



**Dynamic
Satellite
Surveys**

DSS Report #95-36

Final Operations Report

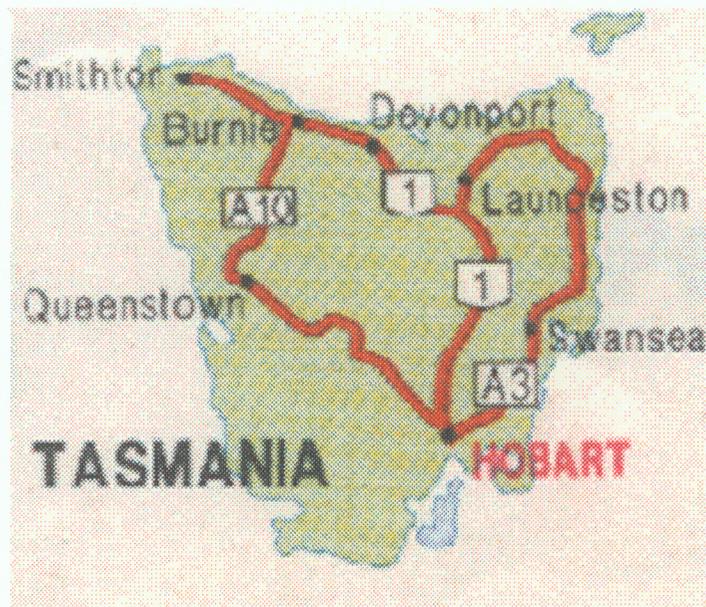
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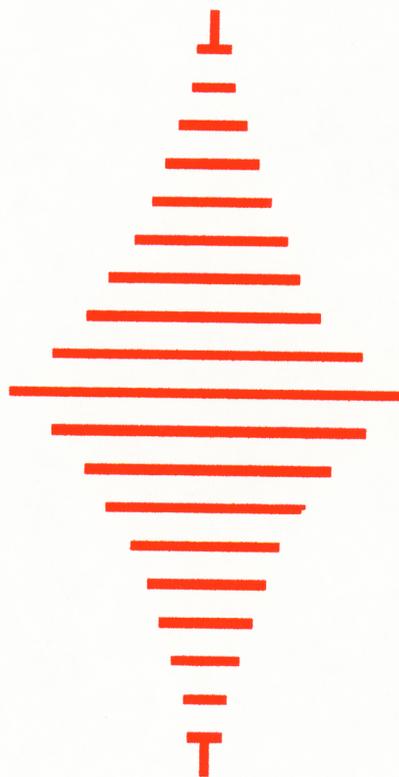
95AGS-T SEISMIC SURVEY

for

**AUSTRALIAN GEOLOGICAL
SURVEY ORGANISATION**

*Tasmania
February-April 1995*





Dynamic
Satellite
Surveys

SUMMARY

During February, March and April 1995 *Dynamic Satellite Surveys* performed survey work in Tasmania on behalf of the *Australian Geological Survey Organisation* for their 95AGS-T seismic exploration survey.

All planned goals of the survey were reached and the survey was successfully completed with no mishaps.

Due to the rugged nature of the areas surveyed, the fieldwork required the application of all of *Dynamic Satellite Surveys'* advanced survey techniques during the data acquisition phase. The primary system utilised was kinematic GPS, with infill being obtained with the unique Rapid Elevation Meter.

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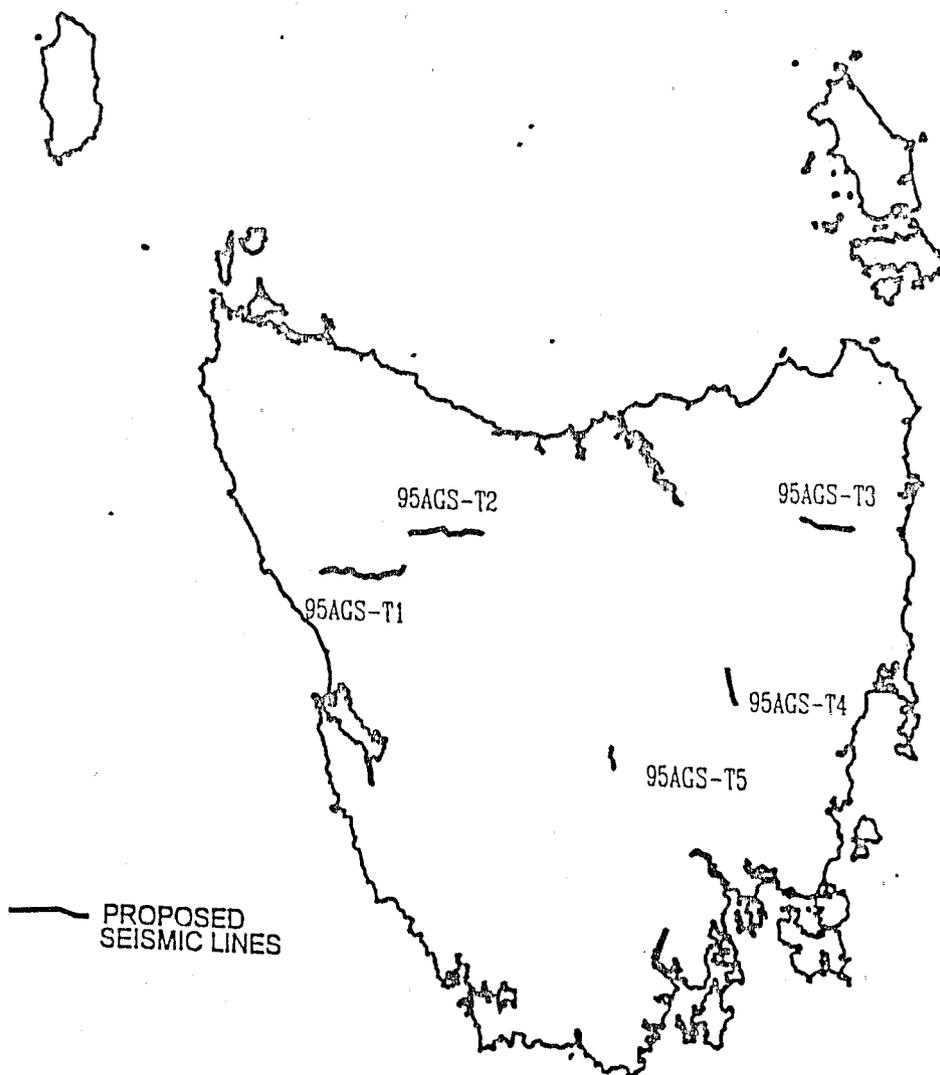
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AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION



95AGS-T SEISMIC SURVEY

1. INTRODUCTION

Dynamic Satellite Surveys (DSS) were contracted by the Australian Geological Survey Organisation (AGSO) to provide coordinates and elevations for points to be occupied during their 1995 seismic survey in Tasmania, known as the 95AGS-T survey.

Chaining and pegging of the seismic lines was carried out by AGSO.

The survey was conducted in two stages. The first two lines (95AGS-T1 and 95AGS-T2) were surveyed from the 12th of February to the 4th of March 1995. Lines 95AGS-T3, 95AGS-T4 and 95AGS-T5 were completed in the second stage conducted between the 31st of March and the 12th of April 1995.

2. RESOURCES

2.1 PERSONNEL

DSS personnel utilised on this project were :

Survey Supervisor :	Peter Robinson <i>(Bachelor of Surveying)</i> 14 Yrs Surveying Experience
Surveyors :	David Brooks <i>(Bachelor of Surveying)</i> 14 Yrs Surveying Experience
	Dennis Williams <i>(Bachelor of Applied Science / Bachelor of Information Technology)</i> Recent graduate

The survey crew consisted of two surveyors at all times except for a brief period when Peter Robinson became ill and had to return to the mainland leaving Dennis Williams to complete the first stage of the survey on his own.

2.2 EQUIPMENT

The following equipment was provided by DSS for the duration of the job :

Hardware

Toyota Landcruiser 4WD Vehicle	x1
NovAtel 2151-R DGPS unit	x2
Tidalwave 8086 Palmtop Computer	x2
Sharp 386 Portable Computer	x1
Suunto Survey Compass	x2
Survey Tape	x2

Software

Northern Survey Systems 'GrafNav' GPS Post-processing Software	
DSS In-house QC/Computation Software	

3. SURVEY PROCEDURES

3.1 SURVEY DATUM

3.1.1 Geodetic Datum

Raw GPS data is acquired on the WGS 84 datum, described by the following parameters:

<i>Datum:</i>	WGS 84 (World Geodetic System 1984)
<i>Spheroid:</i>	WGS 84
<i>Semi-Major Axis Length:</i>	6 378 137.0
<i>Inverse Flattening:</i>	298.257
<i>Unit of Measure:</i>	International Metre

Coordinate sets were transformed directly to the Australian Map Grid (AMG) based on the Australian Geodetic Datum 1966 (AGD 66):

<i>Datum:</i>	AGD 66 (Australian Geodetic Datum 1966)
<i>Spheroid:</i>	ANS 66 (Australian National Spheroid 1966)
<i>Semi-Major Axis Length:</i>	6 378 160.0
<i>Inverse Flattening:</i>	298.255
<i>Unit of Measure:</i>	International Metre

3.1.2 Map Projection

Rectangular coordinates provided to AGSO were based on the Australian Map Grid (Zone 55) projection. Parameters defining this projection are :

Projection:	AMG Zone 55
Latitude of Origin:	0°
Central Meridian (CM):	147° E
Scale Factor at CM:	0.9996
False Easting:	500 000
False Northing:	10 000 000
Unit of Measure:	International Metre

3.1.3 Vertical Datum

All elevations supplied to AGSO were reduced to the Australian Height Datum (AHD).

3.1.4 Geoid-Spheroid Separations

As height values were required relative to the geoid, and not the ellipsoidal datum, a program was used to generate the separation between these surfaces and the observed heights reduced to the geoid. Initial geoid-spheroid separations were calculated from survey control height values and then the OSU89A model was utilised to estimate differential geoid-spheroid separation values over the rest of the prospect.

3.2 SURVEY METHODS

The survey methods employed to topographically profile the seismic line utilise Global Positioning System (GPS) technology and a barometric levelling device, the Rapid Elevation Meter (REM), developed by DSS. In conjunction with a standard surveying compass and measuring tape, these instruments constitute a high production profiling system which does not require intervisibility between points to operate and is completely transportable by vehicle or by foot.

3.2.1 GPS Field Work

The Global Positioning System (GPS) utilises US Department of Defense NAVSTAR satellites to provide real-time three-dimensional positioning. When phase data from the satellites is post-processed, a significant increase in the accuracy of results can be obtained. Accuracies of 1 part per million (ppm) are possible with dual frequency units, 3-4 ppm being possible with single frequency units.

DSS utilise the GPS system in various modes of operation (ie: static, kinematic and real-time differential techniques). On this project a combination of static and kinematic GPS survey methods were employed.

The method of static GPS involves setting one receiver over a point of known position and another receiver over a point of unknown position. The observation period required for this method is dependant upon the level of accuracy desired and the length of the line being observed. Typically, observation times range between 20 and 90 minutes, using the narrow-correlator GPS receivers from NovAtel.

The kinematic method similarly involves a base receiver occupying a point of known position. The second or roving receiver occupies a known point for a few minutes to initialise the survey and then is free to proceed and occupy unknown points.

The main difficulty with the kinematic technique is the requirement that the receiver must remain continually locked onto the signal of at least 4 satellites at all times, which can be quite a problem in heavily vegetated areas or narrow/steep gullies. If lock is lost, the roving receiver must return to a known point, or do a static observation to re-initialise. The roving receiver is usually vehicle mounted, but may be hand-carried over difficult/inaccessible terrain.

3.2.2 *Infill Survey*

Kinematic GPS techniques were utilised wherever possible, otherwise peg locations were compass traversed using the chained station interval of 40 metres as the measured distance. In cases where the line was very bent, distances were re-measured with a surveyor's tape. Compass traverses always opened and closed on GPS controlled points.

All line bearings were observed in two directions to ensure both that no gross errors occurred and that the possible effects of any local magnetic anomalies were minimised.

The bearing and distance measurements were then least-squares adjusted using DSS software. The above method determines horizontal coordinates to an accuracy of less than three metres in the across-line direction and less than one metre in the in-line direction. With GPS control points being kept at a maximum interval of 1500 metres these accuracies can be easily obtained, and often exceeded.

All points in the compass traverse were then observed with the Rapid Elevation Meter (REM), to obtain the elevations.

3.2.3 *The Rapid Elevation Meter*

This unique instrument was developed by Dynamic Satellite Surveys and consists essentially of a Paro Scientific 1016a quartz crystal barometer coupled to a sharp PC1600 pocket computer running sophisticated software. The specialised software enables elevations to be determined to a precision of 0.33 metres at a rate of one per seven seconds. Line of sight between stations is not necessary and the unit is highly portable.

The system was initialised at the beginning of each day by sampling pressure for three minutes to determine the major barometric trends. The unit was then set over a mark of known elevation (usually a GPS point), and the pressure observed every second for sixty seconds. Using this data, the base offset and polynomials for the pressure equation were computed.

The REM was then taken to the first station to be surveyed and observations began, a descriptive point name was entered, and after seven seconds of pressure readings a raw elevation was produced and stored internally. The instrument was then moved to the next point of unknown elevation.

Observations were made at all changes of grade, or at a maximum distance of 150 metres, until another point of known elevation was encountered.

Normally, GPS controlled elevations were provided at least every 1500 metres as per compass control.

When the REM reached a point of known elevation a closure was performed. This involved observing once again for sixty seconds. The computed elevation was displayed and the polynomials for the pressure curve then re-computed to accommodate the misclosure observed at this station. All intermediate stations were then adjusted based on this result. The above procedures constituted a single REM run.

To ensure data integrity, all points observed with the REM unit were run a second time. This provided a measure of error and reliability on each point. Field QC software allowed the surveyor to check that each point had been observed at least twice, and that the final elevation produced was within the required tolerance. If any elevations did not meet these tolerances then the points were re-observed until quality results were obtained.

3.2.4 Permanent Markers

Permanent markers consisting of a star dropper and a dumpy were placed by the survey crew at the start and end of each seismic line and at intervals of five kilometres along the line or at major bend points. A list of all permanent markers placed during the course of the survey, together with their coordinates and elevations can be seen in Appendix C.

3.2.5 Line Sketches

A diagram showing the line and associated details was produced in "mud map" form and was included in the line files forwarded to AGSO with the final survey data. This sketch will prove invaluable in relocating the line, and has various notes on features near stations on line, eg: culverts, bridges, road intersections etc.

3.2.6 Pegging

Pegging of the line was performed by AGSO.

4. DATA PROCESSING AND QUALITY CONTROL**4.1 GPS PROCESSING**

All recorded GPS data was stored in small "palmtop" personal computers and subsequently transferred to office computers for processing. The base and remote data sets were processed using 'GrafNav' processing software from Northern Survey Systems to determine positions relative to the WGS 84 datum.

During this processing the data was rigorously analysed and evaluated to ensure GPS data integrity.

WGS 84 values were then transformed to the AMG 84 Zone 55 grid. Any point exceeding strict residual tolerances could be easily identified at this stage by purpose-built DSS software. These points were re-surveyed such that their point positions were confirmed, or bad observation data identified.

Solutions were then checked by DSS "chaining check" software. This routine calculates line bearing and compares theoretical and observed peg distances. Points lying outside of specified tolerances were flagged for further investigation.

When an entire line had been surveyed, profile graphs were generated and examined to identify possible height anomalies. Position plots were similarly created and checked at this stage of the processing.

Data sets were then completed and finalised by the interpolation of intermediate stations from surveyed station data. Using software developed by DSS this provided a complete list of shotpoint and geophone coordinates.

4.2 REM PROCESSING

Upon completion of each day's fieldwork, the REM data was downloaded to an office computer.

Point names were analysed to find matches and then elevations, standard deviations and the number of observations on each point were computed and printed. This then became the elevation data set. Any points not meeting the quality control criteria after this post-processing were flagged and re-observed the next day. This did not happen very often due to the REM field QC procedures outlined above.

4.3 SURVEY CONTROL AND TIES TO EXISTING WORK

The lines were separated by such distances that it was necessary to establish separate control and tie points for each one.

Control point values were obtained from three government departments in Tasmania: the Surveying and Geographic Department of the Hydro-Electric Commission (HEC); the Office of the Surveyor General in the Department of Environment and Land Management; the Survey section of the Transport and Works Department.

A summary of control point values and misclosures to the tie points is provided in Appendix B of this report.

It is standard DSS practice to tie to any previous seismic-related permanent markers found adjacent to new survey work, and to document these markers accordingly. However this being the first major seismic survey undertaken in Tasmania, no old PM's were encountered.

5. SAFETY

The lines were conducted in all cases (except 95AGS-T4) along roads that were used by the public. This meant that extra precautions had to be taken to avoid accidents. A flashing orange light was mounted on the roof of the survey vehicle and "SURVEYORS ON ROAD" signs were deployed at the ends of the survey area. AGSO was very helpful in providing flagmen at times and at locations where the traffic was particularly heavy.

These precautions employed along with DSS's strict operational safety procedures ensured an accident-free survey.

6. DATA PRESENTATION

DSS's system is capable of generating output data in any format chosen by their clients. The format chosen by AGSO was UKOOA-based, modified to include the geographical coordinates.

After coordinate and elevation data sets were finalised, the two sets were combined to produce the full data set in the modified UKOOA format.

6.1 *HARD-COPY DATA*

A line file for each individual line has been provided in hard copy. The line files include all source and receiver locations, chaining check results, and permanent survey marks in ASCII file format. Mudmaps are also included within the line files.

An elevation profile and horizontal position plots of the lines were produced in hard copy and provided to AGSO upon completion of fieldwork.

6.2 *DIGITAL DATA*

All digital line data files were supplied to AGSO on MS-DOS format 3.5" high density floppy disks upon completion of fieldwork.

7. OPERATIONAL ASPECTS

The 95AGS-T survey was a challenging one for many reasons. The weather was generally poor, with wind and rain making fieldwork not only unpleasant for personnel but harsh on equipment. Much time was spent travelling from the nearest convenient base to the survey sites - this was generally unavoidable.

From a survey aspect the major inconvenience was the lack of available survey control and the time required to scout existing control for suitability/practicality. Varying terrain with vastly different levels of foliage cover often made GPS unsuitable for survey and so REM observations and compass traversing were often required. These methods were much slower than GPS, but were the fastest alternatives available.

During the survey very amicable working relationships between AGSO and DSS personnel were established and this proved extremely advantageous in to the smooth, safe and successful completion of the survey.

8. CHRONOLOGICAL SUMMARY OF SURVEY**First stage of survey.**

- 12 Feb 95** Peter Robinson and Dennis Williams arrive at Devonport. Line 95AGS-T2 scouted.
- 13 Feb 95** Equipment arrives and is collected. Stationary and survey marker consumables purchased. HEC, DLE contacted re survey mark information. First 40km of 95AGS-T1 scouted, 10 permanent marks placed.
- 14 Feb 95** 95AGS-T1 stations 1000-1200 (8km) surveyed. Three trig stations scouted, found unsuitable for GPS control.
- 15 Feb 95** 95AGS-T1 stations 1200-1323 (4.92km) GPS surveyed. HEC survey marks scouted.
- 16 Feb 95** 95AGS-T1 stations 1430-1543 (4.52km) GPS surveyed. 1323-1430 surveyed but data unusable due to base station failure. Survey tied to control point HA5087.
- 17 Feb 95** 95AGS-T1 stations 1323-1430, 1543-1705 (10.76km) GPS surveyed. Some GPS data unusable, portions will require REM observations.
- 18 Feb 95** 95AGS-T1 stations 1705-1945 (9.6 km) GPS surveyed. Most of section will require REM observations.
- 19 Feb 95** 95AGS-T1 stations 1945-2062, 2178-2184, 2198-2228 (5.96 km) GPS surveyed.
- 20 Feb 95** 95AGS-T1 stations 2063-2105, 2105-2197, 2228-2230 (5.4 km) surveyed by compass traverse.
- 21 Feb 95** 95AGS-T2 stations 2000-2360 (14.4 km) GPS surveyed. Trig station scouted, 4005 found OK.
- 22 Feb 95** 95AGS-T2 stations 2360-2750 (15.6 km) GPS surveyed.
- 23 Feb 95** 95AGS-T2 stations 2750-2912 (6.48 km) GPS surveyed. Static GPS observations on Cradle Mountain Stn364 performed.
- 24 Feb 95** 95AGS-T2: computations.
- 25 Feb 95** 95AGS-T2: computations. Reobservations on two PMs.

- 26 Feb 95 95AGS-T1 stations 1404-1424, 1377-1350, 1543-1704, (7.385 km) surveyed by compass traverse. Static GPS observations on 1606, 1644, 1704 performed.
- 27 Feb 95 Static GPS observations on 95AGS-T1 PMs 1726+2.7, 1850, 1901, 1924 performed. 95AGS-T1 stations 1704+25-1765, 1831-1913 (5.695 km) surveyed by compass traverse. REM observations on 95AGS-T1 stations 1704-1619 (3.4 km).
- 28 Feb 95 95AGS-T1: computations. 95AGS-T1 stations 2105+20-2113, 2221-2230 (0.64 km) surveyed by compass traverse. Robinson forced to return to mainland due to illness.
- 01 Mar 95 95AGS-T1: computations. 95AGS-T1 stations 1931-2063+25 (5.28 km) surveyed by compass traverse.
- 02 Mar 95 REM observations on 95AGS-T1 stations 1871-1923, 1931-2000, 2221-2230 (5.2 km). PMs tagged.
- 03 Mar 95 REM observations on 95AGS-T1 stations 1704+25-1765, 1787-1796, 1831-1871, 2000-2113, 2123-2177 (11.08 km). PMs tagged.
- 04 Mar 95 Williams returns to mainland.
- First stage of survey complete.
- Second stage of survey.
- 31 Mar 95 Peter Robinson and David Brookes arrive at Launceston. DLE contacted re survey mark information, consumables purchased. Control stations scouted during travel to base.
- 01 Apr 95 Static GPS observations on 95AGS-T3 PMs 3000, 3022, 3049, 3078, 3104, 3122, 3146, 3176, 3209 performed. 95AGS-T3 stations 3000-3209 surveyed by compass traverse.
- 02 Apr 95 Static GPS observations on 95AGS-T3 PMs 3233, 3284, 3305, 3324, 3351, 3380 performed. 95AGS-T3 stations 3209-3380 surveyed by compass traverse. 95AGS-T3 stations 3380-3475 GPS surveyed. Survey tied to control points SPM5882 and SPM 5883.
- 03 Apr 95 95AGS-T3: computations. REM observations on 95AGS-T3 stations 3000-3380 (13.52 km).

- 04 Apr 95** Static GPS observations on 95AGS-T3 PMs 3500, 3523, 3552, 3599 performed. 95AGS-T3 stations 3524-3646 surveyed by compass traverse. 95AGS-T3 stations 3502-3524 GPS surveyed.
- 05 Apr 95** Static GPS observations on 95AGS-T3 PMs 3646, 3576, 3620 performed. REM observations on 95AGS-T3 stations 3475-3500, 3529-3646. Survey tied to control points Tower Hill Trig and 147/5. Computations.
- 06 Apr 95** Travel to 95AGS-T4, scout over line and possible control points.
- 07 Apr 95** Static GPS observations on 95AGS-T4 PMs 4125, 4249 performed. 95AGS-T4 stations 4000-4082 GPS surveyed. Survey tied to control point Grimes SL Trig. Computations.
- 08 Apr 95** 95AGS-T4 stations 4000-4082 surveyed by GPS and REM (13.04 km). Survey tied to control points Paddy's Hill Trig and Interlaken SPM.
- 09 Apr 95** Travel to 95AGS-T5, scout over line and possible control points. 95AGS-T5 stations 5000-5120 (4.8 km) GPS surveyed. Survey tied to control points SPM8798, ST732, ST897.
- 10 Apr 95** 95AGS-T5: computations.
- 11 Apr 95** 95AGS-T5: computations.
- Second and final stage of survey complete.

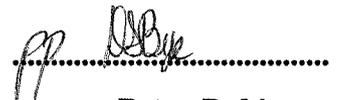
Office computations for final results took 6 days.

9. CONCLUSION

The survey was quite difficult due largely to the terrain encountered, which caused the line to have bends at almost every station. GPS was the ideal tool for a survey of this nature where in some cases it was impossible to see from peg to peg due to the terrain.

The survey was carried out in an efficient and professional manner, was well monumented and met the required specifications.

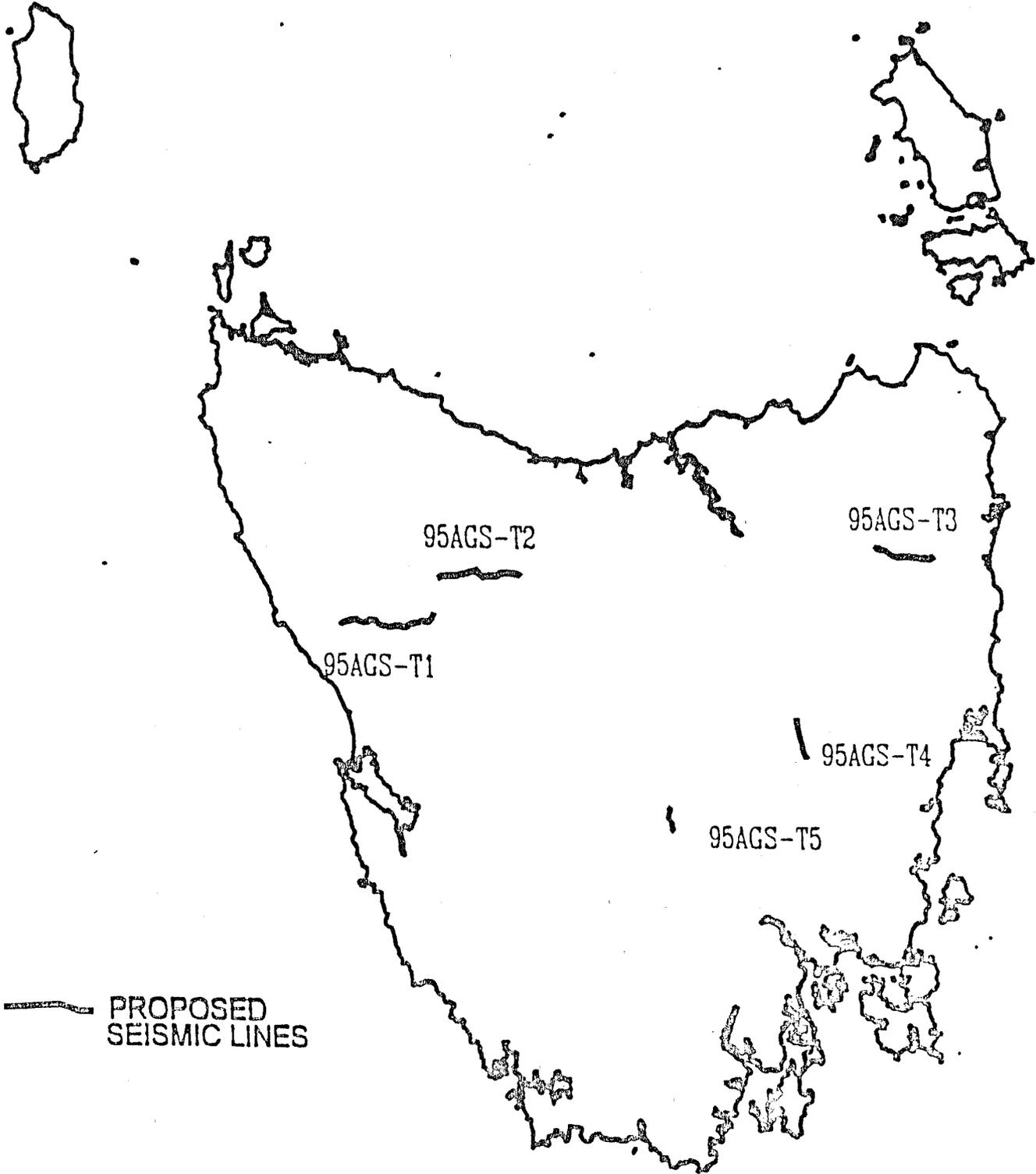
Respectfully Submitted,



Peter Robinson.

