

RHK/NGS 30 AUG 1988 01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
9503	LV0614	C 1402		0.000	13.40044	13.40044	0	40 53 51	124 04 55
9502	LV0613	B 1402		1.269	15.84411	15.84413	1	40 53 09	124 04 43
9501	LV0612	A 1402 ✓		2.140	17.84967	17.84970	1	40 52 45	124 04 51
2501	LV0302	N 735		3.361	10.30543	10.30548	1	40 52 02	124 05 00
2502	LV0301	F 75 RESET		3.425	10.37576	10.37581	1	40 52 07	124 05 06
2503	LV0626	Z 1403 ✓		4.168	7.72625	7.72630	1	40 51 47	124 04 55
2504	LV0340	U 1091	)	5.009	4.77647	4.77652	2	40 51 58	124 05 28-202.52
2505	LV0341	V 1091	)	6.250	3.13350	3.13355	2	40 52 05	124 06 24-177.55
2506	LV0627	Y 1403	)	8.204	0.98433	0.98438	2	40 52 07	124 07 45
2507	LV0346	J 735 RESET	)	9.956	3.73233	3.73238	2	40 51 55	124 08 56
2508	LV0344	W 1091	)	10.318	3.55387	3.55392	2	40 51 52	124 09 07-172.92
2509	LV0347	X 1091	)	11.950	4.89930	4.89935	2	40 51 07	124 09 41-172.85
2510	LV0628	X 1403	)	13.221	4.08088	4.08093	2	40 50 28	124 10 02
2511	LV0350	Z 1091	)	14.680	3.93419	3.93424	2	40 49 43	124 10 17-177.24
2512	LV0351	F 735	)	15.522	4.28672	4.28677	2	40 49 20	124 10 31-143.77
2513	LV0352	941 8817 TIDAL 2	)	16.094	2.44046	2.44051	2	40 49 05	124 10 47-161.51
2514	LV0629	W 1403	)	17.711	6.98919	6.98924	2	40 49 11	124 11 21
2515	LV0354	Y 1091	)	19.509	11.34318	11.34324	2	40 48 19	124 11 42-142.74
2516	LV0355	D 735	)	20.442	6.14907	6.14914	2	40 47 46	124 11 43-164.14
2517	LV0357	A 735	)	22.656	3.21126	3.21134	2	40 46 47	124 12 26-154.34
2520	LV0630	941 8767 C TIDAL	)	24.269	2.41600	2.41608	2	40 46 05	124 13 03
2519	LV0631	941 8767 D TIDAL	)	24.360	2.81245	2.81253	2	40 46 07	124 13 01
2518	LV0632	941 8767 B TIDAL	)	24.443	2.35774	2.35782	2	40 46 06	124 12 59
2521	LV0633	941 8767 G TIDAL	)	24.534	3.37473	3.37481	2	40 46 02	124 13 00
2527	LV0359	941 8767 TIDAL 11	)	24.555	3.34566	3.34574	2	40 46 01	124 13 00-153.74
2522	LV0634	941 8767 A TIDAL	)	24.634	3.90036	3.90044	2	40 46 01	124 13 03
2523	LV0635	941 8767 E TIDAL	)	24.676	2.78254	2.78262	2	40 46 01	124 13 05
2524	LV0636	941 8767 F TIDAL	)	24.718	3.31921	3.31929	2	40 45 59	124 13 03
2525	LV0361	941 8767 TIDAL 9	)	24.782	3.85911	3.85919	2	40 46 00	124 13 01-148.19
2526	LV0360	941 8767 TIDAL 12	)	24.821	3.32263	3.32271	2	40 46 00	124 13 00-147.71
2528	LV0637	V 1403	)	24.836	3.58771	3.58779	2	40 46 00	124 13 01
2529		TBM 941 8767 STAFF 14 FT	)	24.920	2.03064	2.03072	2	40 46 00	124 12 59
2503	LV0626	Z 1403	)	4.168	7.72625	7.72630	1	40 51 47	124 04 55
2530	LV0299	P 735		5.508	1.47378	1.47383	1	40 51 23	124 05 17-202.82
2531	LV0298	G 75 RESET		7.171	2.92659	2.92664	1	40 50 37	124 04 49-202.64 ✓

*Starting... was carried from 201206-1407 at 4 M. 1/185 using the adjusted elev.*

