of the highway at mile post 19.3 (1.75 miles Easterly of the Ada/Boise County line crossing). Located approximately 150 feet Westerly from highway and approximately 30 feet higher than the highway on top of a narrow flat top ridge. Can be driven to from highway by following dirt road from highway turnout.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-013

Station Location: S33-S34-T2N-R4E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.011 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43°28'01.75453"N  
Longitude: 115°58'30.39655"W  
Ellipsoid Height: 1,107.325 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 200,017.184 Meters  
Easting: 781,785.184 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

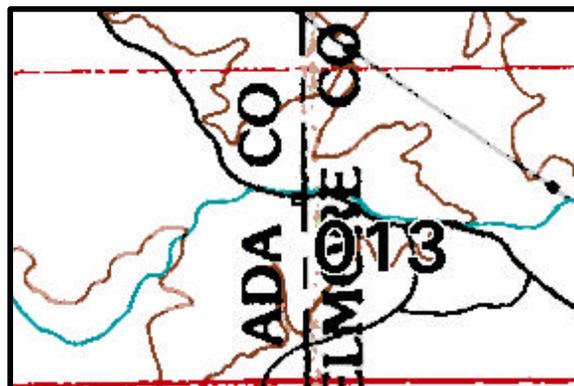
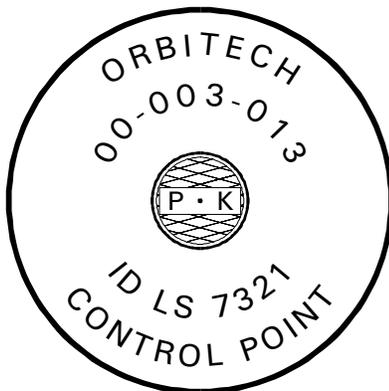
Northing: 656,341.13 US Feet  
Easting: 2,565,368.47 US Feet  
θ: -0°09'17.505"

Scale Factor: 1.00011736  
Elevation Factor: 0.99982642  
Combined Factor: 0.99994375

## **NAVD 88 Orthometric Elevation**

1,123.473 Meters      3,685.93 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located on the right (Southerly) shoulder of Blacks Creek Road. To reach from the intersection of Blacks Creek Road and I-84 interchange at Exit 64, take Blacks Creek Road Easterly and Southerly for 7.35 miles to the Ada/Elmore County line and the station on the right (South) side of the road. Located 20.4 feet North of South R/W fence, 9.0 feet South of centerline stripe of road, 31.5 feet South of North R/W fence and 103 feet West of a sign post at the end of pavement with Curve, School Bus Route and Ada/Elmore County line signs.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-015

Station Location: S3-T1S-R4E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.012 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°21'50.11898"N  
Longitude: 115°58'29.48839"W  
Ellipsoid Height: 997.595 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 188,548.716 Meters  
Easting: 781,774.663 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

Northing: 618,708.23 US Feet  
Easting: 2,565,333.94 US Feet  
θ: -0°09'15.820"

Scale Factor: 1.00011736

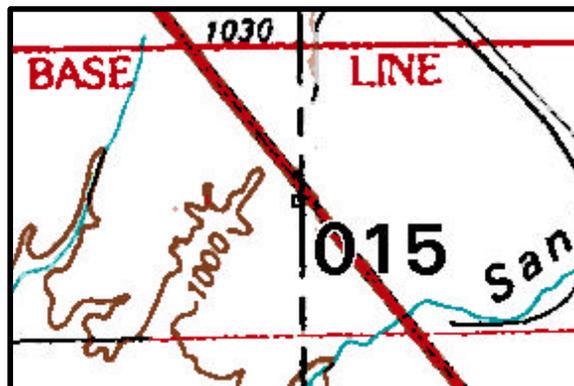
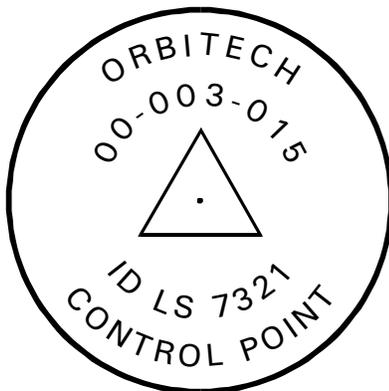
Elevation Factor: 0.99984361

Combined Factor: 0.99996096

## NAVD 88 Orthometric Elevation

1,013.903 Meters      3,326.45 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the SW side of the Eastbound lanes of I-84 at mile post 72.6 at the Ada/Elmore County line crossing. Located 1.8 miles Easterly of the overpass at Exit 71 (Mayfield/Orchard), approximately 132 feet SW of the center of the Eastbound lanes, 19 feet NE of R/W fence (at closest point to station) and N 15°E, 26 feet from 6" diameter concrete R/W marker post with a 3 1/2" brass disk marked "P.O.S.L. STA 1151 + 648 202".



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-017

Station Location: S34-T2S-R4E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.013 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°12'53.02477"N  
Longitude: 115°58'36.67456"W  
Ellipsoid Height: 920.986 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 171,975.169 Meters  
Easting: 781,567.873 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

Northing: 564,323.40 US Feet  
Easting: 2,564,655.38 US Feet  
θ: -0°09'19.207"

Scale Factor: 1.00011746

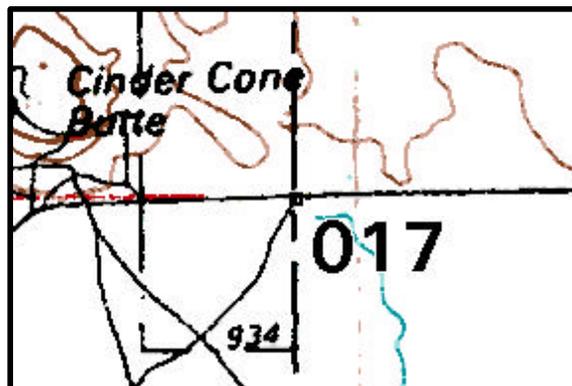
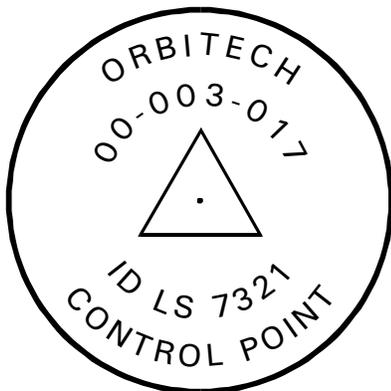
Elevation Factor: 0.99985561

Combined Factor: 0.99997305

## NAVD 88 Orthometric Elevation

937.115 Meters 3,074.52 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the South side of Cinder Butte Road. To reach from the intersection of Simco Road and I-84 interchange at Exit 74, take Simco Road Southerly for 4.15 miles to RR crossing, continue Southerly for 0.8 miles to the end of pavement, continue Southerly on gravel road for 3.9 miles to a 4-way gravel road intersection (8.85 miles total), take Cinder Butte Road to right (West) for 1.0 miles to dirt lane/driveway to North and station at approximate section corner for S27-S28-S33-S34, T2N, R4E, Boise Meridian. Located S 15°E, 43 feet from the intersection of Cinder Butte Road and the dirt lane to the North.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-019

Station Location: S3-T2S-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.011 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°17'06.44064"N  
Longitude: 116°05'39.69247"W  
Ellipsoid Height: 961.311 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 179,827.771 Meters  
Easting: 772,052.669 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

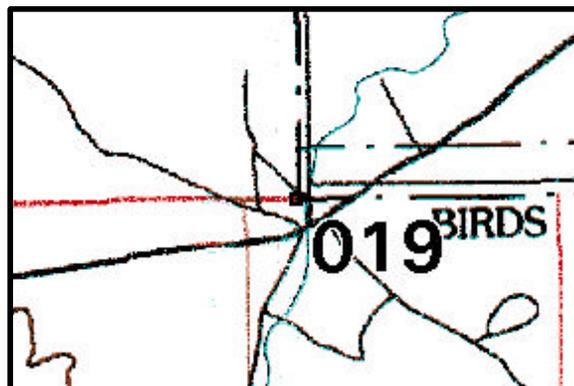
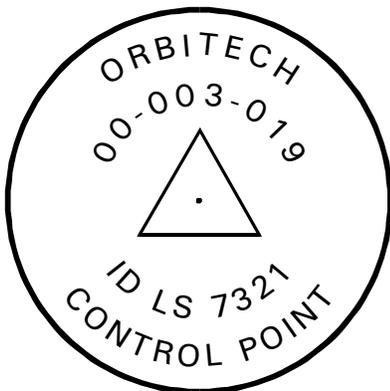
Northing: 590,091.12 US Feet  
Easting: 2,533,431.96 US Feet  
θ: -0°14'09.975"

Scale Factor: 1.00012289  
Elevation Factor: 0.99984929  
Combined Factor: 0.99997216

## NAVD 88 Orthometric Elevation

977.666 Meters 3,207.56 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. To reach from the intersection of Orchard Road and I-84 interchange at Exit 71 (Orchard/Mayfield), take Orchard Road SW/Southerly for 5.3 miles to RR crossing, continue SW for 2.05 miles to the end of pavement at National Guard facility, continue SW on gravel road for 2.0 miles to a 5-way gravel road intersection (9.35 miles total from I-84), and station location. Located approximately 450 feet North of intersection, S 5°W, 16.5 feet from a N-E fence corner and 15.9 feet South of a 5/8" rebar, the assumed section corner for S33-S34, T1S, R3E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-021

Station Location: S23-S24-T1N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.014 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°24'09.74941"N  
Longitude: 116°10'27.36356"W  
Ellipsoid Height: 897.238 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 192,920.460 Meters  
Easting: 765,633.867 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

