ST1115 Coordinates: from above pages of survey notes
All current survey records are based on GDA94 datum that is almost the WGS84 GPS datum currently in world wide use.

GDA94	lat 41 52 46.6459S	long 145 20 26.5926E
MGA94 Zone 55	362321.576E	5362257.814N

Elevation 219.847m

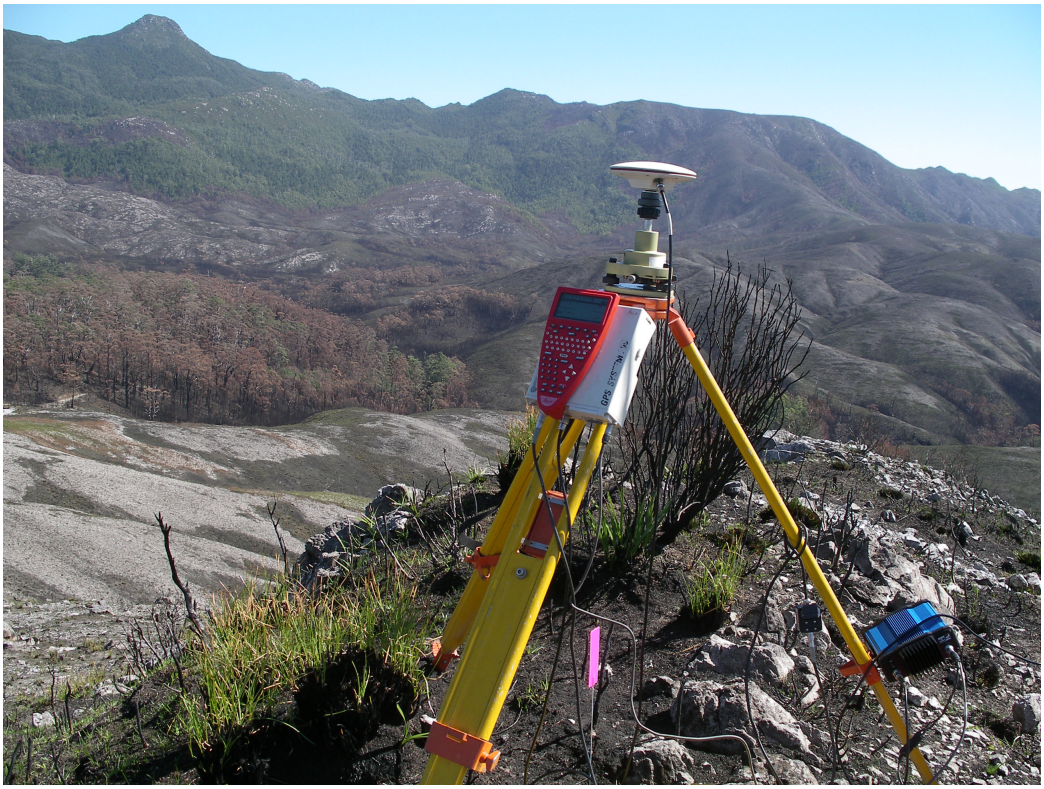
These controls were used for local grid bases establishment, and transformed to AGD66 /AMG66 Zone 55 values using the Tasmanian AGD66 transformation.

The standard AUSLIG N separation tables were used with all RTK GPS calculations in this area in Tasmania. The geoid files were compiled by Leica proprietary software and installed in the base and roving GPS units to give real time ortho metric solutions (AHD) in the nominated AGD66 transformation.

LOCAL GRID RTK GPS CONTROL SITES:

- **WEST COMSTOCK**
- **AUSTRAL**
- **OCEANA**
- **COMSTOCK MINE AREAS**

WEST COMSTOCK:



GPS Base: No 226

GDA94	41 53 07.97345S	145 16 00.76549E	Ell Ht. 366.316m
MGA94 Zone55	356207.729E	5361478.898N	Ortho Ht. 369.980m

Local Grid:

AMG66 Zone55	356096.429E	5361295.977N	Ortho Ht. 369.980m

Control: RTK tie from ST1115

Control point on prominent hill overlooking survey area, previous occupation was a small steel pipe in ground. Resurveyed this point.
Track passes below hill top before a final steep descent to old mine workings in timbered area.
GPS datum eastern edge of open pipe as centre an open hole.
Locate area by hand GPS.