*N-714 Humboldt Bay*

RHK/NGS 30 AUG 1988 01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
2532	LV0296	Z 1087		8.547	1.91277	1.91282	1	40 49 50	124 04 52-208.81 ✓
2533	LV0295	Y 1087 RESET		9.438	1.03543	1.03548	1	40 49 27	124 05 08 <sub>R</sub>
2534	LV0638	E 1401		10.283	0.51115	0.51120	1	40 49 09	124 05 27
2535	LV0293	X 1087 RESET		11.730	1.00005	1.00010	1	40 48 48	124 06 18 <sub>R</sub>
2536	LV0291	H 75 RESET		12.860	0.67635	0.67640	1	40 48 22	124 06 54 <sub>R</sub>
2537	LV0289	W 1087 RESET		13.784	1.00116	1.00121	1	40 48 16	124 07 30 <sub>R</sub>
2538	LV0287	J 75 RESET		15.051	6.88907	6.88912	2	40 48 18	124 08 26 <sub>R</sub>
2539	LV0639	941 8802 B TIDAL	)	15.705	3.03365	3.03370	2	40 48 25	124 08 32
2540	LV0640	941 8802 A TIDAL	)	15.784	2.04287	2.04292	2	40 48 25	124 08 30
2538	LV0287	J 75 RESET	*)	15.051	6.88907	6.88912	2	40 48 18	124 08 26 <sub>R</sub>
2541	LV0285	60		15.572	5.83248	5.83253	1	40 48 17	124 08 48 -181.53
2542	LV0283	63		16.120	11.21757	11.21762	1	40 48 17	124 09 12 -174.62
2543	LV0641	F 1401	)	17.610	10.63113	10.63119	2	40 47 50	124 08 24
2544	LV0642	941 8799 E TIDAL	)	18.899	19.69536	19.69542	2	40 47 42	124 07 30
2545	LV0643	941 8799 A TIDAL	)	19.340	1.96402	1.96408	2	40 47 43	124 07 12
2542	LV0283	63	*)	16.120	11.21757	11.21762	1	40 48 17	124 09 12
2546	LV0281	941 8801 TIDAL 2		17.065	13.57838	13.57843	1	40 48 06	124 09 46 -171.43
2547	LV0279	941 8801 TIDAL 1		17.421	4.87821	4.87826	1	40 48 10	124 09 57 -167.26
2549	LV0644	EF 45		17.944	2.13693	2.13698	1	40 48 11	124 10 10
2548	LV0645	941 8801 TIDAL		18.371	3.63857	3.63862	1	40 48 15	124 09 57
2550	LV0646	G 1401		19.353	2.50443	2.50448	1	40 47 54	124 10 25
2551	LV0277	32		20.196	4.00255	4.00260	1	40 47 29	124 10 36 -162.60
2552	LV0276	V 1087		20.876	4.08379	4.08384	1	40 47 08	124 10 49 -158.84
2553	LV0647	941 8776 A TIDAL		22.557	2.13292	2.13297	1	40 46 38	124 11 38
2554	LV0648	H 1401		23.819	4.48883	4.48888	1	40 46 01	124 11 25
2555	LV0649	S 1067 RESET		25.129	3.22012	3.22017	1	40 45 18	124 11 21
2556	LV0650	941 8757 A TIDAL	)	25.477	3.25238	3.25243	2	40 45 22	124 11 37
2555	LV0649	S 1067 RESET	*)	25.129	3.22012	3.22017	1	40 45 18	124 11 21
2557	LV0266	R 1087		26.550	4.32012	4.32017	1	40 44 41	124 11 44 -152.17
2558	LV0651	J 1401		26.926	2.15601	2.15606	1	40 44 34	124 12 07
2559	LV0264	Q 1087		27.924	8.95793	8.95798	1	40 44 12	124 12 28 -145.98
2560	LV0652	941 8739 C TIDAL	)	28.130	1.96229	1.96234	2	40 44 14	124 12 37
2561	LV0653	941 8739 B TIDAL	)	28.316	1.77478	1.77483	2	40 44 19	124 12 42
2562	LV0654	941 8739 A TIDAL	)	28.407	2.11548	2.11553	2	40 44 22	124 12 43
2559	LV0264	Q 1087	*)	27.924	8.95793	8.95798	1	40 44 12	124 12 28 -145.98

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 3  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
2563	LV0263	P 1087		29.291	9.98575	9.98581	1	40 43 31	124 12 47 - 147.81
2564	LV0655	941 8723 TIDAL 7 RESET	)	29.556	2.30726	2.30732	2	40 43 25	124 12 53
2565	LV0656	941 8723 A TIDAL	)	30.072	2.79539	2.79545	2	40 43 33	124 13 10
2563	LV0263	P 1087	*	29.291	9.98575	9.98581	1	40 43 31	124 12 47 - 147.81
2566	LV0258	N 1087 RESET		30.674	5.85058	5.85065	1	40 42 50	124 12 42 R
2567	LV0260	M 1087		31.608	11.55742	11.55750	1	40 42 24	124 12 21 - 105.50
2568	LV0259	L 1087		32.805	0.85104	0.85113	1	40 41 48	124 12 08 - 101.12
2569	LV0657	K 1401		33.806	0.93455	0.93464	1	40 41 13	124 12 02
2570	LV0255	K 1087		34.479	0.88841	0.88850	1	40 40 49	124 11 59 - 114.50
2571	LV0254	J 1087 RESET		35.972	14.49818	14.49828	1	40 40 04	124 12 02 R
2572	LV0658	FILL 2	)	38.090	6.64844	6.64853	2	40 40 29	124 13 09
2571	LV0254	J 1087 RESET	*	35.972	14.49818	14.49828	1	40 40 04	124 12 02
2573	LV0252	H 1087 RESET		36.780	62.06921	62.06934	1	40 39 38	124 12 10
2574	LV0250	G 1087 RESET		37.809	85.03227	85.03246	1	40 39 07	124 12 36
2575	LV0248	F 1087		39.056	71.33845	71.33871	1	40 38 33	124 12 27 - 170.71
2576	LV0659	L 1401		40.567	61.60984	61.61018	1	40 37 46	124 12 52
2577	LV0245	D 1087		41.678	22.93946	22.93983	1	40 37 17	124 12 32 - 162.83
2578	LV0243	C 1087 RESET		42.710	32.11143	32.11181	1	40 37 02	124 11 55
2579	LV0241	B 1087		43.659	21.31216	21.31255	1	40 36 44	124 11 22 - 168.55
2580	LV0240	A 1087		44.998	21.59315	21.59355	1	40 36 19	124 10 39 - 173.55
2581	LV0239	Z 1086		45.869	20.75791	20.75832	1	40 36 07	124 10 09 - 181.32
2582	LV0238	K 100		46.965	18.88191	18.88233	1	40 35 51	124 09 27 - 182.32
2583	LV0237	Y 1086		47.970	12.61319	12.61362	1	40 35 32	124 09 12 - 182.62
2584	LV0236	X 1086		49.204	14.05470	14.05514	1	40 34 56	124 08 59 - 182.73
2585	LV0234	W 1086		50.575	14.79308	14.79353	1	40 34 15	124 08 53 - 189.53
2586	LV0235	L 100		50.843	15.11290	15.11335	1	40 34 09	124 08 47 - 200.55
2587	LV0660	M 1401		51.373	15.00520	15.00566	1	40 33 48	124 08 43
2588	LV0661	N 1401	)	52.696	75.51742	75.51788	2	40 33 48	124 08 02
2589	LV0662	ROHNPORT	)	54.200	111.97958	111.98012	2	40 33 14	124 07 51
2590	LV0663	ROHNPORT AZ MK	)	54.798	103.15279	103.15330	2	40 33 26	124 08 12
2587	LV0660	M 1401	*	51.373	15.00520	15.00566	1	40 33 48	124 08 43
2591	LV0233	V 1086		52.575	16.83621	16.83668	1	40 33 13	124 08 40 - 201.15
2592	LV0231	N 100		54.199	19.32254	19.32303	2	40 32 19	124 08 41 - 207.03
2593	LV0664	P 1401		54.489	22.61850	22.61899	1	40 32 12	124 08 48
2594	LV0229	T 1086		55.845	25.59449	25.59500	1	40 31 34	124 08 59 - 232.02