APPENDIX A

Location Maps



95AGS-T2

95AGS-T3

95AGS-T1

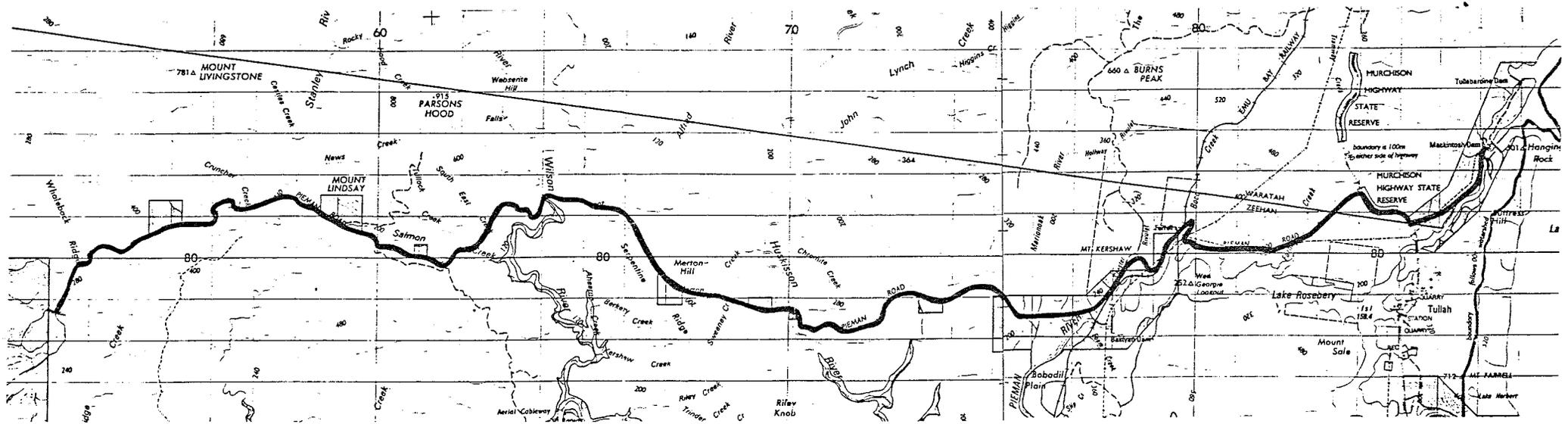
95AGS-T4

95AGS-T5

PROPOSED
SEISMIC LINES

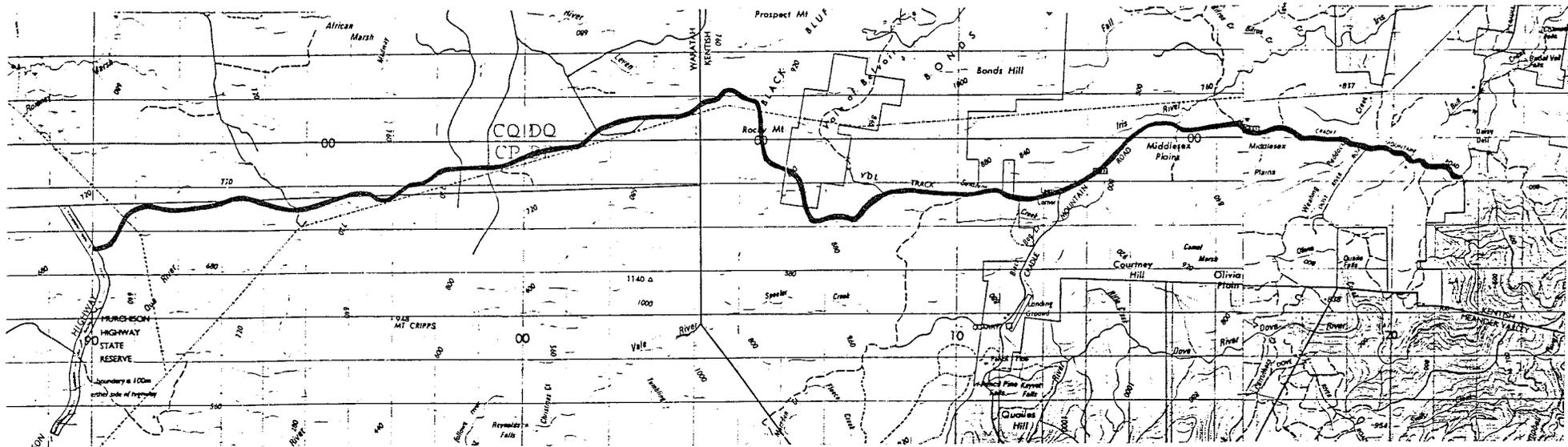
95AGS-T1 PIEMAN RIVER ROAD

1:100 000 PIEMAN, SOPHIA



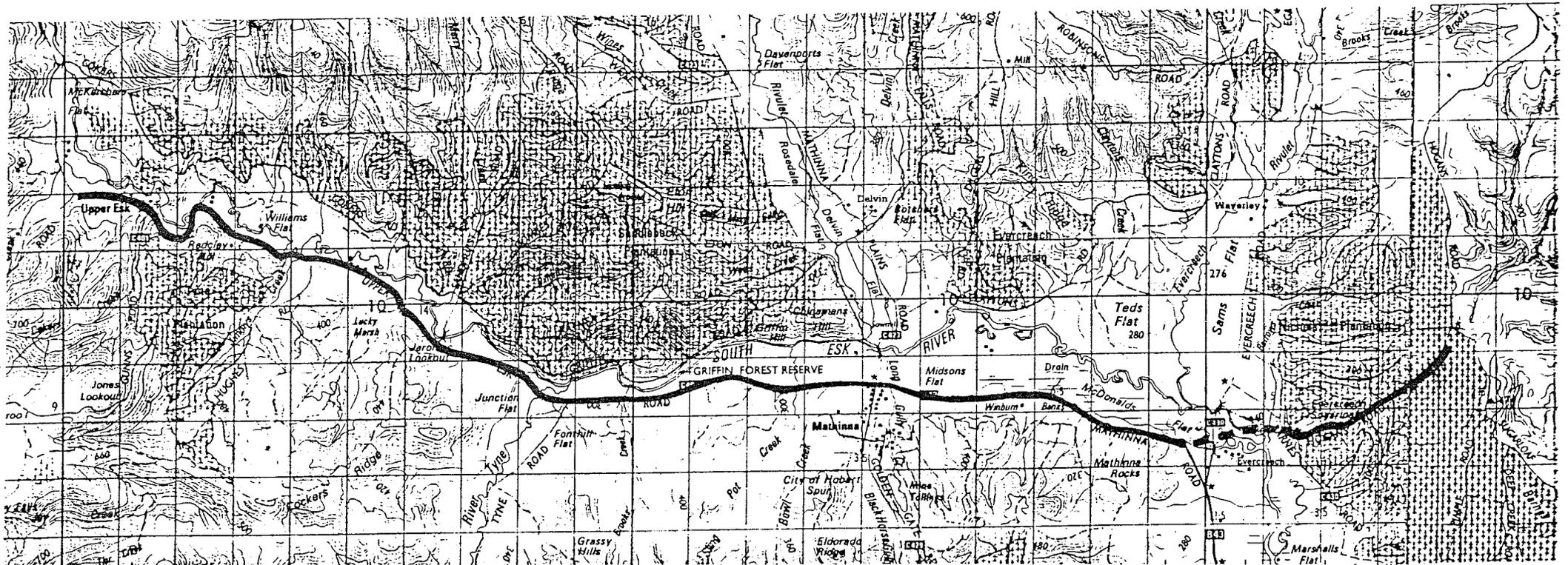
95AGS-T2 CRADLE MOUNTAIN LINK ROAD

1:100 000 SOPHIA, MERSEY



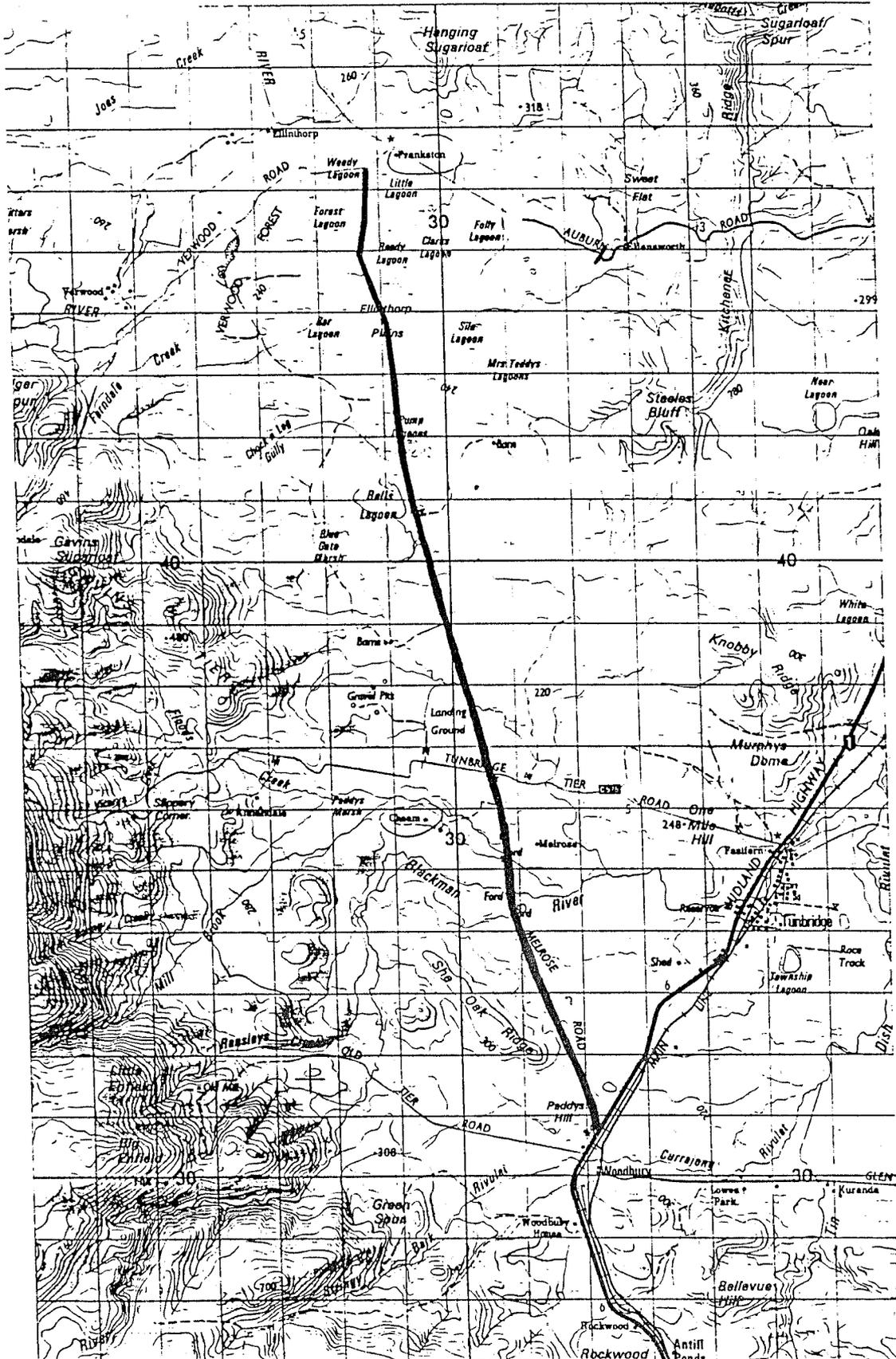
95AGS-T3 MATHINNA

1:100 000 FORESTER, GEORGES BAY



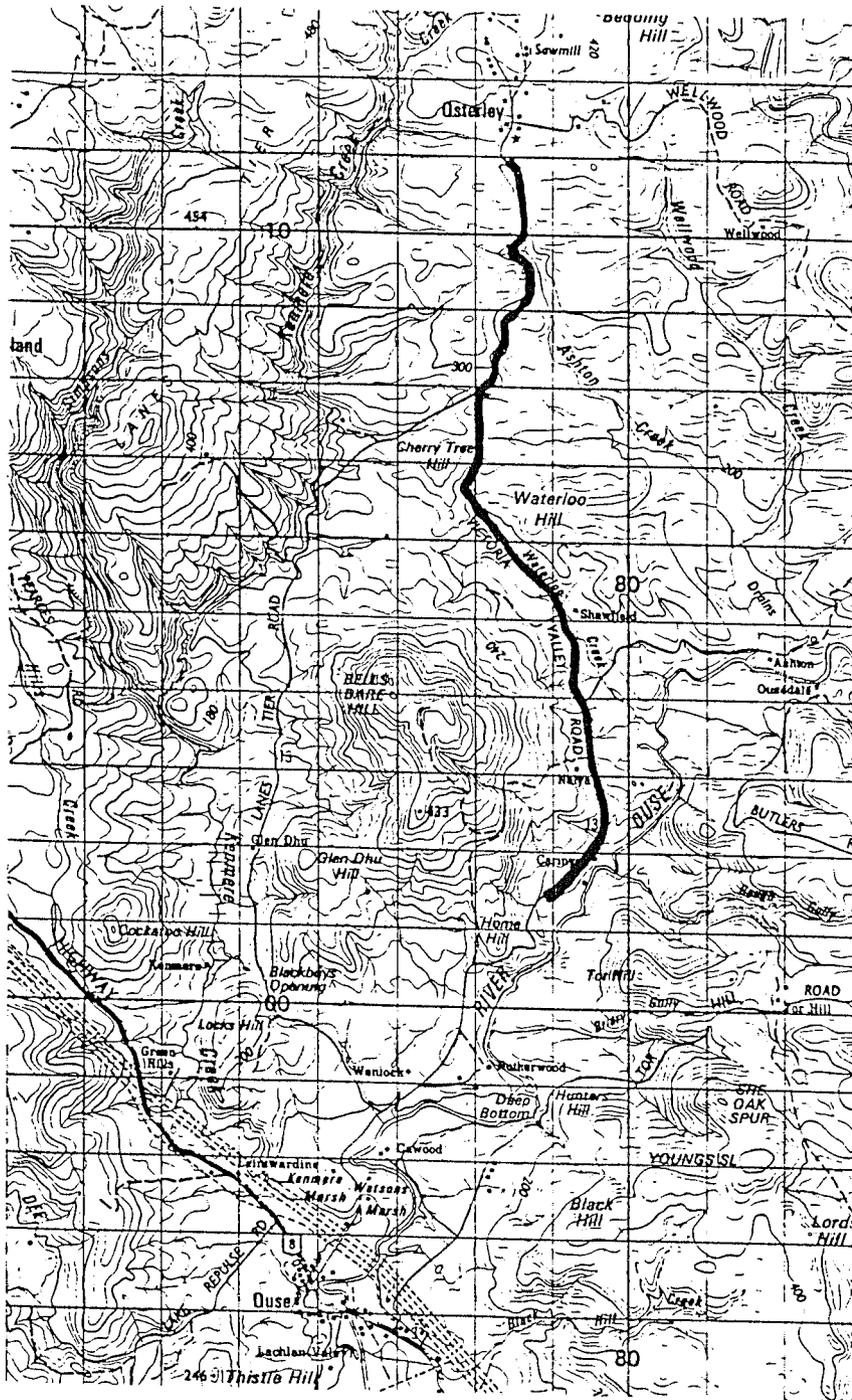
95AGS-T4 ROSS - WOODBURY STOCK ROUTE

1:100 000 LAKE SORRELL



95AGS-T5 OUSE - OSTERLEY

1:100 000 SHANNON



APPENDIX B

Survey Control Observation Misclosures

AMG AGD66 AHU
CRADLE MTN. LINK ROAD
40

UTM PROJECTION
DSS

30 31 17
DYNAMIC SATELLITE SURVEYS

Stn No.	Easting	Northing	Elevation	Comments
ST 364	412607.251	5384529.984	1545.19	Cradle Mountain Trig. (Known)
ST 364	412607.251	5384529.984	1545.19	Cradle Mountain Trig. (Datum)
	0.00	0.00	0.00	
S229	412615.12	5398831.73		Road survey mark (Known) No R.L.
S229	412616.198	5398830.363	803.216	Road survey mark (Observed)
	+1.078	-1.367		Misclose
ST01	412337.27	5398553.07	808.402	Road survey mark (Known)
ST01	412338.314	5398551.723	808.725	Road survey mark (Observed)
	+1.044	-1.347	+0.323	Misclose
GPS7	396111.156	5398860.969	706.732	No Known Coordinates

AGSO
 AMG AGD66 AHD
 MATHINNA
 40

95AGS-T3
 UTM projection
 DSS

APRIL 1995
 55 CM=147
 DYNAMIC SATELLITE SURVEYS

Stn No.	Easting	Northing	Elevation	Comments
BM 6543	574301.707	5408522.780	285.085	SPM Mathinna (Known)
BM 6543	574301.707	5408522.780	285.085	SPM Mathinna (Datum)
	0.00	0.00	0.00	
SPM 5882	577330	5408202	269.832	SPM Mathinna Road (Known)
SPM 5882	577322.715	5408198.220	269.664	SPM Mathinna Road (Observed)
			-0.168	Misclose (Scaled Coords)
SPM 5883	576850	5408218	272.814	SPM Mathinna Road (Known)
SPM 5883	576850.540	5408214.971	272.711	SPM Mathinna Road (Observed)
			-0.103	Misclose (Scaled Coords)
147/5	580137.37	5407429.27	260.14	Evercreech Rd (Known)
147/5	580137.216	5407428.819	259.958	Evercreech Rd (Observed)
	-0.154	-0.451	-0.182	Misclose
ST 607	571034.521	5399918.980	1117.94	Tower Hill (Known)
ST 607	571034.677	5399919.101	1117.591	Tower Hill (Observed)
	+0.156	+0.121	-0.349	Misclose

Stn No.	Easting	Northing	Elevation	Comments
ST 663	540274.961	5339842.306	320.91	Grimes SL (Known)
ST 663	540274.961	5339842.306	320.91	Grimes SL (Datum)
	0.00	0.00	0.00	
SPM 8705	514284.514	5333964.248	804.891	Interlakin SPM (Known)
SPM 8705	514284.349	5333964.342	805.453	Interlakin SPM (Observed)
	-0.165	+0.094	+0.562	Misclose
ST 972	531835.54	5330978.05	283.062	Paddy's Hill (Known)
ST 972	531835.383	5330977.892	283.301	Paddy's Hill (Observed)
	-0.157	-0.158	+0.239	Misclose

AMG AGD66 AND
OUSE
40

Utm projection
DSS

55 (M=147
DYNAMIC SATELLITE SURVEYS

Stn No.	Easting	Northing	Elevation	Comments
ST 897	477649.416	5303931.437	499.02	Bell's Bare Hill (Known)
ST 897	477649.416	5303931.437	498.96	Bell's Bare Hill (Observed)
	0.00	0.00	-0.06	Misclose (horizontal datum)
ST 732	474722.063	5295118.755	246.41	Thistle Hill (Known)
ST 732	474722.067	5295118.835	246.38	Thistle Hill (Observed)
	+0.004	+0.080	-0.03	Misclose
SPM 8798	476000	5296300	90.735	Ouse SPM Scaled coords
SPM 8798	475977.658	5296286.489	90.735	Ouse SPM (Observed)
			0.00	Misclose (Vertical Datum)

APPENDIX C

Permanent Markers

AGSO
AMG AGD84 AHD
PIEMAN RIVER ROAD
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95AGS-T1
UTM projection
DSS

FEBRUARY 1995
55 CM=147
DYNAMIC SATELLITE SURVEYS

Line name	Stn No.	Easting	Northing	Elevation	Comments
95AGS-T1	1000	352197.741	5378719.001	290.717	Pieman Rd Sth side
95AGS-T1	1124+39	355947.554	5380808.539	383.387	Pieman Rd Sth side Guard Rail
95AGS-T1	1250	359727.779	5380391.849	218.474	Pieman Rd Nth side
95AGS-T1	1374	363345.248	5381195.185	197.413	Pieman Rd Sth side
95AGS-T1	1500	366634.589	5379758.067	207.327	Pieman Rd Sth side
95AGS-T1	1626	370504.939	5378206.550	136.586	Pieman Rd Sth side
95AGS-T1	1750	374704	5379177	234.905	Pieman Rd Sth side
95AGS-T1	1871	378382.644	5379873.226	174.725	Pieman Rd Sth side
95AGS-T1	2000	381863.319	5380419.168	193.931	Pieman Rd Nth side
95AGS-T1	2063	384012	5381505	194.650	Pieman Rd Sth side near intersection of Murchison Hwy
95AGS-T1	2105+20	385389.378	5380890.003	192.069	Mackintosh Dam Rd
95AGS-T1	2230	388071	5384104	234.195	Mackintosh Dam Rd

AGSO
AMG AGD66 AHD
CRADLE MTN LINK ROAD
40

95AGS-T2
UTM projection
DSS

FEBRUARY 1995
55 CM=147
DYNAMIC SATELLITE SURVEYS

Line name	Stn No.	Easting	Northing	Elevation	Comments
95AGS-T2	2000	390077.617	5397539.005	682.489	EOL Int. Murchison Highway Sth side
95AGS-T2	2124	394458.847	5398528.055	697.180	Cradle Mtn Link Rd Nth side
95AGS-T2	2263+20	399741.653	5399461.835	735.659	Cradle Mtn Link Rd Sth side
95AGS-T2	2354	403102.386	5400544.088	712.335	Cradle Mtn Link Rd Sth side
95AGS-T2	2492+5	406473.974	5398486.892	794.999	Cradle Mtn Link Rd Sth side
95AGS-T2	2625+5	411239.646	5398646.365	830.699	Cradle Mtn Link Rd Sth side
95AGS-T2	2749+23	415595.585	5400183.144	762.595	Cradle Mtn Rd Nth side
95AGS-T2	2875+30	420373.654	5399498.727	746.588	Cradle Mtn Rd Sth side
95AGS-T2	2912+9	421633.906	5399136.625	772.089	EOL Post Office Tree Corner Sth side

AGSU
AMG AGD66 AHD
MATHINNA
40

95AGS-T3
UTM projection
DSS

APRIL 1995
55 CM=147
DYNAMIC SATELLITE SURVEYS

Line name	Stn No.	Easting	Northing	Elevation	Cde	Comments
95AGS-T3	3000	561578.809	5411709.528	365.638	EOL	Int. Upper Esk Rd and Roses Tier Rd.
95AGS-T3	3122	565485.400	5410437.137	313.851		North side Upper Esk Rd.
95AGS-T3	3253	569915.834	5408365.782	293.637		South side Upper Esk Rd.
95AGS-T3	3380	574881.737	5408370.490	280.032		South side Mathinna Rd.
95AGS-T3	3500	579483.871	5407451.491	266.604		South side Mathinna Rd.
95AGS-T3	3552	581412.069	5407538.952	263.140		East side Hogans Rd.
95AGS-T3	3646PM	584267.290	5409377.683	388.020	EOL	Int. Hogans Rd and Sugarloaf Rd

AGSO
AMG AGD66 AHD
ROSS-WOODBURY STOCK ROUTE
40

95AGS-T4
UTM projection
DSS

APRIL 1995
55 CM=147
DYNAMIC SATELLITE SURVEYS

Line name	Stn No.	Easting	Northing	Elevation	Cde	Comments
95AGS-T4	4000	528735.224	5346282.289	237.943	00	EOL Fence
95AGS-T4	4125	529254.516	5341389.462	237.785	00	Fence
95AGS-T4	4249	530477.983	5336624.325	223.016	00	Fence Nth side Tunbridge - Tier Rd
95AGS-T4	4377+8	531878.979	5331854.494	239.493	00	Fence
95AGS-T4	4408	532165.905	5330670.905	245.023	00	EOL Fence North side Midlands Highway

AGSO
AMG AGD84 AHD
OUSE
40

95AGS-T5
UTM projection
DSS

APRIL 1995
55 CM=147
DYNAMIC SATELLITE SURVEYS

Line name	Stn No.	Easting	Northing	Elevation	Cde	Comments
95AGS-T5	5000	477991.656	5306493.151	208.257	00	EOL PM is on fence west side of road
95AGS-T5	5120	479618.828	5302256.205	142.609	00	EOL PM is on fence east side of road

APPENDIX D

Survey Line Lengths

Line Totals

<u>LINE</u>	<u>SOL</u>	<u>EOL</u>	<u>INTERVAL</u>	<u>TOTAL</u>
95AGS-T1	1000	2230	40m	49.200km
95AGS-T2	2000	2912	40m	36.480km
95AGS-T3	3000	3646	40m	25.840km
95AGS-T4	4000	4408	40m	16.320km
95AGS-T5	5000	5120	40m	4.800km
				132.640km

APPENDIX E

Photographs



PHOTO 1

Cradle Mountain Trig Point (The lengths we go to for good control...)



PHOTO 2

Portable GPS on 95AGS-T3 across paddocks

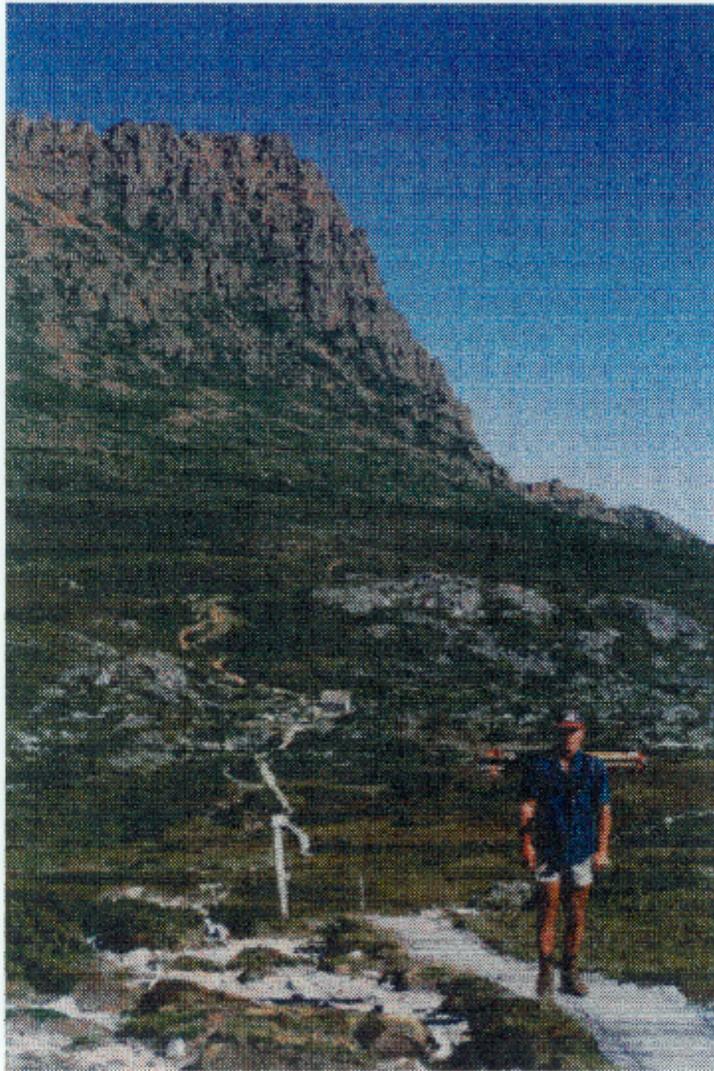


PHOTO 3

Backpacking Equipment to the top of Cradle Mountain

Cradle Mountain, Tasmania - Control for 2000-2001

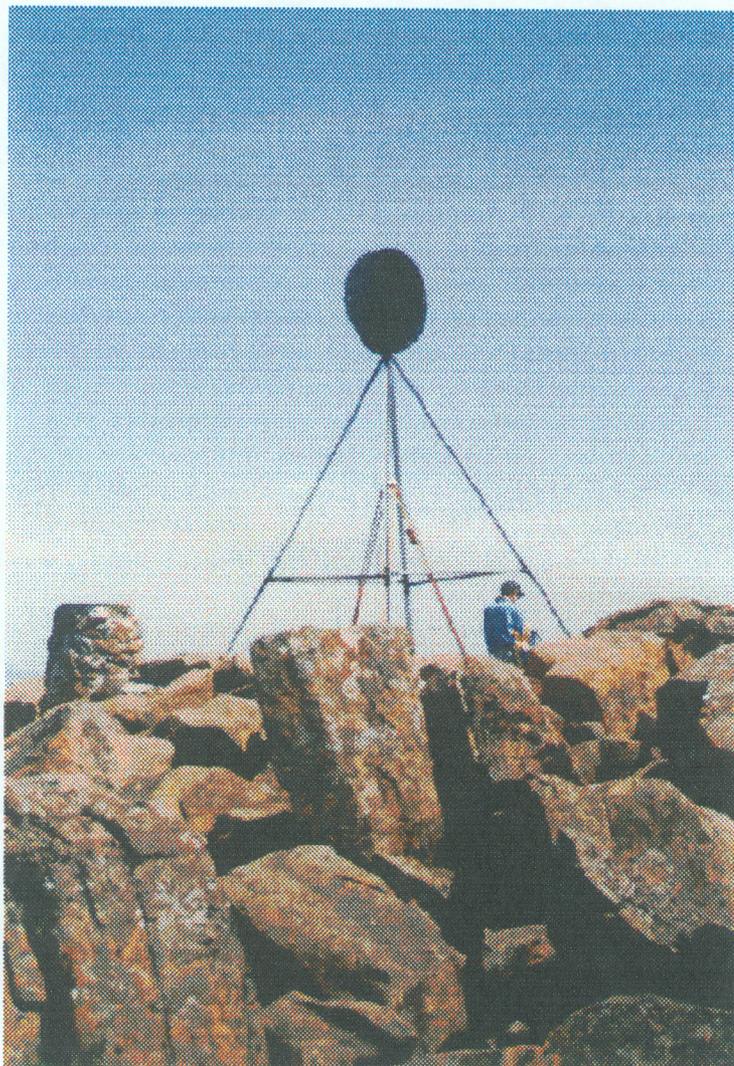


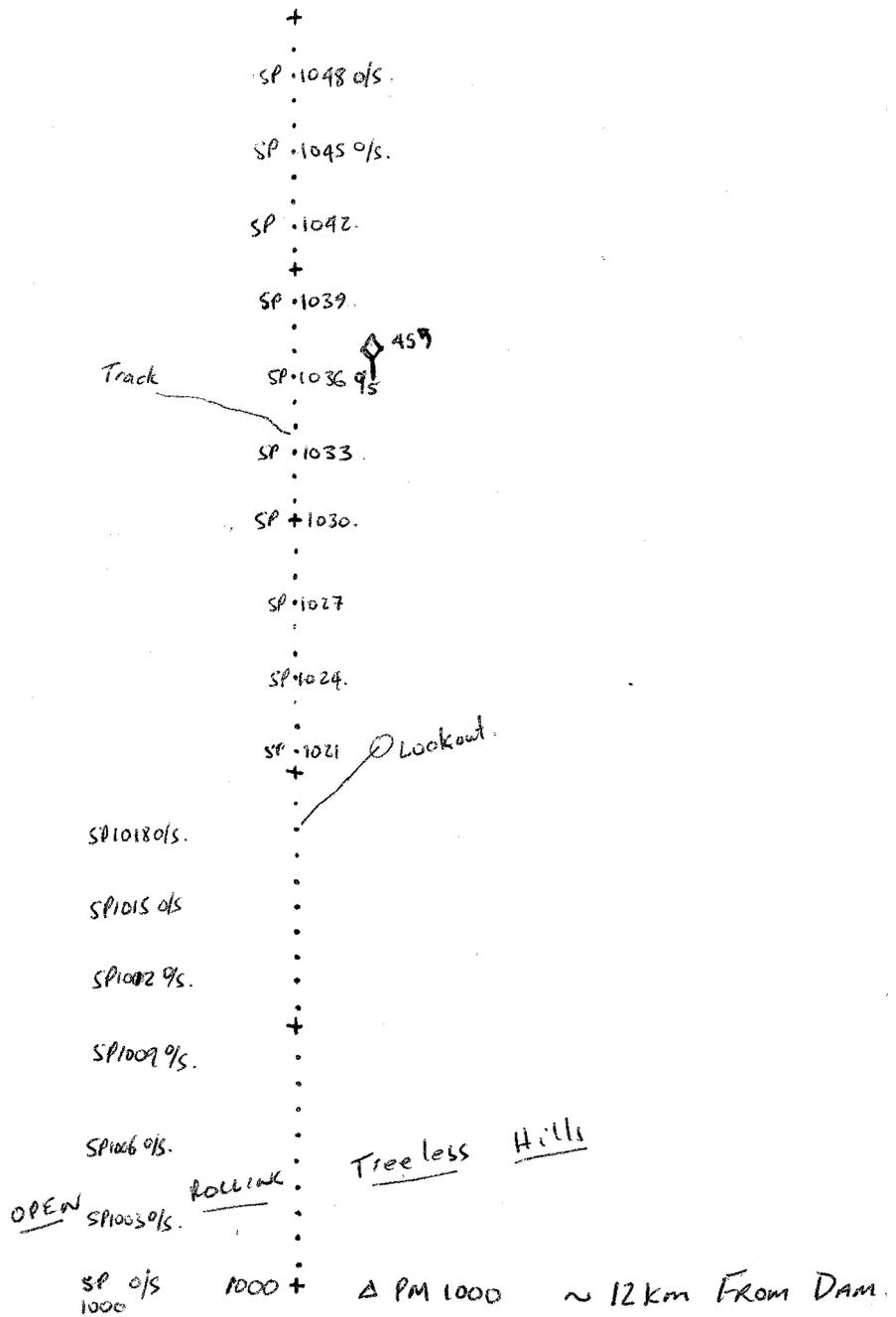
PHOTO 4

Cradle Mountain Trig Point - Control for 95AGS-T2

AGSO SEISMIC ACCESS MAP

SURVEY: TASMANIA
LINE: 95AGS-T 1

YEAR: 1995
STATION RANGE: 1000 TO 1050



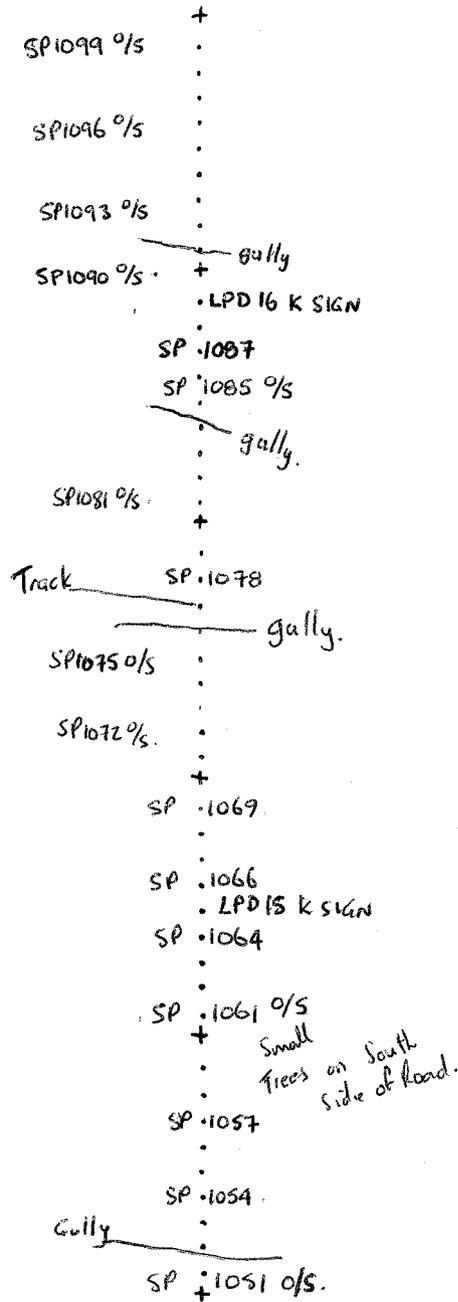
LINE FOLLOWS PIEMAN RD.
CHAINED ON SOUTH SIDE OF RD.

STATION INT = 40m

AGSO SEISMIC ACCESS MAP

SURVEY: TASMANIA
LINE: 95AGS-T1

YEAR: 1995
STATION RANGE: 1050 TO 1100



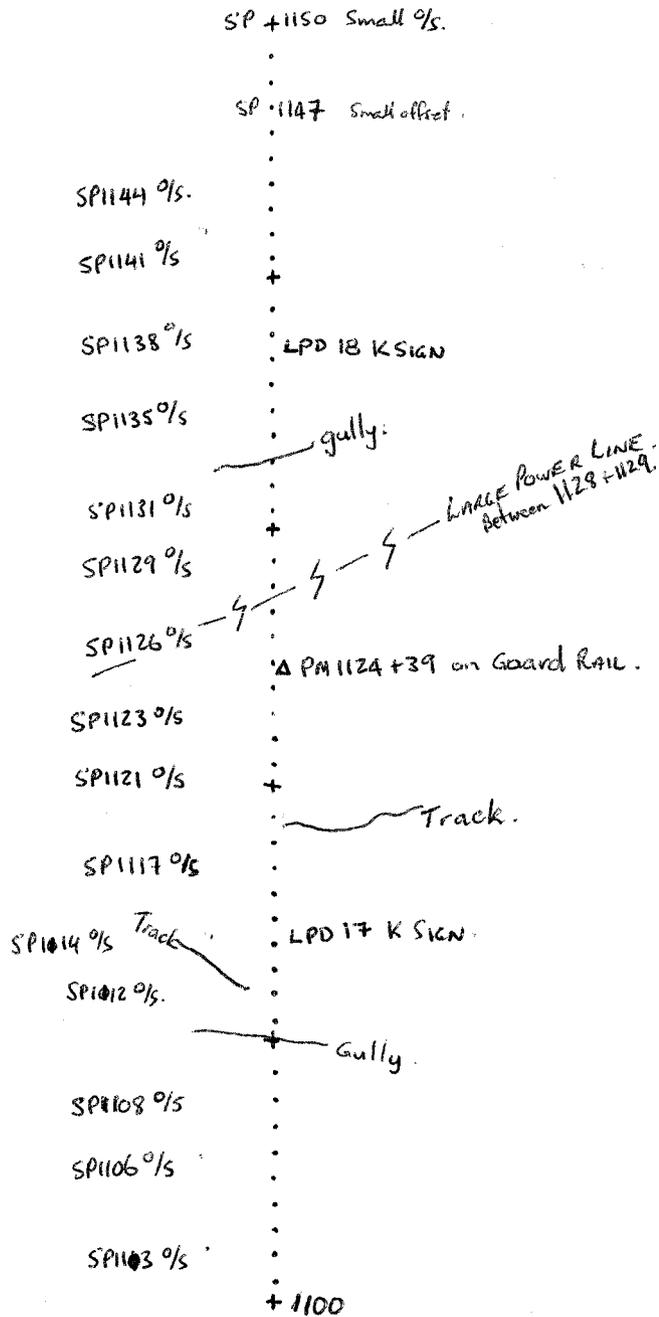
LINE FOLLOWS PIEMAN ROAD
CHAINED ON SOUTH SIDE OF ROAD

STATION INT=40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

YEAR : 1995
STATION RANGE : 1100 TO 1150



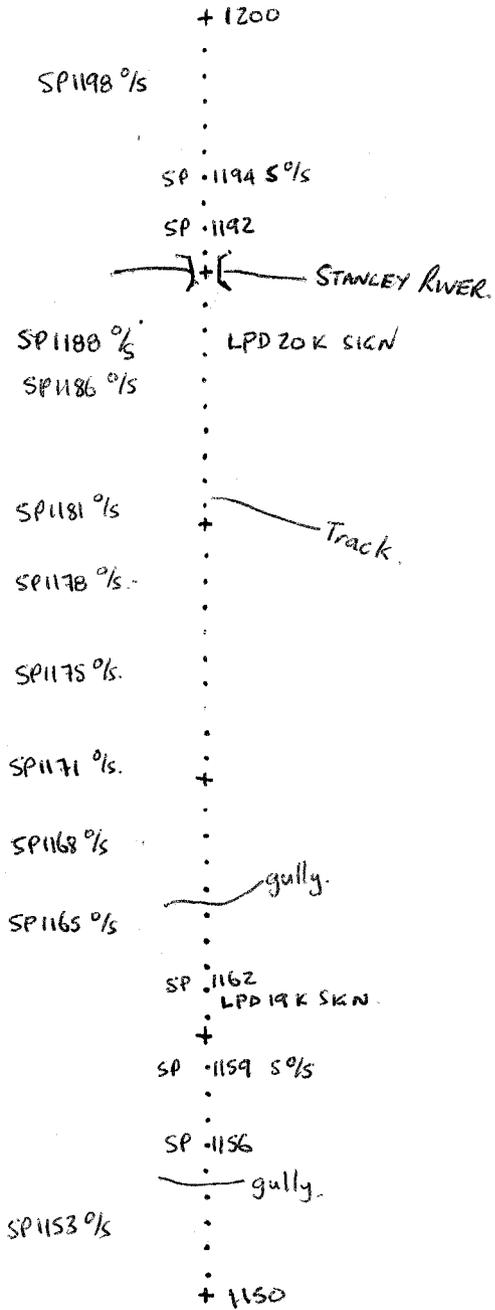
LINE FOLLOWS PIEMAN RD.
CHAINED ON SOUTH SIDE OF RD.

STATION INT - 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

YEAR : 1995
STATION RANGE : 1150 TO 1200



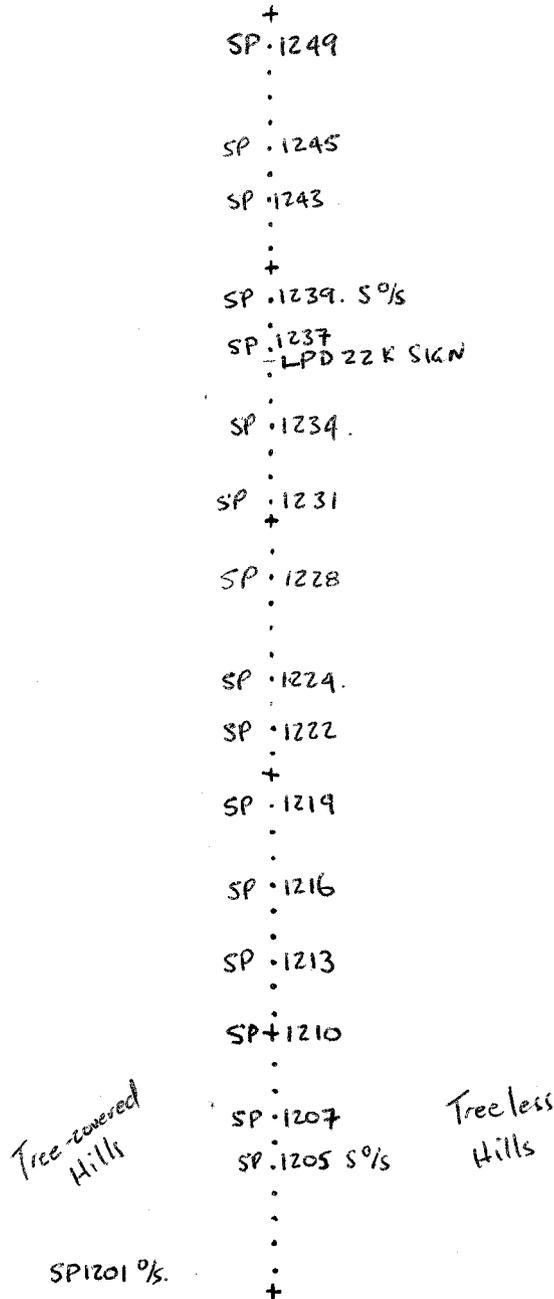
LINE FOLLOWS PIEMAN RD.
CHAINED ON SOUTH SIDE OF ROAD.