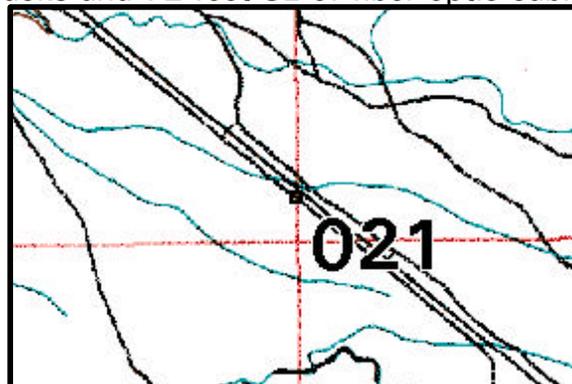
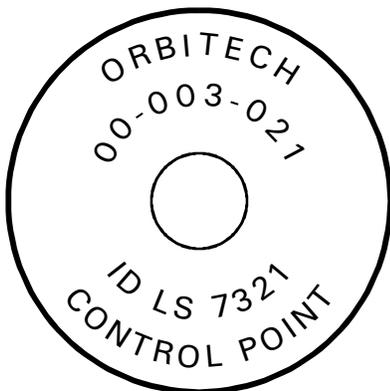
Northing: 633,053.78 US Feet  
Easting: 2,512,369.15 US Feet  
θ: -0°17'29.495"

Scale Factor: 1.00012780  
Elevation Factor: 0.99985934  
Combined Factor: 0.99998712

## NAVD 88 Orthometric Elevation

913.841 Meters 2,998.16 US Feet

Set a 3/8" diameter X 8" long spike nail with a 2" diameter aluminum washer marked as shown below. Station is located on the SE side of the UPRR inside the SW R/W fence and at the approximate section line between S23-S24, T1N, R2E, Boise Meridian. To reach from the intersection of W. Kuna Mora Road and S. Pleasant Valley Road, take S. Pleasant Valley Road South for 2.3 miles to end of pavement, continue South 0.1 miles to W. Thompson Road on left (East) just North of RR crossing, take W. Thompson Road Easterly for 1.55 miles to dirt road at RR crossing, pass through gate and cross two sets of tracks, follow tracks SE along the SW side of tracks for 1.9 miles to station. Located 6.7 feet NE of SW R/W fence, 94 feet SW of the centerline of the tracks and 72 feet SE of fiber optic cable sign post.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-023

Station Location: S1-T1S-R1E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.013 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°22'17.24885"N  
Longitude: 116°16'27.45697"W  
Ellipsoid Height: 862.355 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 189,494.867 Meters  
Easting: 757,509.824 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

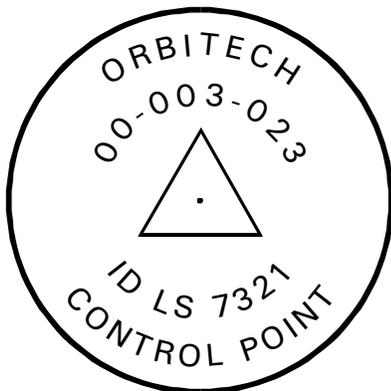
Northing: 621,812.95 US Feet  
Easting: 2,485,710.72 US Feet  
θ: -0°21'36.184"

Scale Factor: 1.00013548  
Elevation Factor: 0.99986481  
Combined Factor: 1.00000027

## NAVD 88 Orthometric Elevation

879.038 Meters 2,883.98 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. To reach from the intersection of W. Kuna Mora Road and S. Pleasant Valley Road, take S. Pleasant Valley Road South for 2.4 miles to end of pavement at RR crossing, continue South 3.6 miles to steel tower electric transmission line crossing, follow gravel road West along transmission line for 2.0 miles to station on left (South) side of road. Located 40.5 feet South of the centerline of the gravel road, 160 feet South of the centerline of the transmission line and 69.5 feet South of section corner monument (at N-S fence corner) for SC S31-S36, T1N, R1E-R2E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-025

Station Location: S4-T1S-R1E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.012 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°22'18.89059"N  
Longitude: 116°20'02.78459"W  
Ellipsoid Height: 859.167 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 189,577.729 Meters  
Easting: 752,662.743 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

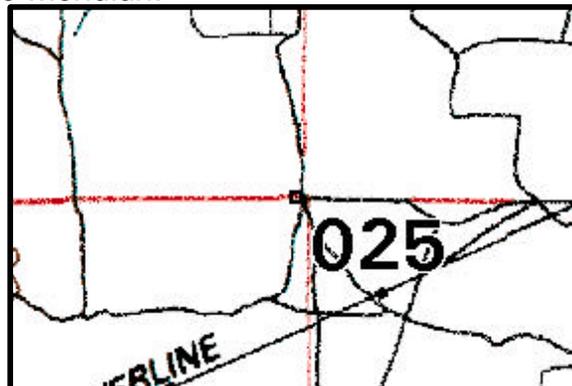
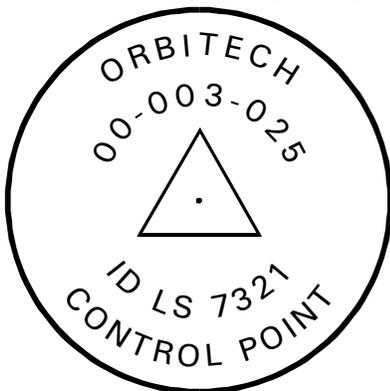
Northing: 622,084.86 US Feet  
Easting: 2,469,805.40 US Feet  
θ: -0°24'04.075"

Scale Factor: 1.00014084  
Elevation Factor: 0.99986530  
Combined Factor: 1.00000612

## NAVD 88 Orthometric Elevation

875.917 Meters 2,873.74 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. To reach from the intersection of W. Kuna Mora Road and S. Pleasant Valley Road, take S. Pleasant Valley Road South for 2.4 miles to end of pavement at RR crossing, continue South 3.6 miles to steel tower electric transmission line crossing, follow gravel road West along transmission line for 4.0 miles, then leaving main road, follow dirt road along North side of transmission line for 1.0 miles to a N-S fence line. The station is 0.4 miles North of here. Follow dim track roads Westerly and then Northerly to station at N-S-E fence corner. Located 15 feet West of fence corner and S 80°E, 10.6 feet from leaning section corner monument for SC S33-S34, T1N, R1E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-027

Station Location: S29-T1S-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.015 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43° 18' 09.64256"N  
Longitude: 116° 28' 24.37787"W  
Ellipsoid Height: 832.390 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 181,974.667 Meters  
Easting: 741,304.340 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

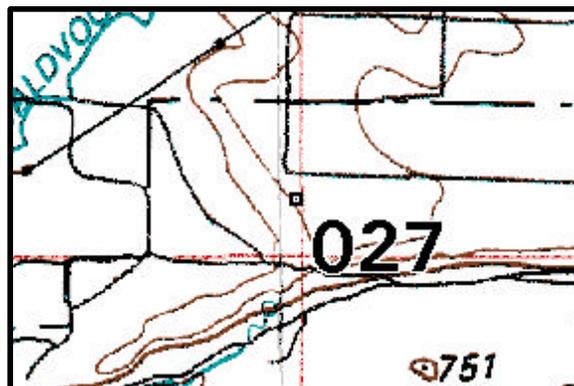
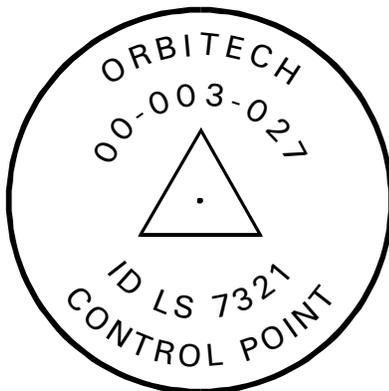
Northing: 597,135.99 US Feet  
Easting: 2,432,533.66 US Feet  
θ: -0° 29' 46.270"

Scale Factor: 1.00015565  
Elevation Factor: 0.99986950  
Combined Factor: 1.00002513

## NAVD 88 Orthometric Elevation

849.324 Meters      2,786.49 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. To reach from the intersection of Swan Falls Road and Victory Lane, take Victory Lane West 3.0 miles to intersection with S. McDermott Road. At this intersection, take dirt road Southerly (on a Southerly projection of S. McDermott) for 0.8 miles to station on right. Located at South side of plateau overlooking the Snake River canyon bench to the South, approximately on the section line between S28-S29, T1S, R1W, Boise Meridian, 38 feet SW of the centerline of dirt road and S 80°E approximately 110 feet from a private garbage dumping area.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-029

Station Location: S36-T1S-R2W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.017 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°17'36.88099"N  
Longitude: 116°30'43.26712"W  
Ellipsoid Height: 674.169 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 180,991.515 Meters  
Easting: 738,164.918 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

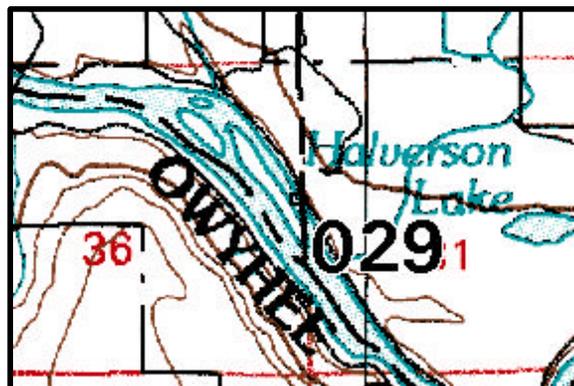
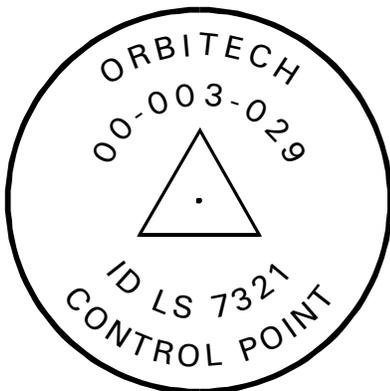
Northing: 593,909.86 US Feet  
Easting: 2,422,231.89 US Feet  
θ: -0°31'21.219"

Scale Factor: 1.00016031  
Elevation Factor: 0.99989430  
Combined Factor: 1.00005459