L25377/4

L25377/1

F1087  
 Floz

2057

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 4  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
2595	LV0665	Q 1401		57.232	23.37403	23.37456	1	40 31 04	124 08 13
2596	LV0666	S 1401		58.620	32.16903	32.16958	1	40 30 42	124 07 24
2597	LV0667	R 1401		59.167	34.87875	34.87931	2	40 30 30	124 07 08
2598	LV0668	T 1401		60.098	39.71960	39.72017	1	40 30 20	124 06 30
2599	LV0396	R 1086		60.824	38.58865	38.58924	1	40 29 59	124 06 18 - 226.24
2600	LV0395	Q 1086		61.752	41.18477	41.18538	1	40 29 40	124 06 04 - 231.28
2601	LV0669	U 1401		62.229	42.61679	42.61742	2	40 29 19	124 05 51
2602	LV0393	S 100		62.998	49.97968	49.98033	1	40 28 59	124 06 04 - 226.22
2603	LV0670	V 1401		64.174	50.07483	50.07553	1	40 28 22	124 05 54
2604	LV0671	W 1401		66.180	36.11763	36.11837	1	40 27 41	124 04 58
2605	LV0433	L 1086		67.581	51.71574	51.71650	1	40 27 26	124 03 59 - 191.50
2606	LV0672	X 1401		67.897	49.41397	49.41474	2	40 27 19	124 03 52
2607	LV0673	Y 1401		69.437	44.78279	44.78357	1	40 27 14	124 02 48
2608	LV0430	H 1086		71.149	46.17809	46.17892	1	40 26 29	124 02 11 - 192.92
2609	LV0429	G 1086		72.318	50.15675	50.15758	1	40 26 25	124 01 30 - 193.58
2610	LV0428	HWY 101 STA 477+00 POC		73.271	46.59509	46.59590	1	40 26 38	124 00 48 - 178.90
2611	LU1490	E 1086		75.917	48.01452	48.01537	1	40 26 06	123 59 13 - 179.37
2612	LU1489	D 1086		76.819	65.27976	65.28065	1	40 25 41	123 58 56 - 190.65
2613	LU1875	Z 1401		77.741	118.22302	118.22398	1	40 25 09	123 58 46
2614	LU1487	B 1086		79.261	105.51182	105.51283	1	40 24 50	123 57 59 - 188.83
2615	LU1486	A 1086		80.378	95.91772	95.91879	1	40 24 28	123 57 26 - 187.79
2616	LU1485	Z 1085		81.839	124.54677	124.54795	1	40 23 50	123 56 47 - 171.95
2617	LU1484	Y 1085		82.649	119.60982	119.61100	1	40 23 49	123 56 05 - 182.00
2618	LU1876	A 1404		83.994	110.66257	110.66386	1	40 23 11	123 55 45
2619	LU1482	W 1085		85.119	109.92948	109.93086	1	40 22 37	123 55 25 - 158.26
2620	LU1481	V 1085		86.233	88.93742	88.93888	1	40 22 04	123 55 24 - 172.88
2621	LU1877	B 1404 X		87.948	52.81400	52.81554	1	40 21 19	123 55 27
2622	LU1310	T 1085		89.348	53.74075	53.74234	1	40 20 41	123 55 51 - 163.34
2623	LU1309	S 1085		90.709	95.40100	95.40266	1	40 20 04	123 55 43 - 171.66
2624	LU1307	R 1085 F		92.367	103.13347	103.13525	1	40 19 18	123 55 12 - 162.25
2625	LU1306	Q 1085		93.679	99.75084	99.75269	1	40 18 49	123 54 39 - 161.69
2626	LU1304	P 1085		94.995	104.46973	104.47166	1	40 18 19	123 53 59 - 143.66
2627	LU1303	N 1085		96.189	107.20432	107.20631	1	40 17 57	123 53 27 - 158.31
2628	LU1302	M 1085		96.837	106.83711	106.83915	1	40 17 39	123 53 33 - 153.18
2629	LU1301	L 1085		97.692	105.99933	106.00143	1	40 17 15	123 53 38 - 157.43