STATION INT = 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

YEAR : 1995
STATION RANGE : 1200 TO 1250



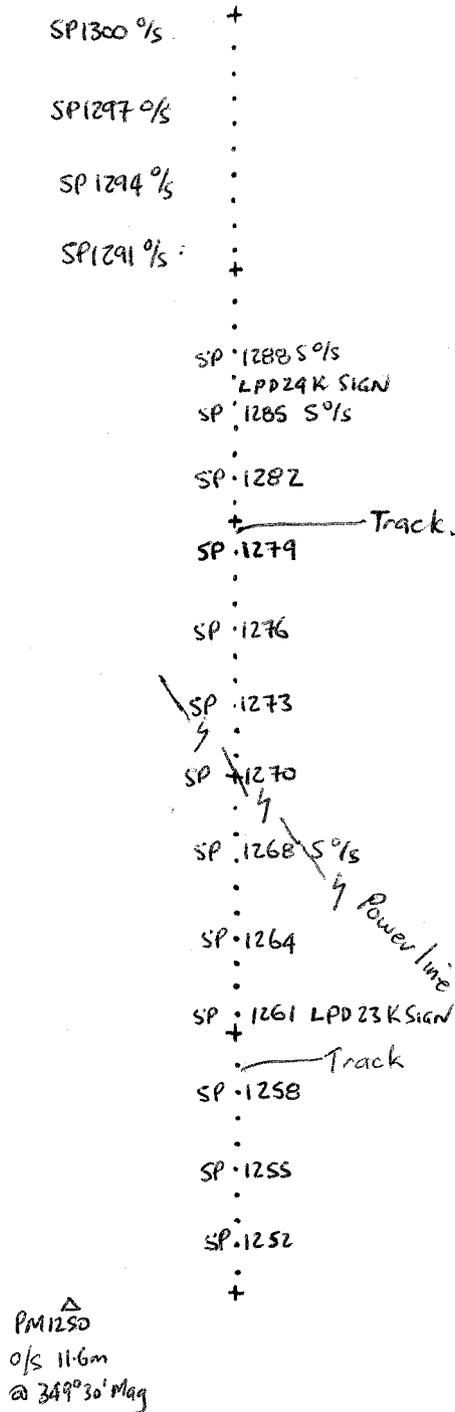
LINE FOLLOWS PIEMAN ROAD.
CHAINED ON SOUTH SIDE OF ROAD.

S^o/_s = Small offset.
STATION INT = 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T1

YEAR : 1995
 STATION RANGE : 1250 TO 1300



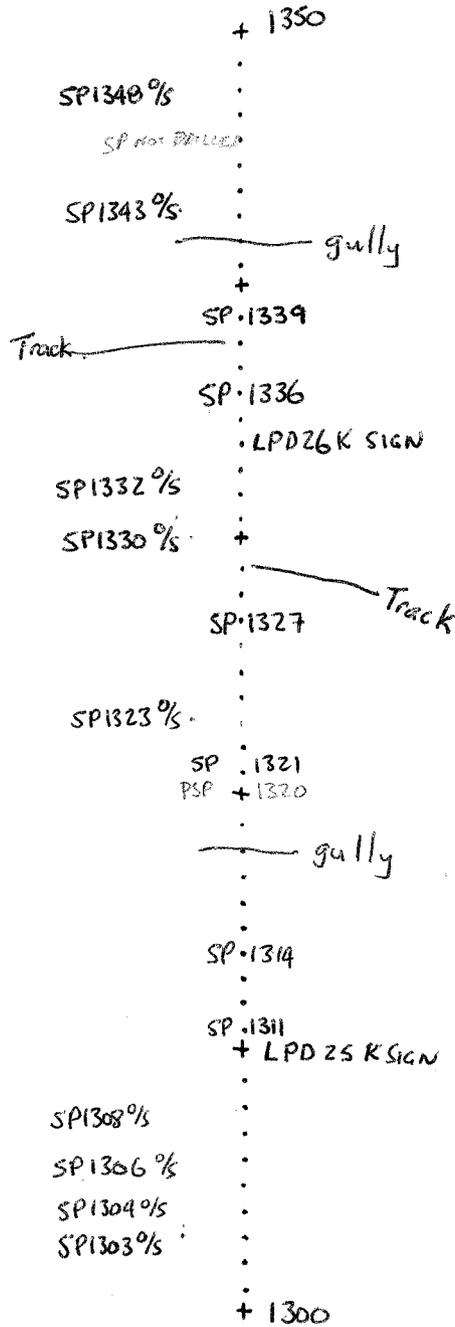
LINE FOLLOWS PIEMAN ROAD
 CHAINED ON SOUTH SIDE OF ROAD

S o/s = Small offset.
 STATION INT = 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-TI

YEAR : 1995
STATION RANGE : 1300 TO 1350



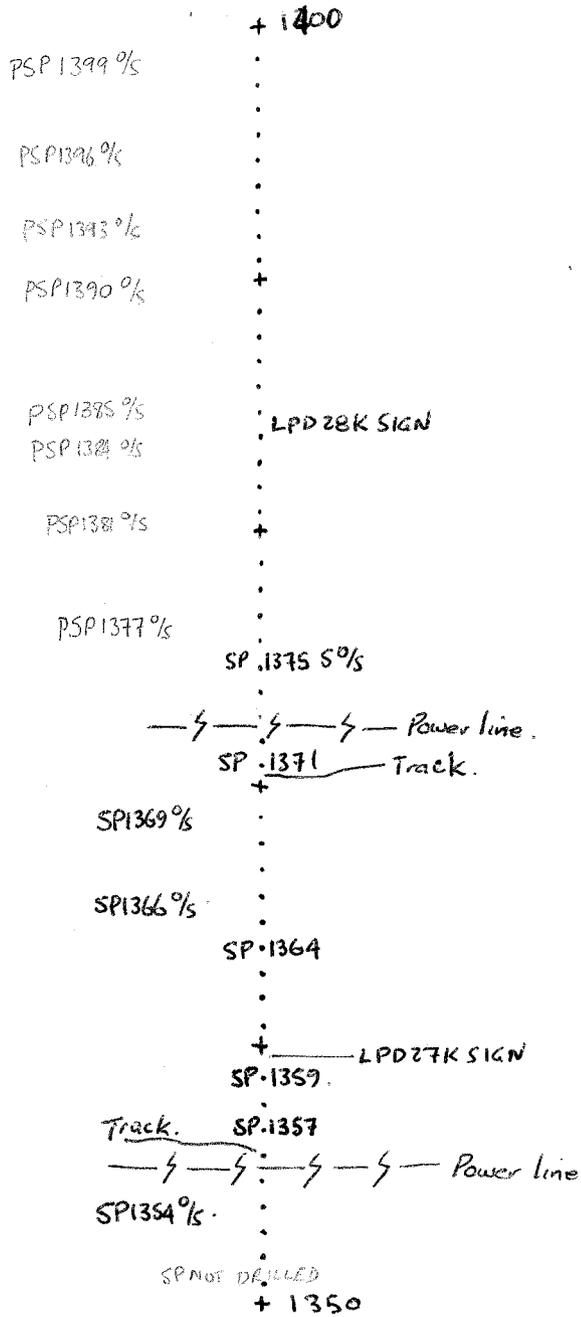
LINE FOLLOWS PIEMAN ROAD
CHAINED ON THE SOUTH SIDE OF ROAD.

STATION INT = 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T1

YEAR : 1995
 STATION RANGE : 1350 TO 1400



LINE FOLLOWS PIEMAN ROAD
 CHAINED ON SOUTH SIDE OF ROAD

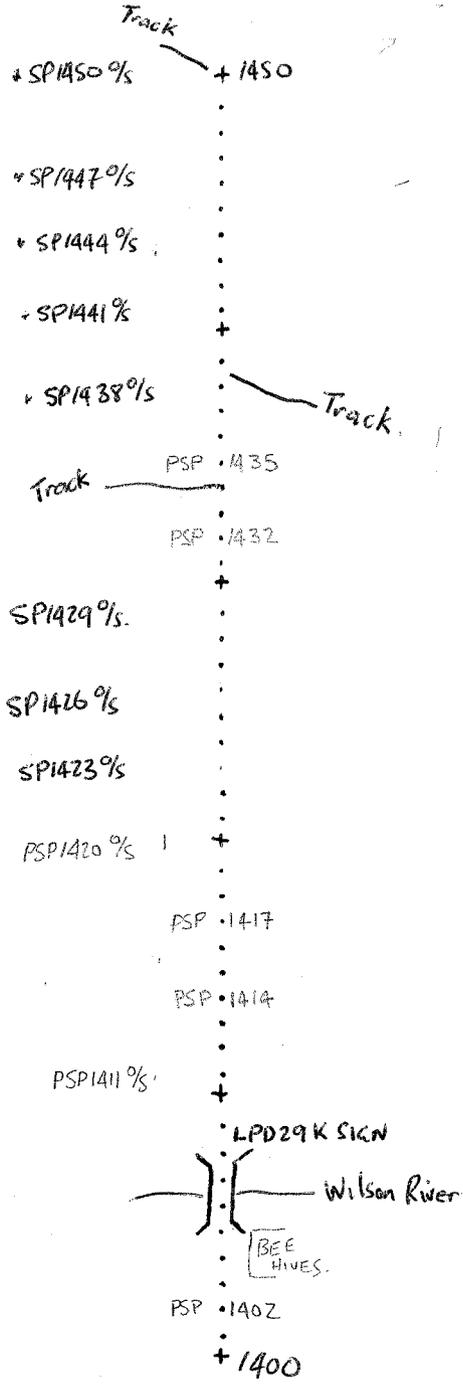
S°S = small offset

STATION INT = 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

YEAR : 1995
STATION RANGE : 1400 TO 1450



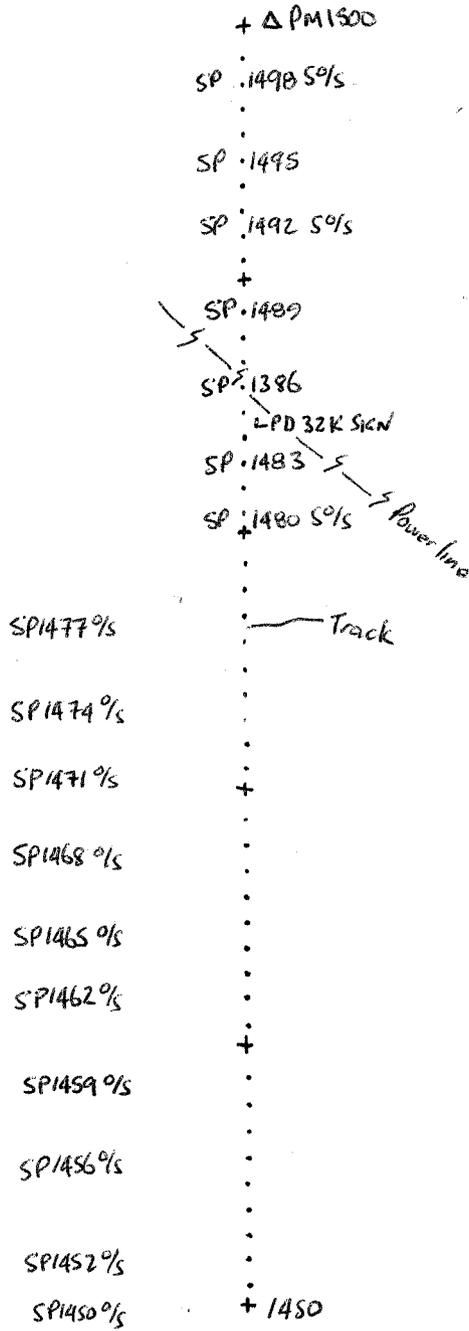
LINE FOLLOWS PIEMAN ROAD
CHAINED ON SOUTH SIDE OF ROAD

STATION INT - 40m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T1

YEAR : 1995
 STATION RANGE : 1450 TO 1500



LINE FOLLOWS PIEMAN ROAD
 CHAINED ON SOUTH SIDE OF ROAD

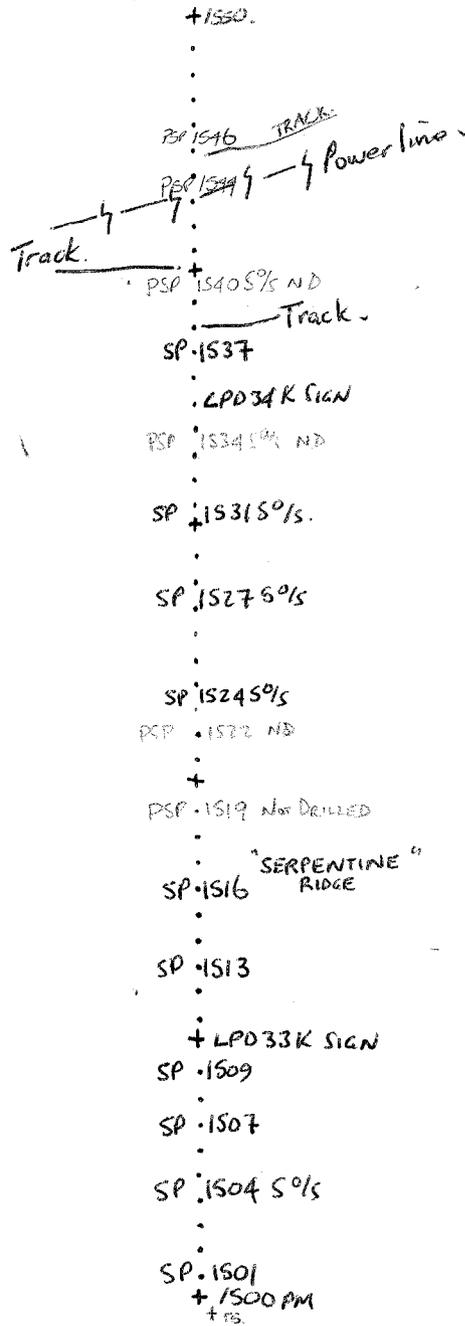
S% = Small offset

STATION INT = 40 m

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T1

YEAR : 1995
 STATION RANGE : 1500 TO 1550



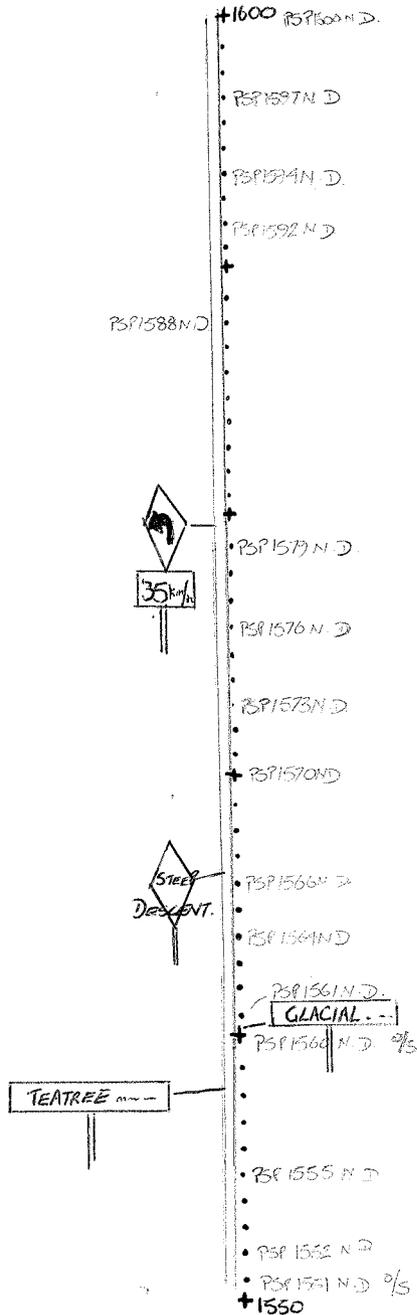
LINE FOLLOWS PIEMAN ROAD
 CHAINED ON SOUTH SIDE OF ROAD

S/S = Small Offset

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

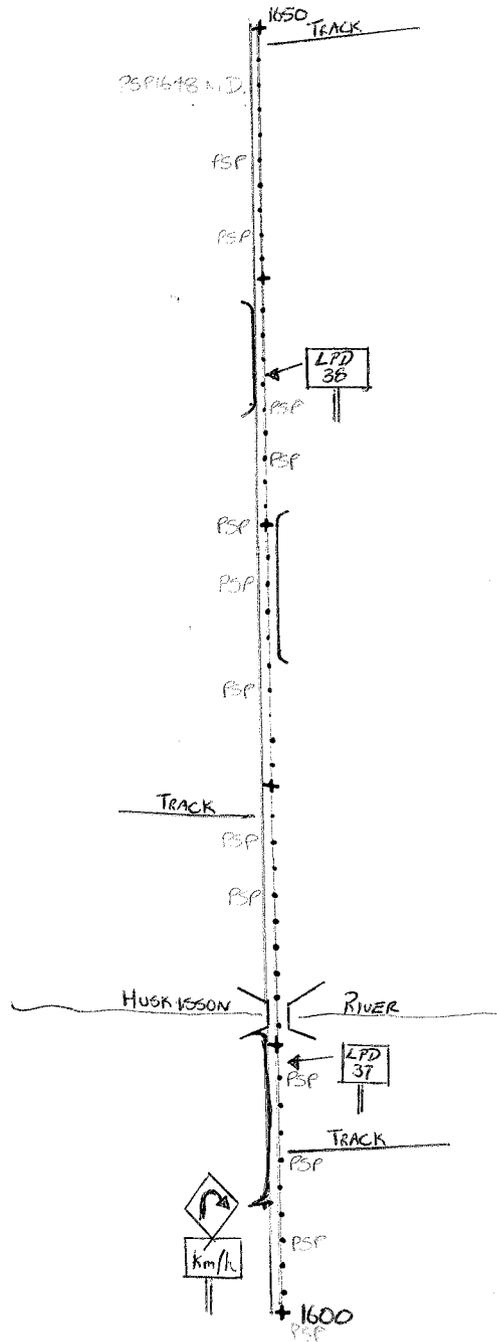
YEAR : 1995
STATION RANGE : 1550 TO 1600



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

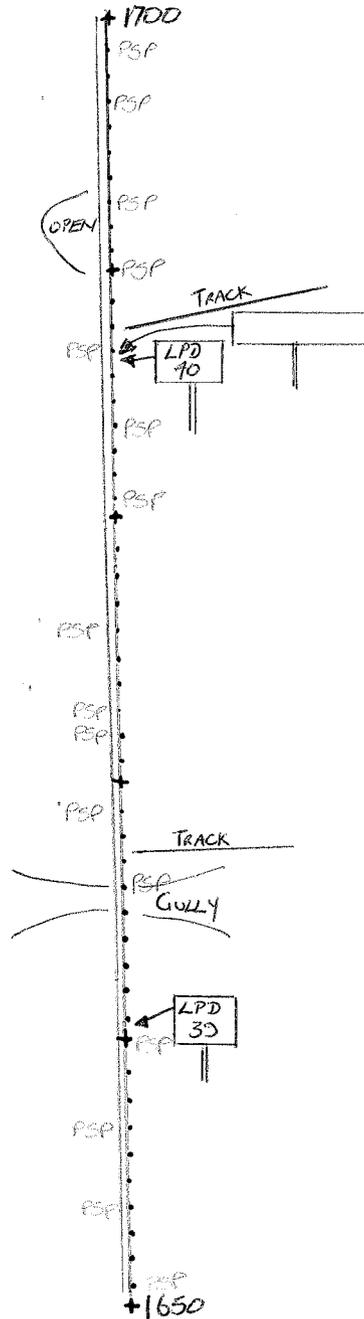
YEAR : 1995
STATION RANGE : 1600 TO 1650



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

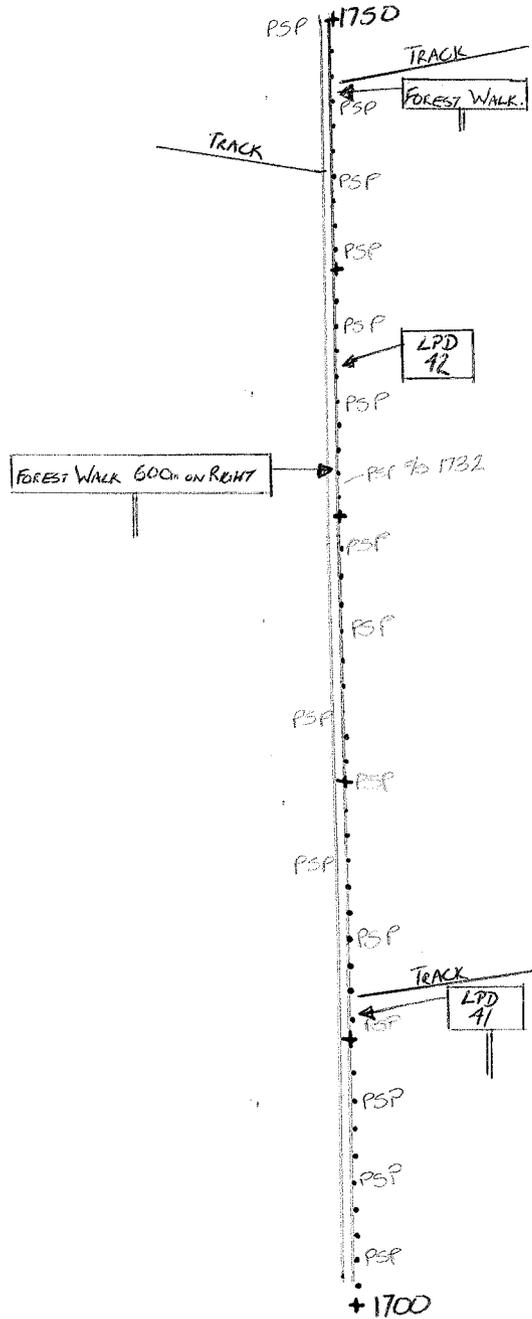
YEAR : 1995
STATION RANGE : 1650 TO 1700



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

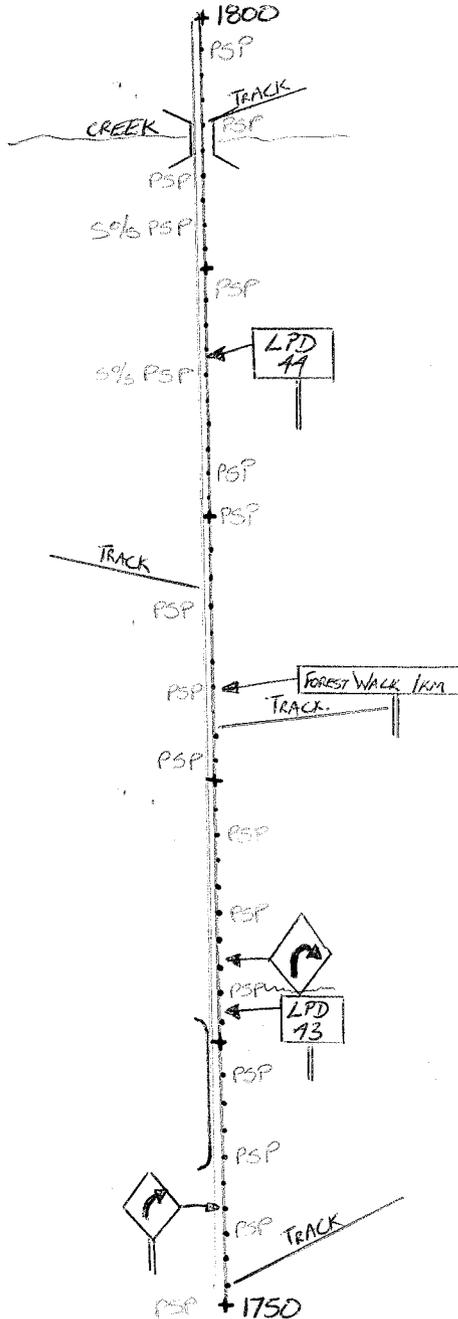
YEAR : 1995
STATION RANGE : 1700 TO 1750



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

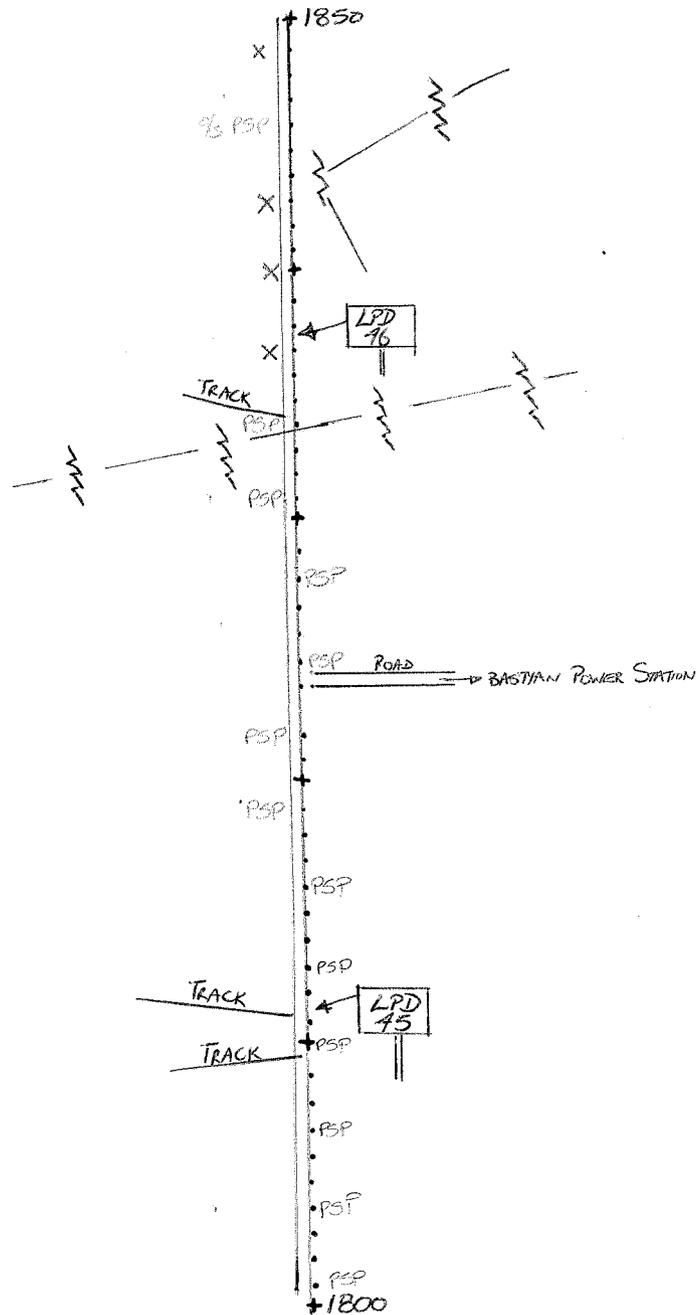
YEAR : 1995
STATION RANGE : 1750 TO 1800



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

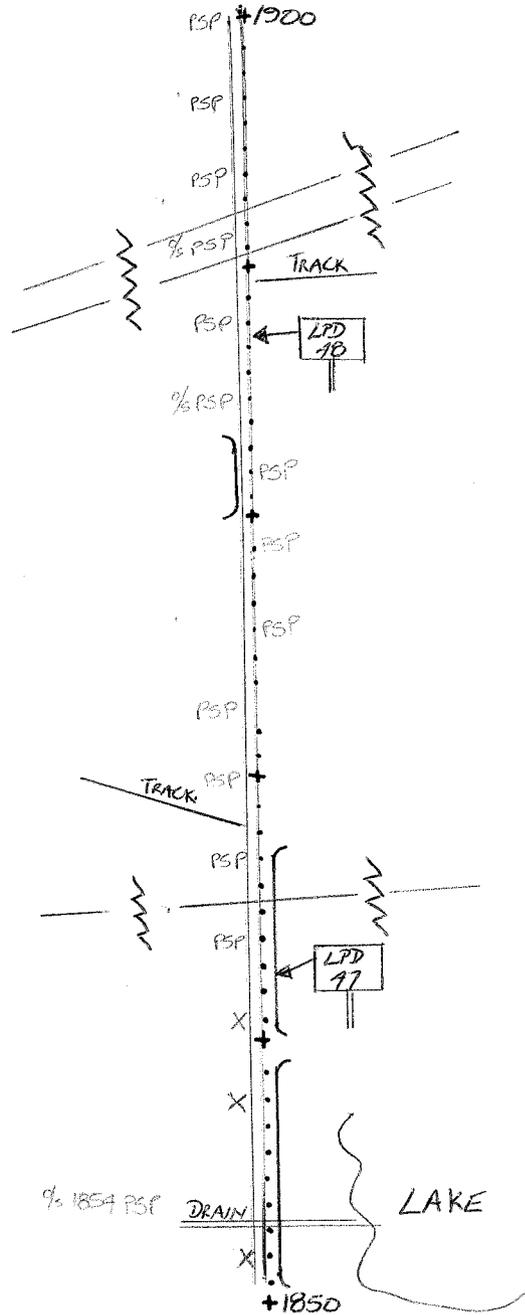
YEAR : 1995
STATION RANGE : 1800 TO 1850



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

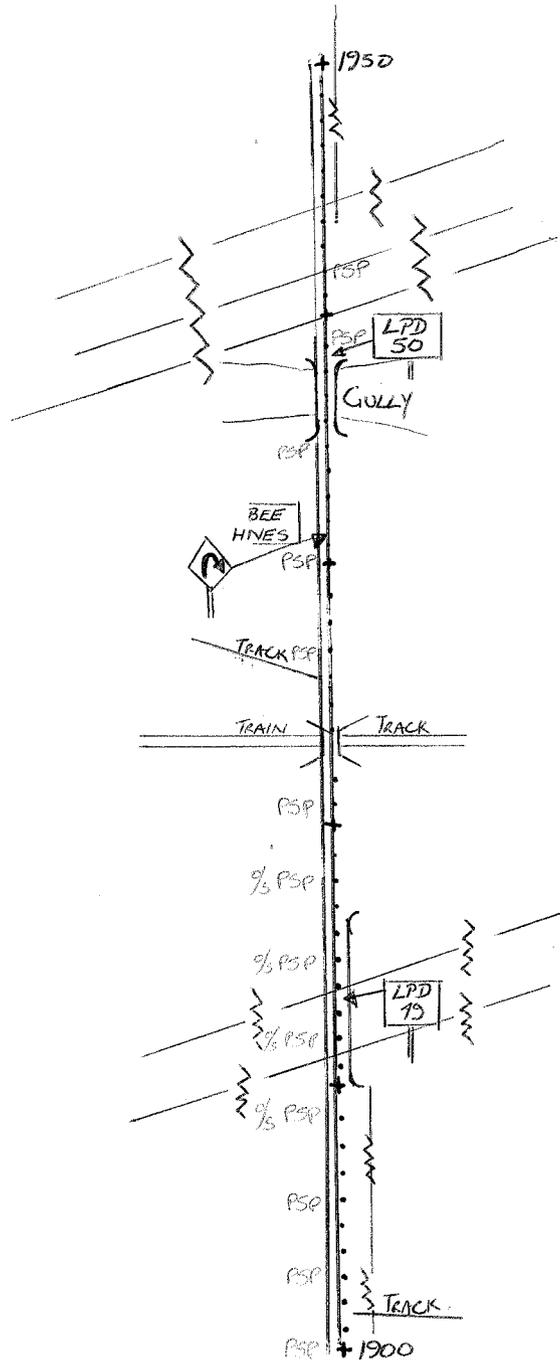
YEAR : 1995
STATION RANGE : 1850 TO 1900



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

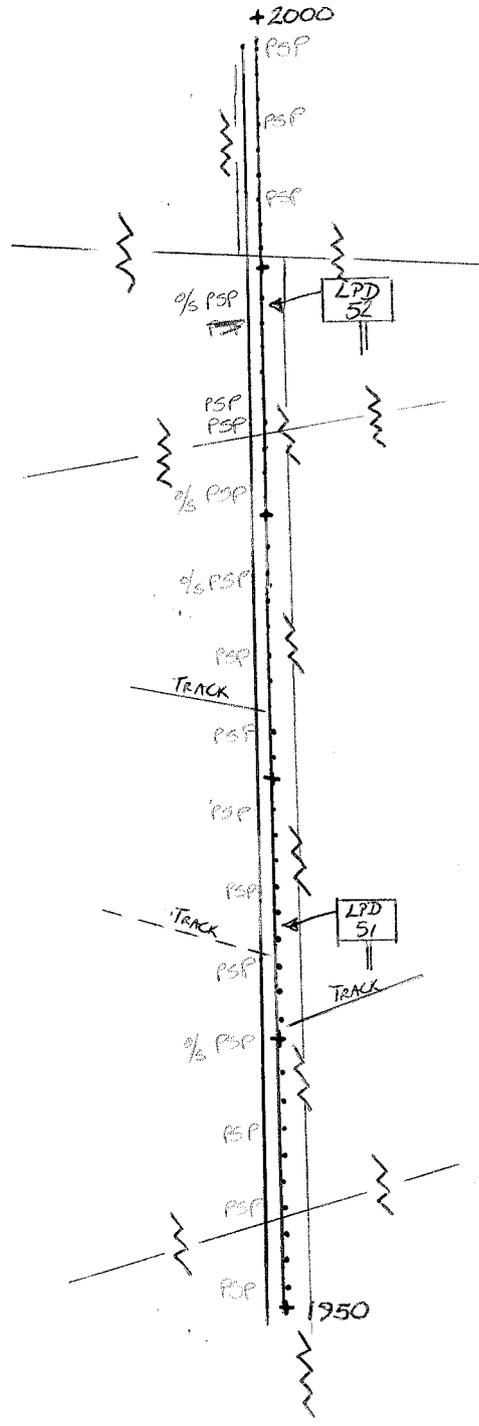
YEAR : 1995
STATION RANGE : 1900 TO 1950



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

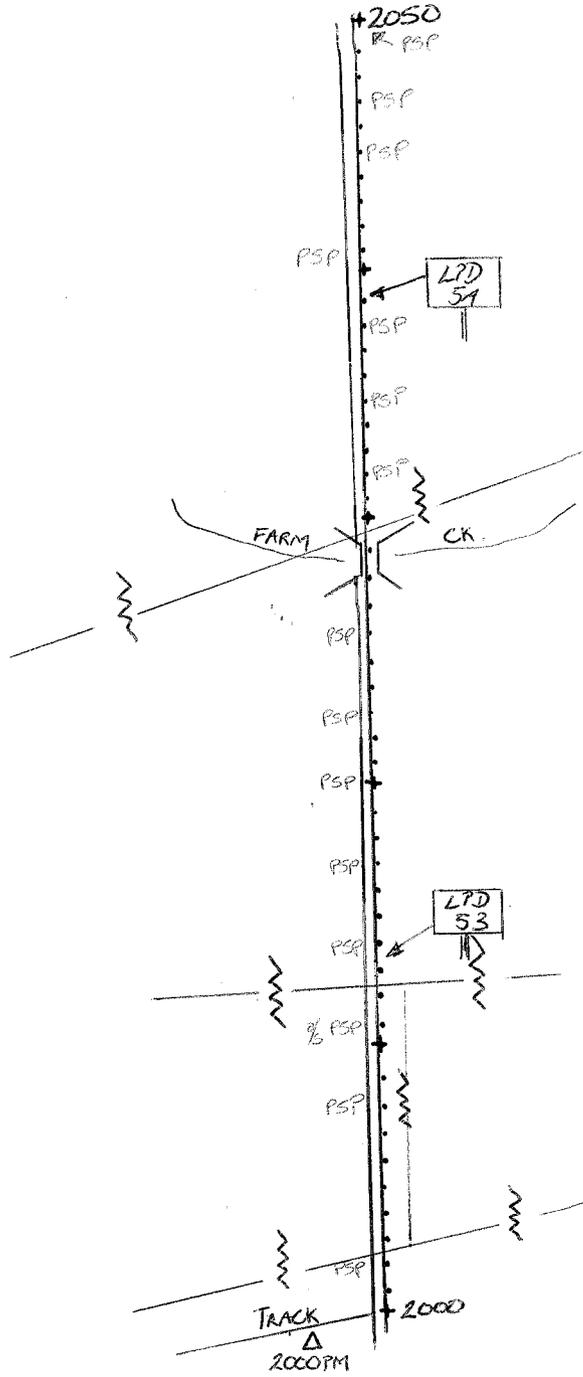
YEAR : 1995
STATION RANGE : 1950 TO 2000