## NAVD 88 Orthometric Elevation

691.170 Meters 2,267.61 US Feet

Set a 5/8" diameter X 20" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the North bank of the Snake River at the approximate section line between S31-S36, T1S, R1W-R2W, Boise Meridian. To reach from the intersection of S. Can Ada Road and Victory Lane, take Victory Lane to West and follow the lane 1.6 miles to end of pavement, continue on gravel road 0.35 miles to Celebration Park and the Snake River. Follow dirt road upstream (along the right bank) for 0.6 miles to the station on the left (North) side of the dirt road. Located 14 feet NE of the centerline of the dirt road and 21 feet NE of the top of the river bank.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-031

Station Location: S12-T1N-R2W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.011 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°26'13.78221"N  
Longitude: 116°30'51.44618"W  
Ellipsoid Height: 847.891 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 196,944.345 Meters  
Easting: 738,126.668 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

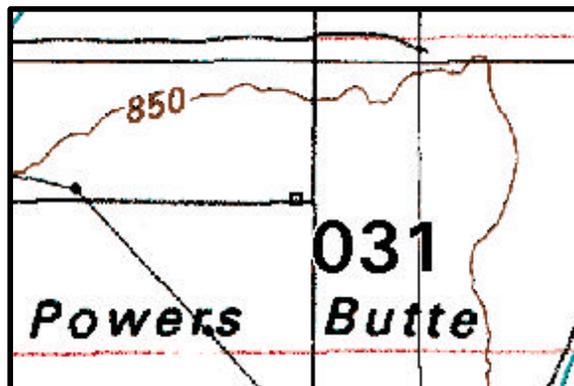
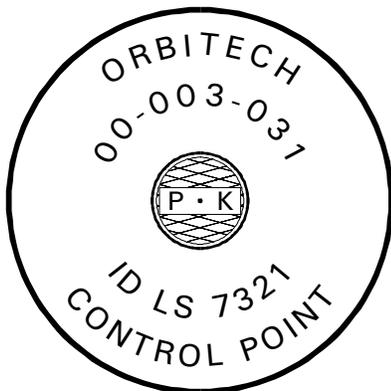
Northing: 646,257.85 US Feet  
Easting: 2,422,106.38 US Feet  
θ: -0°31'31.840"

Scale Factor: 1.00016036  
Elevation Factor: 0.99986707  
Combined Factor: 1.00002741

## NAVD 88 Orthometric Elevation

864.934 Meters      2,837.70 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located at the East end of Rose Lane and on the North side of the lane. To reach from the intersection of Southside Boulevard and Rose Lane (approximately 4.2 miles North of Melba, ID), take Rose Lane East 1.0 miles to end and station on left (North) side of lane. Located 15 feet North of the approximate centerline of the Lane at the SW corner of an off center to the North paved cul-de-sac bulb and 9 feet SE of the edge of pavement of the cul-de-sac bulb.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-033

Station Location: S5-T1N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.014 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°27'20.19397"N  
Longitude: 116°28'58.03718"W  
Ellipsoid Height: 809.614 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 198,970.875 Meters  
Easting: 740,694.994 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

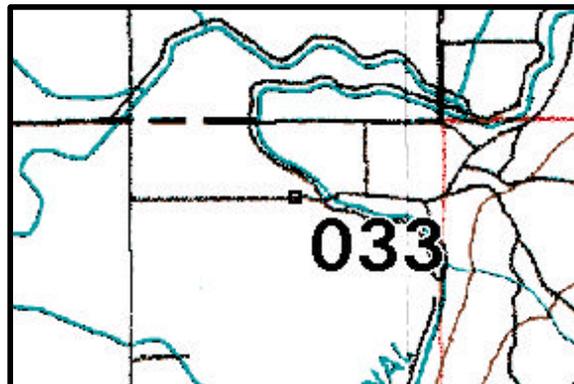
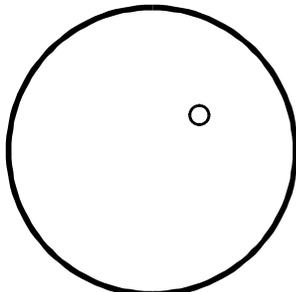
Northing: 652,907.75 US Feet  
Easting: 2,430,534.14 US Feet  
θ: -0°30'14.475"

Scale Factor: 1.00015653  
Elevation Factor: 0.99987307  
Combined Factor: 1.00002959

## NAVD 88 Orthometric Elevation

826.626 Meters      2,712.02 US Feet

Found an existing centerline monument, a 1 1/2" diameter aluminum cap set flush in pavement, marked as shown below. To reach from the intersection of S. Robinson Road and W. Murphy Road, take W. Murphy Road East 0.55 miles to the station. Located 7 feet East of the centerline of the driveway to #'s 5577, 5579 and 5581 in the centerline of W. Murphy Road.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-035

Station Location: S4-T1N-R1E

Horiz. Method: GPS  
Vert. Method: Vertical Angle Y 223  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.012 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°27'33.02635"N  
Longitude: 116°21'14.97354"W  
Ellipsoid Height: 825.310 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 199,283.338 Meters  
Easting: 751,107.900 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

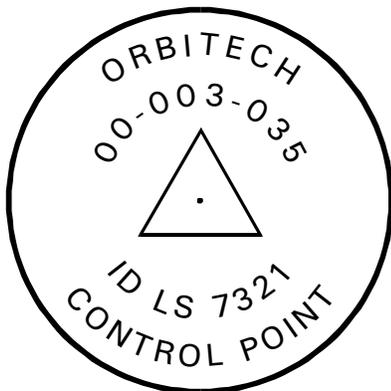
Northing: 653,933.08 US Feet  
Easting: 2,464,703.30 US Feet  
θ: -0°24'56.058"

Scale Factor: 1.00014268  
Elevation Factor: 0.99987061  
Combined Factor: 1.00001327

## NAVD 88 Orthometric Elevation

842.201 Meters 2,763.12 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Located at the intersection of E. Kuna Mora Road and S. Eagle Road. Station is located in the triangle formed by E. Kuna Mora Road, the extension of S. Eagle Road to the South and an irrigation canal to the SE. Located 164 feet North of the centerline of the UPRR tracks, 28 feet West of the top of the West bank of the canal, 64 feet East of the centerline of the S. Eagle Road extension, 120 feet South of the centerline of W. Kuna Mora Road and S 65°E, 116 feet from the GLO brass capped iron pipe for the section corner for S4-S5-S32-S33, T1N-T2N, R1E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-037

Station Location: S32-T2N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.013 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°27'32.46099"N  
Longitude: 116°14'05.01939"W  
Ellipsoid Height: 897.791 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 199,202.718 Meters  
Easting: 760,772.924 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

Northing: 653,668.53 US Feet  
Easting: 2,496,418.34 US Feet  
θ: -0°20'00.302"

Scale Factor: 1.00013220

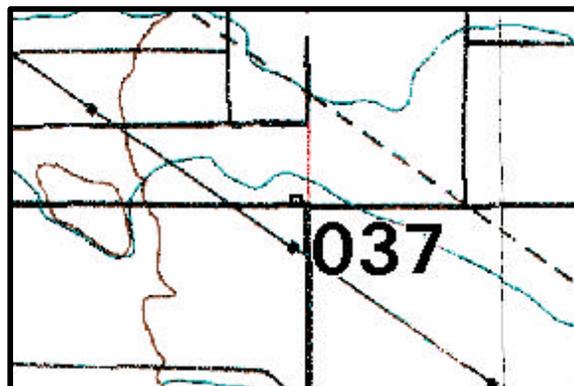
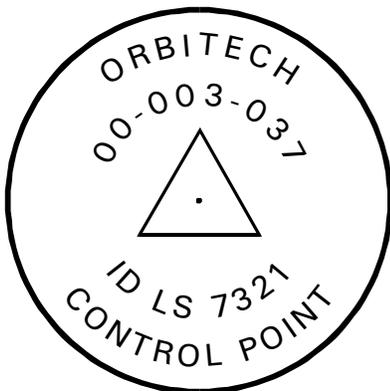
Elevation Factor: 0.99985925

Combined Factor: 0.99999144

## NAVD 88 Orthometric Elevation

914.507 Meters 3,000.35 US Feet

Set a 5/8" diameter X 28" long rebar with a 2" diameter aluminum cap marked as shown below. Located at the intersection of W. Kuna Mora Road and S. Pleasant Valley Road. Located 67 feet North of the centerline of E. Kuna Mora Road, 104 feet West of the centerline of S. Pleasant Valley Road and N 55°W, 123.5 feet from the rebar for the section corner for S4-S5-S32-S33, T1N-T2N, R2E, Boise Meridian, which is at the centerline intersection of the two roads.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-039

Station Location: S34-S35-T2N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.012 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°27'30.98210"N  
Longitude: 116°04'29.83624"W  
Ellipsoid Height: 1,020.348 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 199,094.238 Meters  
Easting: 773,702.556 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

Northing: 653,312.56 US Feet  
Easting: 2,538,845.94 US Feet  
θ: -0°13'24.653"

Scale Factor: 1.00012178

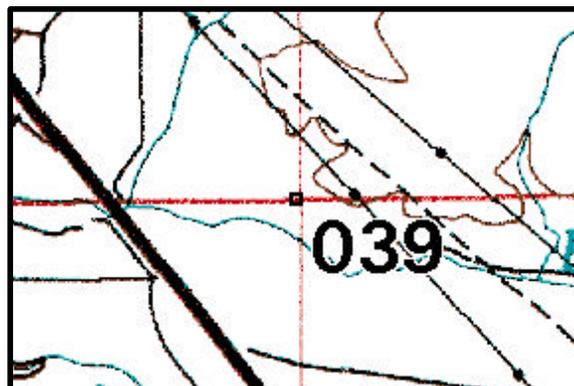
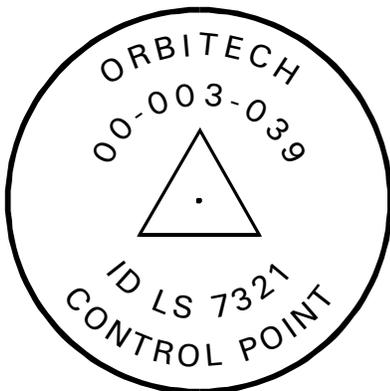
Elevation Factor: 0.99984005