L25377/3

L25377/3

L25377/1

RHK/NGS

30 AUG 1988

01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
2630	LU1299	K 1085		98.828	103.09748	103.09964	1	40 16 51	123 53 08 -104.61
2631	LU1298	J 1085		99.935	95.86386	95.86609	1	40 16 24	123 52 39 -134.09
2632	LU1295	H 1085		101.083	62.06384	62.06612	1	40 16 00	123 52 06 -141.12
2633	LU1294	G 1085		101.789	71.58236	71.58461	1	40 16 17	123 51 49 -139.61
2634	LU1293	F 1085		102.716	89.75033	89.75252	1	40 16 45	123 51 42 -131.52
2635	LU1292	E 1085		103.492	63.30799	63.31016	1	40 16 56	123 51 20 -128.16
2636	LU1291	H 101		104.513	69.11040	69.11262	1	40 16 29	123 50 58 -126.28
2637	LU1290	D 1085		105.386	64.11408	64.11634	1	40 16 04	123 50 50 -128.34
2638	LU1289	J 101		106.534	62.91361	62.91592	1	40 15 33	123 50 22 -119.92
2639	LU1878	C 1085 RESET		107.651	65.15624	65.15856	1	40 15 27	123 49 35
2640	LU1286	B 1085		109.132	66.89594	66.89831	1	40 14 57	123 49 18 -127.31
2641	LU1284	A 1085		110.514	100.96304	100.96550	1	40 14 13	123 49 22 -132.50
2642	LU1879	D 1404 X		111.699	114.55753	114.56008	1	40 13 40	123 49 18
2643	LU1280	X 1084		113.246	101.85647	101.85910	1	40 13 10	123 48 35 -127.10
2644	LU1279	A 634		114.260	69.22545	69.22805	1	40 13 24	123 47 59 -126.05 ✓
2645	LU1276	P 101	FLOAT	115.731	73.94785	73.95047	1	40 13 13	123 47 03 -118.47
2646	LU1275	W 1084		116.962	84.89081	84.89351	1	40 12 35	123 47 04 -122.51
2647	LU1274	V 1084		117.977	73.69076	73.69351	1	40 12 12	123 46 36 -128.51
2648	LU1272	U 1084		119.575	75.74972	75.75254	1	40 11 35	123 45 58 -129.54
2649	LU1271	T 1084		121.148	86.23155	86.23445	1	40 10 55	123 46 29 -133.45
2650	LU1880	E 1404		121.956	87.90847	87.91142	1	40 10 33	123 46 48
2651	LU1270	S 1084		122.894	83.07978	83.08279	1	40 10 04	123 46 50 -111.79
2652	LU1881	F 1404		125.001	93.33181	93.33494	1	40 09 10	123 47 37
2653	LU1267	P 1084	FLOAT	126.741	90.53311	90.53633	1	40 08 31	123 48 24 -120.33
2654	LU1266	N 1084		127.638	90.97596	90.97923	1	40 08 08	123 48 51 -133.75 ✓
2655	LU1265	M 1084		128.198	118.03494	118.03825	1	40 07 53	123 48 59 -142.25
2656	LU1264	L 1084		129.020	166.88920	166.89258	1	40 07 34	123 49 19 -152.58
2657	LU1882	G 1404		130.187	151.61371	151.61722	1	40 07 02	123 49 07
2658	LU1262	W 101	FLOAT	131.904	104.11915	104.12267	1	40 06 59	123 47 57 -142.67
2659	LU1259	X 101 RESET		133.360	128.68276	128.68638	1	40 06 24	123 47 38
2660	LU1257	G 1084		133.520	135.50562	135.50925	1	40 06 21	123 47 39 -148.25
2661	LU1352	A 633		134.908	230.22977	230.23338	1	40 06 26	123 47 02 -149.4
2660	LU1257	G 1084		133.520	135.50562	135.50925	1	40 06 21	123 47 39 -148.25
2662	LU1255	XX 101		134.081	162.54570	162.54939	1	40 06 04	123 47 37 -151.39
2663	LU1254	F 1084		134.382	163.16157	163.16528	2	40 05 59	123 47 43 -137.28

L25377/1

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 6  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS	
2664	LU1252	E 1084		135.270	206.48155	206.48538	1	40 05 33	123 47 26	-149.38
2665	LU1883	H 1404		136.736	212.89987	212.90394	1	40 04 48	123 47 17	
2666	LU1884	J 1404		137.798	140.13999	140.14422	1	40 04 12	123 47 20	
2667	LU1250	C 1084		138.076	122.73795	122.74220	1	40 04 05	123 47 22	-147.20
2668	LU1248	B 1084		139.589	118.02671	118.03103	1	40 03 41	123 46 39	-146.63
2669	LU1247	A 102		140.478	120.79920	120.80356	1	40 03 28	123 47 06	-138.56
2670	LU1885	C 1404 X		141.651	127.80963	127.81406	1	40 03 07	123 47 30	
2671	LU1245	A 1084		143.241	128.35392	128.35848	1	40 02 28	123 46 43	-143.48
2672	LU1244	Z 1083		144.222	135.98104	135.98568	1	40 02 04	123 46 29	-147.68
2673	LU1243	Y 1083		145.656	153.98235	153.98697	1	40 02 10	123 47 17	-113.97
2674	LU1242	X 1083		147.400	141.23974	141.24456	1	40 01 16	123 47 27	-135.56
2675	LU1241	E 102		148.006	142.21209	142.21696	1	40 01 01	123 47 23	-139.86
2676	LU1240	W 1083		148.684	138.84761	138.85257	1	40 00 37	123 47 22	-132.57
2677	LU1239	V 1083		150.269	144.91187	144.91695	1	40 00 03	123 47 09	-125.95
2678	KT1746	K 1404		151.153	151.65898	151.66414	1	39 59 41	123 47 21	
2679	KT1747	L 1404		152.940	176.41624	176.42157	1	39 58 59	123 48 03	
2680	KT1519	H 102		153.754	162.75703	162.76245	1	39 58 37	123 48 02	-122.45
2681	KT1518	S 1083		154.758	199.38729	199.39286	1	39 58 05	123 47 53	-110.86
2682	KT1516	Q 1083		156.208	232.51605	232.52171	1	39 57 48	123 47 13	-137.71
2683	KT1515	J 102 RESET		157.071	229.23952	229.24524	1	39 57 37	123 46 41	-126.74
2684	KT1513	P 1083		157.855	186.35897	186.36481	1	39 57 14	123 46 28	-106.81
2685	KT1512	N 1083		158.452	206.08708	206.09297	1	39 57 03	123 46 44	-123.97
2686	KT1511	K 102		159.389	246.16501	246.17105	1	39 56 37	123 46 46	-128.05
2687	KT1748	P 1404		160.837	234.24838	234.25462	1	39 56 04	123 46 07	
2688	KT1749	M 1404		161.703	211.52243	211.52876	1	39 55 48	123 45 40	
2689	KT1508	672.13		162.572	221.20190	221.20834	1	39 55 27	123 45 26	-115.24
2690	KT1507	M 102		163.555	264.28423	264.29077	1	39 55 10	123 45 51	-112.77
2691	KT1506	K 1083		164.154	251.16048	251.16710	1	39 54 58	123 45 48	-114.10
2692	KT1750	N 1404		165.430	243.01366	243.02054	1	39 54 16	123 45 28	
2693	KT1505	N 102		166.075	234.86158	234.86845	1	39 54 17	123 45 22	-111.45
2694	KT1751	J 1083 RESET		166.572	206.74456	206.75138	1	39 54 26	123 45 07	
2695	KT1503	H 1083		167.374	218.94387	218.95078	1	39 54 10	123 44 59	-105.78
2696	KT1752	Q 1404		168.289	205.08632	205.09333	1	39 53 52	123 44 58	
2697	KT1501	Q 102		169.832	222.81092	222.81809	1	39 53 22	123 44 46	-98.09
2698	KT1753	R 1404		171.170	221.75371	221.76097	1	39 53 06	123 44 06	