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

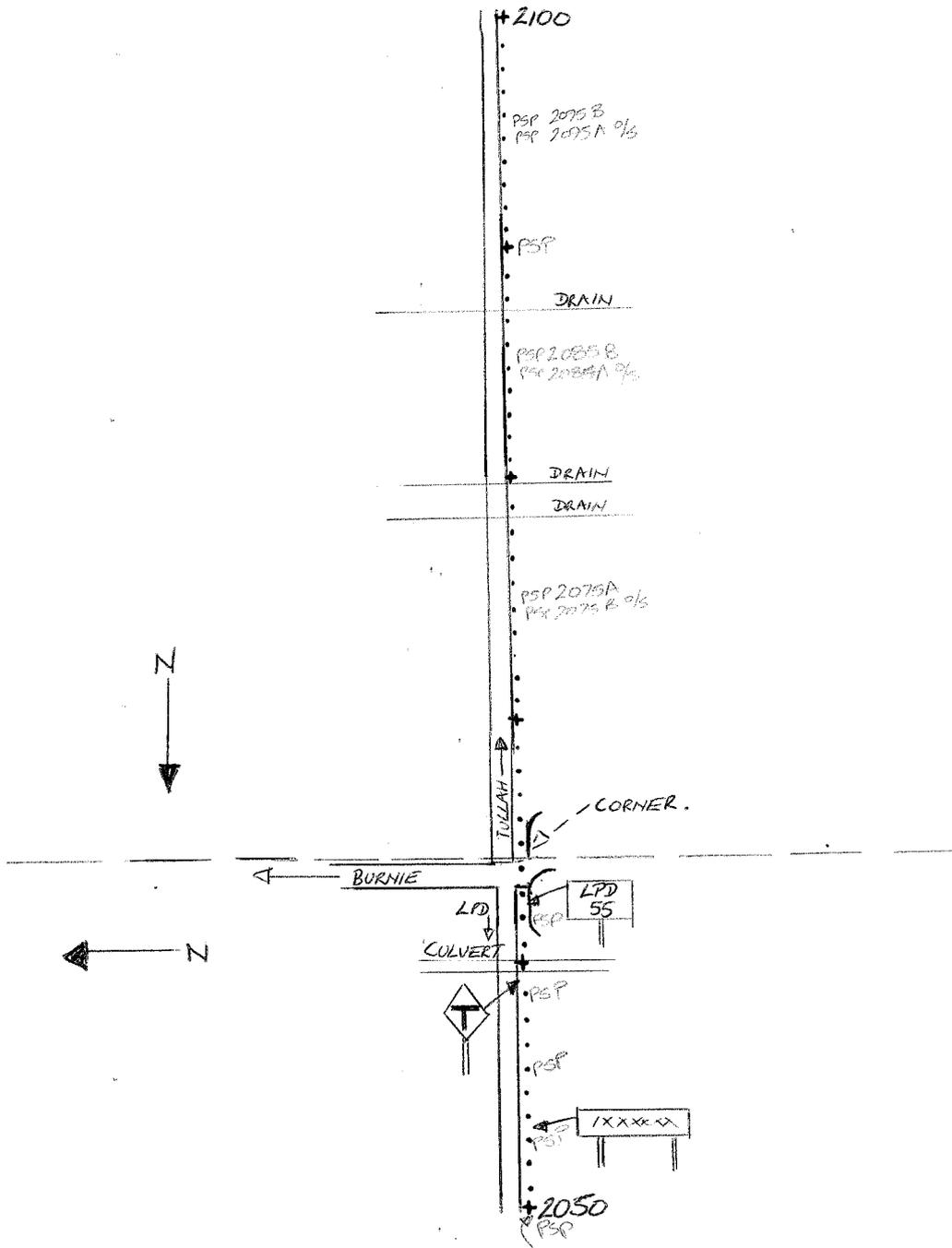
YEAR : 1995
STATION RANGE : 2000 TO 2050



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T1

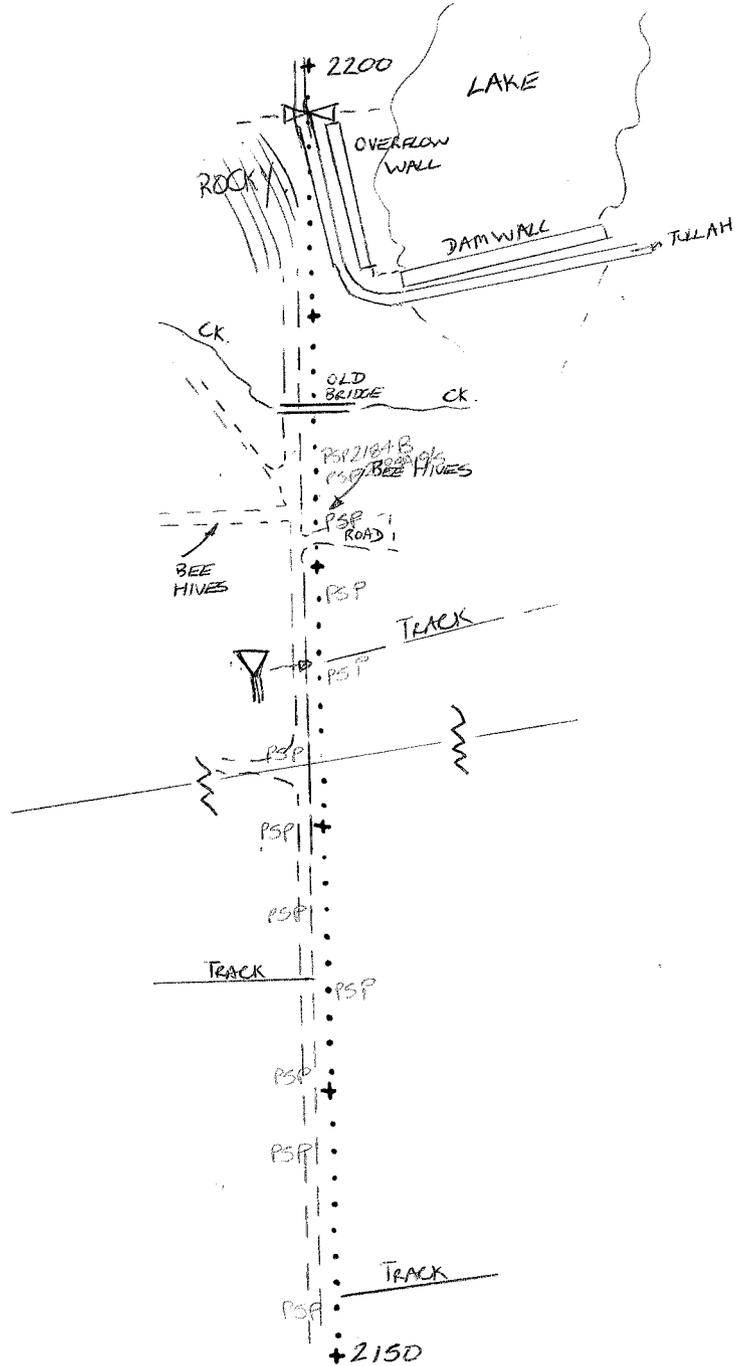
YEAR : 1995
STATION RANGE : 2050 TO 2100



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T/

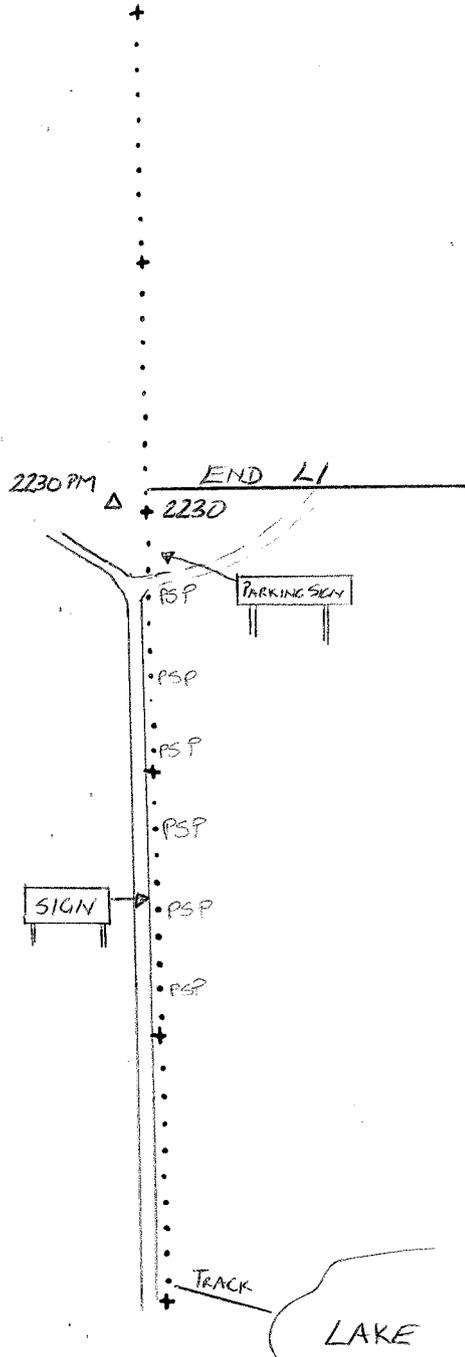
YEAR : 1995
STATION RANGE : 2150 TO 2200



AGSO SEISMIC ACCESS MAP

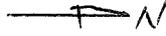
SURVEY : TASMANIA
LINE : 95AGS-T/

YEAR : 1995
STATION RANGE : 2200 TO 2230

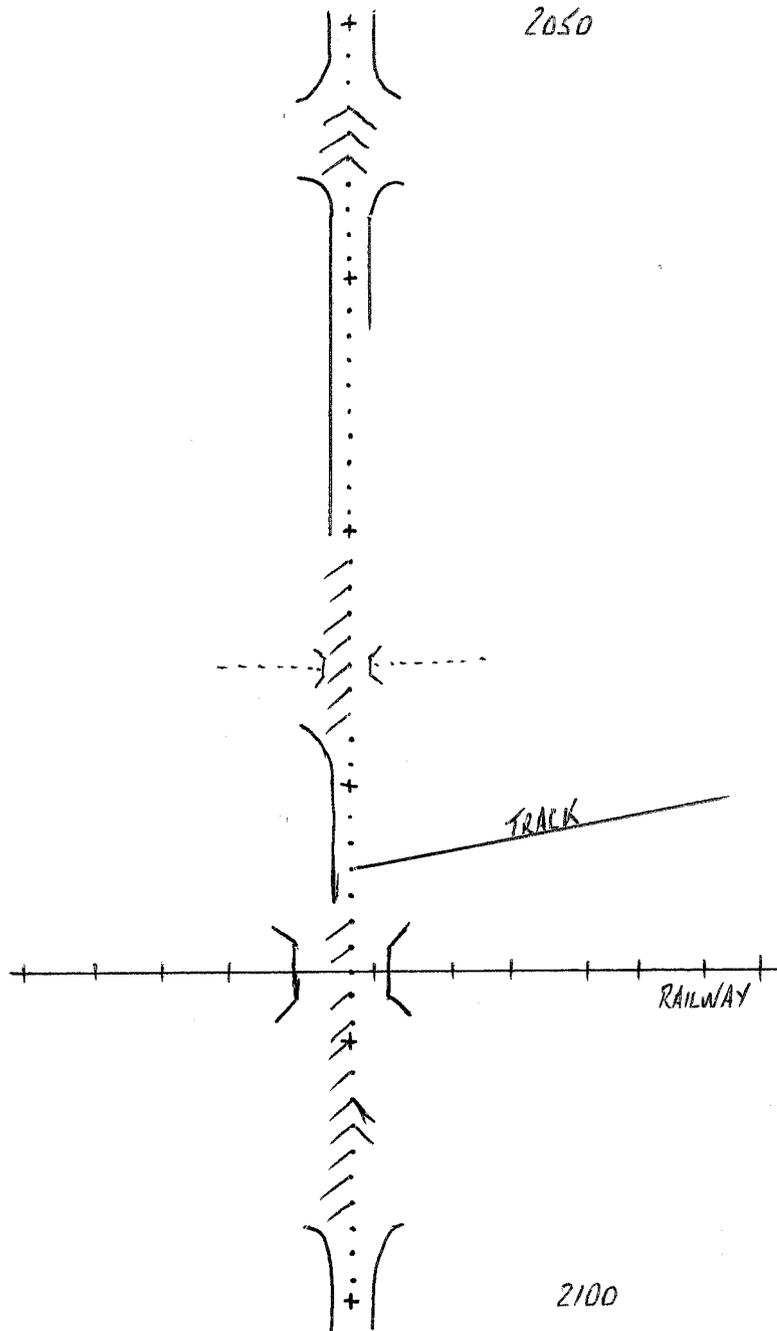


AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2



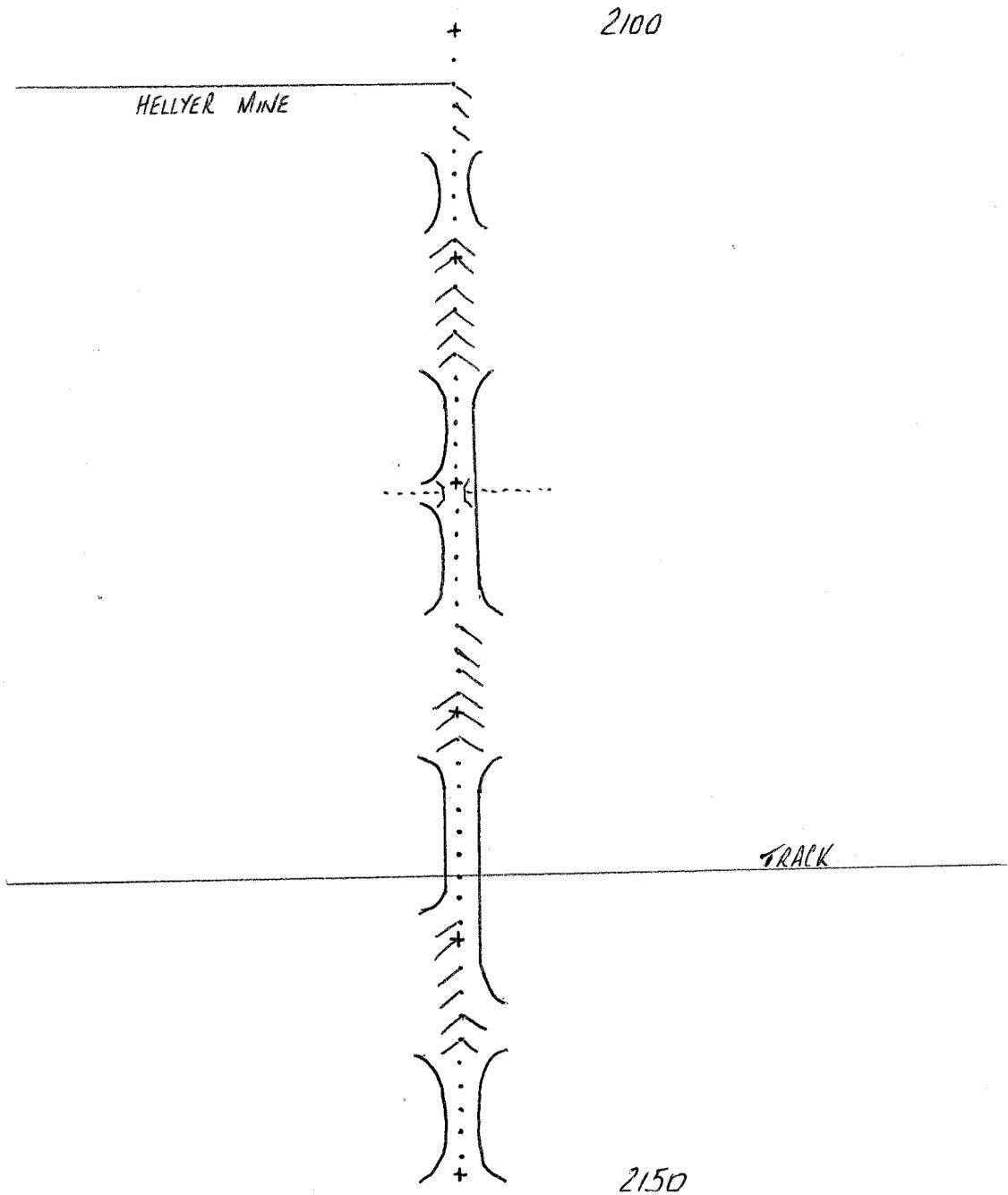
YEAR : 1995
STATION RANGE : 2050 TO 2100



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

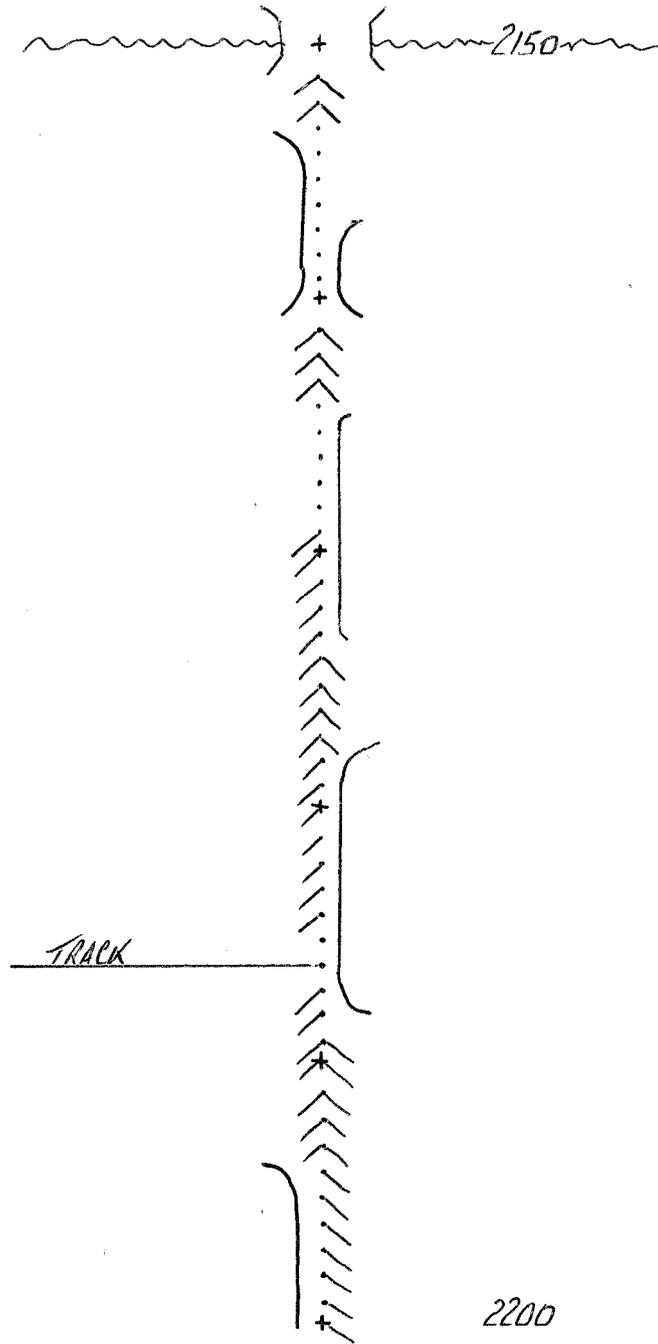
YEAR : 1995
STATION RANGE : 200 TO 2150



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

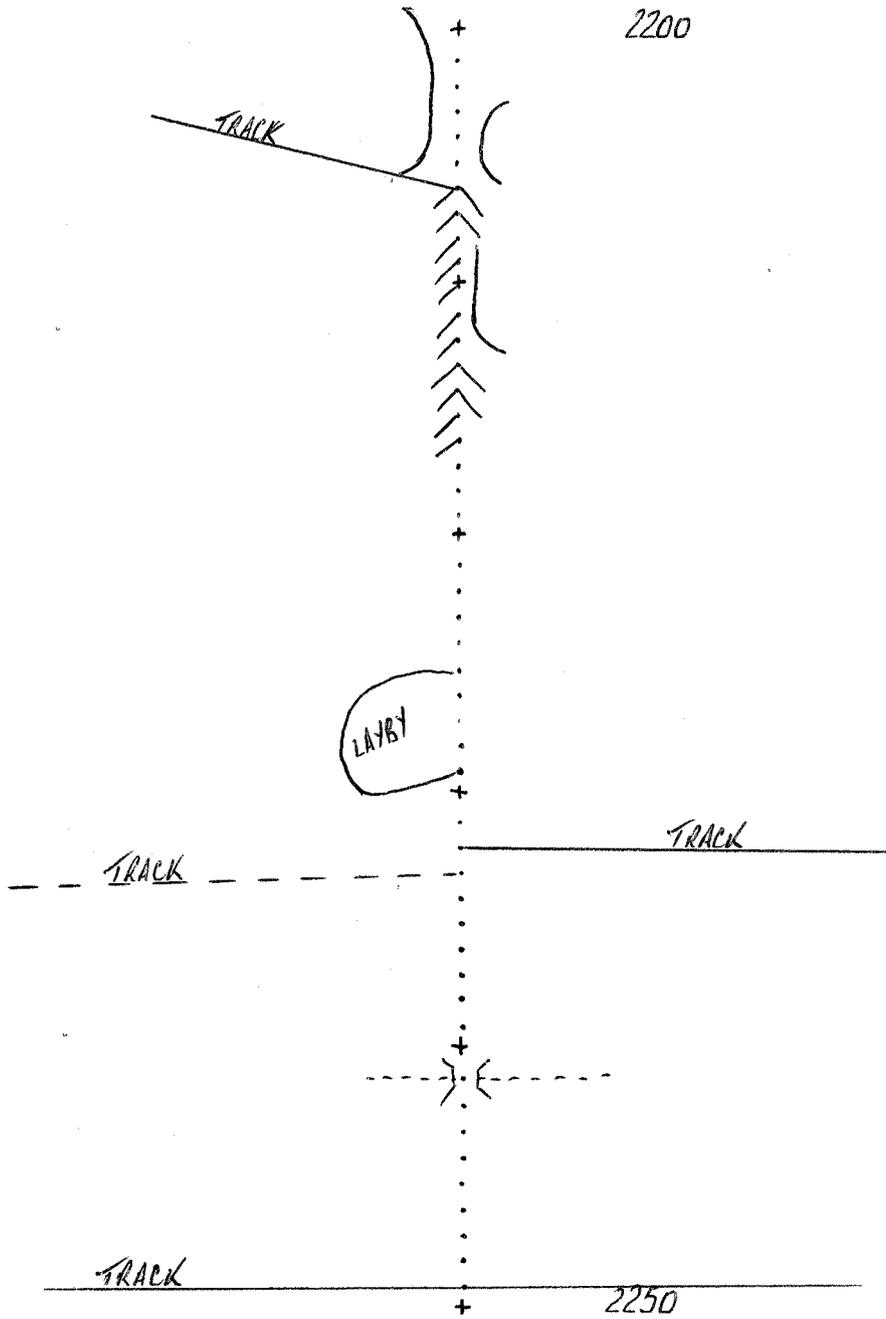
YEAR : 1995
STATION RANGE : 2150 TO 2200



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

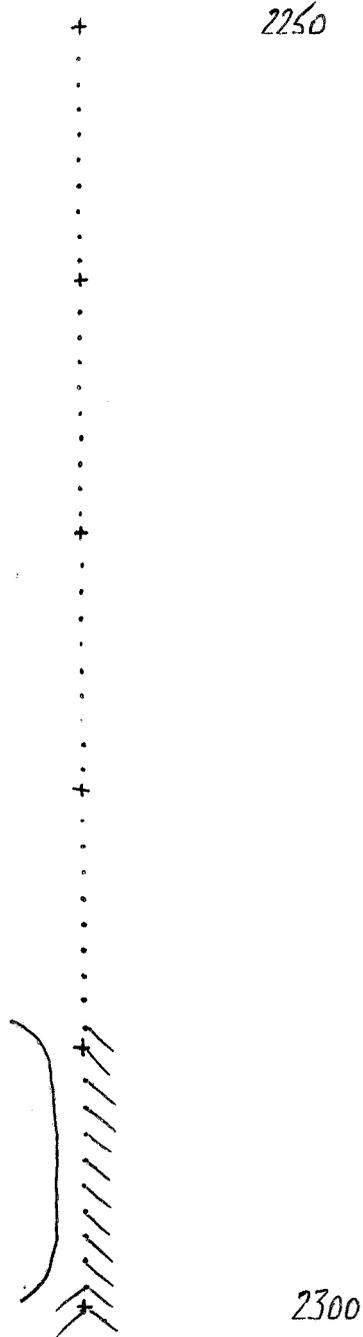
YEAR : 1995
STATION RANGE : 2200 TO 2250



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

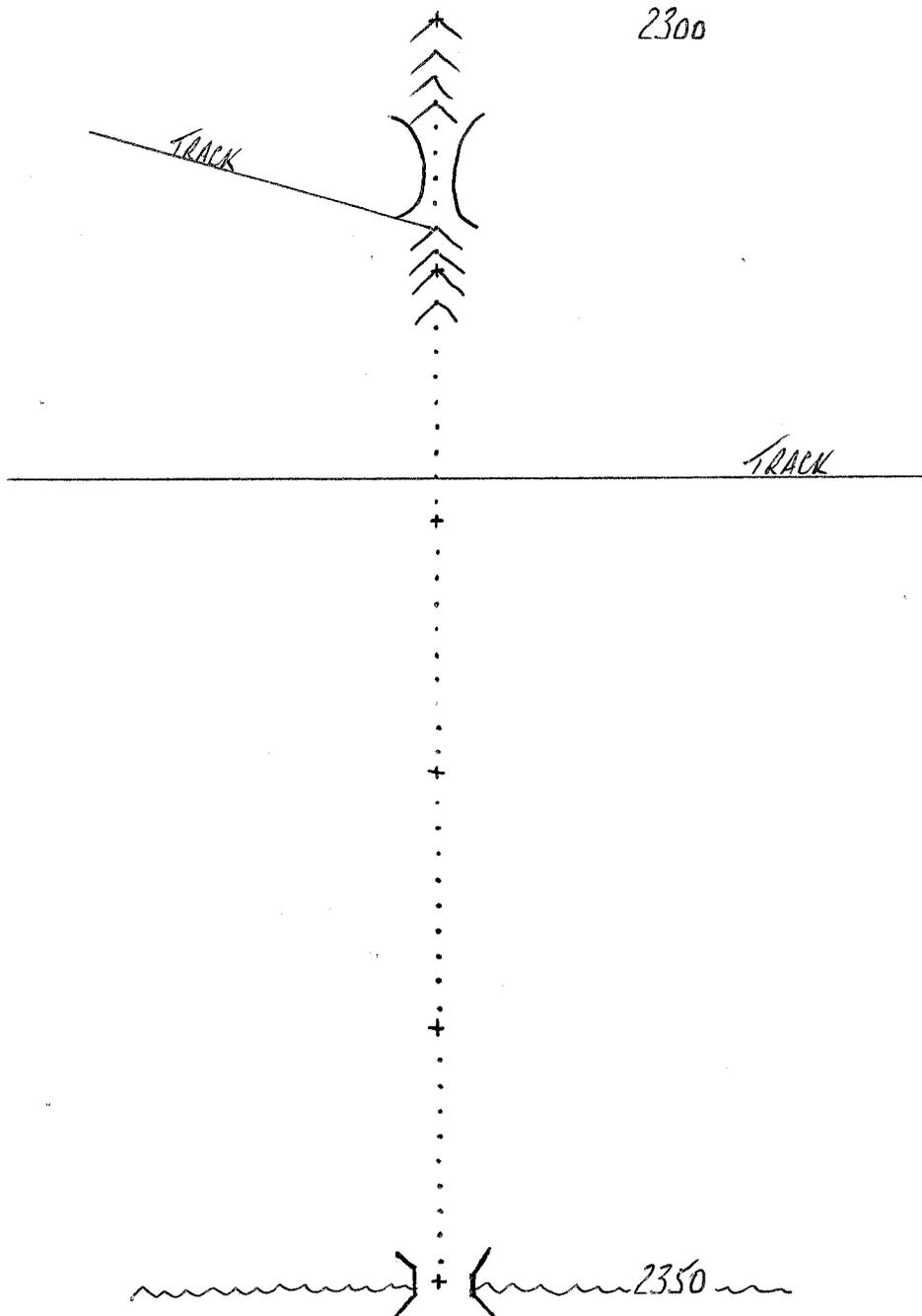
YEAR : 1995
STATION RANGE : 2250 TO 2300



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

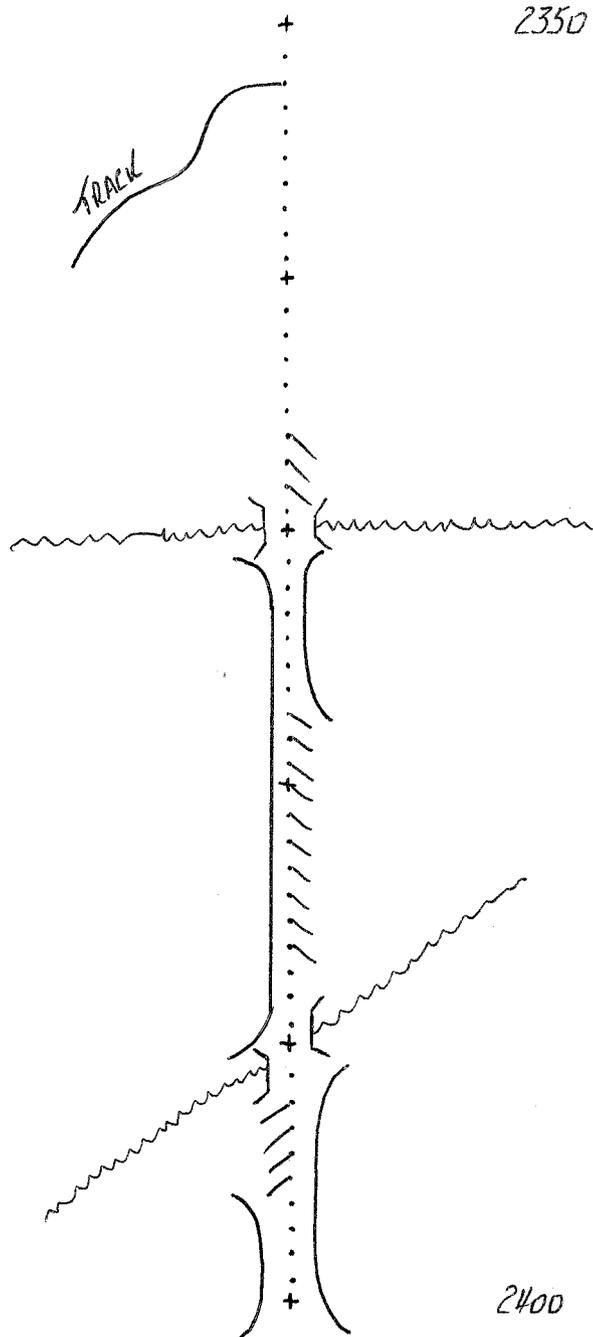
YEAR : 1995
STATION RANGE : 2300 TO 2350



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

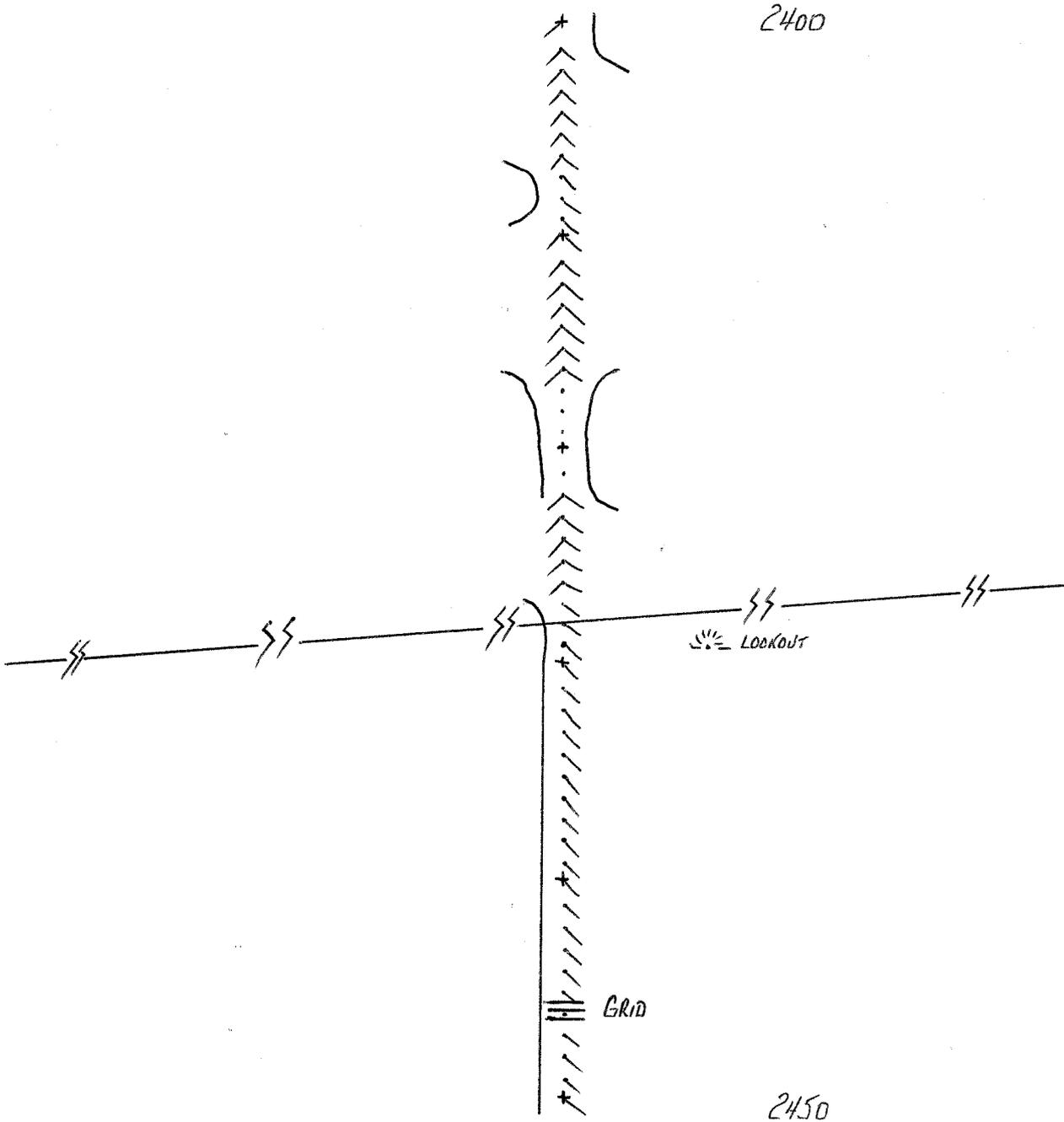
YEAR : 1995
STATION RANGE : 2350 TO 2400



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

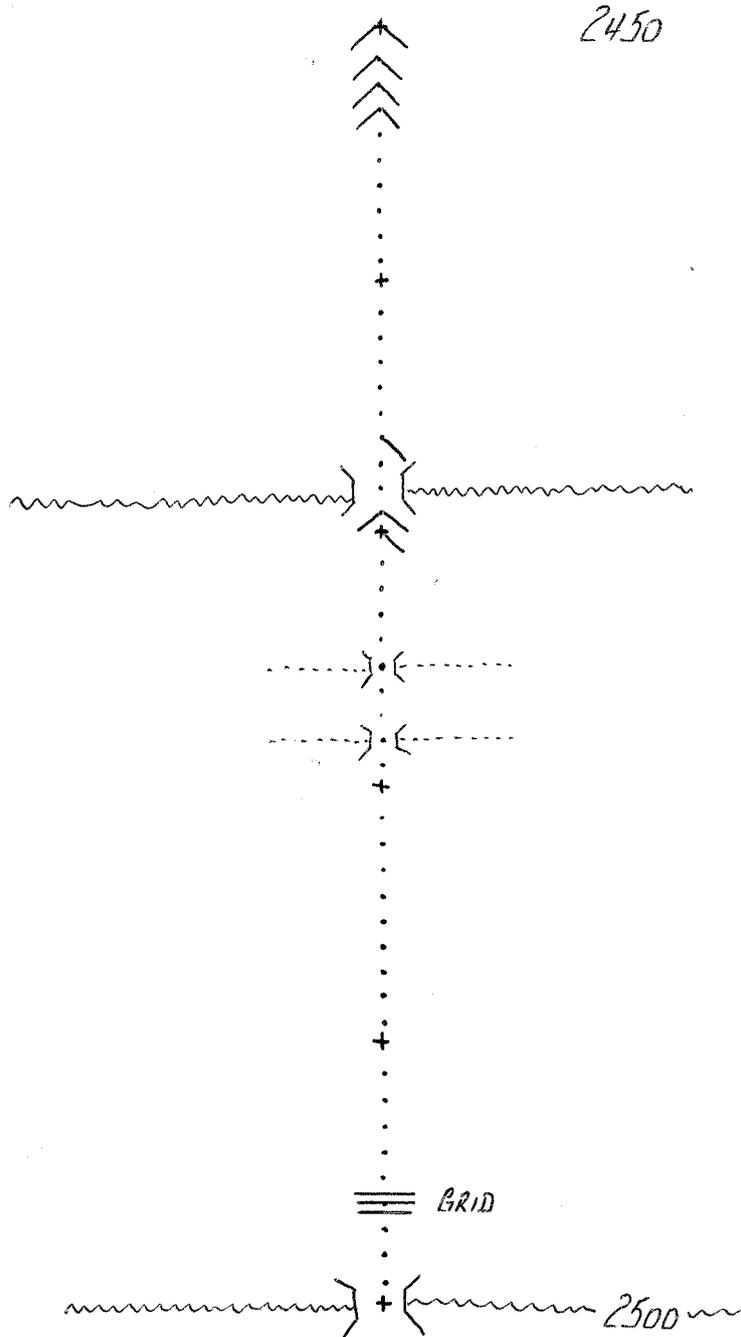
YEAR : 1995
STATION RANGE : 2400 TO 2450