Combined Factor: 0.99996181

## NAVD 88 Orthometric Elevation

1,036.747 Meters 3,401.39 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. To reach from the intersection of Blacks Creek Road and I-84 interchange at Exit 64, take Blacks Creek Road Easterly for 1.1 miles to dirt road on right (South) side of the road. Take dirt road South for 0.7 miles to an E-W fence and the station. Located 10 feet North of the E-W fence, 20 feet East of the centerline of the dirt road and North, 12.0 feet from the 6 inch diameter concrete post with 3 1/2 inch diameter Ada County brass disk for the section corner for S2-S3-S34-S35, T1N-T2N, R3E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-041

Station Location: S10-S11-S14-S15-T2N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.014 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°30'59.95425"N  
Longitude: 116°04'29.16388"W  
Ellipsoid Height: 945.141 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 205,542.998 Meters  
Easting: 773,742.827 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

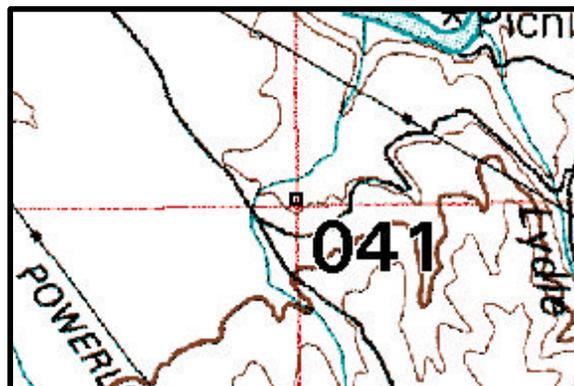
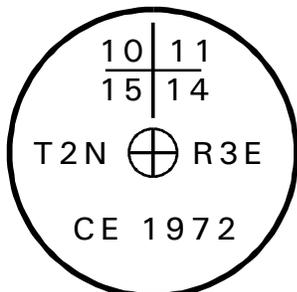
Northing: 674,473.67 US Feet  
Easting: 2,538,978.09 US Feet  
θ: -0°13'25.050"

Scale Factor: 1.00012176  
Elevation Factor: 0.99985183  
Combined Factor: 0.99997357

## NAVD 88 Orthometric Elevation

961.493 Meters 3,154.50 US Feet

Station is the section corner for S10-S11-S14-S15, T2N, R3E, Boise Meridian. To reach from the intersection of Gowen Road and I-84 interchange at Exit 57, take Gowen Road Easterly for 0.65 miles to intersection with Technology Way, turn right (South) on Technology Way for 0.95 miles to intersection with Columbia Road, turn left (East) on Columbia Road for 2.0 miles to end of pavement, continue for 0.25 miles to 90° curve to the right, continue (now South) for 0.25 miles to an E-W fence and gate, pass through gate and follow track road(s) SE through Section 10 for approximately 1.0 miles to the section corner and station. Located N 45° W, 1.2 feet from a steel fence post.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-043

Station Location: S29-T3N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.017 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°34'18.20154"N  
Longitude: 116°06'51.47635"W  
Ellipsoid Height: 851.114 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 211,674.146 Meters  
Easting: 770,573.559 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

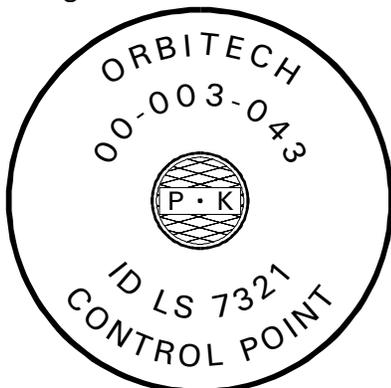
Northing: 694,592.57 US Feet  
Easting: 2,528,578.37 US Feet  
θ: -0°15'03.957"

Scale Factor: 1.00012393  
Elevation Factor: 0.99986657  
Combined Factor: 0.99999048

## NAVD 88 Orthometric Elevation

867.526 Meters      2,846.21 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located on the NW side of Squaw Creek Road at the approximate section line between S28-S29, T3N, R3E, Boise Meridian. To reach from the intersection of Broadway Avenue and I-84 interchange at Exit 54, take Broadway Avenue North toward downtown Boise for 3.0 miles to intersection with Warm Springs Avenue at 5-way intersection, turn right (SE) on Warm Springs Avenue for 5.0 miles to intersection with Squaw Creek Road, turn left (NE) on Squaw Creek Road for 0.3 miles to locked gate and the station on the left (NW) side of the road. Located 7.5 feet SE of the NW face of curb, 51 feet SW of the gate and 81 feet NE of the centerline of Woodcross Drive.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-045

Station Location: S5-T3N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.018 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°37'46.00427"N  
Longitude: 116°07'09.81742"W  
Ellipsoid Height: 1,083.706 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 218,088.821 Meters  
Easting: 770,190.541 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

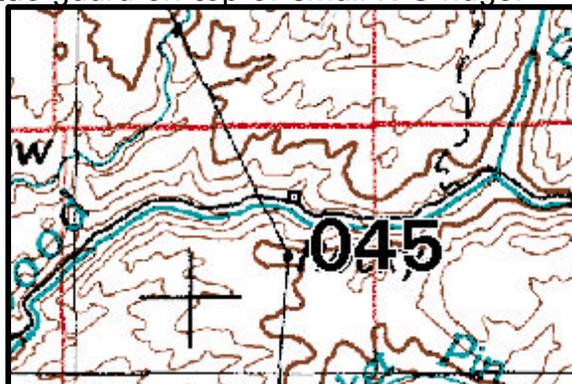
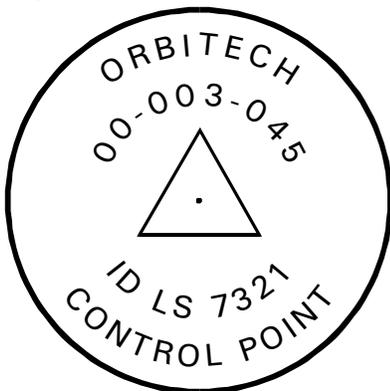
Northing: 715,641.84 US Feet  
Easting: 2,527,321.53 US Feet  
θ: -0°15'17.570"

Scale Factor: 1.00012421  
Elevation Factor: 0.99983012  
Combined Factor: 0.99995431

## NAVD 88 Orthometric Elevation

1,100.011 Meters 3,608.95 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the North side of E. Shaw Mountain Road. To reach from the intersection of Broadway Avenue and I-84 interchange at Exit 54, take Broadway Avenue North toward downtown Boise for 3.0 miles to intersection with Avenue "B" at 5-way intersection, proceed NE on Avenue "B" for 3 blocks (0.15 miles) to intersection with Reserve Street, turn right (NE) on Reserve Street for 0.5 miles to intersection with W. Shaw Mountain Road, turn right (SE) on W. Shaw Mountain Road and follow for 2.5 miles to end of pavement, continue 1.7 miles on gravel road to a cattle guard and the station on the left. Located N 10° W, 60 feet from center of cattle guard on top of small N-S ridge.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-047

Station Location: S30-T4N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.016 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°39'05.60607"N  
Longitude: 116°09'01.21129"W  
Ellipsoid Height: 1,119.281 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 220,556.949 Meters  
Easting: 767,705.357 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

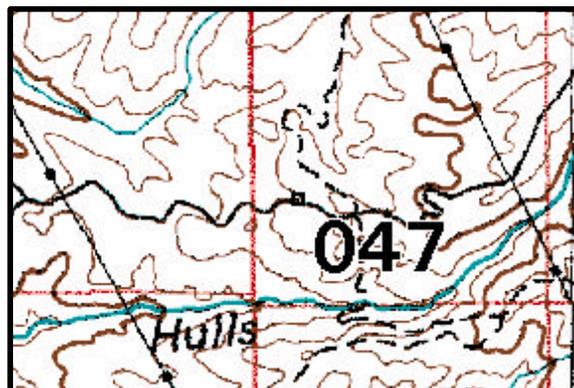
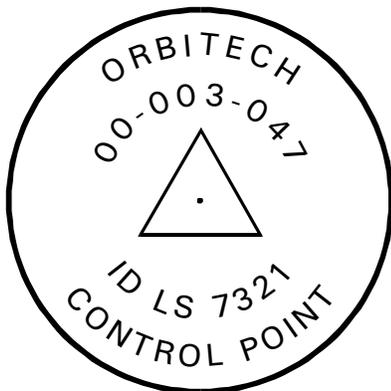
Northing: 723,740.81 US Feet  
Easting: 2,519,166.59 US Feet  
θ: -0°16'34.835"

Scale Factor: 1.00012611  
Elevation Factor: 0.99982455  
Combined Factor: 0.99995063

## NAVD 88 Orthometric Elevation

1,135.666 Meters      3,725.93 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the South side of Sunset Peak Road in S30, T4N, R3E, Boise Meridian at the winter road closure gate. To reach from the intersection of W. State Street and North 8th Street in downtown Boise, take North 8th Street Northerly (turns into North 8th Street Extension and then Sunset Peak Road) for 1.7 miles to end of pavement, continue Northerly and Easterly for 2.7 miles on gravel road to gate and the station. Located S 40° E, 37.9 feet the main (hinge) gate post, S 20° E, 53.7 feet from the lock gate post, SW 30 feet from the centerline of the road and 2.7 feet North of the South R/W fence, an E-W wire fence.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-049

Station Location: S3-T4N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.016 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43° 43' 09.35146"N  
Longitude: 116° 12' 47.30099"W  
Ellipsoid Height: 1,083.468 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 228,105.478 Meters  
Easting: 762,681.136 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

Northing: 748,510.73 US Feet  
Easting: 2,502,679.99 US Feet  
θ: -0° 19' 12.327"