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 7  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
2699	KT1498	B 1083		172.638	277.30706	277.31447	1	39 52 42	123 43 30
2700	KT1497	R 102 RESET		172.884	280.94897	280.95640	2	39 52 39	123 43 11
2701	KT1754	S 1404		173.574	286.47231	286.47972	1	39 52 42	123 42 48
2702	KT1755	T 1404		174.749	288.71716	288.72480	1	39 52 10	123 42 42
2703	KT1756	A 1437		175.834	232.63851	232.64628	1	39 51 50	123 43 18
2704	KT1757	B 1437		176.610	261.85298	261.86084	1	39 51 36	123 43 13
2705	KT1758	C 1437		177.628	323.79319	323.80126	1	39 51 08	123 43 43
2706	KT1759	D 1437		178.543	375.26418	375.27223	1	39 51 10	123 44 09
2707	KT1760	E 1437		179.321	426.33408	426.34224	1	39 50 59	123 44 13
2708	KT1761	F 1437		180.112	473.44317	473.45123	1	39 51 08	123 44 26
2709	KT1762	G 1437		180.995	519.99135	519.99921	1	39 51 24	123 44 36
2710	KT1763	H 1437		182.011	568.46491	568.47258	1	39 51 38	123 45 01
2711	KT1764	J 1437		183.464	572.72960	572.73756	1	39 51 18	123 45 39
2712	KT1765	K 1437		184.397	522.69517	522.70336	1	39 51 01	123 45 57
2713	KT1766	L 1437		185.785	441.14610	441.15465	1	39 50 31	123 46 16
2714	KT1767	M 1437		186.752	413.34491	413.35376	1	39 50 03	123 46 26
2715	KT1768	N 1437		187.398	409.51015	409.51919	1	39 49 45	123 46 35
2716	KT1769	P 1437		188.708	363.11210	363.12148	1	39 49 10	123 46 53
2717	KT1770	Q 1437		190.211	358.77963	358.78931	1	39 48 37	123 47 22
2718	KT1771	R 1437		191.635	319.66948	319.67919	1	39 48 34	123 48 10
2719	KT1772	S 1437		192.318	280.93367	280.94349	1	39 48 20	123 48 10
2720	KT1773	T 1437		193.301	214.46991	214.47983	1	39 48 04	123 48 29
2721	KT1774	U 1437		194.289	149.43554	149.44556	1	39 47 42	123 48 43
2722	KT1775	V 1437		195.177	99.54320	99.55318	1	39 47 56	123 49 10
2723	KT1776	W 1437		196.059	77.53262	77.54265	1	39 47 33	123 48 56
2724	KT1777	U 1436		197.097	59.33433	59.34442	1	39 47 01	123 49 09
2725	KT1778	X 1437		198.615	37.68310	37.69322	1	39 46 39	123 49 54
2726	KT1779	Y 1437		200.282	25.13245	25.14261	1	39 45 50	123 49 26
2727	KT1780	Z 1437		201.945	19.00314	19.01333	1	39 45 02	123 49 01
2728	KT1781	Q 1436		203.323	8.30703	8.31723	1	39 44 20	123 48 56
2729	KT1782	P 1436		204.001	47.87189	47.88210	1	39 44 05	123 48 38
2730	KT1783	N 1436		204.826	112.38228	112.39252	1	39 43 49	123 48 38
2731	KT1784	L 1436		205.749	178.30933	178.31963	1	39 43 33	123 48 44
2732	KT1785	M 1436		206.318	219.39296	219.40326	1	39 43 32	123 48 30
2733	KT1786	K 1436		207.173	197.23868	197.24907	1	39 43 14	123 48 13

-103.47  
 -101.40

RELEVELING                      RUN DATE: 20 JUN 89    TIME: 10:30  
ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 8  
HGZ L25053  
4.0 MM 1ST-ORDER/CLASS II