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-TZ

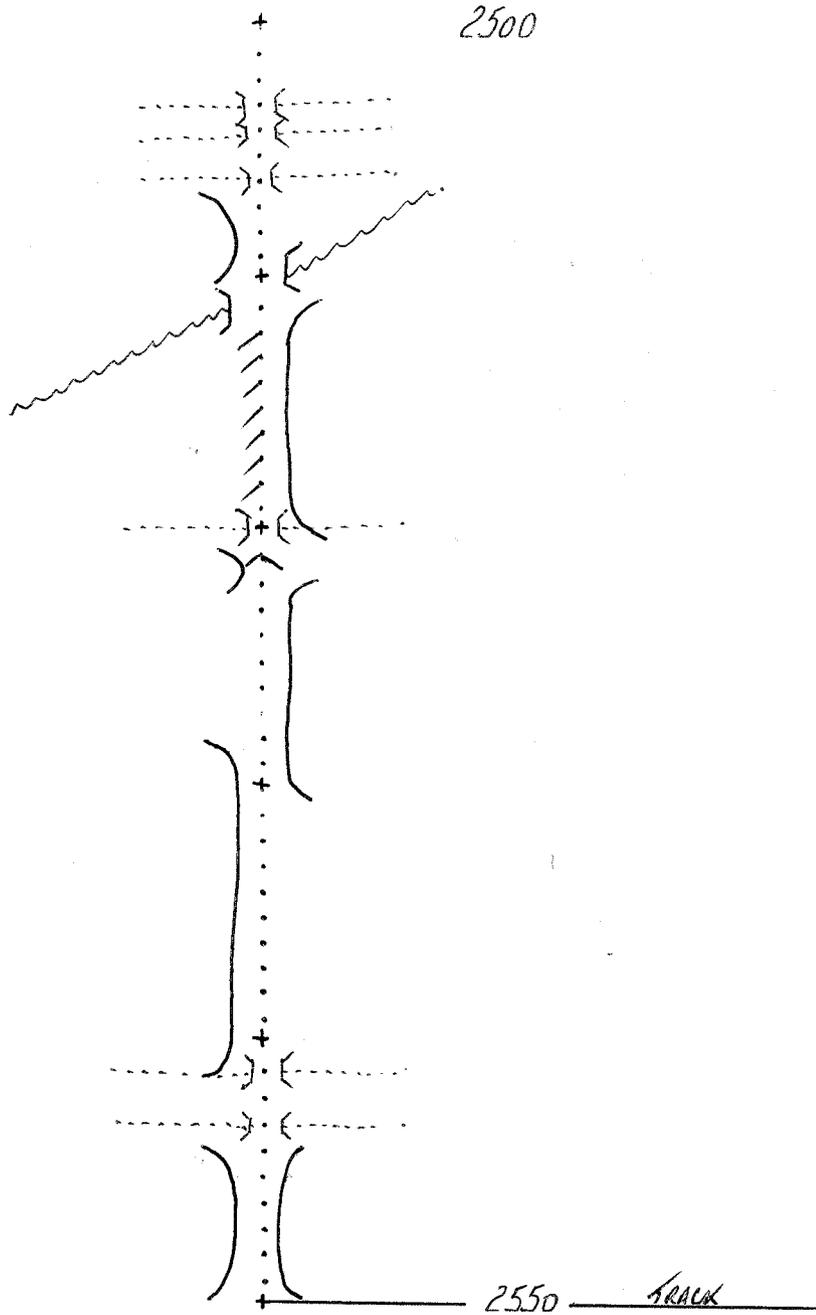
YEAR : 1995
STATION RANGE : 2450 TO 2500



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

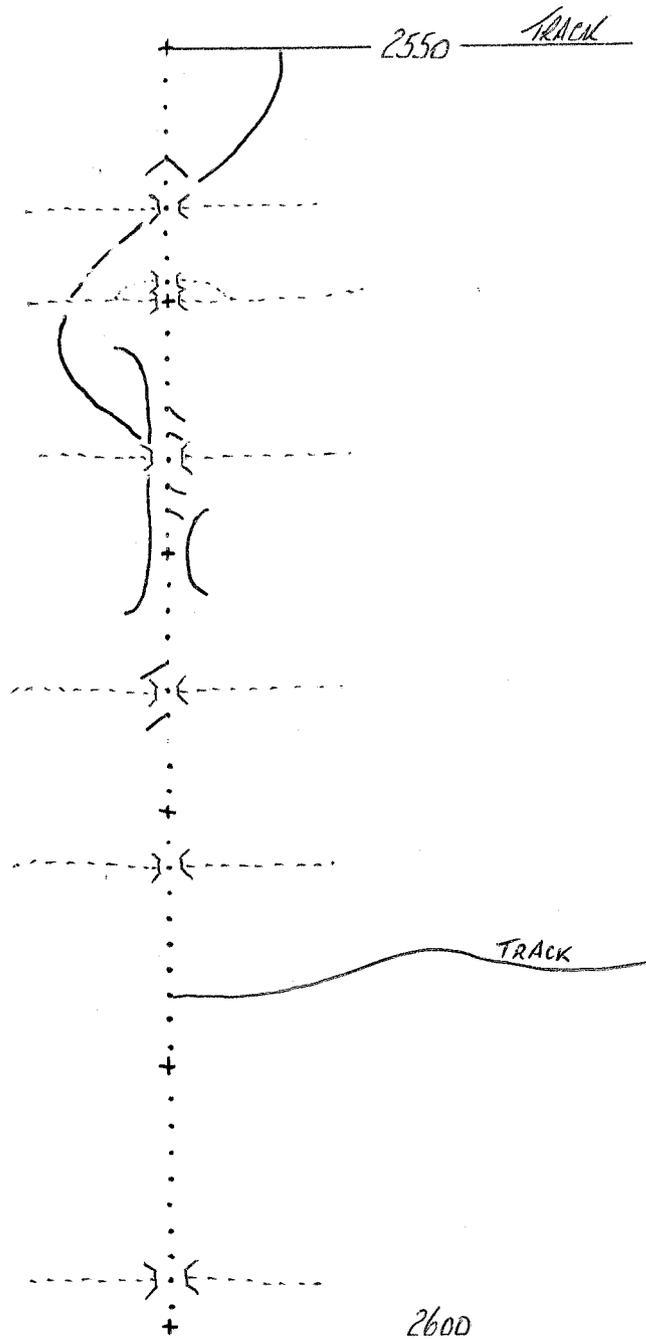
YEAR : 1995
STATION RANGE : 2500 TO 2550



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

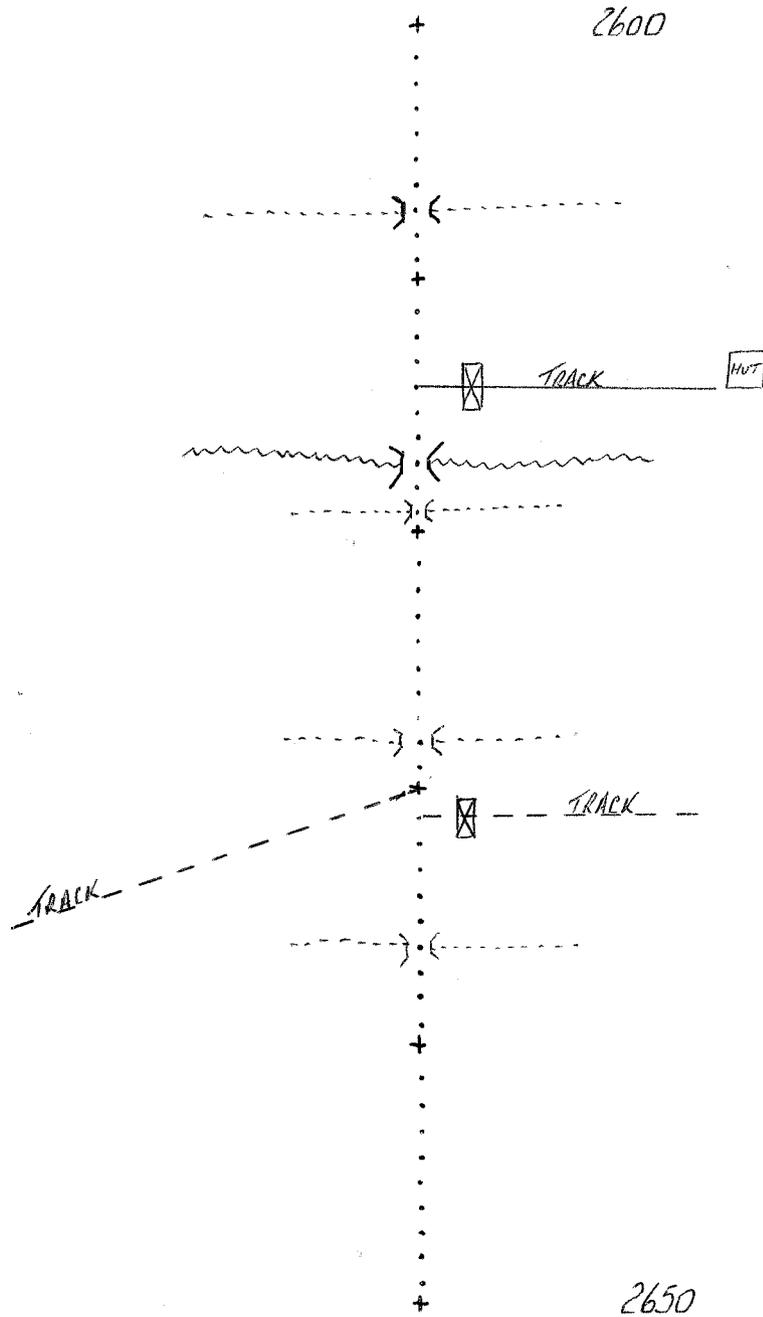
YEAR : 1995
STATION RANGE : 2550 TO 2600



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

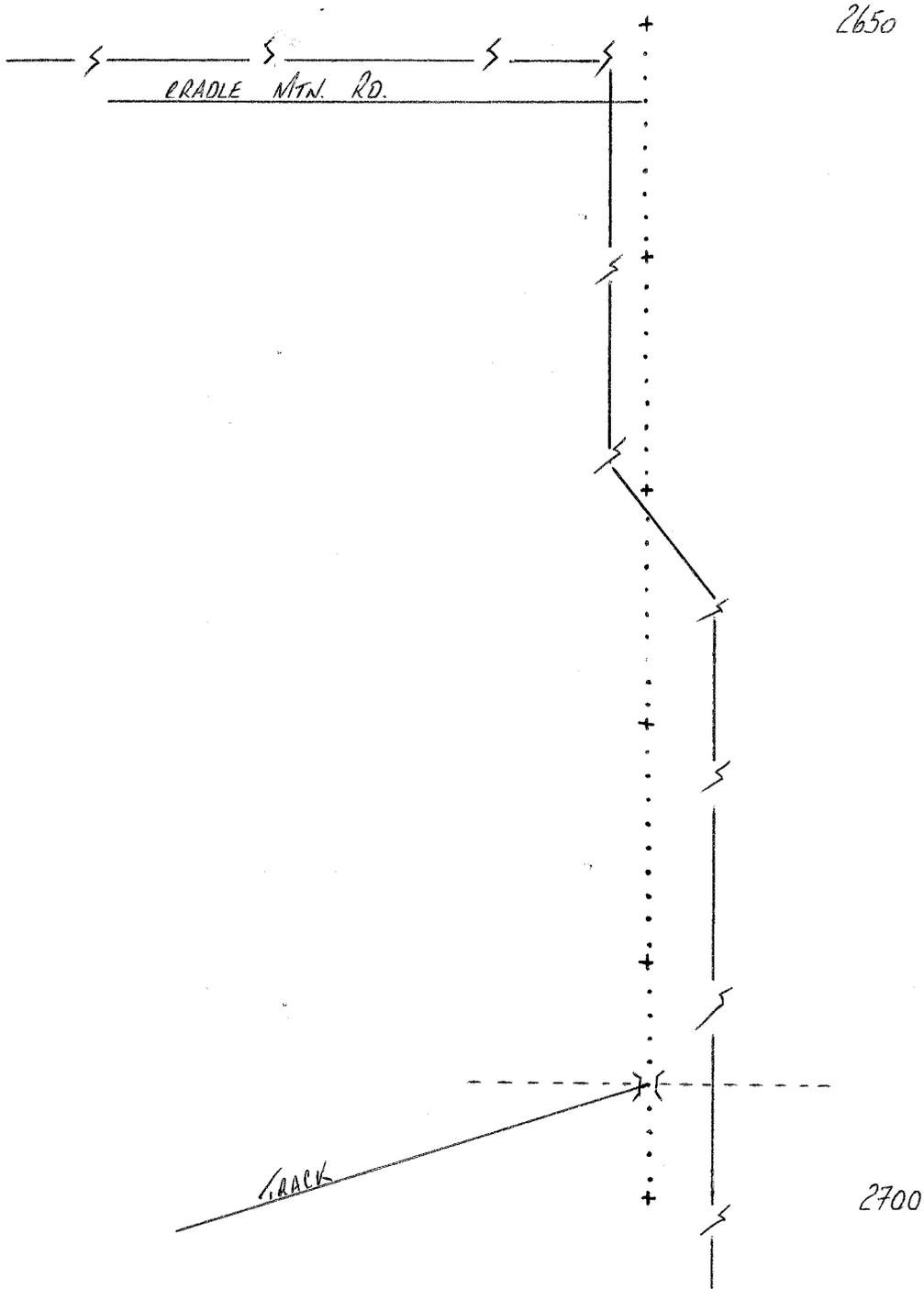
YEAR : 1995
STATION RANGE : 2600 TO 2650



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

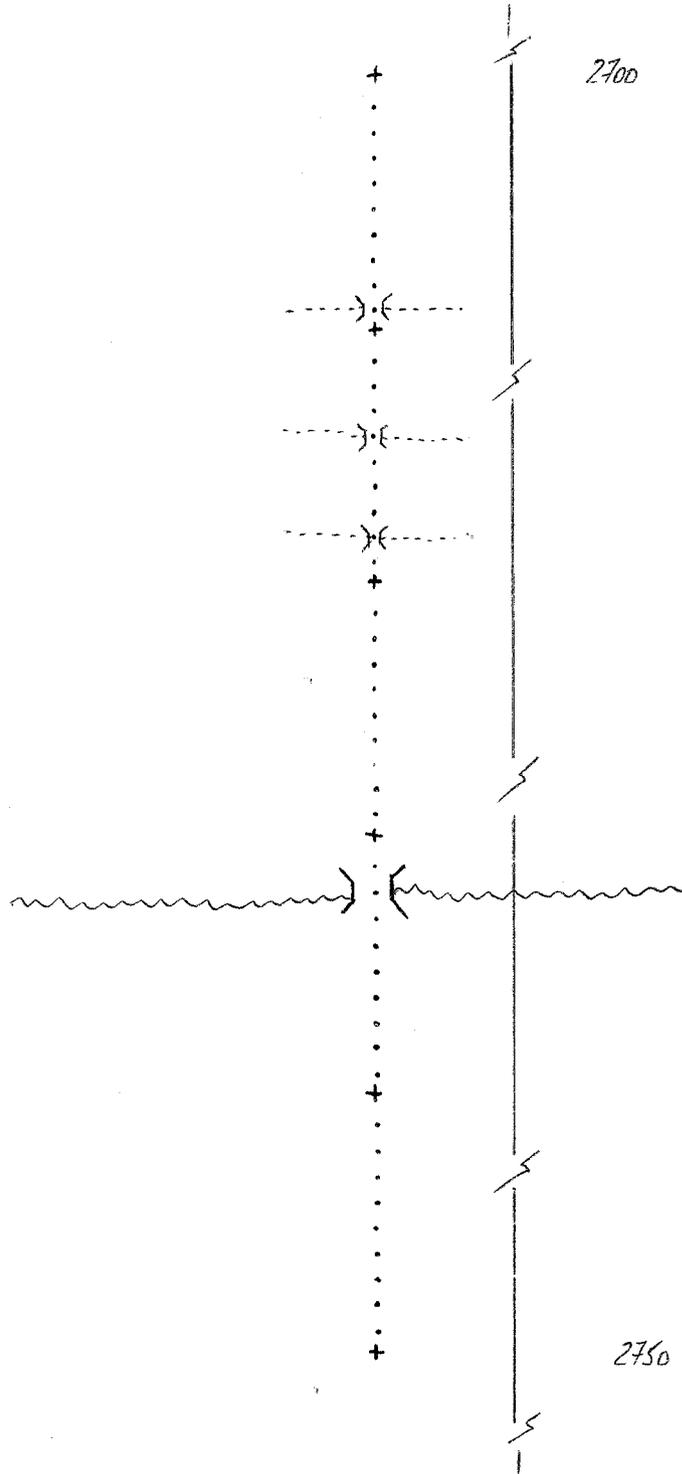
YEAR : 1995
STATION RANGE : 2650 TO 2700



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

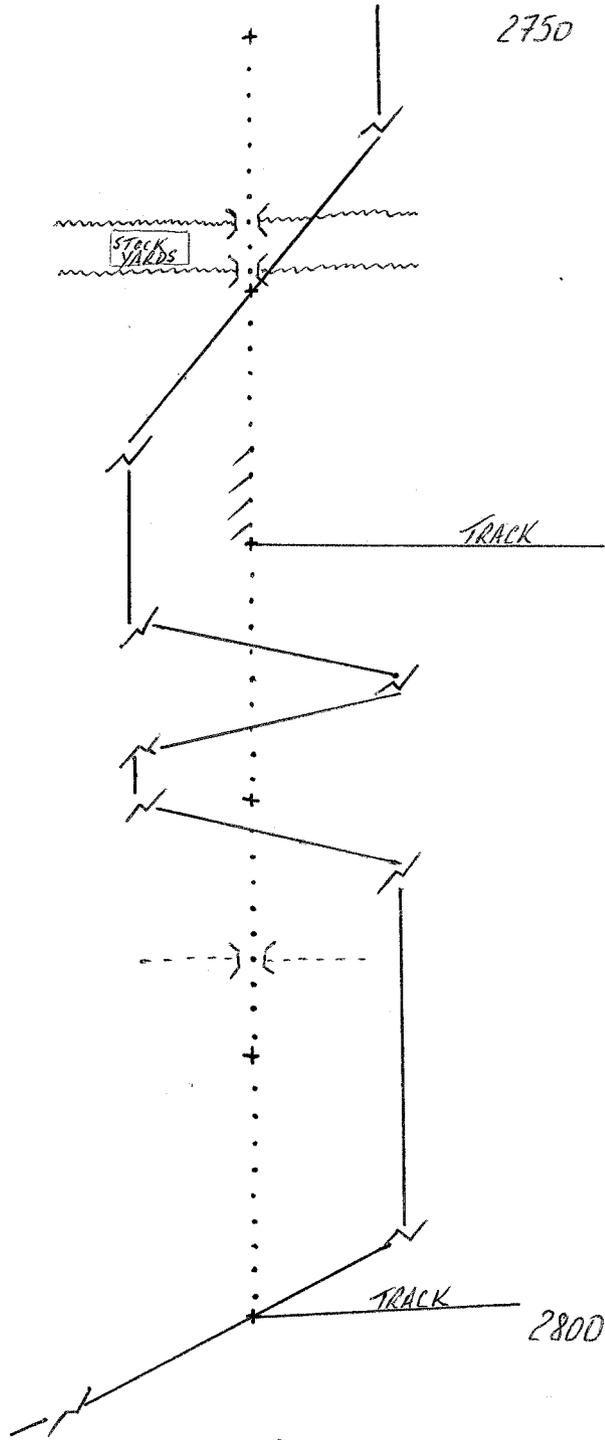
YEAR : 1995
STATION RANGE : 2700 TO 2750



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

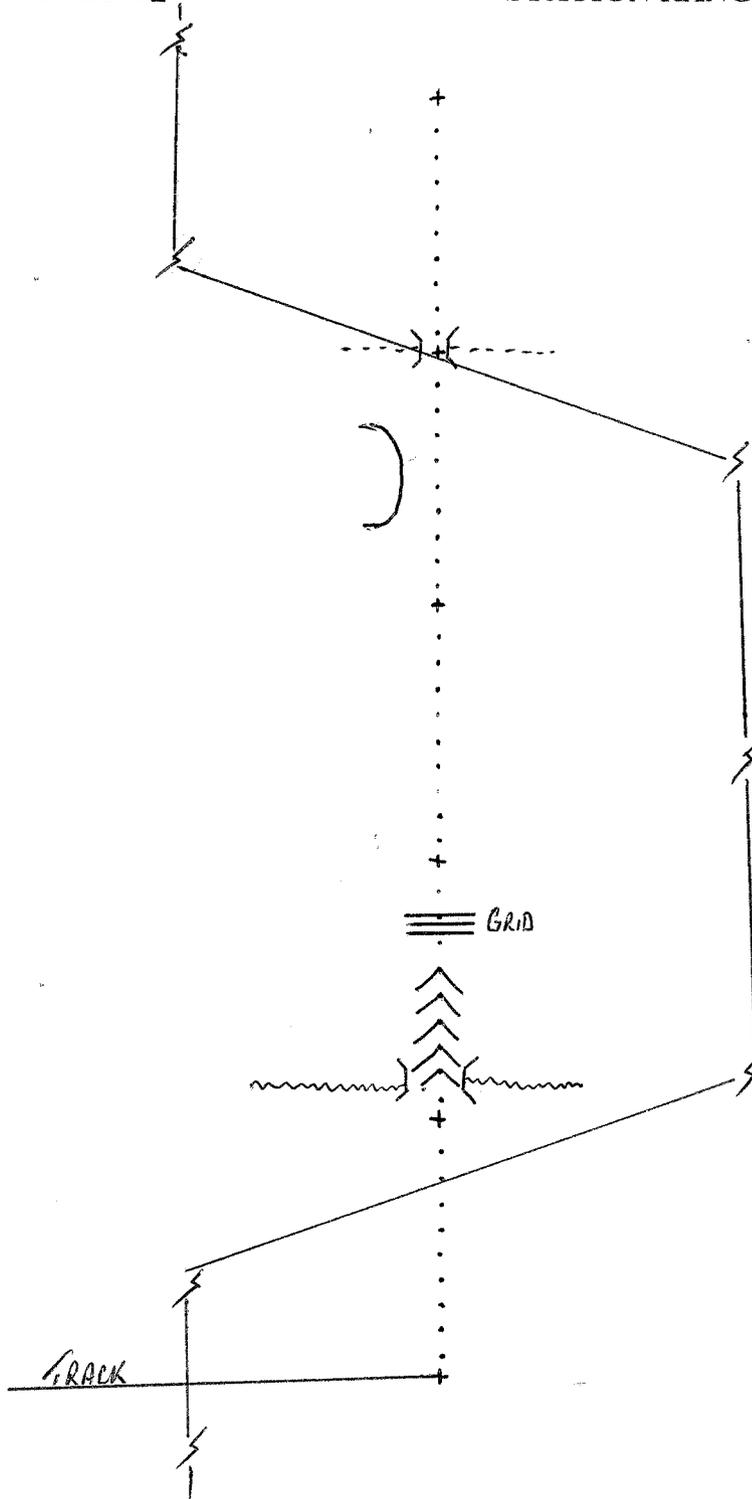
YEAR : 1995
STATION RANGE : 2750 TO 2800



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

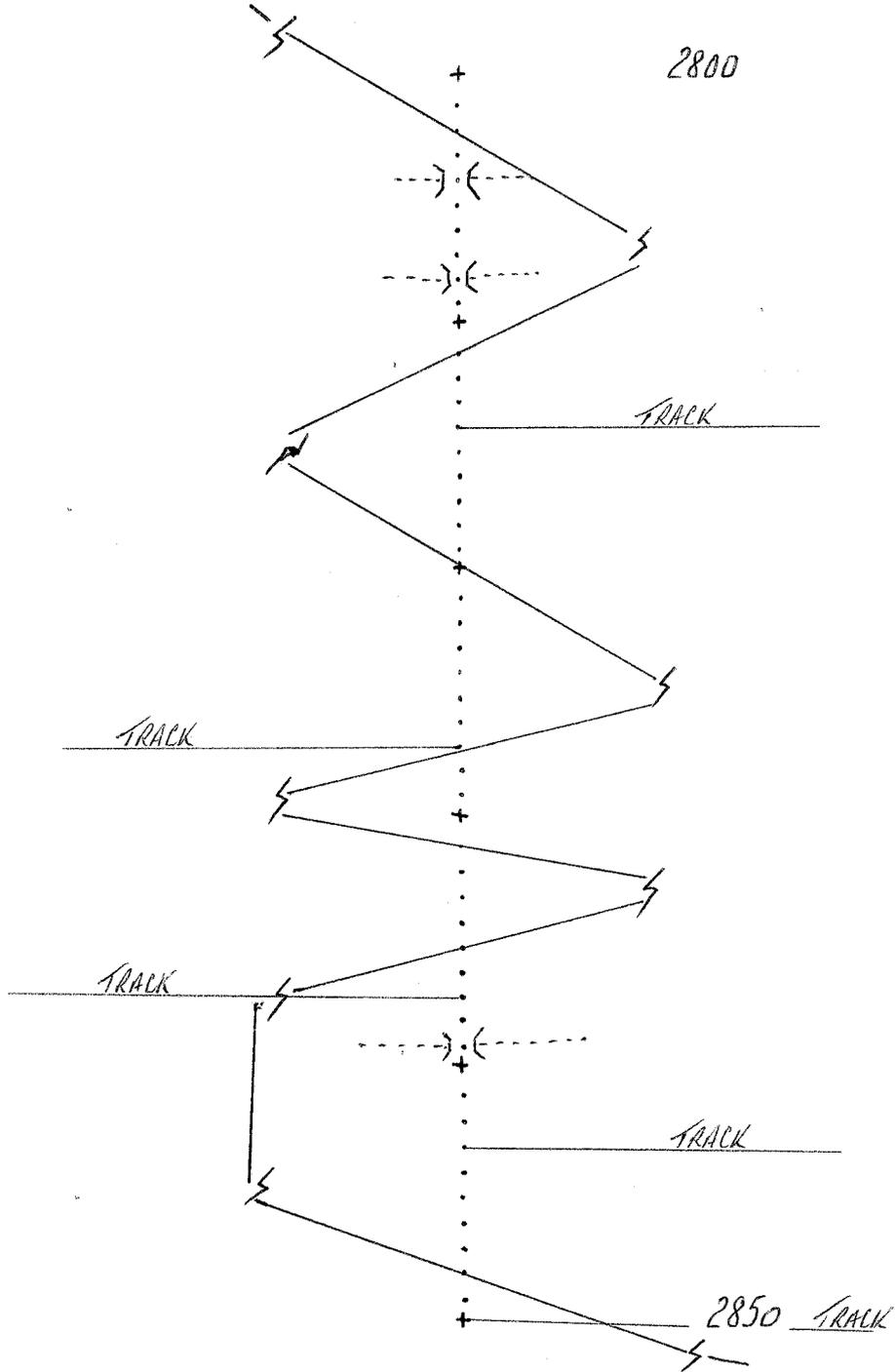
YEAR : 1995
STATION RANGE : 2800 TO 2850



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 2

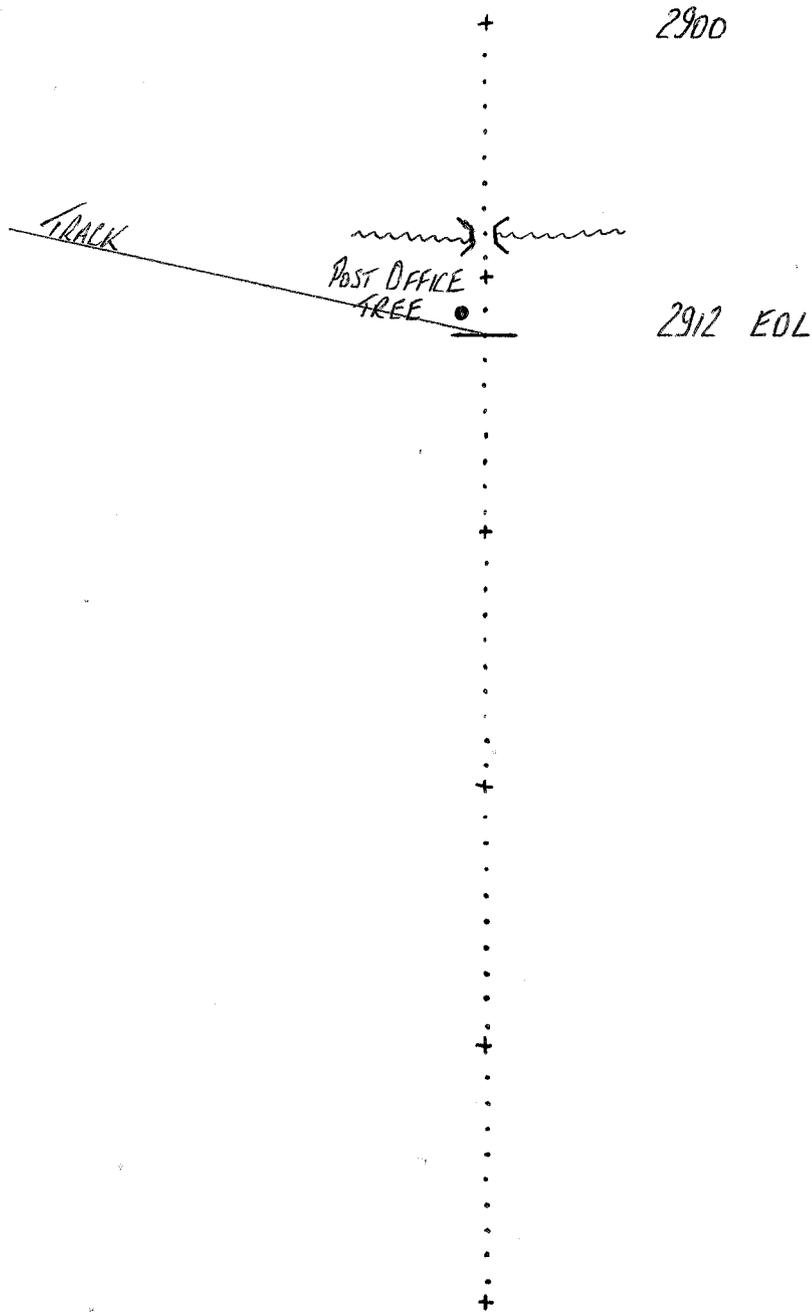
YEAR : 1995
STATION RANGE : 2850 TO 2900



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T2

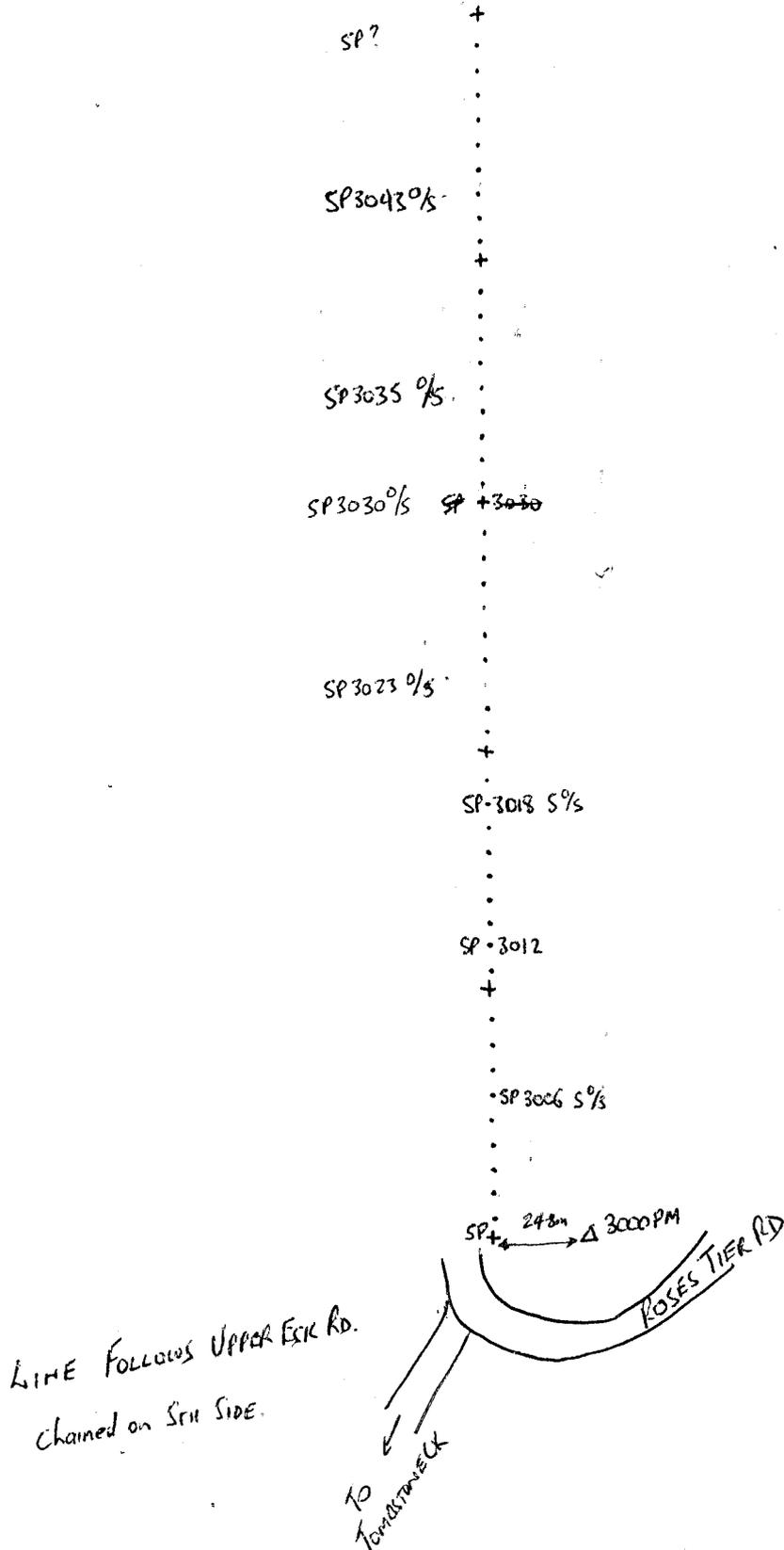
YEAR : 1995
STATION RANGE : 2900 TO 2912 EOL



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T3

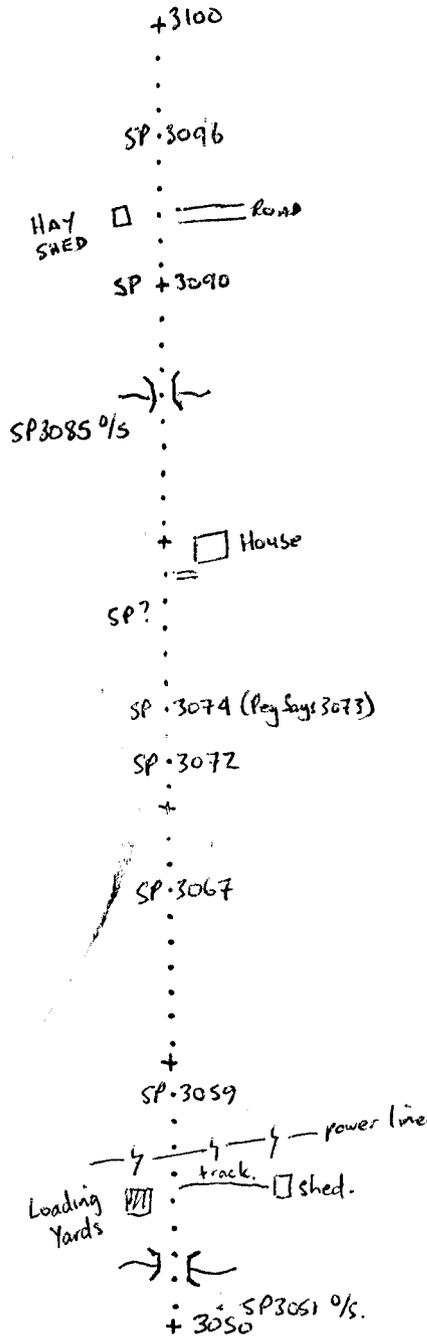
YEAR : 1995
STATION RANGE : 300 TO 3050



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T3

YEAR : 1995
 STATION RANGE : 3050 TO 3100

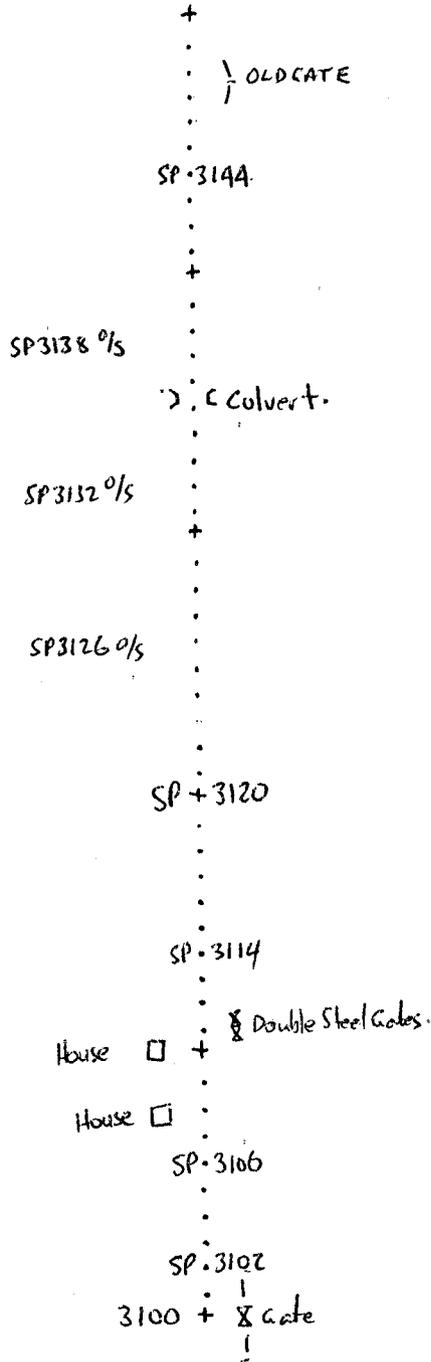


LINE Follows Upper Estk. Road
 chained on South side of Road.