Scale Factor: 1.00013041

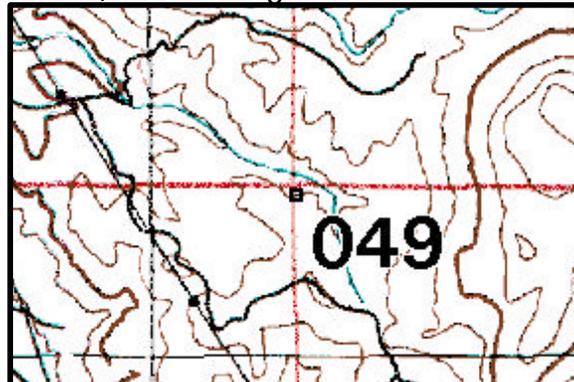
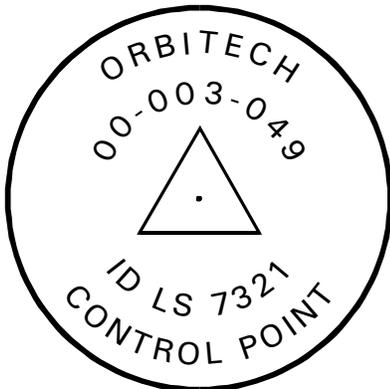
Elevation Factor: 0.99983016

Combined Factor: 0.99996054

## **NAVD 88 Orthometric Elevation**

1,099.942 Meters      3,608.73 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on private property approximately 400 feet Southerly of the section corner for S3-S4-S33-S34, T4N-T5N, R2E, Boise Meridian. To reach from the intersection of Cartwright Road and Dry Creek Road in S5, T4N, R2E, Boise Meridian, take Cartwright Road Northerly for 0.5 miles (0.3 miles North of end of pavement) and a gate on the right (East) side of the road. Pass through gate on dirt road for 0.3 miles to intersection, bear right (SE) for 0.3 miles to gate, pass through gate and continue SE for 0.8 miles to another gate, pass through gate and follow ridge line NE for 0.3 miles, leave road and follow ridge Northerly for 0.3 miles to station in the saddle (intersection) of two ridge lines NW-SE and NE-SW.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-051

Station Location: S20-T5N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.017 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43° 44' 58.96753"N  
Longitude: 116° 14' 55.99286"W  
Ellipsoid Height: 1,009.393 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 231,505.060 Meters  
Easting: 759,821.012 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

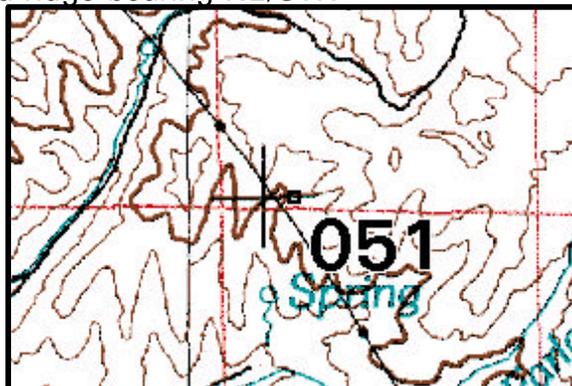
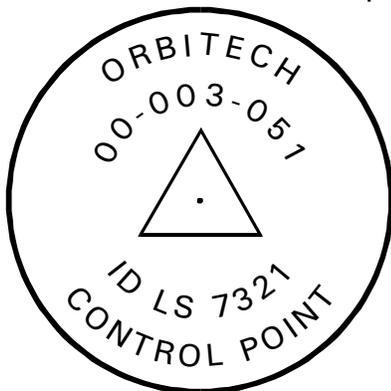
Northing: 759,666.20 US Feet  
Easting: 2,493,294.71 US Feet  
θ: -0° 20' 41.963"

Scale Factor: 1.00013313  
Elevation Factor: 0.99984177  
Combined Factor: 0.99997488

## NAVD 88 Orthometric Elevation

1,025.934 Meters      3,365.92 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on private property near the approximate section line between S20-S29, T5N, R2E, Boise Meridian and NE of a steel tower electric transmission line. To reach from the intersection of Dry Creek Road and McFarland Creek Road in S31, T5N, R2E, Boise Meridian, take McFarland Creek Road Northerly for 1.2 miles to end of improved road at house #15121. From here the station is located approximately N 16° E, 2800 feet. Drive and/or walk NE on private property to station (there is a track road a portion of the distance, but it is very wet from a spring and creek). Station is located N 20° E, 269 feet from the center of steel tower #345 and is on top of a ridge bearing NE/SW.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-053

Station Location: S20-T5N-R1E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.018 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43° 45' 00.05220"N  
Longitude: 116° 21' 30.70788"W  
Ellipsoid Height: 818.326 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 231,597.548 Meters  
Easting: 750,990.891 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

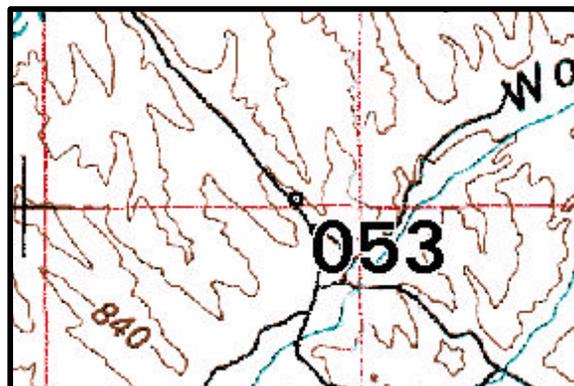
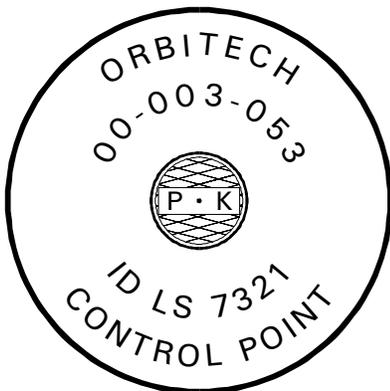
Northing: 759,969.69 US Feet  
Easting: 2,464,319.34 US Feet  
θ: -0° 25' 14.934"

Scale Factor: 1.00014282  
Elevation Factor: 0.99987171  
Combined Factor: 1.00001451

## NAVD 88 Orthometric Elevation

835.238 Meters      2,740.28 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located on the Easterly side of Willow Creek Road, North of Eagle, ID. To reach from the intersection of State Route (SR) 44 and Eagle Road in Eagle, ID, take Eagle Road North for 2.0 miles to intersection with East Beacon Light Road, continue North on Eagle Road for 0.75 miles, at which point Eagle Road becomes N. Willow Creek Road, continue North on N. Willow Creek Road for 1.45 miles to station on the right (East) side of the road. Located 10.5 feet NE of the centerline of the road (24 feet wide pavement) and approximately 200 feet Northerly of the driveway to house #6021 on the SW side of the road.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-055

Station Location: S30-T5N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.016 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43° 45' 00.44286"N  
Longitude: 116° 30' 28.38351"W  
Ellipsoid Height: 803.837 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 231,708.793 Meters  
Easting: 738,962.439 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

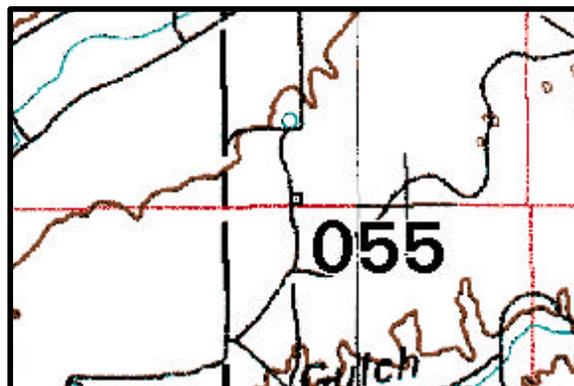
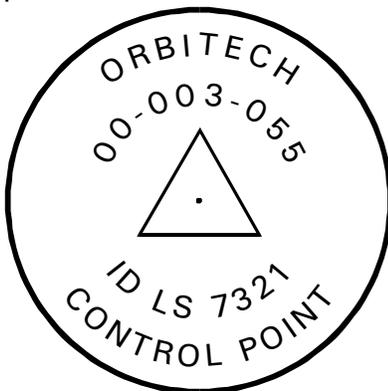
Northing: 760,334.74 US Feet  
Easting: 2,424,848.89 US Feet  
θ: -0° 31' 26.775"

Scale Factor: 1.00015910  
Elevation Factor: 0.99987398  
Combined Factor: 1.00003306

## **NAVD 88 Orthometric Elevation**

820.999 Meters      2,693.56 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on private property near the approximate section line between S19-S30,T5N, R1W, Boise Meridian and approximately 1250 feet East of the Ada/Canyon County line on a small ridge that bears NW/SE. To reach from the intersection of State Route (SR) 16 and W. Chapparral Road (this is the most Southerly intersection of Chapparral Road and SR 16), take W. Chapparral Road South and West for 2.8 miles to field road on left (South) side of road. Take field road Southerly for 0.7 miles to the ridge and the station. Station is located S 45° E, 145 feet from road (at ridge crossing) and S 55° W, 79 feet from a power pole.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

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*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-057

Station Location: S7-T4N-R1E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.014 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°41'44.34229"N  
Longitude: 116°23'36.25421"W  
Ellipsoid Height: 757.717 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 225,578.956 Meters  
Easting: 748,135.364 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

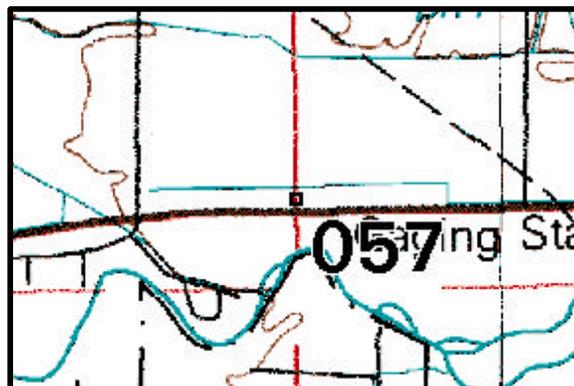
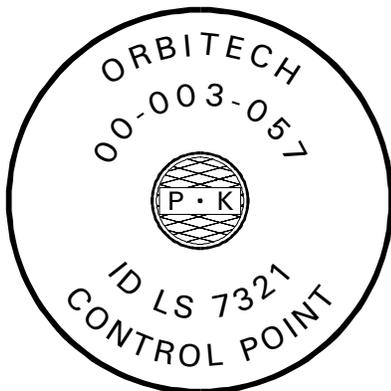
Northing: 740,220.14 US Feet  
Easting: 2,454,949.15 US Feet  
θ: -0°26'40.168"