RHK/NGS                                      30 AUG 1988                      01 NOV 1988

SPSN	ACRN	Designation	Spur Codes	Distance km	Observed Ht meters	Normal Ortho Ht meters	Runs	Latitude DD MM SS	Longitude DDD MM SS
2734	KT1787	J 1436		208.048	126.41370	126.42403	1	39 43 28	123 48 05
2735	KT1788	H 1436		208.742	71.53644	71.54683	1	39 43 03	123 48 02
2736	KT1789	A 1436		209.997	24.03717	24.04759	1	39 42 38	123 48 20
2737	KT1790	B 1436		210.904	16.79864	16.80907	1	39 42 13	123 48 09
2738	KT1791	G 1436		212.291	39.37403	39.38449	1	39 41 35	123 47 44
2739	KT1792	F 1436		213.755	17.01246	17.02295	1	39 40 50	123 47 22
9051	KT1793	<u>E 1436</u>		215.034	22.70866	22.71917	1	39 40 09	123 47 20
9052	KT1794	<u>Z 1436</u>		216.260	16.59113	16.60166	1	39 39 37	123 47 02
2740	KT1588	U 641	)	216.599	4.70724	4.71777	2	39 39 36	123 46 49
9052	KT1794	Z 1436	*)	216.260	16.59113	16.60166	1	39 39 37	123 47 02
9053	KT1795	<u>D 1436</u>		217.041	31.00907	31.01961	1	39 39 14	123 47 00

+60.23 \*



RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 1  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

-- Rod Standardization --

Equip Code	Serial No	Manufacturer	Model	Grad Code	Rod Units	Std Temp (C)	Coef Expn (/C)	Rod Excess	Index Error
							X.0001	X.001	
316	345989	KERN	INVAR	2	HC	25.0	0.0135A	0.0013R	0.0340R
316	351925	KERN	INVAR	2	HC	25.0	0.0135A	0.0155R	0.0025R
means for rod pair number 1									
316	331477	KERN	INVAR	2	HC	25.0	0.0135A	0.0084R	0.0000R
316	331468	KERN	INVAR	2	HC	25.0	0.0135A	0.0067R	0.0000R
means for rod pair number 2									
316	345991	KERN	INVAR	2	HC	25.0	0.0135A	0.0045R	0.0275R
316	351927	KERN	INVAR	2	HC	25.0	0.0135A	0.0186R	0.0200R
means for rod pair number 3									
316	345990	KERN	INVAR	2	HC	25.0	0.0135A	0.0095R	0.0135R
316	351924	KERN	INVAR	2	HC	25.0	0.0135A	0.0139R	0.0265R
means for rod pair number 4									

Parameter Flags: A - assumed, C - computed, R - from archival records  
 U - used previously computed value, ? - REDUC4 default  
 I - interpolated (25\*), \* - taken from 16\* record

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBerville TO WESTPORT CA

PAGE 1  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

-- Instrument Information and Collimation Data --															
Inst	Eq Code	Serial No	Model	Stadia		Micro	Mag	Mag	Mag	Cal	Rod	40*			
				Const	Date	Meter	Const	Sigma	Date	Pair					
1	233	456506	NI-002	ZEISS/JENA											
	30	AUG 88	0812	T	-0.0110	\$	100	19780000	M			1	1		
	30	AUG 88	1229	T	-0.0110	\$	100	19780000	M			1	2		
	31	AUG 88	0750	T	-0.0110	\$	100	19780000	M			2	3		
	31	AUG 88	0913	T	-0.0110	\$	100	19780000	M			1	4		
	31	AUG 88	1132	T	-0.0110	\$	100	19780000	M			1	5		
	31	AUG 88	1331	T	-0.0110	\$	100	19780000	M			2	6		
	01	SEP 88	0804	T	-0.0110	\$	100	19780000	M			1	7		
	01	SEP 88	1240	T	-0.0110	\$	100	19780000	M			2	8		
	01	SEP 88	1302	T	-0.0110	\$	100	19780000	M			2	9		
	02	SEP 88	0722	T	-0.0110	\$	100	19780000	M			2	10		
	02	SEP 88	1133	T	-0.0110	\$	100	19780000	M			2	11		
	06	SEP 88	0730	T	-0.0030	\$	100	19780000	M			2	12		
	06	SEP 88	0959	T	-0.0030	\$	100	19780000	M			1	13		
	06	SEP 88	1214	T	-0.0030	\$	100	19780000	M			1	14		
	07	SEP 88	0907	T	-0.0030	\$	100	19780000	M			1	15		
	07	SEP 88	1230	T	-0.0030	\$	100	19780000	M			1	16		
	08	SEP 88	0725	T	-0.0030	\$	100	19780000	M			1	17		
	08	SEP 88	1122	T	-0.0030	\$	100	19780000	M			1	18		
	09	SEP 88	0732	T	-0.0030	\$	100	19780000	M			1	19		
	09	SEP 88	1159	T	-0.0030	\$	100	19780000	M			1	20		
	12	SEP 88	0750	T	-0.0140	\$	100	19780000	M			1	21		
	12	SEP 88	1135	T	-0.0140	\$	100	19780000	M			1	22		
	13	SEP 88	0715	T	-0.0140	\$	100	19780000	M			1	23		
	13	SEP 88	1136	T	-0.0140	\$	100	19780000	M			1	24		
	14	SEP 88	0718	T	-0.0140	\$	100	19780000	M			1	25		
	14	SEP 88	1213	T	-0.0140	\$	100	19780000	M			1	26		
	15	SEP 88	0801	T	-0.0140	\$	100	19780000	M			1	27		
	15	SEP 88	1249	T	-0.0140	\$	100	19780000	M			1	28		
	16	SEP 88	0859	T	-0.0140	\$	100	19780000	M			1	29		
	16	SEP 88	1201	T	-0.0140	\$	100	19780000	M			1	30		
	19	SEP 88	0901	T	-0.0070	\$	100	19780000	M			1	31		
	19	SEP 88	1312	T	-0.0070	\$	100	19780000	M			1	32		
	20	SEP 88	0728	T	-0.0070	\$	100	19780000	M			1	33		
	21	SEP 88	0739	T	-0.0070	\$	100	19780000	M			1	34		
	21	SEP 88	1242	T	-0.0070	\$	100	19780000	M			1	35		