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T3

YEAR : 1995
STATION RANGE : 3100 TO 3150



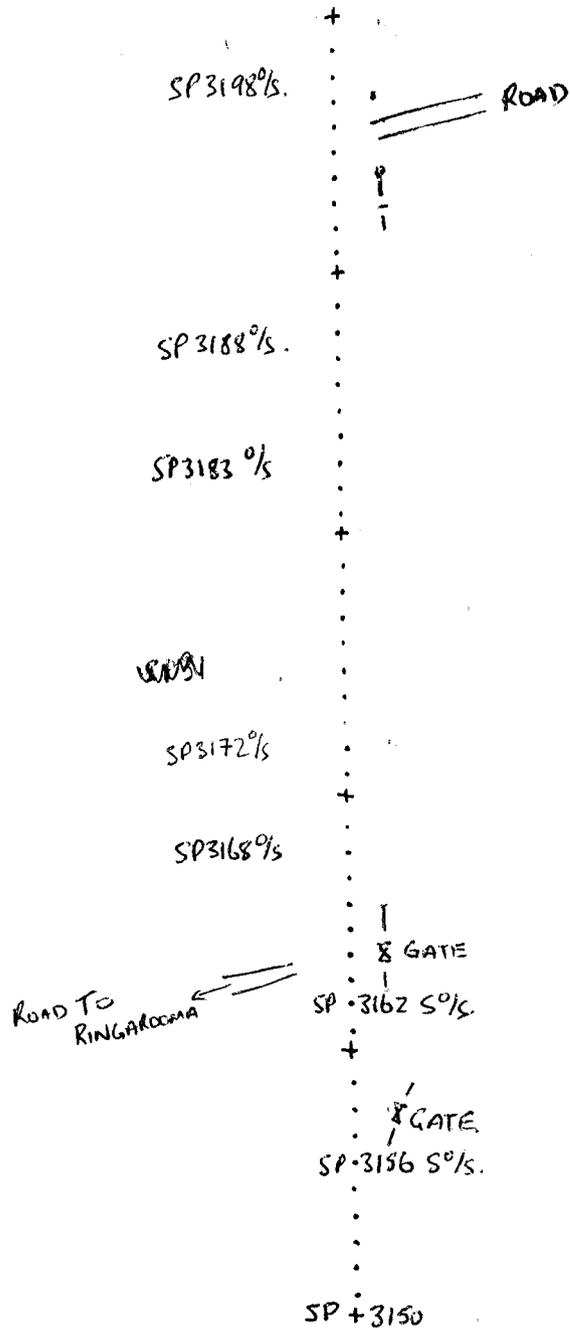
LINE FOLLOWS UPPER ESK RD.

CHAINED ON SOUTH SIDE

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T3

YEAR : 1995
STATION RANGE : 3150 TO 3200

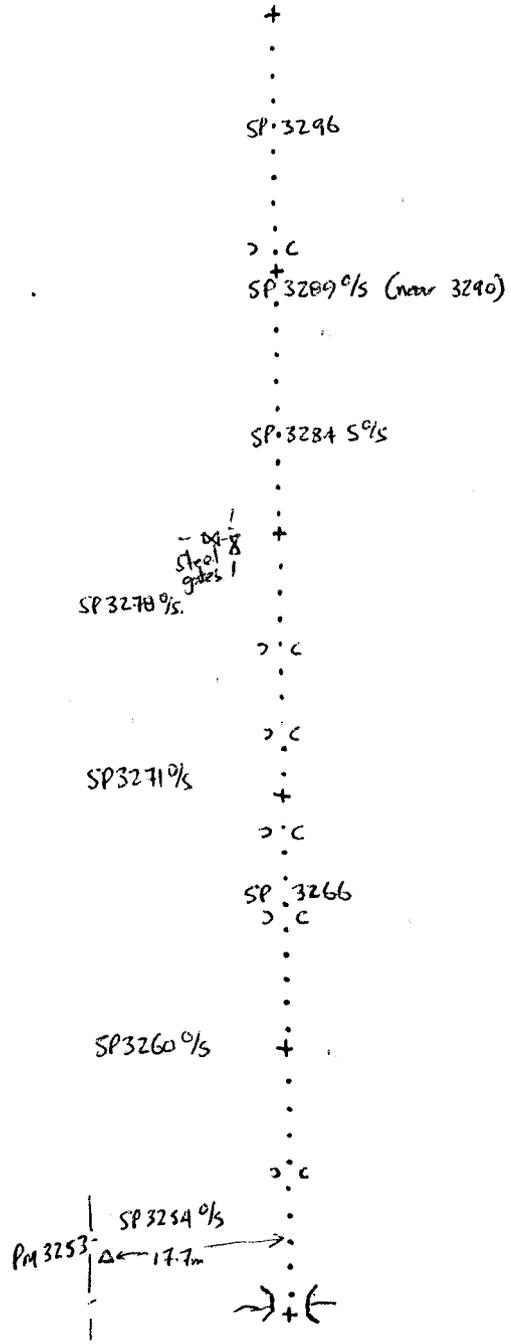


LINE FOLLOWS UPPER ESK ROAD
CHAINED ON SOUTH SIDE.

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T3

YEAR : 1995
 STATION RANGE : 3250 TO 3300



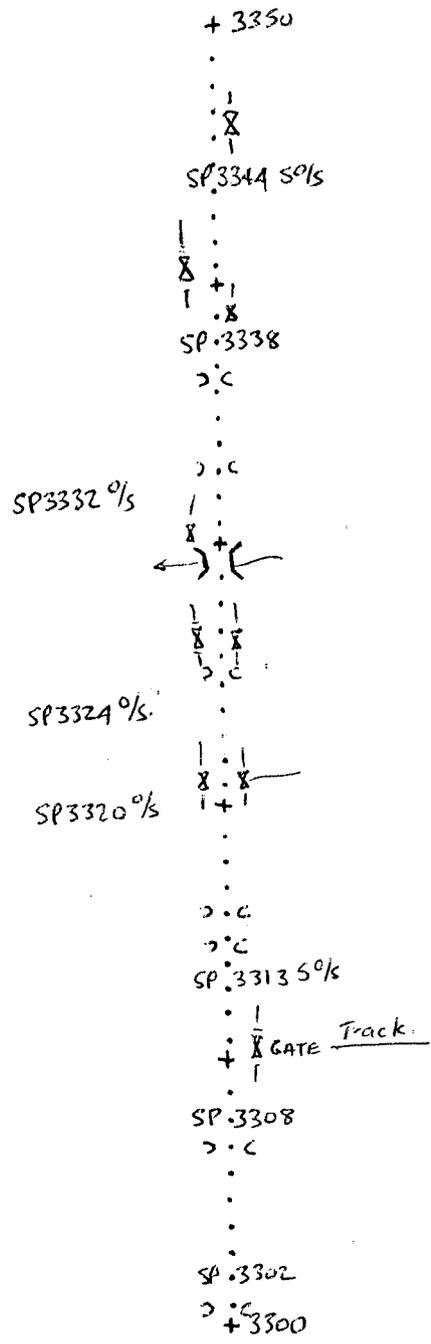
C = culvert

LINE FOLLOWS UPPER ESK ROAD
 CHAINED ON SOUTH SIDE OF ROAD

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T 3

YEAR : 1995
 STATION RANGE : 3300 TO 3350



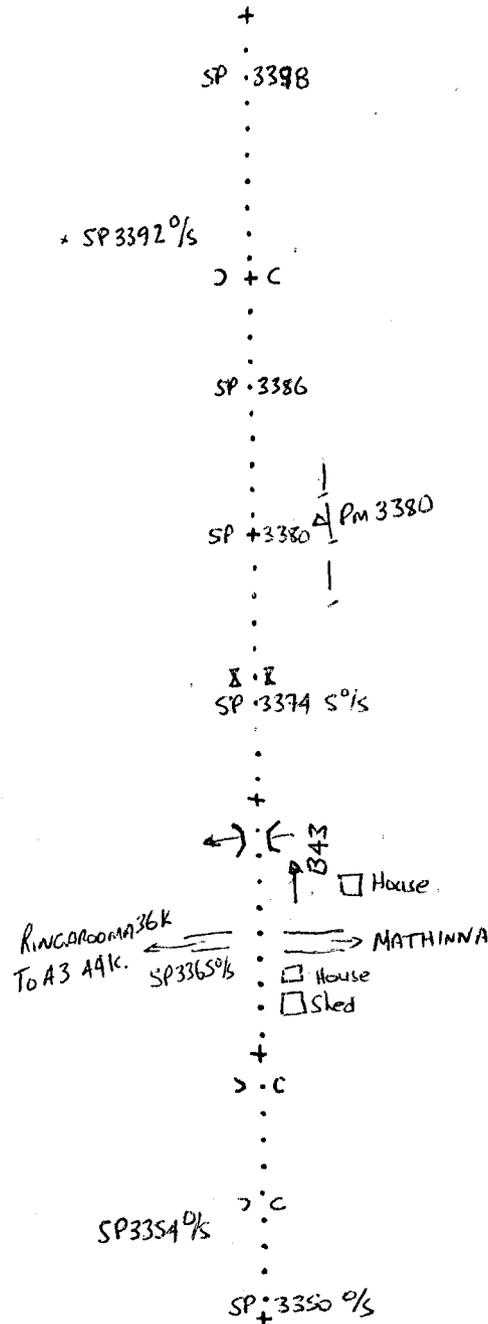
0 c = culvert

LINE Follows Upper Esk Road
 chained on South side of Road.

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T3

YEAR : 1995
 STATION RANGE : 3350 TO 3400



C = culvert.

LINE FOLLOWS UPPER ESK ROAD (CA01)
 CHAINED ON SOUTH SIDE OF ROAD

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T 3

YEAR : 1995
 STATION RANGE : 3450 TO 3500

SP3500 180

SP +3500 Δ PM 3500 MAJOR BEND OFF ROAD THRU PADDocks TO THE NORTH

SP 3498 0/6
 > c Cutting
 2 SP 3496
 SP 3495

SP 3491 9/5

+
 > c

SP 3488 0/5
 SP 3487

2 other possible SPS at 3488

> c

+
 > c

> c

Cutting

SP 3475 0/5

> c

DIRT TRACK

X 2+c T
 X
 SP 3468
 SP 3467

Power line

Power line

SP 3453/3454 Two SPS near 3453

+
 X

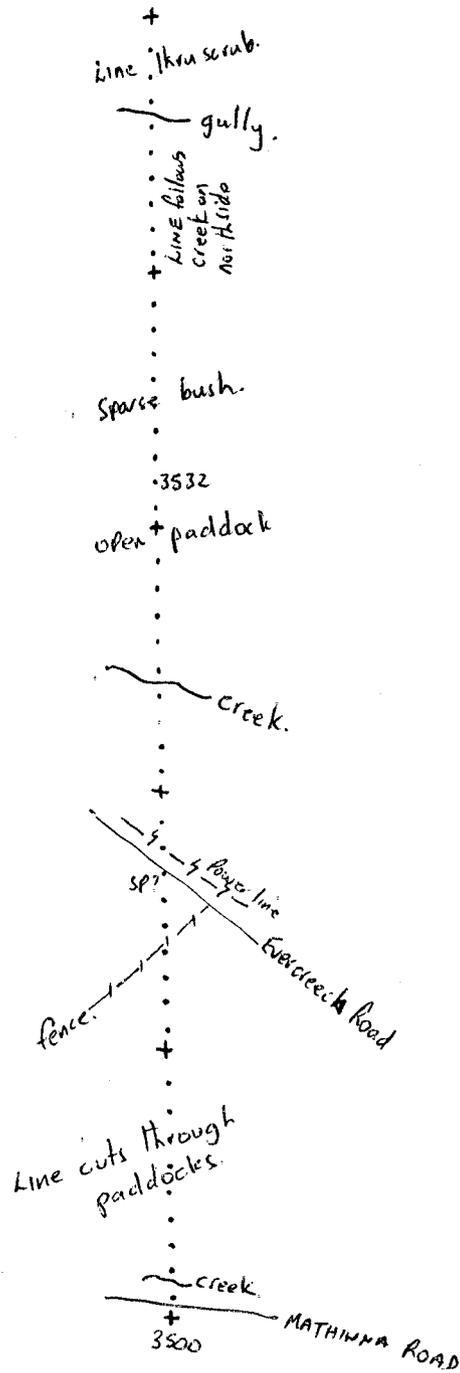
LINE FOLLOWS MATHINNA RD (B43)
 chained on South side

> c = culvert

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 3

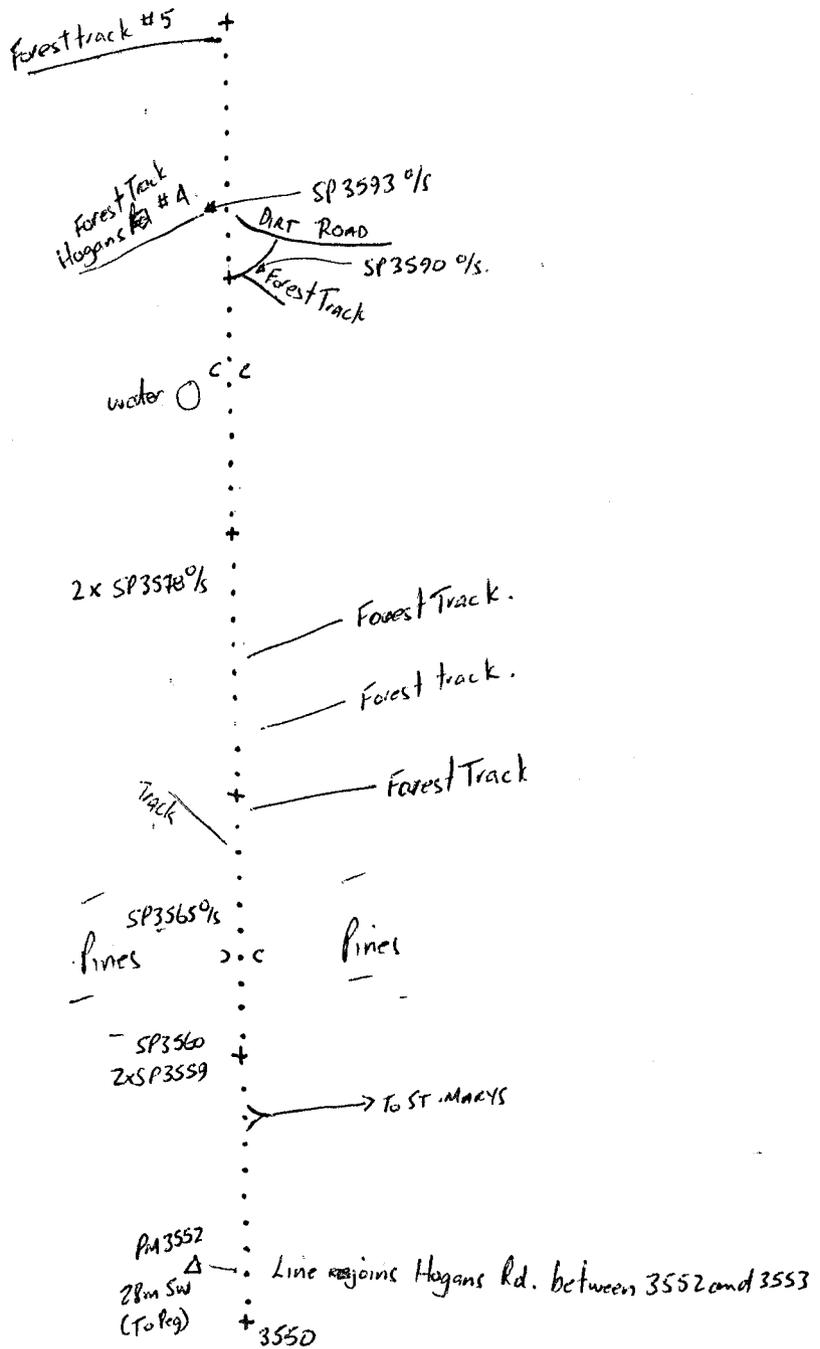
YEAR : 1995
STATION RANGE : 3500 TO 3550



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T3

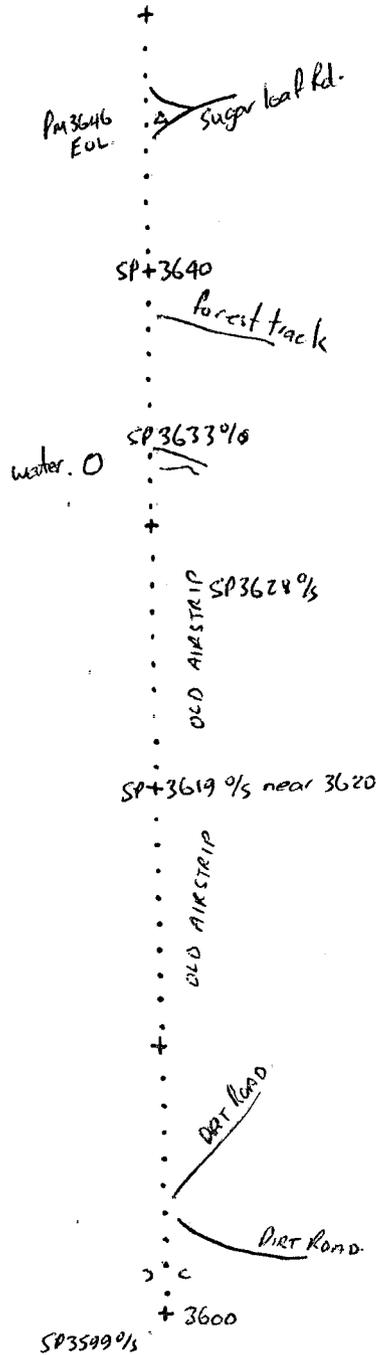
YEAR : 1995
STATION RANGE : 3550 TO 3600



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T3

YEAR : 1995
STATION RANGE : 3600 TO 3646



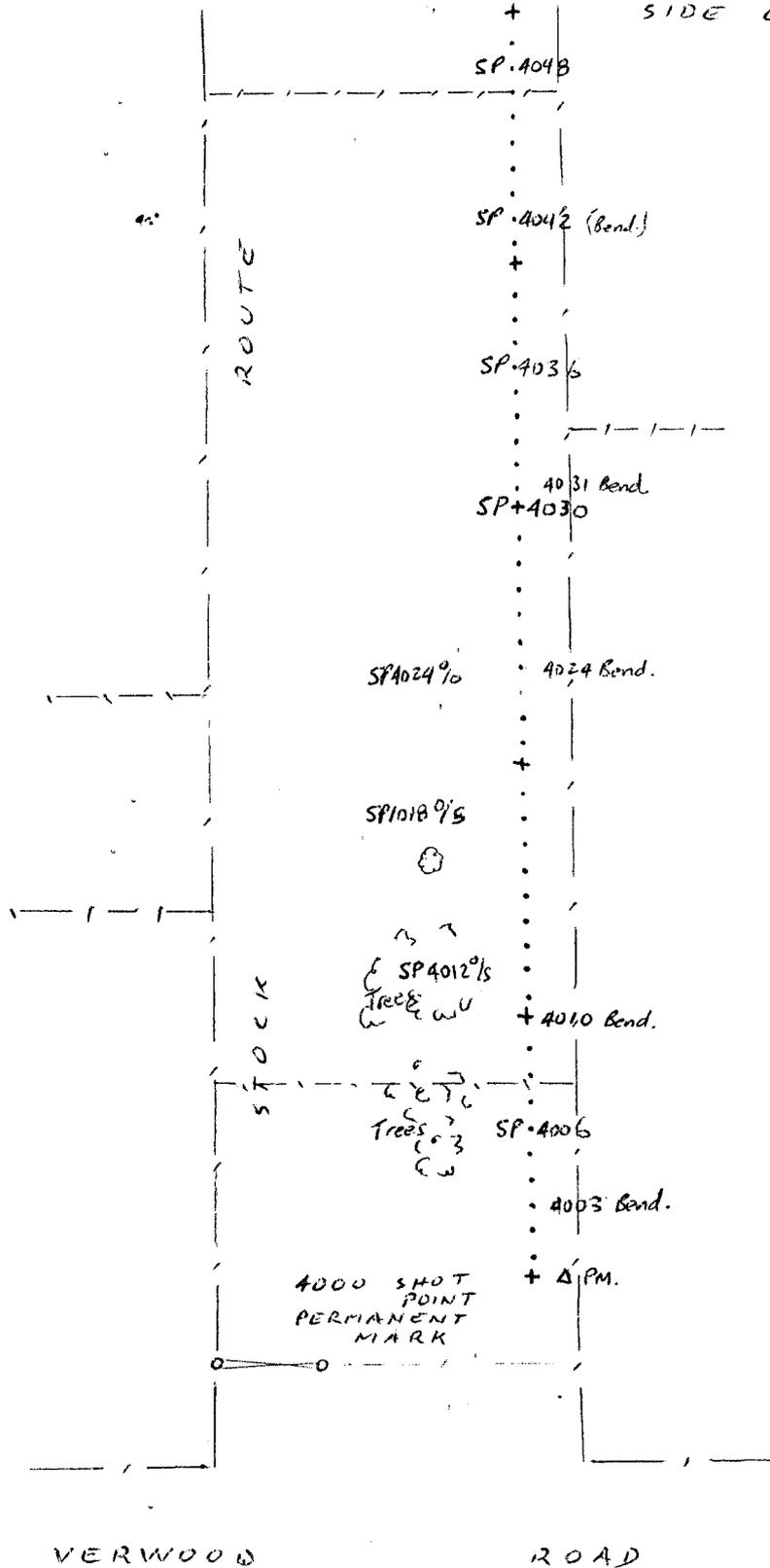
LINE Follows Hogans Road.

AGSO SEISMIC ACCESS MAP

SURVEY: TASMANIA
 LINE: 95AGS-T4

YEAR: 1995
 STATION RANGE: 4000 TO 4050

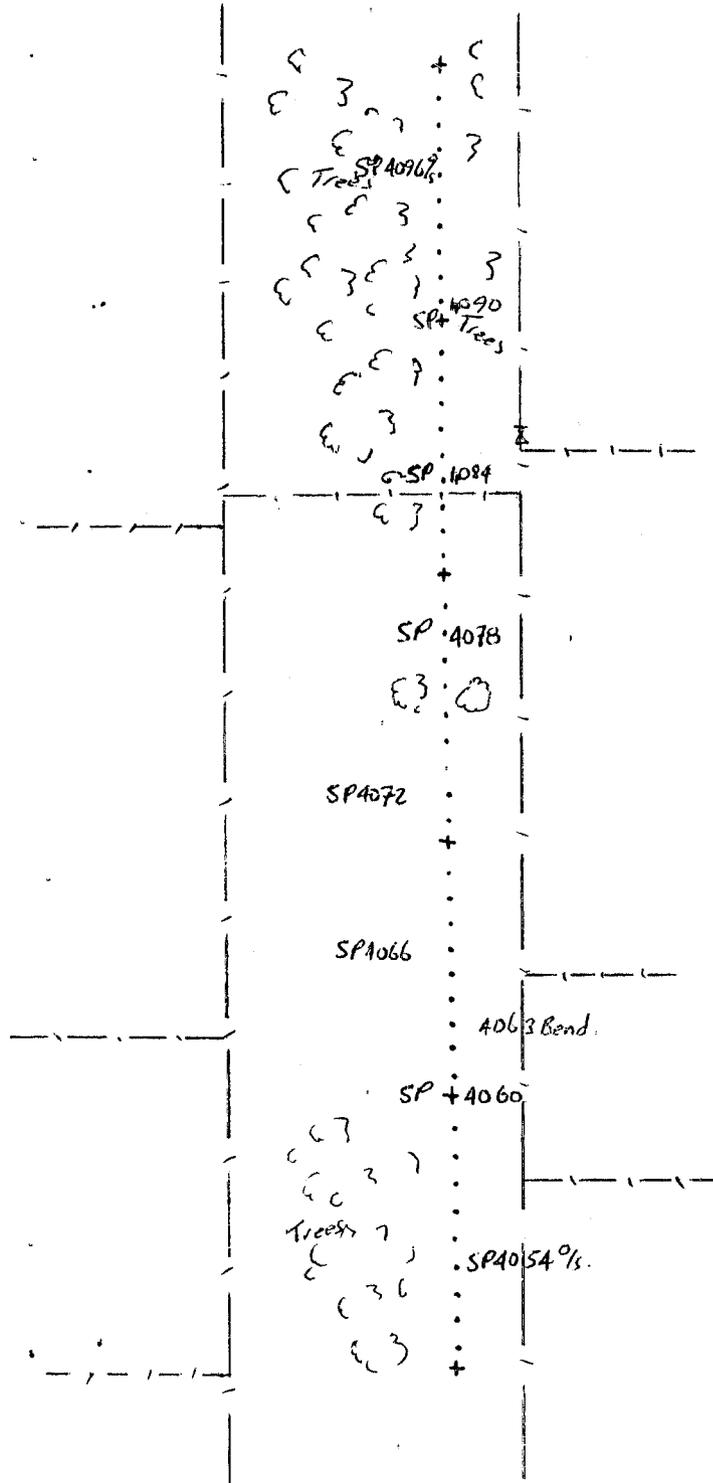
LINE FOLLOWS WESTERN
 SIDE OF STOCK ROUTE



AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T4

YEAR : 1995
STATION RANGE : 4050 TO 4100

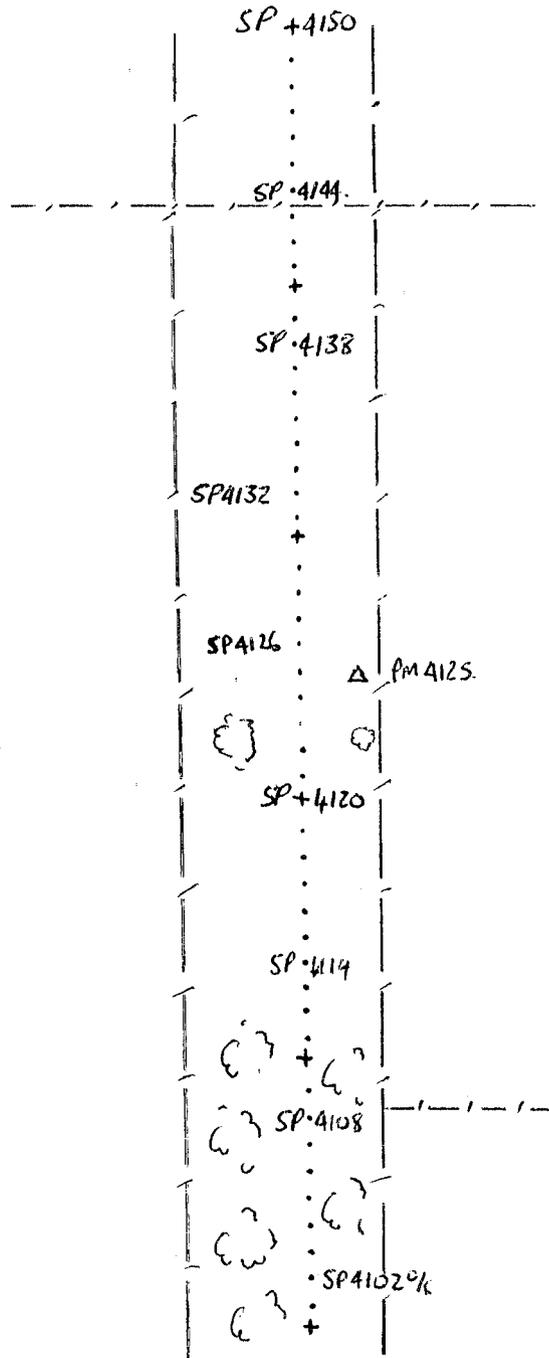


LINE FOLLOWS STOCK ROUTE.

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T4

YEAR : 1995
STATION RANGE : 4100 TO 4105

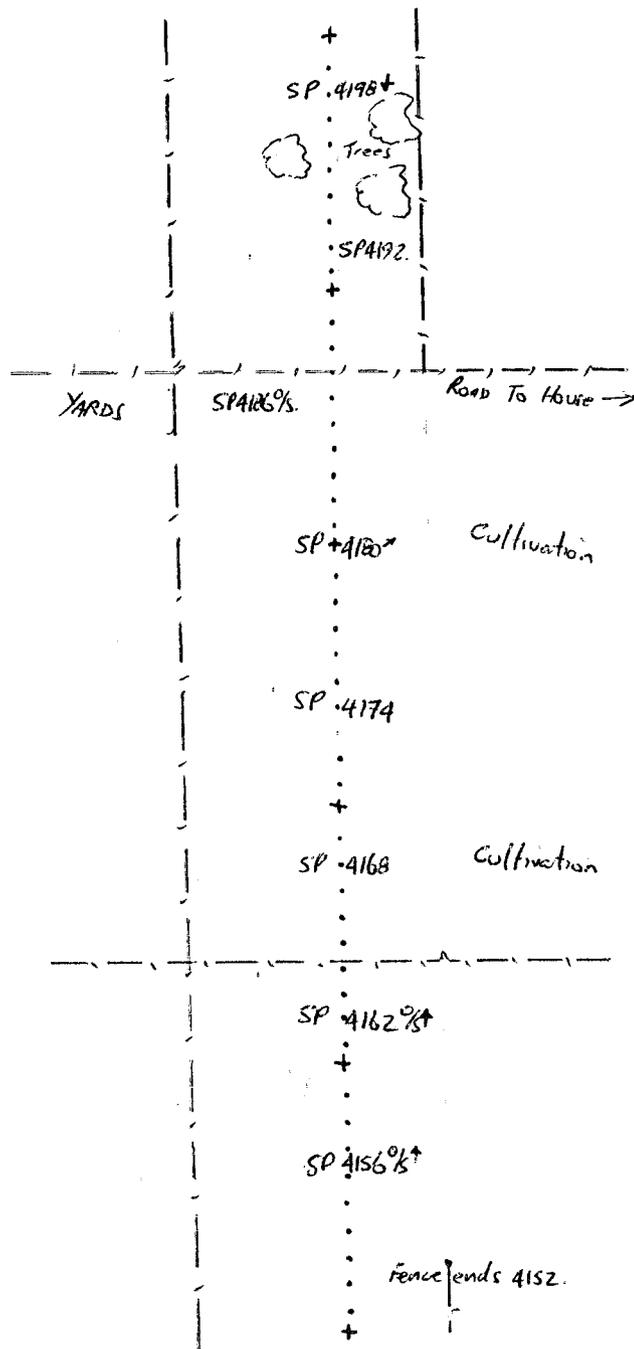


LINE FOLLOWS STOCK ROUTE

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T4

YEAR : 1995
STATION RANGE : 4150 TO 4200

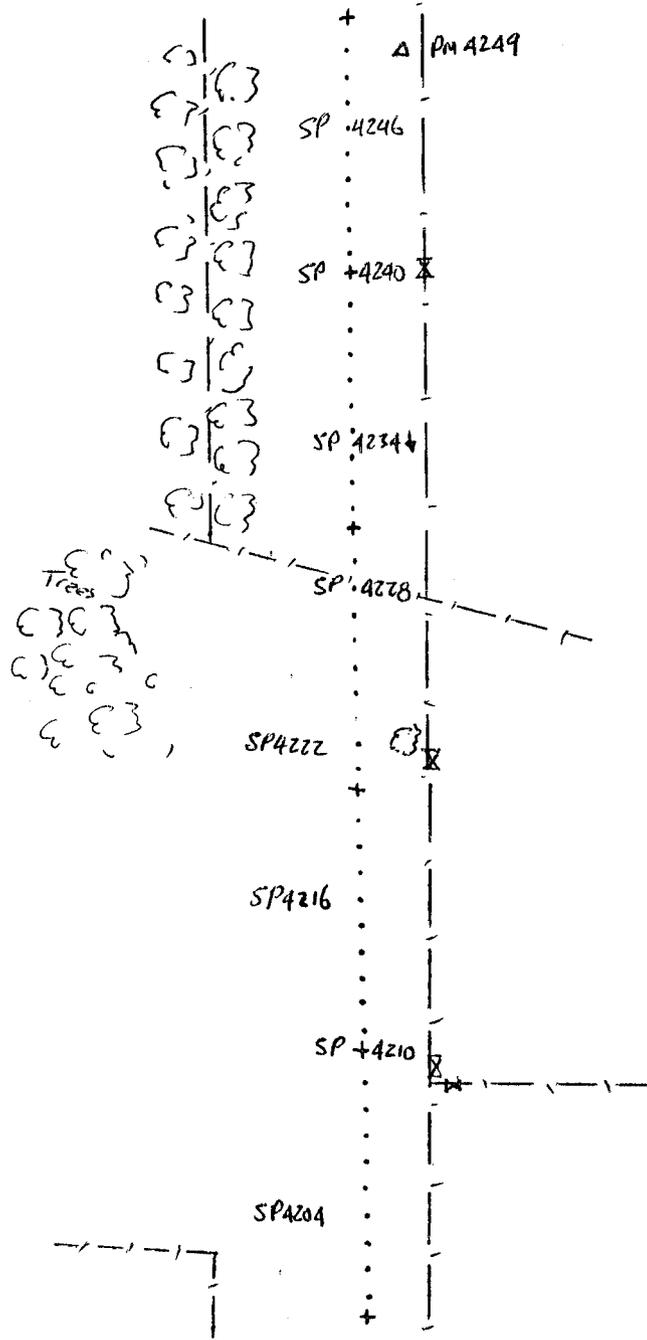


LINE FOLLOWS STOCK ROUTE.