Scale Factor: 1.00014636  
Elevation Factor: 0.99988121  
Combined Factor: 1.00002755

## NAVD 88 Orthometric Elevation

774.727 Meters 2,541.75 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located at the intersection of State Route (SR) 44 (State Street) and N. Cove Colony Way, West of Eagle, ID. To reach from the intersection of SR 44 and SR 55 in Eagle, ID, take SR 44 West 2.0 miles to station on right (North) side of SR 44. Located 63 feet North of the centerline of SR 44 and 21 feet West of the centerline of North Cove Colony Way.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

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*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-059

Station Location: S18-T4N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.015 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43° 40' 38.18891"N  
Longitude: 116° 16' 24.42215"W  
Ellipsoid Height: 779.539 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 223,469.387 Meters  
Easting: 757,791.905 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

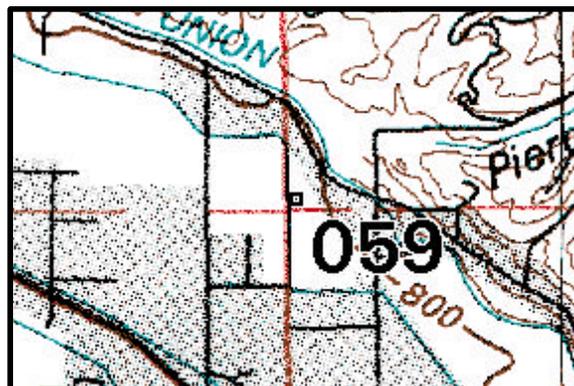
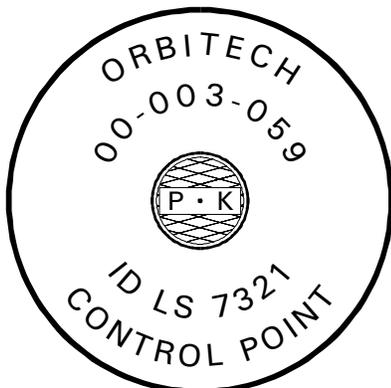
Northing: 733,297.75 US Feet  
Easting: 2,486,636.35 US Feet  
θ: -0° 21' 41.393"

Scale Factor: 1.00013519  
Elevation Factor: 0.99987779  
Combined Factor: 1.00001296

## NAVD 88 Orthometric Elevation

796.330 Meters      2,612.63 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located in the hammerhead at the South end of N. Rumford Avenue (the intersection of N. Rumford Avenue and N. Rumford Place). To reach from the intersection of W. State Street (NW/SE), Glenwood Street (South) and Gary Lane (North), take Gary Lane North for 0.7 miles to intersection with W. Gillis Drive on the right (East), take W. Gillis Drive East for 0.3 miles to intersection with N. Rumford Avenue on right (South), take N. Rumford Avenue South for 0.1 miles to intersection with N. Rumford Place and the station. Located 10 feet West of the centerline of N. Rumford Avenue (N-S) and in the centerline of N. Rumford Place (E-W).



EXPIRATION: MAY 31, 2001

# Station Data Sheet

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P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-061

Station Location: S35-T3N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.013 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°32'53.14541"N  
Longitude: 116°11'17.35331"W  
Ellipsoid Height: 874.608 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 209,078.099 Meters  
Easting: 764,594.068 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

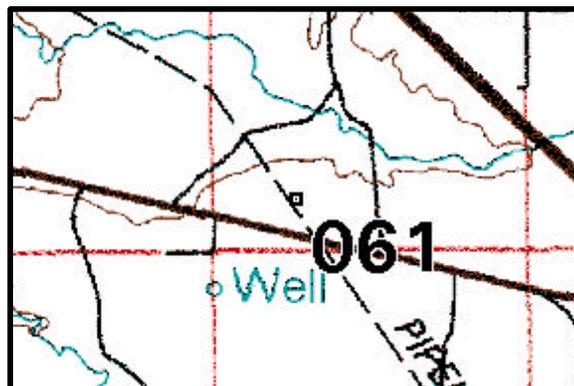
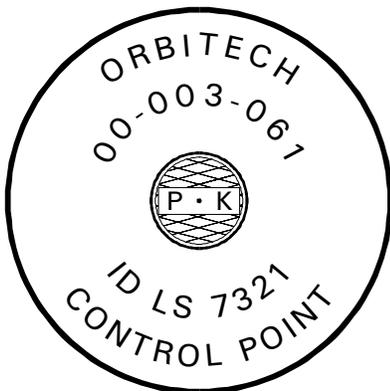
Northing: 686,073.84 US Feet  
Easting: 2,508,957.13 US Feet  
θ: -0°18'06.750"

Scale Factor: 1.00012870  
Elevation Factor: 0.99986289  
Combined Factor: 0.99999157

## NAVD 88 Orthometric Elevation

891.265 Meters 2,924.09 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located on the East side of S. Production Street, East of the Boise Air Terminal. To reach from the intersection of Gowen Road and I-84 interchange at Exit 57, take W. Gowen Road Westerly for 1.4 miles to intersection with S. Production Street on the right (North), take S. Production Street North for 0.1 miles to station on the right (East) at the North driveway entrance into the "Boise Air Terminal Aircraft Rescue and Firefighting Training Facility". Located 29 feet Easterly of the centerline of S. Production Way, 13 feet Northerly of the centerline of the driveway and S 10° W, 9.8 feet from a N-E fence corner.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

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*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-063

Station Location: S7-T2N-R1E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.013 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43°31'53.89622"N  
Longitude: 116°22'27.45487"W  
Ellipsoid Height: 817.228 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 207,345.750 Meters  
Easting: 749,538.937 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

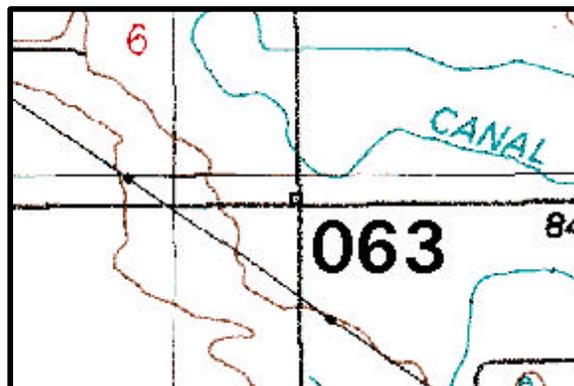
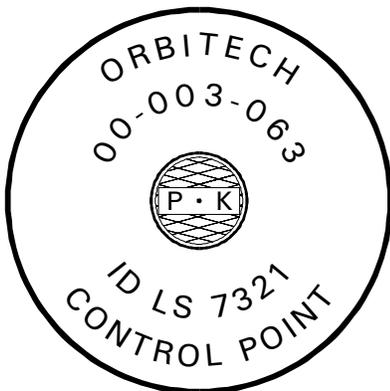
Northing: 680,389.27 US Feet  
Easting: 2,459,554.87 US Feet  
θ: -0°25'47.978"

Scale Factor: 1.00014459  
Elevation Factor: 0.99987188  
Combined Factor: 1.00001646

## **NAVD 88 Orthometric Elevation**

834.167 Meters      2,736.76 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located at the intersection of E. Columbia Road (E-W) and S. Locust Grove Road (N-S). Located 70 feet South of the centerline of E. Columbia Road, 13 feet West of the centerline of S. Locust Grove Road and S 10° W, 71.6 feet from the centerline-centerline intersection of the two roads and the assumed section corner for S5-S6-S7-S8, T2N, R1E, Boise Meridian.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-065

Station Location: S32-T3N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.014 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°32'52.99737"N  
Longitude: 116°29'13.16863"W  
Ellipsoid Height: 765.619 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 209,244.153 Meters  
Easting: 740,445.771 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

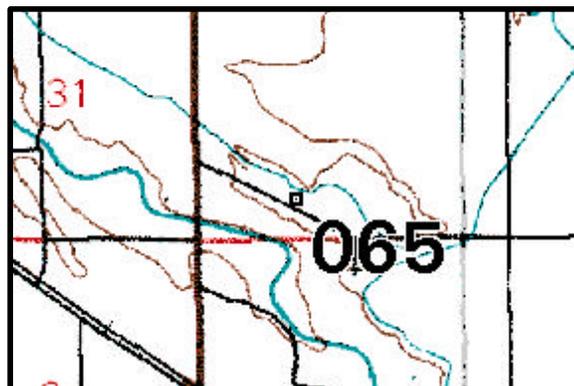
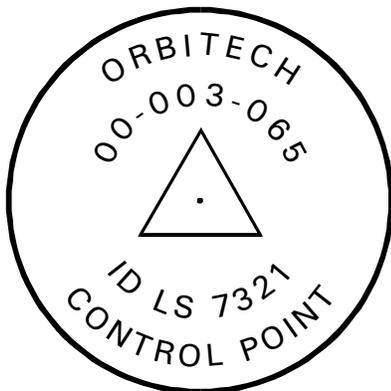
Northing: 686,618.73 US Feet  
Easting: 2,429,716.34 US Feet  
θ: -0°30'27.988"

Scale Factor: 1.00015690  
Elevation Factor: 0.99987997  
Combined Factor: 1.00003685

## NAVD 88 Orthometric Elevation

782.698 Meters 2,567.90 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the Northerly side of W. Lake Hazel Road across the road from house #6805 (Pline Farms, Inc.). To reach from the intersection of Robinson Road and Lake Hazel Road, take Lake Hazel Road SE for 0.35 miles to the station on the left (North) side of the road. Station is located 17 feet NE of the centerline of the road and N 70° W, 30.0 feet from the SW corner of a 3 foot square concrete irrigation box.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-069

Station Location: S13-T3N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.015 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°35'55.54807"N  
Longitude: 116°09'59.28436"W  
Ellipsoid Height: 818.139 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 214,698.074 Meters  
Easting: 766,374.641 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