\* - collimation correction factor (rod unit per rod unit of stadia interval)  
 \$ - collimation error (mm/m or radians x 1000)

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 2  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

-- Instrument Information and Collimation Data --												
Inst	Eq Code	Serial No	Model	Stadia Const	Stadia Date	Micro Meter	Mag Const	Mag Sigma	Mag Cal Date	Rod Pair	40*	
1	233	456506	NI-002	ZEISS/JENA								
	22	SEP 88	0747 T	-0.0070 \$	100	19780000	M			1	36	
	22	SEP 88	1009 T	-0.0070 \$	100	19780000	M			1	37	
	23	SEP 88	0735 T	-0.0070 \$	100	19780000	M			1	38	
	23	SEP 88	0915 T	-0.0070 \$	100	19780000	M			1	39	
	23	SEP 88	1237 T	-0.0070 \$	100	19780000	M			1	40	
2	233	456599	NI-002	ZEISS/JENA								
	26	SEP 88	0747 T	0.0040 \$	100	19781006	M			1	41	
	26	SEP 88	1154 T	0.0040 \$	100	19781006	M			1	42	
	27	SEP 88	0726 T	0.0040 \$	100	19781006	M			2	43	
	27	SEP 88	1122 T	0.0040 \$	100	19781006	M			1	44	
	27	SEP 88	1321 T	0.0040 \$	100	19781006	M			2	45	
	28	SEP 88	0831 T	0.0040 \$	100	19781006	M			1	46	
	28	SEP 88	0915 T	0.0040 \$	100	19781006	M			2	47	
	28	SEP 88	1106 T	0.0040 \$	100	19781006	M			1	48	
	28	SEP 88	1258 T	0.0040 \$	100	19781006	M			1	49	
	29	SEP 88	0744 T	0.0040 \$	100	19781006	M			1	50	
	29	SEP 88	1006 T	0.0040 \$	100	19781006	M			1	51	
	29	SEP 88	1357 T	0.0040 \$	100	19781006	M			1	52	
	30	SEP 88	0748 T	0.0040 \$	100	19781006	M			1	53	
	30	SEP 88	1142 T	0.0040 \$	100	19781006	M			1	54	
	04	OCT 88	0755 T	0.0040 \$	100	19781006	M			1	60	
	04	OCT 88	0844 T	-0.0080 \$	100	19781006	M			1	61	
	05	OCT 88	0841 T	-0.0080 \$	100	19781006	M			2	63	
	05	OCT 88	1007 T	-0.0080 \$	100	19781006	M			1	65	
	05	OCT 88	1257 T	-0.0080 \$	100	19781006	M			1	68	
	06	OCT 88	0746 T	-0.0080 \$	100	19781006	M			1	71	
	06	OCT 88	1142 T	-0.0080 \$	100	19781006	M			1	74	
	07	OCT 88	0728 T	-0.0080 \$	100	19781006	M			1	76	
	07	OCT 88	1107 T	-0.0080 \$	100	19781006	M			1	80	
	11	OCT 88	0816 T	0.0090 \$	100	19781006	M			1	81	
	11	OCT 88	1241 T	0.0090 \$	100	19781006	M			1	84	
	11	OCT 88	1456 T	0.0090 \$	100	19781006	M			1	86	
	12	OCT 88	0812 T	0.0090 \$	100	19781006	M			1	89	

NOT USED

\* - collimation correction factor (rod unit per rod unit of stadia interval)  
 \$ - collimation error (mm/m or radians x 1000)

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 3  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

-- Instrument Information and Collimation Data --													
Inst	Eq Code	Serial No	Model	Stadia					Mag Const	Mag Sigma	Mag Date	Rod Pair	40*
				Const	Date	Meter	Mag	Mag					
2	233	456599	NI-002	ZEISS/JENA									
	12	OCT 88	1050 T	0.0090	\$	100	19781006	M				1	90
	12	OCT 88	1312 T	0.0090	\$	100	19781006	M				1	91
	13	OCT 88	0821 T	0.0090	\$	100	19781006	M				1	95
	14	OCT 88	0831 T	0.0090	\$	100	19781006	M				1	96
	14	OCT 88	1102 T	0.0090	\$	100	19781006	M				1	97
	14	OCT 88	1315 T	0.0090	\$	100	19781006	M				1	98
	17	OCT 88	0839 T	0.0020	\$	100	19781006	M				4	99
	17	OCT 88	1329 T	0.0020	\$	100	19781006	M				4	100
	18	OCT 88	0844 T	0.0020	\$	100	19781006	M				1	101
	18	OCT 88	1123 T	0.0020	\$	100	19781006	M				1	102
	18	OCT 88	1414 T	0.0020	\$	100	19781006	M				1	103
	19	OCT 88	0848 T	0.0020	\$	100	19781006	M				1	104
	19	OCT 88	1244 T	0.0020	\$	100	19781006	M				1	106
	24	OCT 88	0820 T	0.0030	\$	100	19781006	M				1	109
	25	OCT 88	0806 T	0.0030	\$	100	19781006	M				1	110
	25	OCT 88	1305 T	0.0030	\$	100	19781006	M				1	111
	26	OCT 88	0812 T	0.0030	\$	100	19781006	M				1	112
	26	OCT 88	0922 T	0.0030	\$	100	19781006	M				1	113
	26	OCT 88	0956 T	0.0030	\$	100	19781006	M				1	114
	26	OCT 88	1322 T	0.0030	\$	100	19781006	M				1	115
	26	OCT 88	1436 T	0.0030	\$	100	19781006	M				2	116
	27	OCT 88	0842 T	0.0030	\$	100	19781006	M				1	117
	31	OCT 88	0907 U	-0.0010	\$	100	19781006	M				1	118
	31	OCT 88	1003 U	-0.0010	\$	100	19781006	M				1	119
	31	OCT 88	1219 U	-0.0010	\$	100	19781006	M				2	120
	01	NOV 88	0747 U	-0.0010	\$	100	19781006	M				1	121
3	233	456603	NI-002	ZEISS/JENA									
	03	OCT 88	0810 T	-0.0020	\$	100	19781006	M				3	55
	03	OCT 88	1257 T	-0.0020	\$	100	19781006	M				3	58
	05	OCT 88	0750 T	-0.0020	\$	100	19781006	M				3	62
	05	OCT 88	1122 T	-0.0020	\$	100	19781006	M				3	67
	05	OCT 88	1323 T	-0.0020	\$	100	19781006	M				3	69
	06	OCT 88	0830 T	-0.0020	\$	100	19781006	M				3	72