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T4

YEAR : 1995
STATION RANGE : 4200 TO 4250

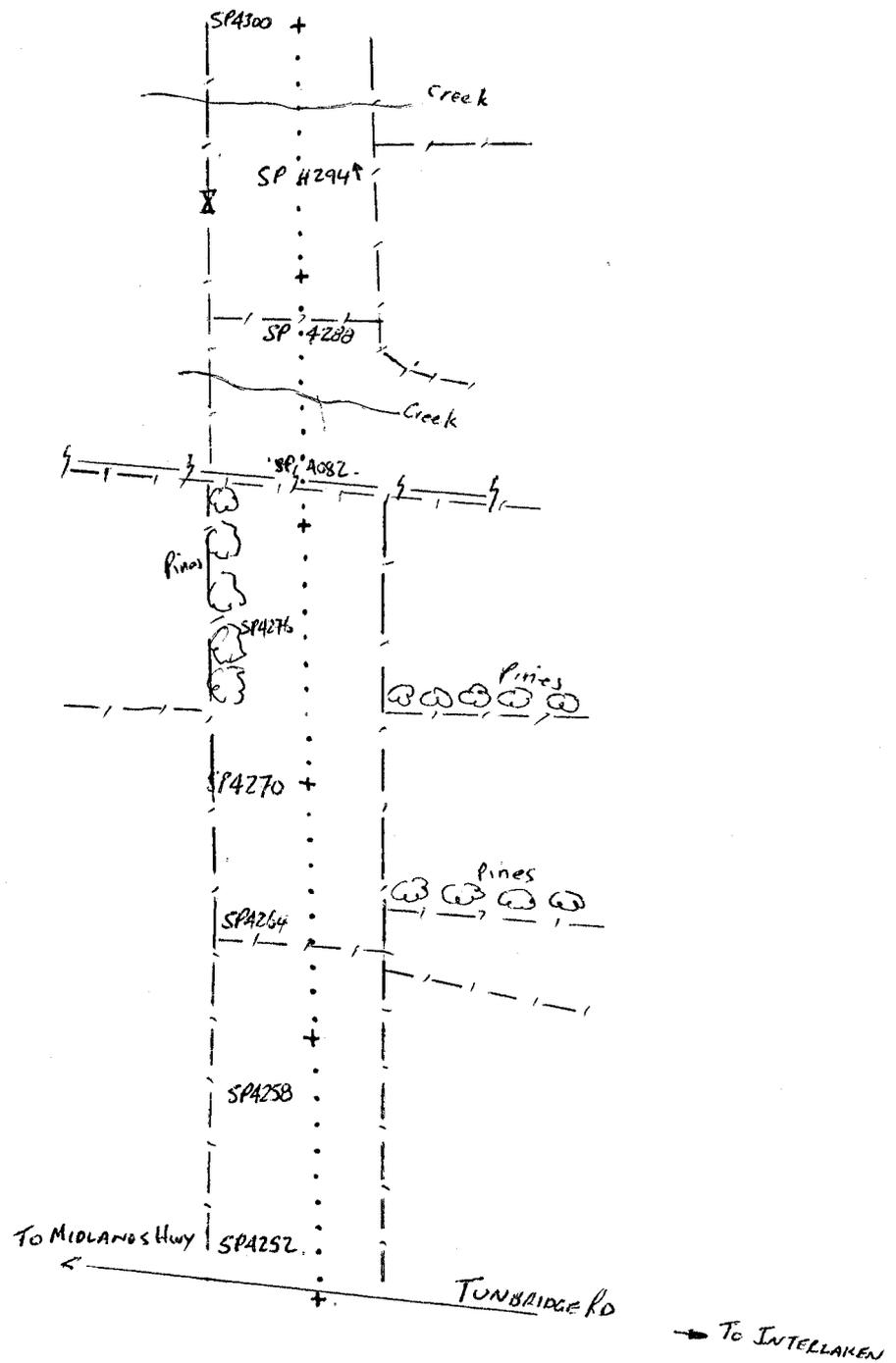


LINE FOLLOWS STOCK ROUTE

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T4

YEAR : 1995
STATION RANGE : 4250 TO 4300

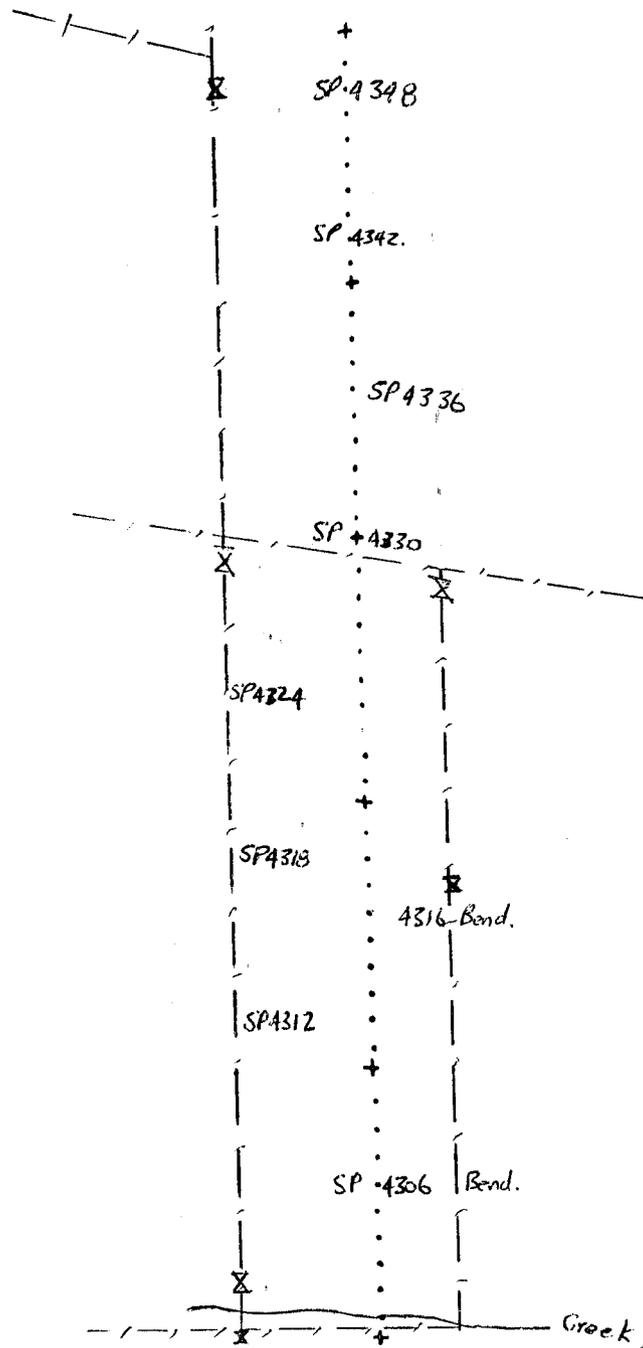


LINE FOLLOWS STOCIC ROUTE

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 4

YEAR : 1995
STATION RANGE : 4300 TO 4350

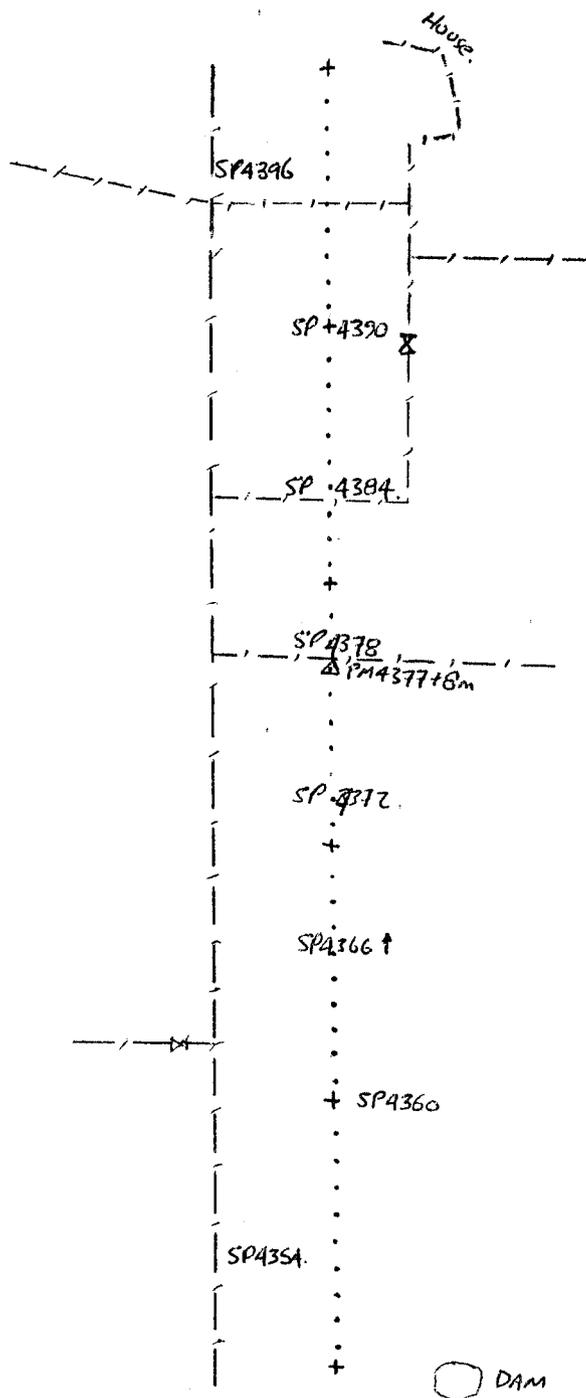


LINE FOLLOWS STOCK ROUTE

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T#

YEAR : 1995
STATION RANGE : 4350 TO 440

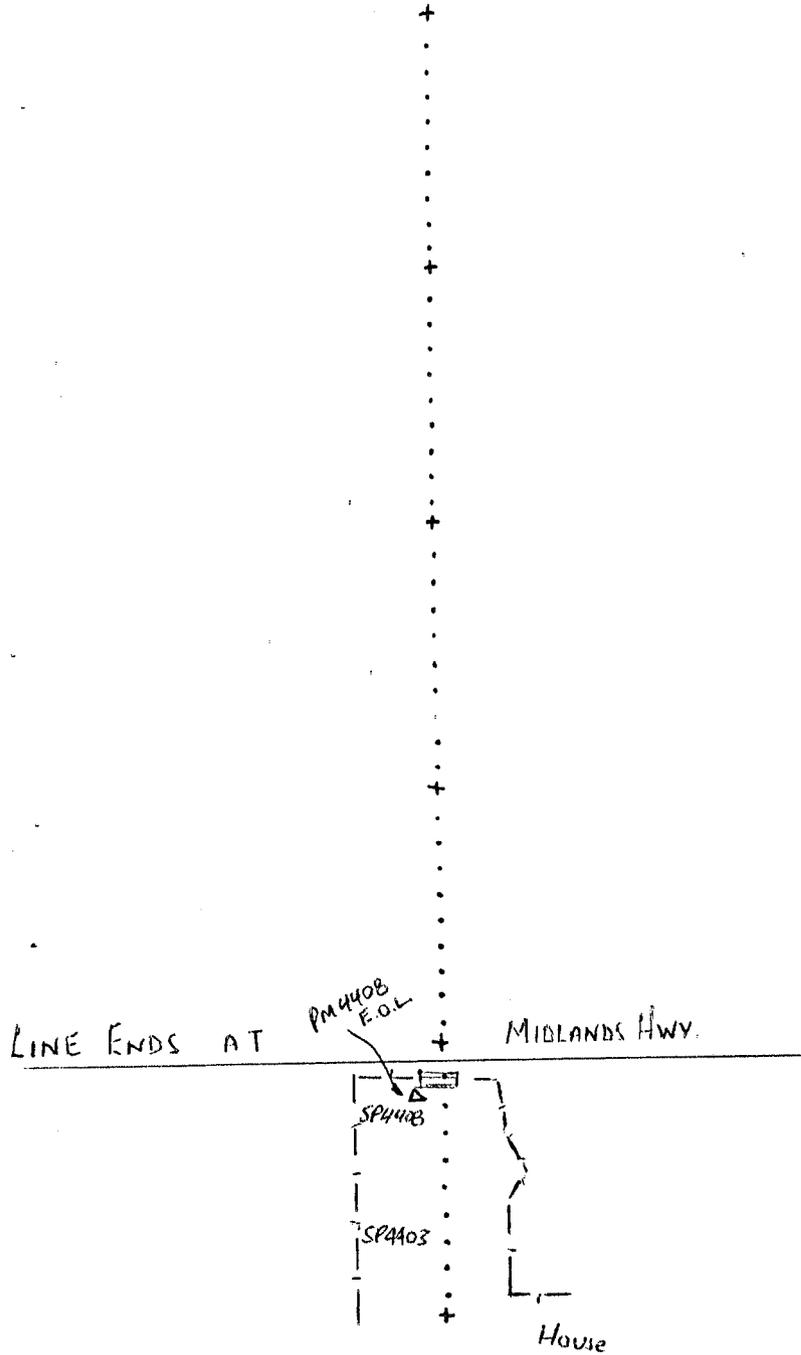


LINE FOLLOWS STOCK ROUTE.

AGSO SEISMIC ACCESS MAP

SURVEY: TASMANIA
LINE: 95AGS-T4

YEAR: 1995
STATION RANGE: 4400 TO 4408

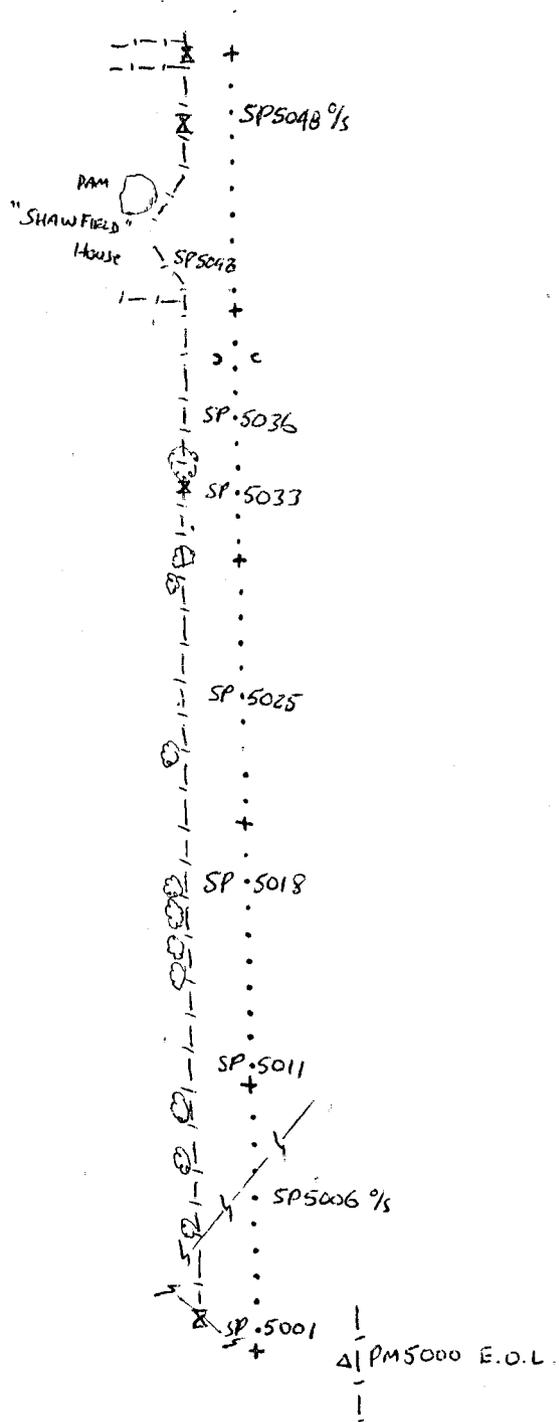


LINE FOLLOWS STOCK ROUTE

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T5

YEAR : 1995
STATION RANGE : 5000 TO 5050

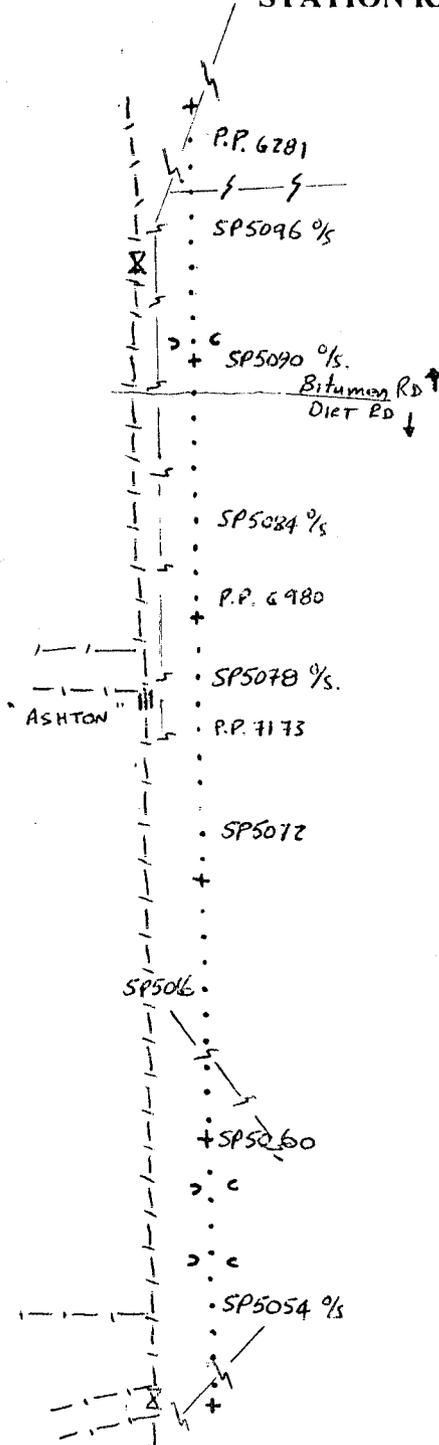


LINE FOLLOWS EAST SIDE VICTORIA VALLEY RD.

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
 LINE : 95AGS-T5

YEAR : 1995
 STATION RANGE : 5050 TO 5100



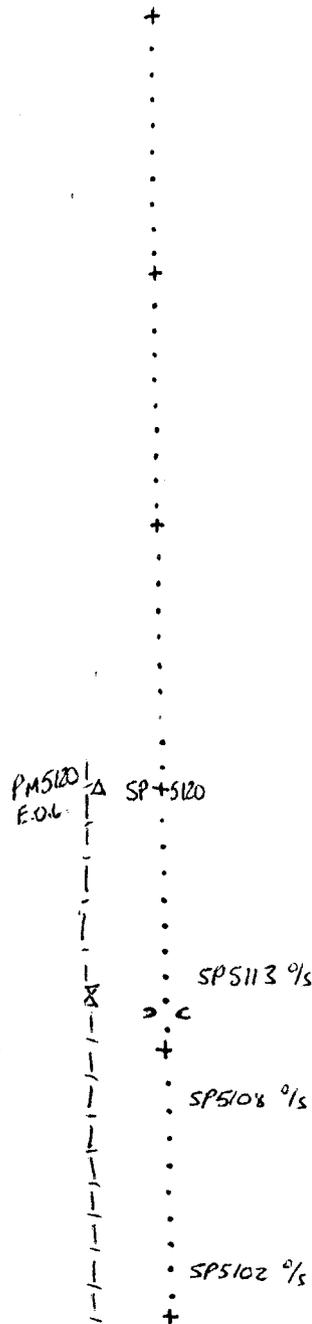
c = culvert
 P.P. = power pole

LINE FOLLOWS EAST SIDE VICTORIA VALLEY ROAD

AGSO SEISMIC ACCESS MAP

SURVEY : TASMANIA
LINE : 95AGS-T 5

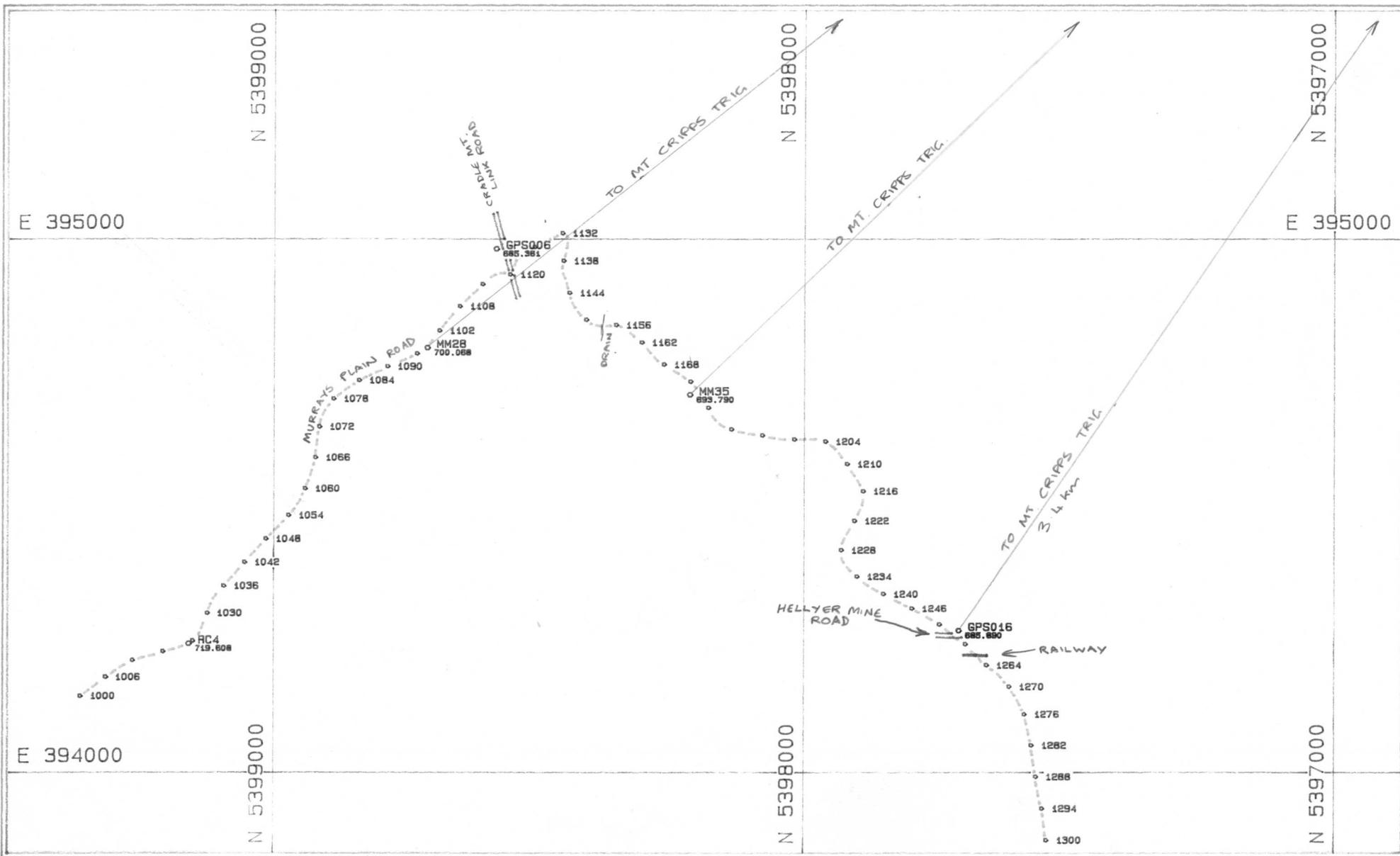
YEAR : 1995
STATION RANGE : 5100 TO 5120

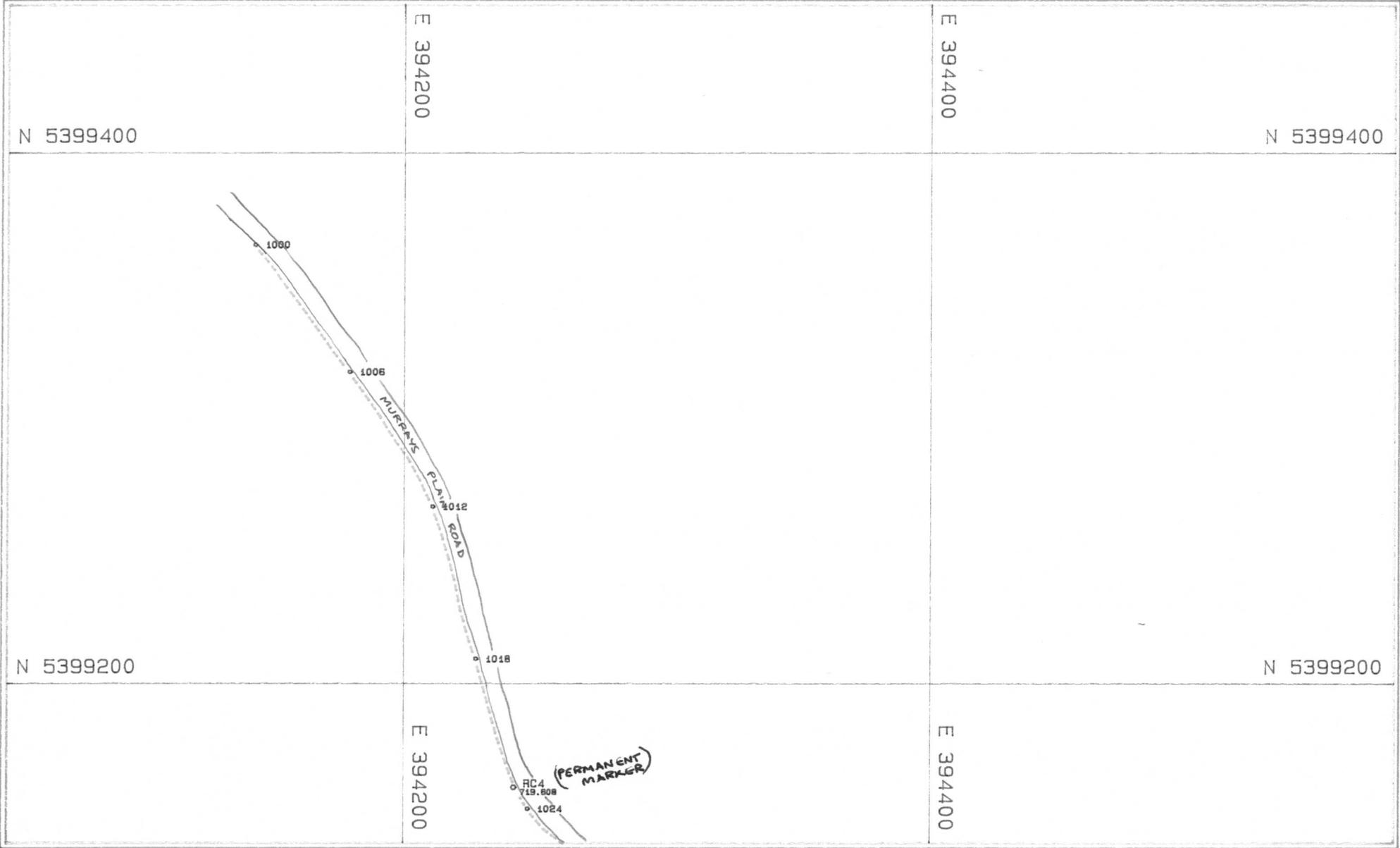


LINE FOLLOWS VICTORIA VALLEY ROAD
CHAINED ON EAST SIDE.

ABPROPOS.XLS

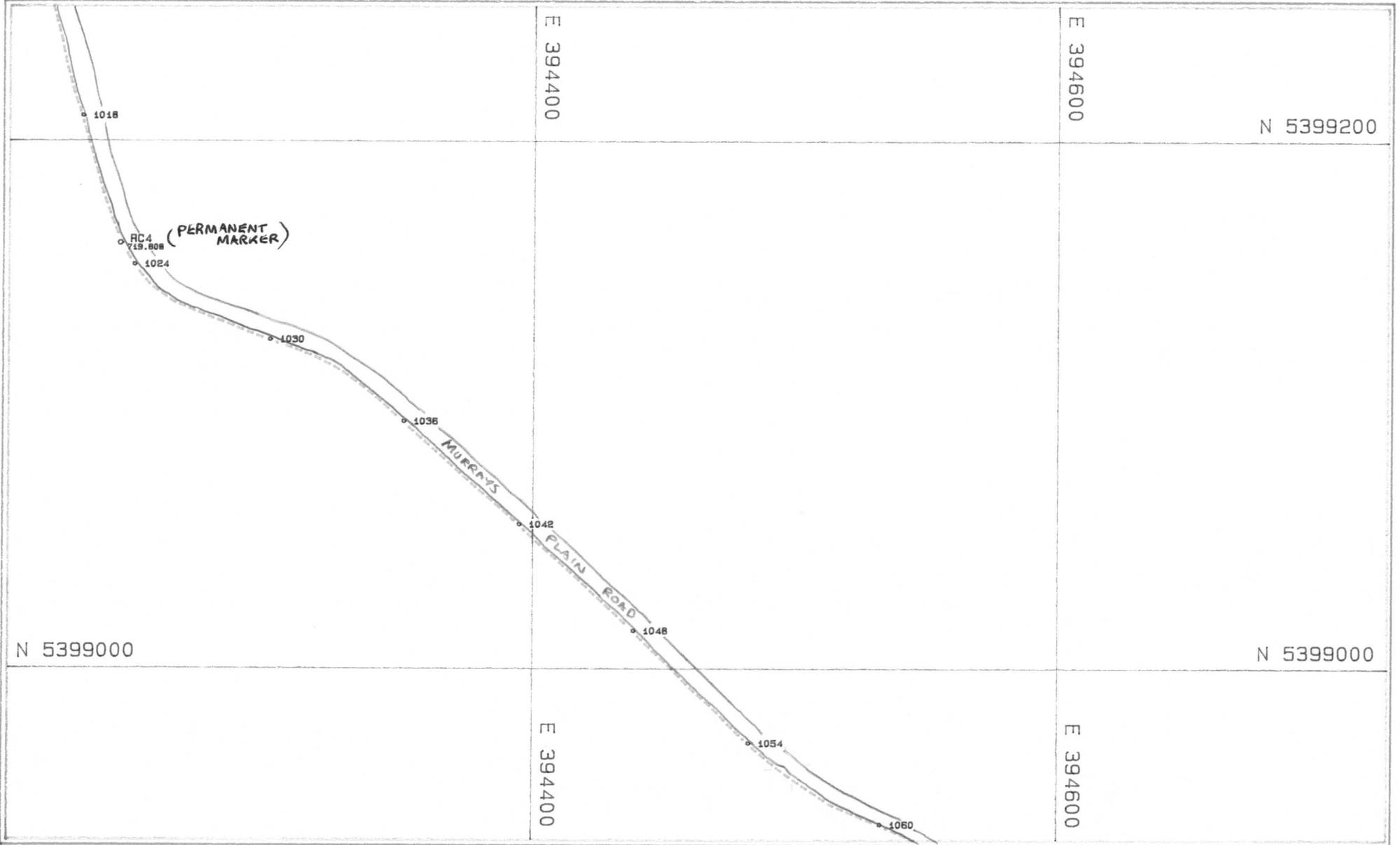
Proposed shooting order for Aberfoyle line 95AGS-AB									
Group interval 10 m				First station 1000					
Number of channels 120				Last station 1119					
Shot depth 5m									
Geophones 16 in line, 1.3m apart, spread over 20m									
Shot point	fcp	lcp	Co-incident station	Depth	Kg	Dets	Offsets		
							Inline	Offline	
line 95AGS-T2									
1000	1000	1119	2132	5	2	1	0	0	0
1006	1000	1119		4.7	2	1	0	0	0
1012	1000	1119	2135	4.9	2	1	0	0	0
1018	1000	1119		4.6	2	1	0	0	0
1024	1000	1119	2138	3.7	2	1	0	0	9
1036	1000	1119	2141	4.7	2	1	0	0	0
1055	1000	1119		4.7	2	1	0	0	0
1060	1000	1119	2147	4.7	2	1	0	0	0
1068	1000	1119	2149	4.7	2	1	0	0	0
1080	1000	1119	2152	4.6	2	1	0	0	0
1090	1000	1119		4.7	2	1	0	0	0
1102	1000	1119		4.8	2	1	0	0	0
1114	1000	1119		4.8	2	1	0	0	0
1118	1000	1119		4.6	2	1	0	0	0





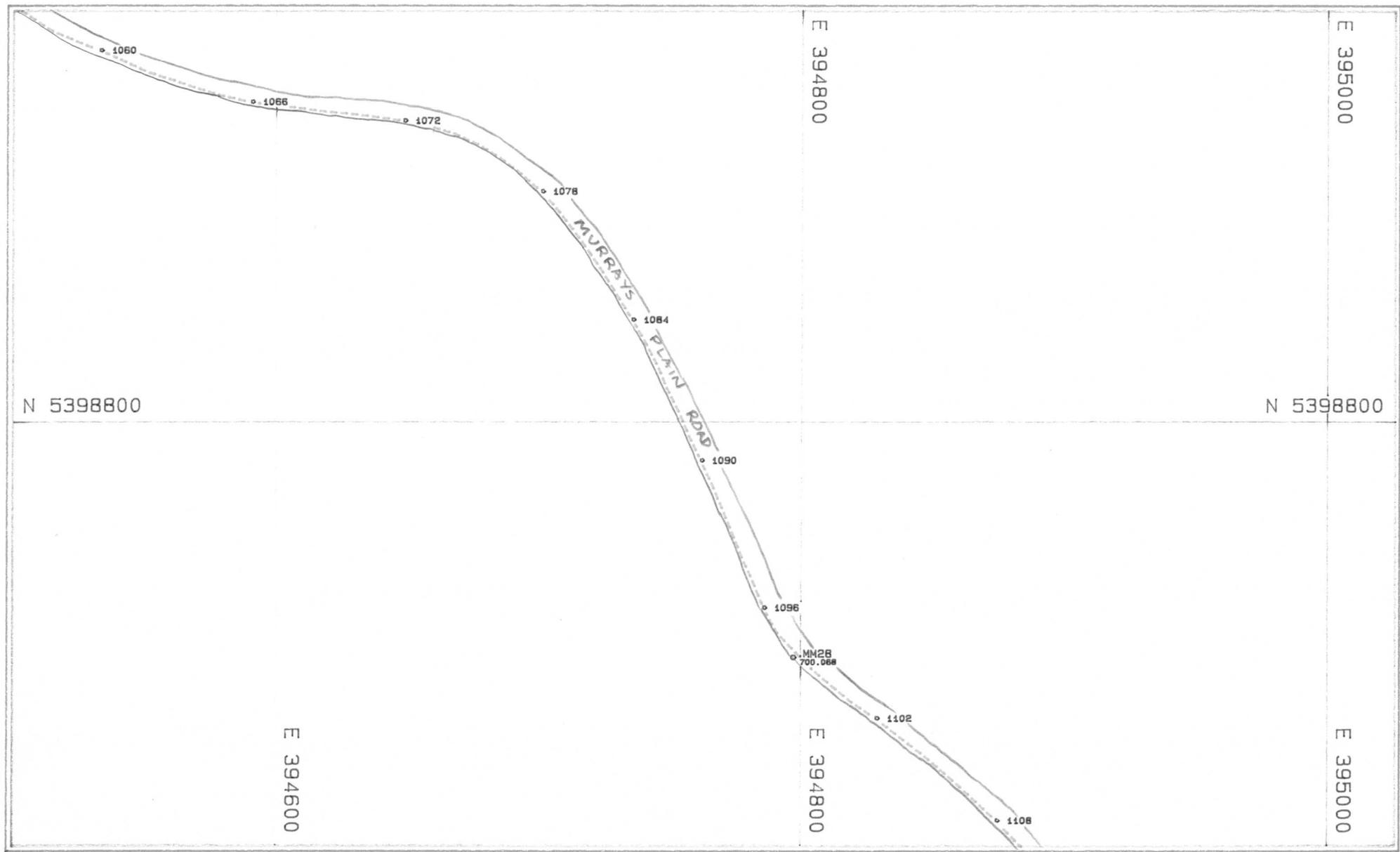
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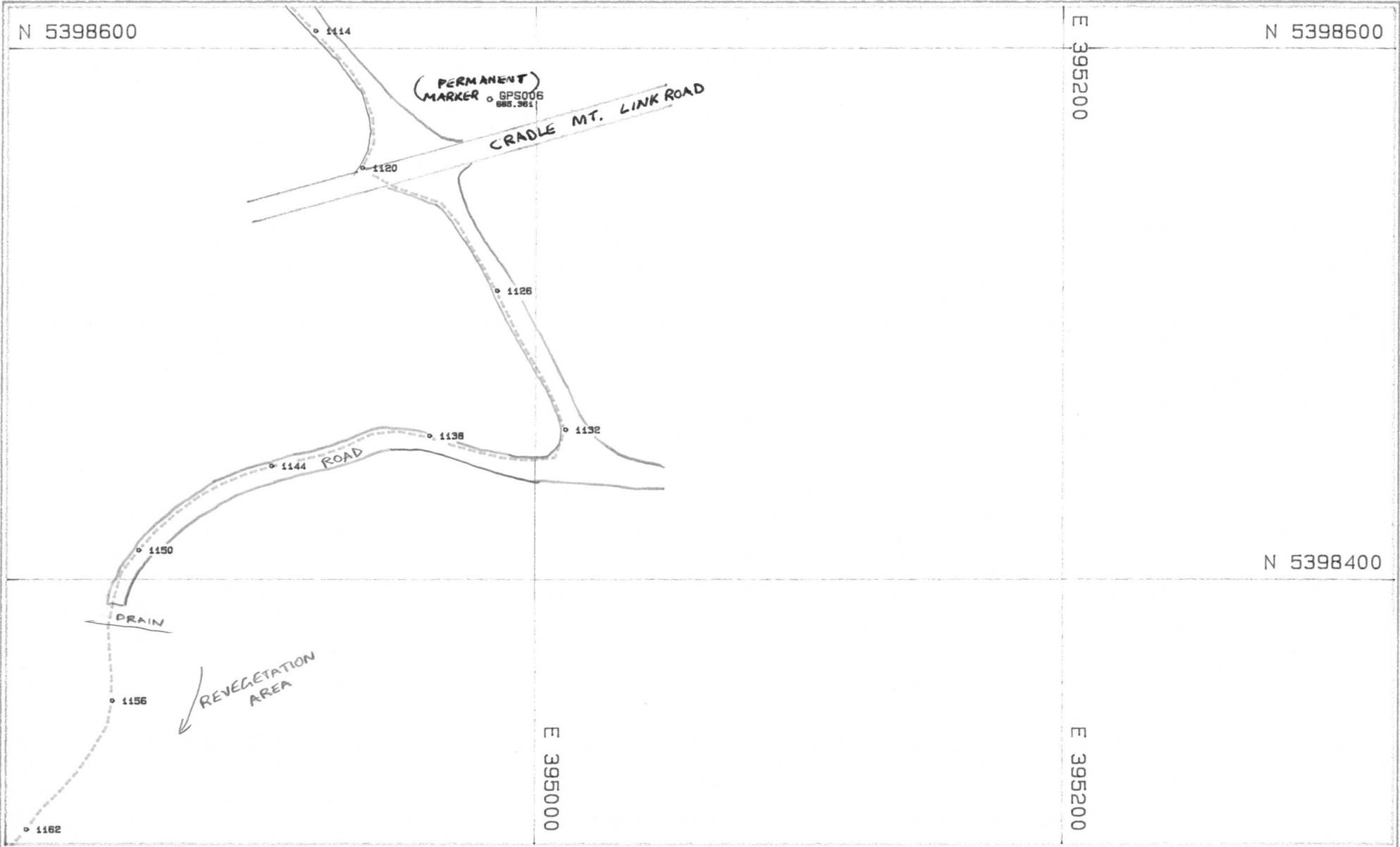