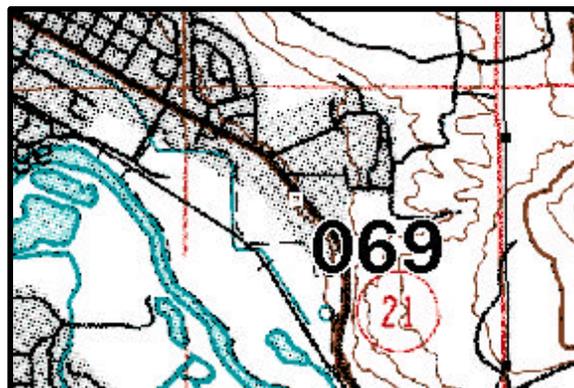
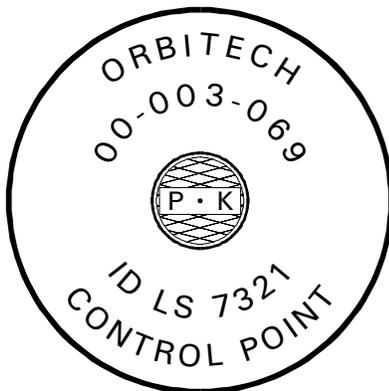
Northing: 704,515.36 US Feet  
Easting: 2,514,799.94 US Feet  
θ: -0°17'13.922"

Scale Factor: 1.00012718  
Elevation Factor: 0.99987174  
Combined Factor: 0.99999891

## NAVD 88 Orthometric Elevation

834.704 Meters 2,738.52 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located at the intersection of Warm Springs Avenue and E. Walling Drive. To reach from the intersection of Broadway Avenue and I-84 interchange at Exit 54, take Broadway Avenue North toward downtown Boise for 3.0 miles to intersection with Warm Springs Avenue at 5-way intersection, turn right (SE) on Warm Springs Avenue for 1.6 miles to intersection with E. Walling Drive on the right (SW). Located approximately 200 feet NW of the centerline of E. Walling Drive, approximately 165 feet SW of the centerline of Warm Springs Avenue and in an abandoned and overgrown old asphalt pavement parking lot.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-071

Station Location: S27-T2N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.015 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°28'29.68393"N  
Longitude: 116°26'01.24154"W  
Ellipsoid Height: 820.278 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 201,081.521 Meters  
Easting: 744,687.104 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

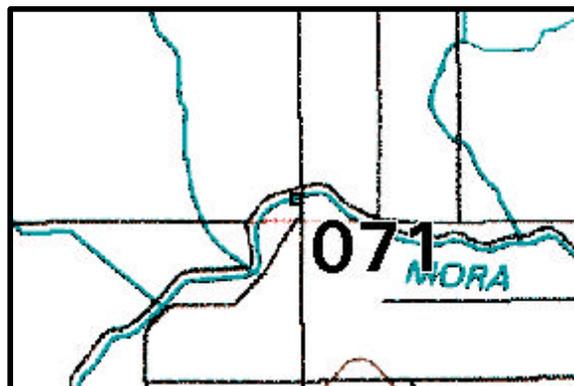
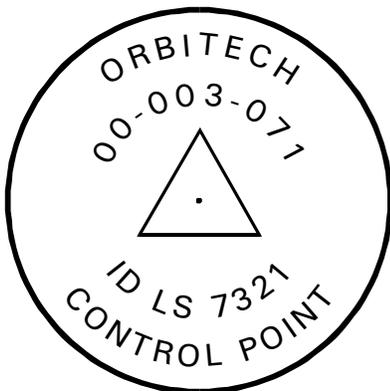
Northing: 659,833.68 US Feet  
Easting: 2,443,633.95 US Feet  
θ: -0°28'13.468"

Scale Factor: 1.00015091  
Elevation Factor: 0.99987140  
Combined Factor: 1.00002229

## NAVD 88 Orthometric Elevation

837.253 Meters      2,746.89 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located approximately 1.4 miles SW of Kuna, ID and near the intersection of W. King Road (E-W), S. Ten Mile Road (N) and S. Forrey Road (S). Station is 125 feet South of the centerline of W. King Road, 41 feet West of the centerline of S. Forrey Road and 18 feet South of the top of the South bank of the Mora Canal.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-073

Station Location: S35-T3N-R1E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.013 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°33'33.05288"N  
Longitude: 116°18'45.44195"W  
Ellipsoid Height: 818.902 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 210,370.169 Meters  
Easting: 754,544.401 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

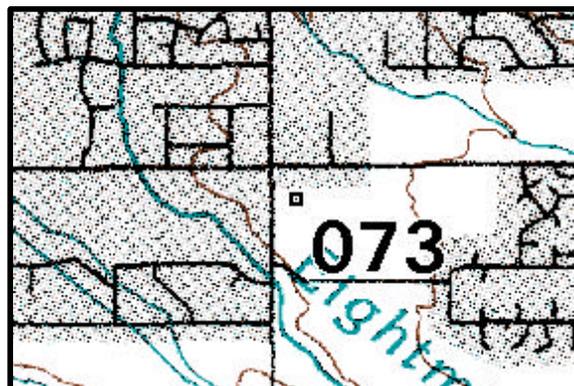
Northing: 690,313.67 US Feet  
Easting: 2,475,979.91 US Feet  
θ: -0°23'15.763"

Scale Factor: 1.00013869  
Elevation Factor: 0.99987162  
Combined Factor: 1.00001029

## NAVD 88 Orthometric Elevation

835.777 Meters 2,742.04 US Feet

This is a post flight auxiliary station. Station is the center of an iron sewer manhole lid marked "SEWER D&L FDRY USA" at the intersection of W. Harness Drive with S. Hackney Place. Station is located approximately 700 feet South of W. Amity Road, approximately 400 feet East of S. Five Mile Road and approximately 5.5 feet West and approximately 13 feet South of the monument at the centerline-centerline intersection of the two streets.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-075

Station Location: S7-T2N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.014 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43°31'44.65746"N  
Longitude: 116°16'26.78155"W  
Ellipsoid Height: 833.765 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 207,004.744 Meters  
Easting: 757,635.185 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

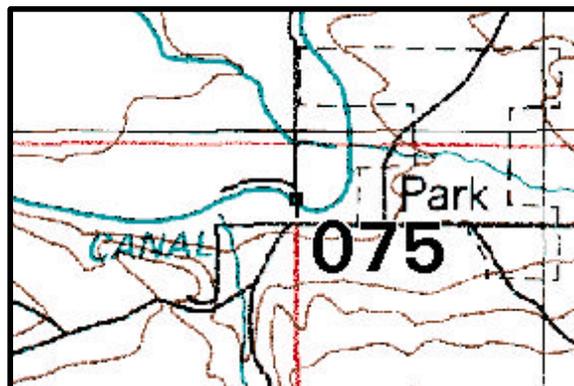
Northing: 679,270.28 US Feet  
Easting: 2,486,122.09 US Feet  
θ: -0°21'39.488"

Scale Factor: 1.00013535  
Elevation Factor: 0.99986929  
Combined Factor: 1.00000462

## **NAVD 88 Orthometric Elevation**

850.575 Meters 2,790.60 US Feet

This is a post flight auxiliary station. Station is the top center of the SE end of the SE wing wall on the most Southerly New York Canal bridge on S. Cole Road, and is located approximately 4.2 miles South of the S. Cole Road and I-84 interchange at Exit 50. Station was measured at the center of the 22 inch wide concrete wall at the top edge of the chamfer.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-077

Station Location: S28-T3N-R2E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.009 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°34'17.94324"N  
Longitude: 116°13'26.85620"W  
Ellipsoid Height: 843.383 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 211,710.915 Meters  
Easting: 761,702.112 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

Northing: 694,713.22 US Feet  
Easting: 2,499,467.40 US Feet  
θ: -0°19'36.484"

Scale Factor: 1.00013132  
Elevation Factor: 0.99986778  
Combined Factor: 0.99999908

## NAVD 88 Orthometric Elevation

860.128 Meters 2,821.94 US Feet

This is a post flight auxiliary station. Station is the center of a 5 foot wide concrete sidewalk at an expansion joint on the South side of W. Wright Street and is located North of the Boise Air Terminal. This station is located 4.64 feet North of USC&GS BM "T 86". See the NGS data sheet for "T 86" which has a PID of OH0127 for additional location details.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-003-079

Station Location: S18-T2N-R3E

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.009 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°30'26.49590"N  
Longitude: 116°08'15.55107"W  
Ellipsoid Height: 939.461 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 204,532.243 Meters  
Easting: 768,653.793 Meters

## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

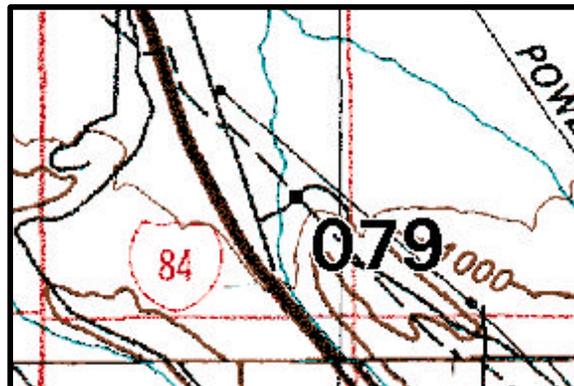
Northing: 671,156.96 US Feet  
Easting: 2,522,278.81 US Feet  
θ: -0°16'00.772"

Scale Factor: 1.00012536  
Elevation Factor: 0.99985272  
Combined Factor: 0.99997807

## NAVD 88 Orthometric Elevation

955.984 Meters 3,136.42 US Feet

This is a post flight auxiliary station. Station is the center of the East end of a 24 inch wide stop bar at the bottom (North end) of the off ramp for S. Eisenman Road from I-84 Westbound at Exit 59.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 00-004-145

Station Location: S36-T4N-R2W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.012 Meters

## NAD 83 (92) Geodetic Coordinates

Latitude: 43°38'03.15138"N  
Longitude: 116°31'03.96262"W  
Ellipsoid Height: 745.579 Meters

## NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West

Northing: 218,838.124 Meters  
Easting: 738,047.272 Meters

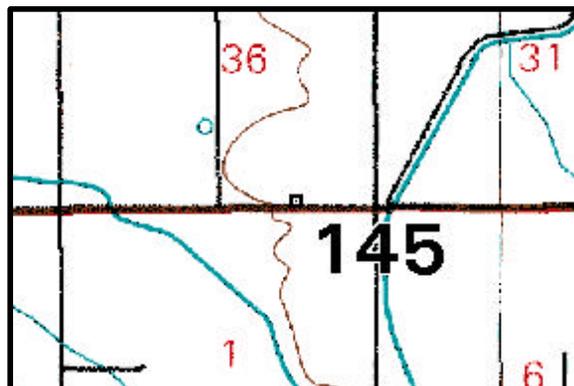
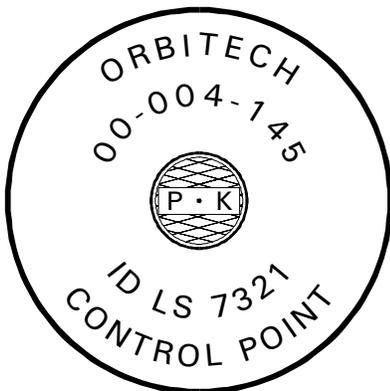
## Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'

Northing: 718,100.62 US Feet  
Easting: 2,421,845.84 US Feet  
θ: -0°31'47.3381  
Scale Factor: 1.00016048  
Elevation Factor: 0.99988311  
Combined Factor: 1.00004357

## NAVD 88 Orthometric Elevation

762.698 Meters      2,502.28 US Feet

Set a 1/4" diameter X 2 1/2" long PK nail with a 2" diameter aluminum washer marked as shown below. Station is located on the North side of W. Ustick Road. To reach from I-84 at Exit 38, take Garrity Boulevard North for 0.4 miles to an intersection, continue North now on N. Can Ada Road for 2.0 miles to intersection with W. Ustick Road, turn left (West) on W. Ustick Road for 0.25 miles to the station on right (North) side of road. Located 12.5 feet North of the centerline of the road, 1.5 feet North of the North fog line and N 35° E, 39.5 feet from a power pole on the South side of the road.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: 99-007-005 RESET

Station Location: S21-T5N-R1W

Horiz. Method: GPS  
Vert. Method: GPS Derived  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.017 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43° 45' 00.97109"N  
Longitude: 116° 27' 29.96547"W  
Ellipsoid Height: 800.364 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 231,689.777 Meters  
Easting: 742,954.036 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

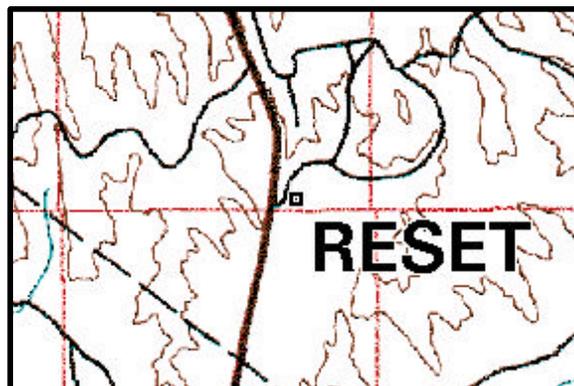
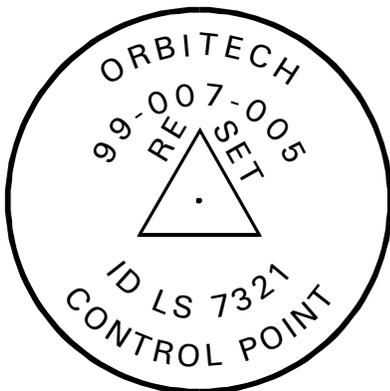
Northing: 760,272.34 US Feet  
Easting: 2,437,947.02 US Feet  
θ: -0° 29' 23.390"

Scale Factor: 1.00015330  
Elevation Factor: 0.99987453  
Combined Factor: 1.00002781

## **NAVD 88 Orthometric Elevation**

817.456 Meters      2,681.94 US Feet

Set a 5/8" diameter X 30" long rebar with a 2" diameter aluminum cap marked as shown below. Station is located on the East side of State Route (SR) 16. To reach from the intersection of SR 16 and SR 44, take SR 16 North for 4.1 miles to station on right (East) side of highway on top of low ridge and approximately 400 feet East of the centerline of the highway. Located in area that is used extensively for off road vehicle riding and firearm target practice. Note that this is a replacement for station 99-007-005 set during 1999. This station is located approximately S 85° E, 51.7 feet from the position of the original monument which has been removed.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: F 415

Station Location: S28-T2N-R3E

Horiz. Method: GPS

Vert. Method: Leveled

Error Ellipse Semi major axis  
(95% Confidence Level)

± 0.011 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43°28'49.05312"N

Longitude: 116°06'38.99258"W

Ellipsoid Height: 1,005.440 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 201,515.431 Meters

Easting: 770,809.611 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

Northing: 661,257.52 US Feet

Easting: 2,529,352.96 US Feet

θ: -0°14'53.850"

Scale Factor: 1.00012376

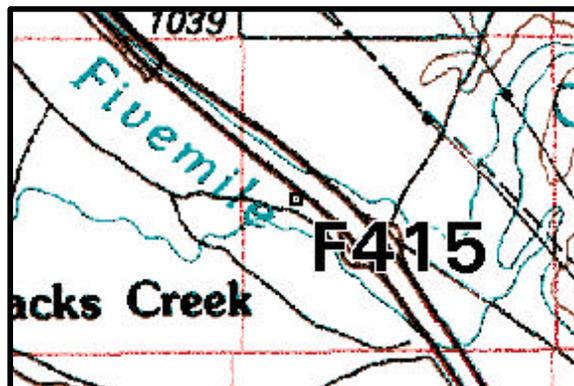
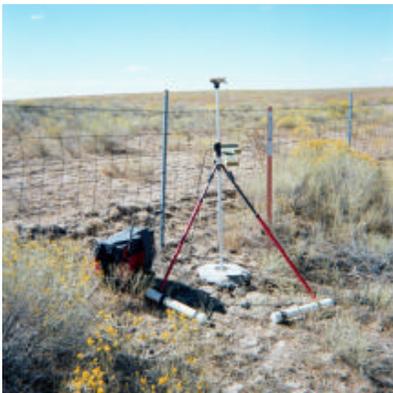
Elevation Factor: 0.99984238

Combined Factor: 0.99996612

## **NAVD 88 Orthometric Elevation**

1,021.912 Meters      3,352.72 US Feet

This is a post flight auxiliary station. Station is a stainless steel rod NGS monument, "F 415 1983". Station is located on the SW side of I-84 at mile post 62. See the NGS data sheet for "F 415" which has a PID of OH1133 for additional location details.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



**GPS Surveying, Consulting and Training**

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: H 141

Station Location: S11-T3N-R1W

Horiz. Method: GPS  
Vert. Method: Leveled  
Error Ellipse Semi major axis  
(95% Confidence Level)  
± 0.009 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43°36'33.22008"N  
Longitude: 116°26'00.67672"W  
Ellipsoid Height: 767.232 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 216,003.385 Meters  
Easting: 744,822.436 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

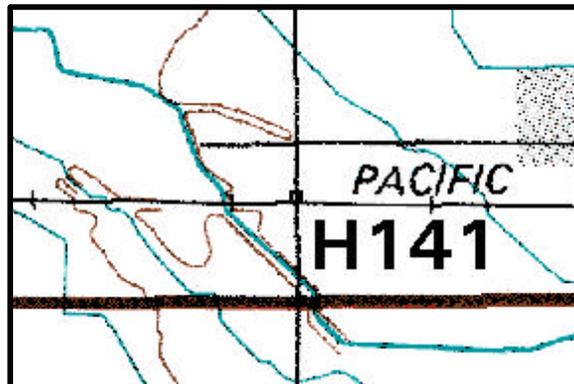
Northing: 708,798.63 US Feet  
Easting: 2,444,078.03 US Feet  
θ: -0°28'17.260"

Scale Factor: 1.00015072  
Elevation Factor: 0.99987972  
Combined Factor: 1.00003042

## **NAVD 88 Orthometric Elevation**

784.233 Meters      2,572.94 US Feet

This is a post flight auxiliary station. Station is a 3 1/2 inch diameter USC&GS brass disk, "H 141 1935". Station is located in the top center of an irrigation headwall on the East side of N. Ten Mile Road at a railroad track crossing. See the NGS data sheet for "H 141" which has a PID of OH0027 for additional location details.



EXPIRATION: MAY 31, 2001

# Station Data Sheet

Prepared By:



*GPS Surveying, Consulting and Training*

P.O. Box 5305  
Bend, Oregon 97708-5305

(541) 383-2715  
orbitech@transport.com

Station Designation: T 86

Station Location: S28-T3N-R2E

Horiz. Method: GPS

Vert. Method: Leveled

Error Ellipse Semi major axis  
(95% Confidence Level)

± 0.012 Meters

## **NAD 83 (92) Geodetic Coordinates**

Latitude: 43°34'17.89740"N

Longitude: 116°13'26.85520"W

Ellipsoid Height: 843.727 Meters

## **NAD 83 (92) State Plane Coordinates Zone 1103, Idaho West**

Northing: 211,709.500 Meters

Easting: 761,702.126 Meters

## **Ada County Local Plane Coordinates Modified Zone 1103, Idaho West for 2700'**

Northing: 694,708.58 US Feet

Easting: 2,499,467.44 US Feet

θ: -0°19'36.483"

Scale Factor: 1.00013132

Elevation Factor: 0.99986773

Combined Factor: 0.99999903

## **NAVD 88 Orthometric Elevation**

860.491 Meters      2,823.13 US Feet

This is a post flight auxiliary station. Station is a 3 1/2 inch diameter USC&GS brass disk, "T 86 1959" set in the top center of a 12 inch square concrete post protruding approximately 1 foot above ground level on the South side of W. Wright Street, North of the Boise Air Terminal. This station is located 4.64 feet South of station 00-003-077. See the NGS data sheet for "T 86" which has a PID of OH0127 for additional location details.



EXPIRATION: MAY 31, 2001