AUSTRAL:

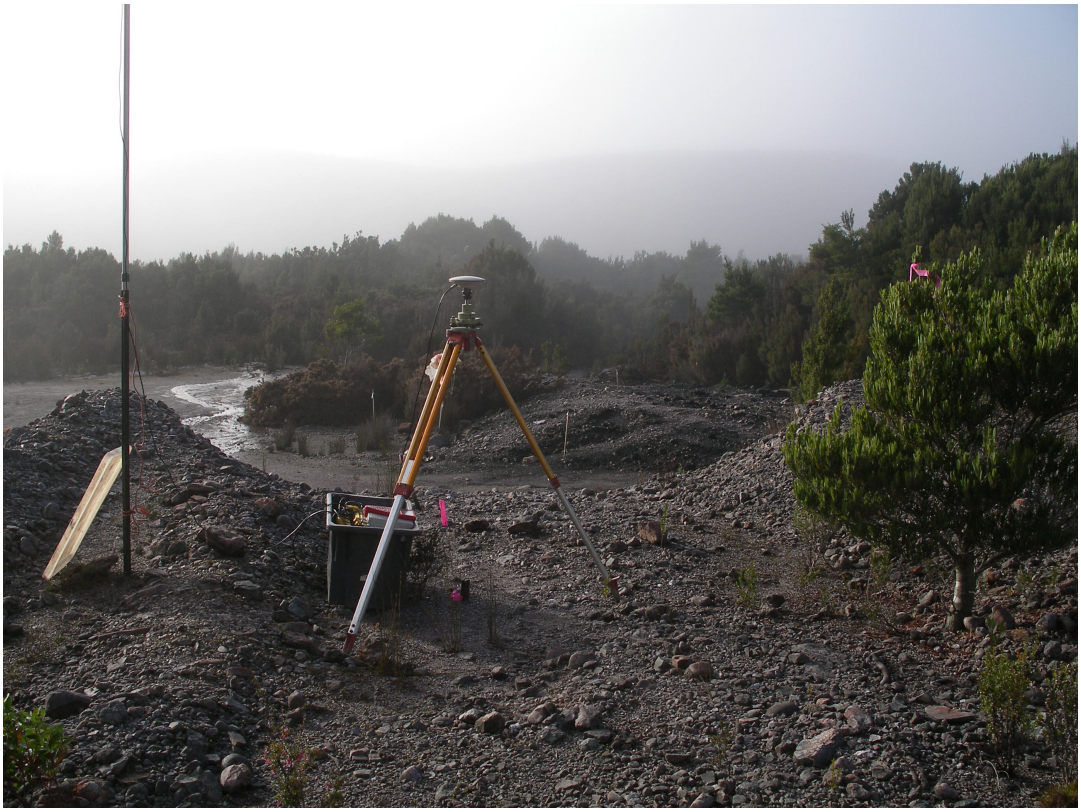
GPS Base: No 91

GDA94	41 54 51.42433S	145 20 58.53765E	Ell Ht. 204.081m
MGA94 Zone55	363131.934E	5358423.572N	Ortho Ht. 207.542m
Local Grid:			
AMG66 Zone55	363020.59353	5358240.67217	Ortho Ht. 207.542m

Control: RTK tie from ST1115

Base located on top of cemented bolt in concrete base from old mine workings.
Road side row of two groups of four pillars, third from northern end on hill above old smelter. Smelter dumps are located on lower levels below station.

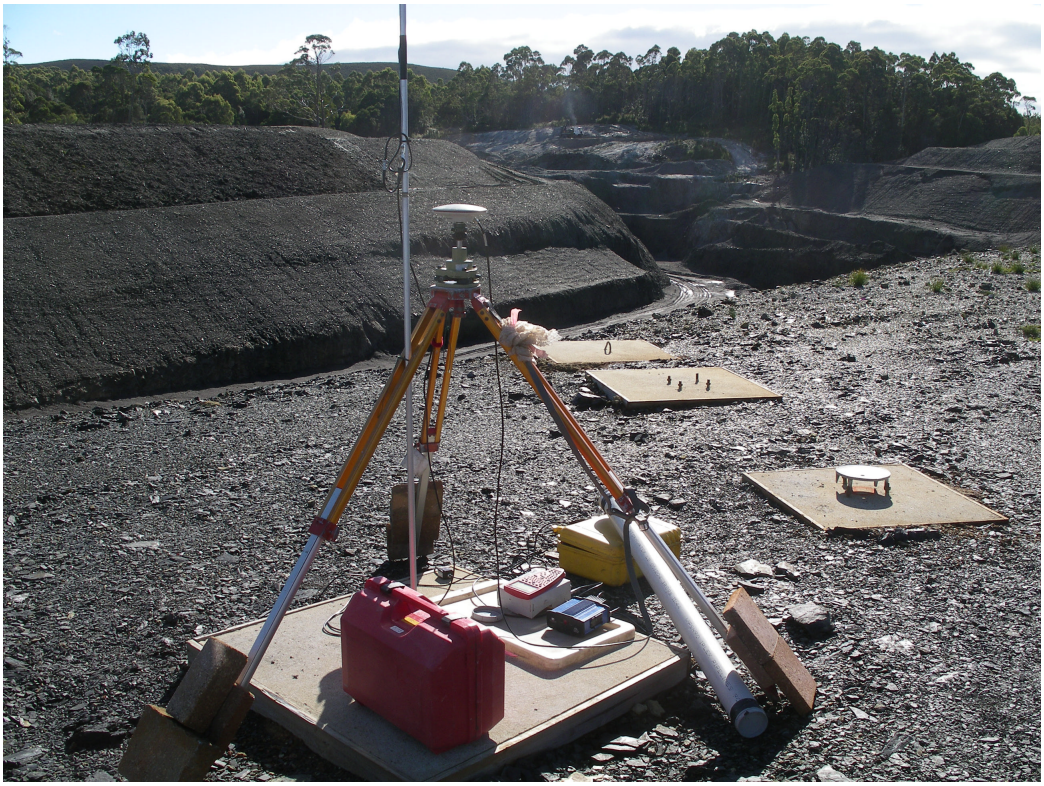
OCEANA:



GPS Base:	**No 34**		
GDA94	41 55 17.59995S	145 20 23.91131E	Ell Ht. 192.879m
MGA94 Zone55	362349.885E	5357600.858N	Ortho Ht. 196.399m
Local Grid:			
AGD66 Zone55	362238.549E	5357417.960N	Ortho Ht. 196.399

Control: RTK tie from ST1115

ALLISON PIT:



GPS Base:	**No4444**		
GDA94	41 53 37.90651S	145 17 02.32699E	Ell Ht. 291.001m
MGA94 Zone55	357645.018E	5360584.215N	Ortho Ht. 294.637m
Local Grid:			
AGD66 Zone55	357533.709E	5360401.298N	Ortho Ht. 294.637m

GPS control point bolt with nut attached in concrete pad, datum bolt face inside nut, circled with paint.
Concrete pad overlooks Allison Pit entrance.
RTK Tie control from West Comstock base No. 226

SURVEY EQUIPMENT:

GPS EQUIPMENT:
Leica 1200 dual frequency RTK for survey applications
Garmin GPS60 for local activities
Radio Link 4W/25W UHF 467.075MHz frequency
Equipment owned by Solo and maintained and upgraded by manufacturer.
RTK survey resolution was better than 0.05m for horizontal and vertical measurements as satellite availability was usually resolved better than 0.03m. The data is not recorded when a vertical error of 0.05m is exceeded. Tasmania satellite availability limits useful survey periods in dense vegetation.

Base station:

Rover:

GRAVITY METER:

Lacoste & Romberg Model G #556

Meter calibration table:
Calibration table for conversion from instrument divisions to milligals for Tasmanian surveys.

Instrument Range	Value in milligals	Factor for interval
3700	3749.18	1.01388
3800	3850.57	1.01390

Equipment owned by Solo and maintained by manufacture to specification.
Instrument returned from routine service to Austin Texas November 2005.
Meter daily variations closely follow Longmans tidal calculations.

TIME ZONE:
The survey commenced in mid March during daylight saving period and continued to the end of May. To avoid confusion daylight saving time was adopted for the entire survey and tidal changes are calculated on UTM time plus 11 hours.

OPTICAL LEVEL:

In areas of dense cover where RTK GPS unable to resolve a solution for an accurate elevation, levels were carried optically from the nearest GPS elevation.

Sokisha B1 engineers optical level used.

Gravity Ties from Highway control base to Zeehan control base:
(Excel spreadsheet)

Base ID	G556 meter reading	3800 Range to milligals	Interval to milligals	G556 meter to milligals & tide corrected	Tide drift at station by "Longmans"	Highway base station	Motel base station milligals
Hwy							
Motel	3825.13	3850.57	1.0139	3876.09	0.04		
Hwy	3813.18	3850.57	1.0139	*3863.97	0.04	980298.00	980310.14
Motel	3825.16	3850.57	1.0139	#3876.11	0.03		
Hwy	3813.19	3850.57	1.0139	*3863.97	0.03		
Motel	3825.17	3850.57	1.0139	#3876.11	0.02		
Motel	3825.21	3850.57	1.0139	#3876.14	0.01		
Hwy	3813.24	3850.57	1.0139	*3863.98	-0.01		
Motel	3825.21	3850.57	1.0139	#3876.11	-0.02		

- The motel control station was the primary control for all survey grids read at start and finish daily with grid sub bases read for drift control checks.
- Meter resolution 0.01 milligals, but frequent periods of noise in Tasmania exceed 0.05 with maximums of > 0.10 during seismic events.
- Several days were lost to large seismic shocks, the Beaconsfield was minimal with only a small aftershock of short duration noticed the next day.
- All gravity data was recorded at ground level on a standard LaCoste gravity dish.
- All processed gravity data presented as milligals in Isogal65 format.