\* - collimation correction factor (rod unit per rod unit of stadia interval)  
 \$ - collimation error (mm/m or radians x 1000)

RELEVELING RUN DATE: 20 JUN 89 TIME: 10:30  
 ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE 4  
 HGZ L25053  
 4.0 MM 1ST-ORDER/CLASS II

RHK/NGS 30 AUG 1988 01 NOV 1988

-- Instrument Information and Collimation Data --													
Inst	Eq Code	Serial No	Model	Stadia Const	Stadia Date	Micro Meter	Mag Const	Mag Sigma	Mag Date	Cal	Rod Pair	40*	
3	233	456603	NI-002	ZEISS/JENA									
	06	OCT 88	1337 T	-0.0020	\$	100	19781006	M				3	75
	07	OCT 88	0812 T	-0.0020	\$	100	19781006	M				3	77
	11	OCT 88	1406 T	-0.0040	\$	100	19781006	M				3	85
	12	OCT 88	0811 T	-0.0040	\$	100	19781006	M				3	88
	12	OCT 88	1316 T	-0.0040	\$	100	19781006	M				3	92
	12	OCT 88	1534 T	-0.0040	\$	100	19781006	M				3	93
	13	OCT 88	0814 T	-0.0040	\$	100	19781006	M				3	94
4	233	456581	NI-002	ZEISS/JENA									
	03	OCT 88	0823 T	-0.0020	\$	100	19781006	M				4	56
	03	OCT 88	1227 T	-0.0020	\$	100	19781006	M				4	57
	03	OCT 88	1343 T	-0.0020	\$	100	19781006	M				4	59
	05	OCT 88	0916 T	-0.0020	\$	100	19781006	M				4	64
	05	OCT 88	1035 T	-0.0020	\$	100	19781006	M				4	66
	05	OCT 88	1340 T	-0.0020	\$	100	19781006	M				4	70
	06	OCT 88	0847 T	-0.0020	\$	100	19781006	M				4	73
	07	OCT 88	0818 T	-0.0020	\$	100	19781006	M				4	78
	07	OCT 88	1052 T	-0.0020	\$	100	19781006	M				4	79
5	233	456566	NI-002	ZEISS/JENA									
	11	OCT 88	0835 T	-0.0160	\$	100	19781006	M				3	82
	11	OCT 88	1228 T	-0.0160	\$	100	19781006	M				3	83
6	216	191642	NI-004	ZEISS/JENA									
	11	OCT 88	1618 T	0.0350	\$	100	19000000	M				3	87 NOT USED
7	233	456615	NI-002	ZEISS/JENA									
	19	OCT 88	0909 T	-0.0130	\$	100	19780000	M				4	105
	20	OCT 88	0900 T	-0.0130	\$	100	19780000	M				4	107
	21	OCT 88	0808 T	-0.0130	\$	100	19780000	M				4	108

\* - collimation correction factor (rod unit per rod unit of stadia interval)  
 \$ - collimation error (mm/m or radians x 1000)

RELEVELING                      RUN DATE: 20 JUN 89     TIME: 10:30  
ARCATA VIA EUREKA AND GARBERVILLE TO WESTPORT CA

PAGE     9  
HGZ L25053  
4.0 MM 1ST-ORDER/CLASS II

RHK/NGS    30 AUG 1988                      01 NOV 1988

Processing options used

" " Refraction code  
"1" Position code  
"B" Rejection code  
" " Magnetic code

Percent of Runnings Corrected

100.0 Level Collimation

100.0 Rod Calibration

0.0 average excess  
100.0 detailed calibration (from 43\* records)

100.0 Temperature

0.0 predicted temperatures  
100.0 observed temperatures

100.0 Astronomic

0.0 Magnetic

100.0 Refraction

0.0 computed by REDUC4  
0.0 taken from 43\* records (predicted temperatures)  
100.0 taken from 43\* records (observed temperatures)

Predicted temperatures are computed from the solar radiation model

Normal orthometric heights have been computed based on normal gravity  
(USC & GS Special Publication 240)

Assumed thermal expansion values were used for some or all of the rods

RELEVELING                      RUN DATE: 20 JUN 89    TIME: 10:30  
ARCATA VIA EUREKA AND GARBerville TO WESTPORT CA

PAGE 1  
HGZ L25053  
4.0 MM 1ST-ORDER/CLASS II

RHK/NGS                                      30 AUG 1988                      01 NOV 1988

0.84 mm Standard deviation of a 1 km single run section  
0.59 mm Standard deviation of a 1 km double run section  
49                      Sections used to compute standard deviations  
217.041 km Main line length  
33.587 km Spur line length  
288.176 km Unrejected leveling  
245                      Benchmarks  
1                      Temporary Benchmarks  
245                      Sections  
0                      River/Valley Crossings  
295                      Runnings  
0.3                      Percent of runnings rejected  
0.3                      Percent reruns