SEISMH.PF

☒



SEISMG.PF
X



SEISM.D.PF

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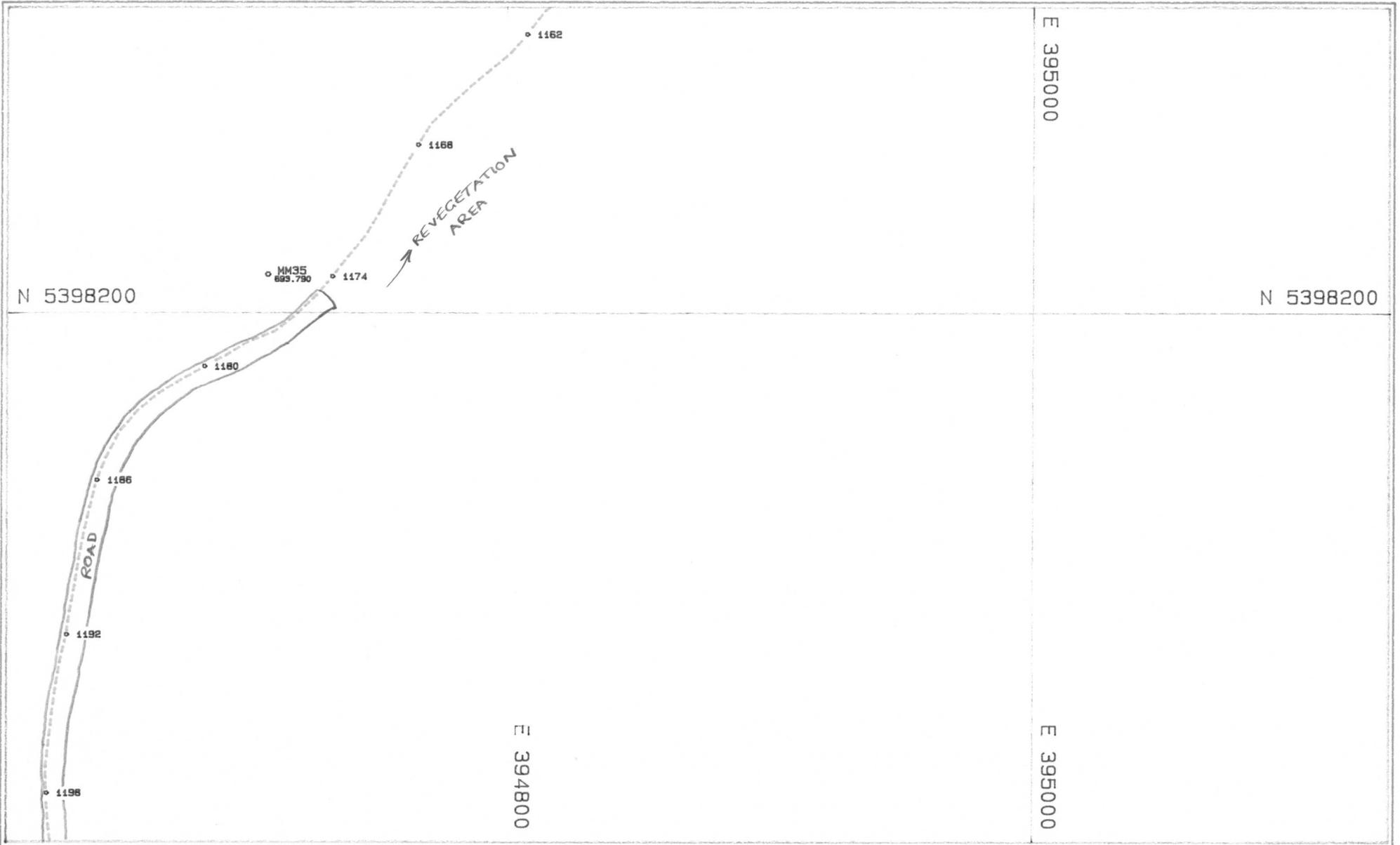
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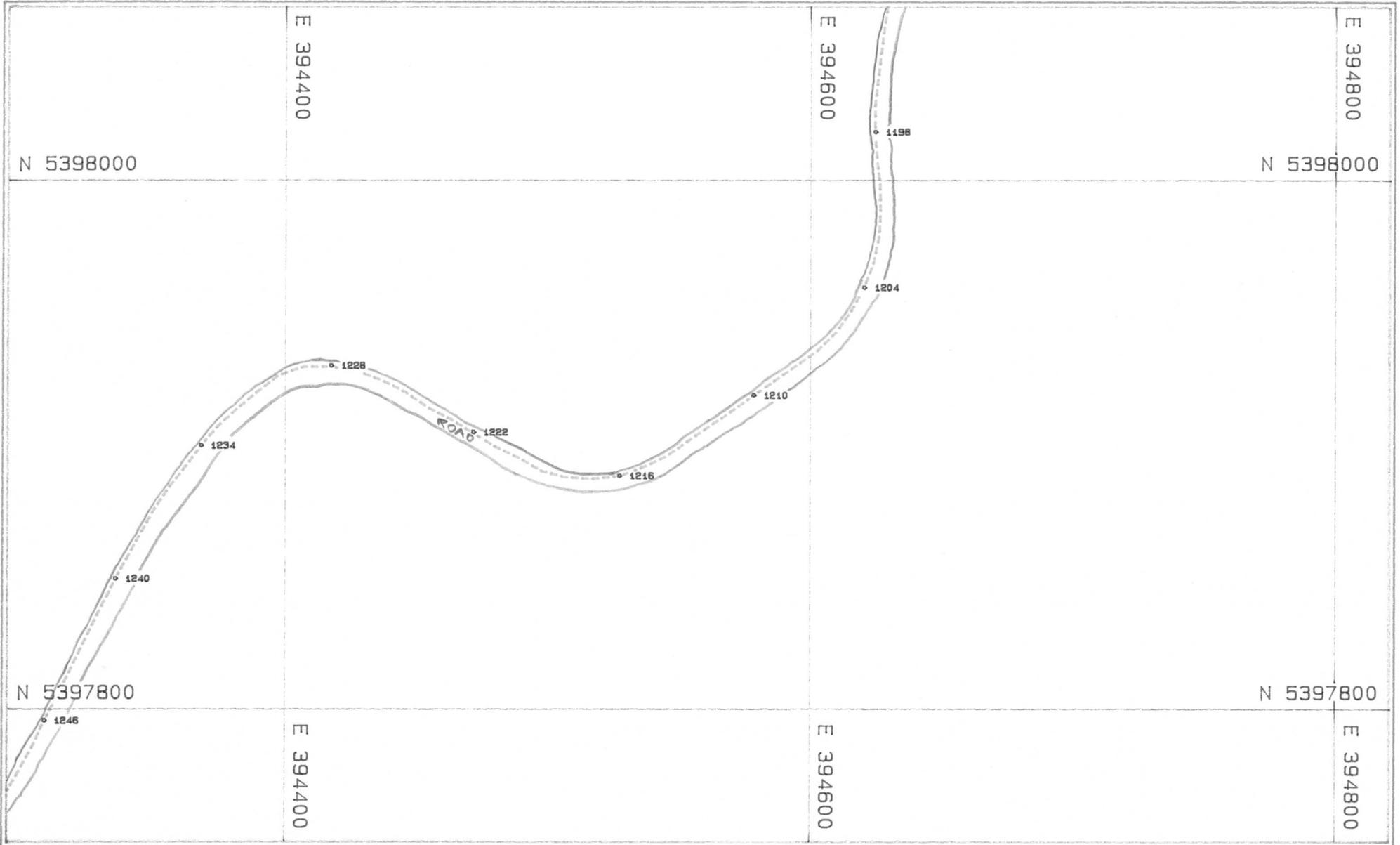
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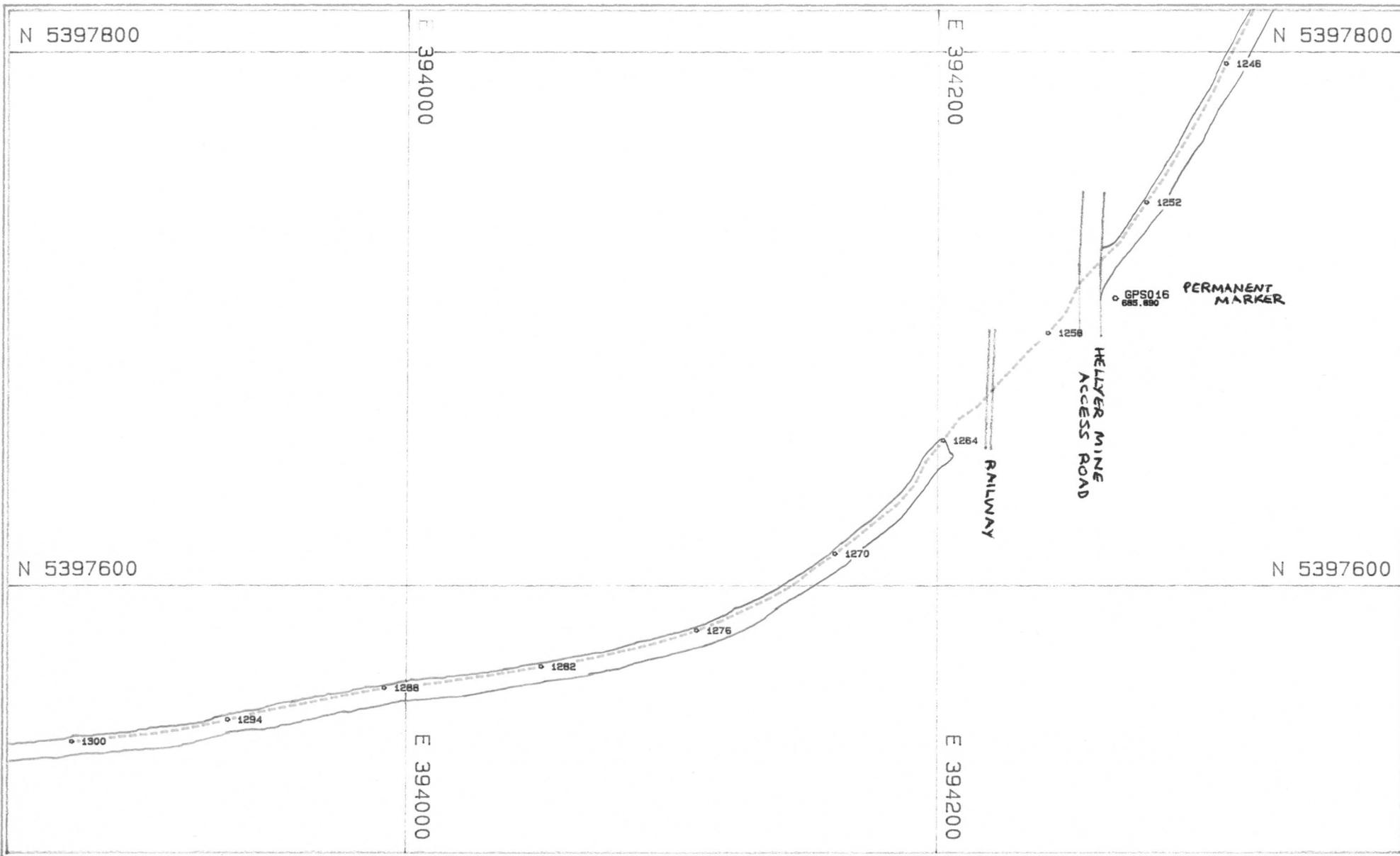
E 395000

E 395000

E 394800







SEISMB.PF

X

Traverse: 95AGS-AB2			File Name: SP9502.ASC		"Date: April, 1995."
Station Number	Elev. (m)	Easting (m)	Northing (m)	Latitude (dec. deg)	Longitude (dec. deg)
1000	726.87	394143.70	5399365.45	-41.550230	145.730730
1006	726.87	394179.58	5399317.41	-41.550668	145.731152
1012	726.66	394211.11	5399266.77	-41.551128	145.731521
1018	722.96	394227.73	5399209.30	-41.551648	145.731710
1024	718.79	394247.63	5399152.84	-41.552159	145.731939
1030	715.03	394299.66	5399124.54	-41.552420	145.732558
1036	714.41	394350.80	5399093.59	-41.552706	145.733165
1042	716.30	394394.95	5399054.56	-41.553063	145.733688
1048	714.50	394438.70	5399014.38	-41.553431	145.734205
1054	712.57	394482.76	5398971.71	-41.553821	145.734726
1060	712.96	394532.85	5398940.84	-41.554105	145.735321
1066	710.90	394590.97	5398921.23	-41.554290	145.736014
1072	706.85	394648.92	5398914.07	-41.554362	145.736708
1078	703.76	394701.46	5398887.33	-41.554609	145.737333
1084	703.06	394736.21	5398838.97	-41.555049	145.737741
1090	701.61	394762.29	5398785.66	-41.555533	145.738044
1096	699.98	394786.31	5398730.07	-41.556037	145.738323
1102	699.20	394829.28	5398688.11	-41.556420	145.738830
1108	695.69	394875.00	5398649.72	-41.556772	145.739372
1114	690.24	394916.25	5398606.69	-41.557165	145.739859
1120	686.67	394934.19	5398555.04	-41.557632	145.740065
1126	686.41	394985.36	5398508.65	-41.558057	145.740670
1132	685.92	395011.40	5398456.33	-41.558531	145.740973
1138	688.27	394959.73	5398454.06	-41.558545	145.740353
1144	684.29	394899.85	5398442.68	-41.558640	145.739633
1150	678.51	394849.63	5398410.85	-41.558920	145.739026
1156	678.71	394839.73	5398354.13	-41.559429	145.738897
1162	685.13	394807.34	5398305.53	-41.559863	145.738500
1168	690.08	394765.69	5398263.77	-41.560233	145.737994
1174	690.09	394733.42	5398213.82	-41.560679	145.737598
1180	690.85	394684.65	5398179.92	-41.560978	145.737007
1186	692.44	394643.76	5398136.77	-41.561361	145.736509
1192	690.45	394632.33	5398078.38	-41.561885	145.736362
1198	688.00	394624.85	5398018.40	-41.562424	145.736262
1204	685.14	394620.68	5397959.68	-41.562952	145.736202
1210	683.09	394578.51	5397918.80	-41.563315	145.735689
1216	682.23	394527.51	5397888.45	-41.563582	145.735072
1222	679.08	394471.93	5397904.92	-41.563426	145.734409
1228	676.66	394417.61	5397930.07	-41.563192	145.733762
1234	681.56	394368.09	5397899.87	-41.563458	145.733163
1240	684.38	394335.65	5397849.51	-41.563907	145.732765
1246	685.12	394308.75	5397795.83	-41.564387	145.732433
1252	685.14	394278.65	5397743.92	-41.564850	145.732063
1258	685.86	394241.54	5397694.77	-41.565288	145.731609
1264	687.38	394202.11	5397654.70	-41.565643	145.731129
1270	684.32	394161.43	5397612.07	-41.566022	145.730634
1276	682.12	394109.28	5397583.43	-41.566273	145.730004
1282	680.78	394050.94	5397569.93	-41.566387	145.729302
1288	679.85	393991.82	5397561.89	-41.566451	145.728591
1294	680.04	393932.72	5397549.93	-41.566551	145.727881
1300	679.13	393873.74	5397541.69	-41.566618	145.727172

Traverse: 95AGS-AB2			File Name:GS9502.ASC	"Date:April, 1995."	
Station Number	Elev. (m)	Easting (m)	Northing (m)	Latitude (dec deg)	Longitude (dec. deg)
1000	726.87	394143.70	5399365.45	-41.550230	145.730730
1001	726.70	394150.27	5399357.65	-41.550301	145.730808
1002	726.47	394155.94	5399349.52	-41.550375	145.730874
1003	726.50	394161.92	5399341.62	-41.550447	145.730945
1004	726.61	394167.72	5399333.45	-41.550522	145.731013
1005	726.77	394173.51	5399325.36	-41.550595	145.731081
1006	726.87	394179.58	5399317.41	-41.550668	145.731152
1007	727.02	394185.45	5399309.27	-41.550742	145.731221
1008	727.10	394191.21	5399301.04	-41.550817	145.731289
1009	727.14	394196.47	5399292.70	-41.550892	145.731350
1010	727.16	394202.27	5399284.65	-41.550966	145.731418
1011	727.00	394207.08	5399275.77	-41.551046	145.731474
1012	726.66	394211.11	5399266.77	-41.551128	145.731521
1013	726.23	394214.48	5399257.46	-41.551212	145.731560
1014	725.58	394217.35	5399247.93	-41.551298	145.731593
1015	724.99	394219.92	5399238.25	-41.551386	145.731622
1016	724.31	394221.96	5399228.39	-41.551475	145.731644
1017	723.62	394224.52	5399218.81	-41.551561	145.731673
1018	722.96	394227.73	5399209.30	-41.551648	145.731710
1019	722.20	394230.46	5399199.82	-41.551733	145.731741
1020	721.46	394233.23	5399190.15	-41.551821	145.731773
1021	720.73	394235.98	5399180.32	-41.551910	145.731804
1022	720.07	394239.19	5399170.93	-41.551995	145.731841
1023	719.43	394242.79	5399161.74	-41.552078	145.731882
1024	718.79	394247.63	5399152.84	-41.552159	145.731939
1025	718.17	394254.19	5399145.18	-41.552228	145.732016
1026	717.50	394262.89	5399138.94	-41.552286	145.732119
1027	716.99	394271.16	5399135.45	-41.552318	145.732218
1028	716.34	394281.07	5399131.75	-41.552353	145.732336
1029	715.68	394290.40	5399128.14	-41.552387	145.732447
1030	715.03	394299.66	5399124.54	-41.552420	145.732558
1031	714.32	394309.28	5399121.37	-41.552450	145.732672
1032	713.64	394318.49	5399117.64	-41.552485	145.732782
1033	713.14	394327.34	5399112.99	-41.552528	145.732887
1034	713.28	394335.38	5399107.16	-41.552582	145.732983
1035	713.75	394342.92	5399100.99	-41.552638	145.733072
1036	714.41	394350.80	5399093.59	-41.552706	145.733165
1037	715.18	394357.63	5399087.59	-41.552761	145.733246
1038	716.02	394365.09	5399081.06	-41.552820	145.733334
1039	716.48	394372.43	5399074.36	-41.552882	145.733421
1040	716.56	394379.96	5399067.71	-41.552943	145.733510
1041	716.56	394387.75	5399061.27	-41.553002	145.733603
1042	716.30	394394.95	5399054.56	-41.553063	145.733688
1043	715.92	394402.34	5399047.61	-41.553127	145.733775
1044	715.57	394409.89	5399041.05	-41.553187	145.733864
1045	715.30	394417.29	5399034.45	-41.553247	145.733952
1046	715.02	394424.54	5399027.68	-41.553309	145.734038
1047	714.77	394431.89	5399020.99	-41.553370	145.734125
1048	714.50	394438.70	5399014.38	-41.553431	145.734205
1049	714.17	394446.22	5399007.08	-41.553497	145.734294
1050	713.74	394453.52	5399000.37	-41.553559	145.734380
1051	713.33	394460.46	5398993.04	-41.553626	145.734462
1052	713.10	394467.93	5398986.58	-41.553685	145.734551
1053	712.70	394474.91	5398979.40	-41.553750	145.734633
1054	712.57	394482.76	5398971.71	-41.553821	145.734726

1055	712.29	394489.63	5398965.72	-41.553876	145.734807
1056	712.24	394497.68	5398959.53	-41.553932	145.734903
1057	712.37	394506.11	5398953.95	-41.553984	145.735003
1058	712.51	394514.16	5398948.50	-41.554034	145.735098
1059	712.76	394523.77	5398944.50	-41.554071	145.735213
1060	712.96	394532.85	5398940.84	-41.554105	145.735321
1061	712.92	394542.18	5398936.77	-41.554143	145.735432
1062	712.70	394551.25	5398932.61	-41.554182	145.735540
1063	712.62	394560.80	5398929.64	-41.554210	145.735654
1064	712.09	394570.27	5398926.49	-41.554239	145.735767
1065	711.57	394579.90	5398923.73	-41.554266	145.735882
1066	710.90	394590.97	5398921.23	-41.554290	145.736014
1067	710.30	394599.42	5398920.37	-41.554298	145.736115
1068	709.47	394609.41	5398918.98	-41.554312	145.736235
1069	708.68	394619.24	5398917.76	-41.554325	145.736353
1070	707.98	394629.11	5398916.85	-41.554334	145.736471
1071	707.27	394639.00	5398915.57	-41.554347	145.736589
1072	706.85	394648.92	5398914.07	-41.554362	145.736708
1073	706.17	394658.56	5398912.21	-41.554380	145.736823
1074	705.40	394668.05	5398909.28	-41.554407	145.736936
1075	704.84	394677.15	5398905.20	-41.554445	145.737045
1076	704.41	394685.58	5398900.10	-41.554492	145.737145
1077	703.97	394693.57	5398893.99	-41.554548	145.737239
1078	703.76	394701.46	5398887.33	-41.554609	145.737333
1079	703.52	394707.84	5398880.12	-41.554675	145.737408
1080	703.29	394713.99	5398872.28	-41.554747	145.737480
1081	703.07	394719.88	5398864.23	-41.554820	145.737550
1082	702.95	394725.57	5398855.93	-41.554895	145.737616
1083	703.03	394730.88	5398847.52	-41.554972	145.737679
1084	703.06	394736.21	5398838.97	-41.555049	145.737741
1085	703.06	394741.12	5398830.47	-41.555127	145.737798
1086	702.91	394745.77	5398821.61	-41.555207	145.737853
1087	702.60	394749.31	5398813.10	-41.555284	145.737894
1088	702.30	394754.13	5398803.52	-41.555371	145.737950
1089	701.88	394757.74	5398794.94	-41.555449	145.737991
1090	701.61	394762.29	5398785.66	-41.555533	145.738044
1091	701.29	394766.78	5398776.22	-41.555619	145.738097
1092	700.96	394770.64	5398767.05	-41.555702	145.738141
1093	700.58	394774.51	5398757.78	-41.555786	145.738186
1094	700.27	394778.26	5398748.53	-41.555869	145.738229
1095	700.09	394782.50	5398739.51	-41.555951	145.738279
1096	699.98	394786.31	5398730.07	-41.556037	145.738323
1097	699.98	394791.31	5398721.01	-41.556119	145.738381
1098	700.06	394797.60	5398714.20	-41.556181	145.738455
1099	700.02	394805.44	5398706.28	-41.556253	145.738548
1100	699.91	394813.08	5398699.96	-41.556311	145.738638
1101	699.63	394820.28	5398694.17	-41.556364	145.738724
1102	699.20	394829.28	5398688.11	-41.556420	145.738830
1103	698.74	394837.06	5398682.15	-41.556475	145.738923
1104	698.34	394845.03	5398676.11	-41.556530	145.739017
1105	697.71	394852.80	5398669.84	-41.556588	145.739109
1106	696.98	394860.35	5398663.27	-41.556648	145.739199
1107	696.38	394867.69	5398656.54	-41.556710	145.739285
1108	695.69	394875.00	5398649.72	-41.556772	145.739372
1109	694.69	394881.85	5398642.63	-41.556837	145.739453
1110	693.88	394889.00	5398635.50	-41.556902	145.739537
1111	693.04	394896.18	5398628.68	-41.556964	145.739622
1112	692.10	394902.78	5398621.24	-41.557032	145.739700

1113	691.20	394909.34	5398613.79	-41.557100	145.739777
1114	690.24	394916.25	5398606.69	-41.557165	145.739859
1115	689.29	394923.12	5398599.37	-41.557232	145.739940
1116	688.37	394929.78	5398592.14	-41.557298	145.740018
1117	687.57	394935.04	5398583.84	-41.557373	145.740080
1118	686.88	394938.48	5398573.87	-41.557463	145.740120
1119	686.53	394938.98	5398564.96	-41.557544	145.740124
1120	686.67	394934.19	5398555.04	-41.557632	145.740065
1121	686.49	394946.81	5398548.08	-41.557697	145.740215
1122	686.29	394964.37	5398542.17	-41.557752	145.740424
1123	686.22	394970.81	5398534.59	-41.557821	145.740500
1124	686.30	394975.69	5398526.02	-41.557899	145.740557
1125	686.40	394980.76	5398517.50	-41.557977	145.740617
1126	686.41	394985.36	5398508.65	-41.558057	145.740670
1127	686.34	394989.89	5398499.75	-41.558138	145.740723
1128	686.17	394994.34	5398490.72	-41.558219	145.740775
1129	686.06	394999.43	5398482.03	-41.558298	145.740834
1130	686.00	395004.42	5398473.37	-41.558377	145.740893
1131	685.95	395008.57	5398464.62	-41.558456	145.740941
1132	685.92	395011.40	5398456.33	-41.558531	145.740973
1133	686.43	395007.64	5398446.17	-41.558622	145.740926
1134	687.08	394997.79	5398445.10	-41.558631	145.740808
1135	687.52	394987.85	5398446.30	-41.558619	145.740689
1136	687.68	394978.18	5398448.55	-41.558597	145.740574
1137	687.99	394968.48	5398451.16	-41.558572	145.740458
1138	688.27	394959.73	5398454.06	-41.558545	145.740353
1139	688.71	394948.44	5398456.26	-41.558524	145.740218
1140	688.78	394937.69	5398454.77	-41.558536	145.740089
1141	687.38	394928.37	5398450.38	-41.558574	145.739977
1142	686.39	394919.28	5398447.02	-41.558603	145.739867
1143	685.33	394909.55	5398444.87	-41.558621	145.739750
1144	684.29	394899.85	5398442.68	-41.558640	145.739633
1145	683.24	394890.06	5398439.68	-41.558665	145.739516
1146	682.24	394880.99	5398435.90	-41.558698	145.739406
1147	681.19	394872.24	5398431.13	-41.558740	145.739300
1148	680.19	394864.22	5398425.24	-41.558792	145.739203
1149	679.37	394856.63	5398418.54	-41.558851	145.739111
1150	678.51	394849.63	5398410.85	-41.558920	145.739026
1151	677.59	394843.30	5398402.74	-41.558992	145.738948
1152	676.76	394840.57	5398393.07	-41.559079	145.738914
1153	675.35	394838.43	5398383.48	-41.559165	145.738887
1154	676.41	394838.87	5398373.99	-41.559250	145.738890
1155	677.52	394839.78	5398364.02	-41.559340	145.738900
1156	678.71	394839.73	5398354.13	-41.559429	145.738897
1157	679.52	394837.87	5398344.57	-41.559515	145.738873
1158	680.28	394832.59	5398335.95	-41.559592	145.738808
1159	681.31	394826.97	5398327.69	-41.559666	145.738740
1160	682.47	394820.35	5398320.34	-41.559731	145.738659
1161	683.88	394813.32	5398313.41	-41.559792	145.738573
1162	685.13	394807.34	5398305.53	-41.559863	145.738500
1163	686.54	394800.87	5398298.27	-41.559927	145.738421
1164	687.70	394793.19	5398292.06	-41.559982	145.738328
1165	688.21	394785.46	5398285.79	-41.560037	145.738235
1166	688.61	394778.30	5398279.08	-41.560097	145.738148
1167	689.44	394770.94	5398272.19	-41.560158	145.738058
1168	690.08	394765.69	5398263.77	-41.560233	145.737994
1169	690.28	394760.60	5398255.15	-41.560310	145.737931
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1171	690.17	394751.11	5398237.76	-41.560465	145.737814
1172	689.77	394746.02	5398229.35	-41.560540	145.737752
1173	689.69	394739.71	5398221.75	-41.560608	145.737675
1174	690.09	394733.42	5398213.82	-41.560679	145.737598
1175	690.51	394727.45	5398206.90	-41.560740	145.737525
1176	691.10	394719.46	5398199.34	-41.560807	145.737428
1177	691.18	394711.57	5398193.24	-41.560861	145.737332
1178	691.02	394702.09	5398189.72	-41.560892	145.737218
1179	690.91	394693.59	5398184.62	-41.560936	145.737115
1180	690.85	394684.65	5398179.92	-41.560978	145.737007
1181	691.02	394676.00	5398175.15	-41.561019	145.736903
1182	691.31	394667.21	5398169.93	-41.561065	145.736796
1183	691.69	394659.31	5398163.33	-41.561124	145.736701
1184	692.02	394652.53	5398155.53	-41.561193	145.736618
1185	692.23	394647.62	5398146.33	-41.561275	145.736557
1186	692.44	394643.76	5398136.77	-41.561361	145.736509
1187	692.28	394641.33	5398127.06	-41.561448	145.736479
1188	691.99	394639.01	5398117.38	-41.561535	145.736449
1189	691.47	394637.12	5398107.51	-41.561623	145.736425
1190	691.05	394635.58	5398097.71	-41.561711	145.736405
1191	690.72	394633.69	5398087.79	-41.561800	145.736380
1192	690.45	394632.33	5398078.38	-41.561885	145.736362
1193	690.01	394629.95	5398068.33	-41.561975	145.736332
1194	689.57	394628.25	5398058.40	-41.562064	145.736310
1195	689.27	394626.99	5398048.53	-41.562153	145.736293
1196	688.91	394625.81	5398038.18	-41.562246	145.736277
1197	688.56	394624.70	5398028.50	-41.562333	145.736262
1198	688.00	394624.85	5398018.40	-41.562424	145.736262
1199	687.53	394625.67	5398008.46	-41.562514	145.736270
1200	686.99	394626.80	5397998.59	-41.562603	145.736282
1201	686.38	394627.01	5397988.64	-41.562692	145.736283
1202	685.99	394626.28	5397978.75	-41.562781	145.736272
1203	685.45	394624.19	5397969.01	-41.562869	145.736245
1204	685.14	394620.68	5397959.68	-41.562952	145.736202
1205	684.70	394615.86	5397951.01	-41.563030	145.736142
1206	684.46	394610.07	5397942.93	-41.563102	145.736072
1207	684.12	394603.02	5397935.88	-41.563164	145.735986
1208	683.78	394594.90	5397930.20	-41.563214	145.735887
1209	683.38	394586.72	5397924.42	-41.563265	145.735788
1210	683.09	394578.51	5397918.80	-41.563315	145.735689
1211	682.88	394570.31	5397913.00	-41.563366	145.735590
1212	682.73	394562.05	5397907.49	-41.563415	145.735490
1213	682.61	394553.94	5397901.90	-41.563464	145.735391
1214	682.56	394545.68	5397896.11	-41.563515	145.735291
1215	682.44	394536.69	5397891.86	-41.563552	145.735183
1216	682.23	394527.51	5397888.45	-41.563582	145.735072
1217	681.94	394517.59	5397887.48	-41.563589	145.734953
1218	681.46	394507.67	5397888.31	-41.563580	145.734834
1219	680.98	394498.05	5397890.64	-41.563558	145.734719
1220	680.32	394489.32	5397895.65	-41.563512	145.734615
1221	679.77	394480.37	5397899.85	-41.563473	145.734509
1222	679.08	394471.93	5397904.92	-41.563426	145.734409
1223	678.42	394463.36	5397910.18	-41.563377	145.734307
1224	677.77	394454.42	5397914.72	-41.563335	145.734200
1225	677.04	394445.94	5397920.48	-41.563282	145.734100
1226	676.53	394437.05	5397924.92	-41.563241	145.733994
1227	676.39	394427.47	5397928.45	-41.563208	145.733880
1228	676.66	394417.61	5397930.07	-41.563192	145.733762

1229	677.62	394407.32	5397929.95	-41.563192	145.733638
1230	678.61	394397.71	5397926.55	-41.563221	145.733522
1231	679.55	394389.97	5397920.55	-41.563274	145.733429
1232	680.18	394382.24	5397914.18	-41.563331	145.733335
1233	680.77	394374.91	5397907.44	-41.563390	145.733246
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1235	682.16	394362.21	5397892.05	-41.563527	145.733091
1236	682.55	394355.79	5397884.00	-41.563599	145.733012
1237	683.01	394350.16	5397875.59	-41.563674	145.732943
1238	683.54	394345.34	5397866.90	-41.563752	145.732884
1239	684.01	394340.50	5397858.22	-41.563829	145.732824
1240	684.38	394335.65	5397849.51	-41.563907	145.732765
1241	684.61	394331.23	5397840.71	-41.563986	145.732710
1242	684.78	394326.74	5397831.59	-41.564067	145.732655
1243	684.95	394322.38	5397822.80	-41.564146	145.732601
1244	685.11	394317.99	5397813.71	-41.564227	145.732547
1245	685.27	394313.55	5397804.82	-41.564306	145.732492
1246	685.12	394308.75	5397795.83	-41.564387	145.732433
1247	685.13	394304.63	5397786.82	-41.564467	145.732382
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1249	685.07	394294.92	5397769.53	-41.564622	145.732262
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1251	685.11	394285.33	5397753.40	-41.564766	145.732145
1252	685.14	394278.65	5397743.92	-41.564850	145.732063
1253	685.02	394273.14	5397735.84	-41.564922	145.731995
1254	685.10	394268.78	5397728.97	-41.564983	145.731942
1255	685.21	394263.99	5397724.56	-41.565023	145.731884
1256	685.56	394253.24	5397713.25	-41.565123	145.731753
1257	685.84	394248.23	5397702.26	-41.565221	145.731691
1258	685.86	394241.54	5397694.77	-41.565288	145.731609
1259	687.23	394234.72	5397688.48	-41.565344	145.731526
1260	685.97	394228.12	5397681.41	-41.565406	145.731446
1261	683.26	394222.78	5397675.92	-41.565455	145.731381
1262	684.17	394215.21	5397667.58	-41.565529	145.731289
1263	687.27	394208.15	5397662.78	-41.565572	145.731203
1264	687.38	394202.11	5397654.70	-41.565643	145.731129
1265	686.88	394195.59	5397646.64	-41.565715	145.731050
1266	686.31	394191.49	5397638.01	-41.565792	145.730999
1267	686.01	394184.94	5397630.64	-41.565858	145.730919
1268	685.61	394177.09	5397624.51	-41.565912	145.730824
1269	684.99	394169.39	5397618.18	-41.565968	145.730731
1270	684.32	394161.43	5397612.07	-41.566022	145.730634
1271	683.80	394153.34	5397606.48	-41.566071	145.730536
1272	683.46	394145.42	5397600.30	-41.566126	145.730440
1273	683.22	394136.74	5397595.44	-41.566168	145.730335
1274	682.84	394127.63	5397591.25	-41.566205	145.730225
1275	682.51	394118.66	5397587.05	-41.566242	145.730117
1276	682.12	394109.28	5397583.43	-41.566273	145.730004
1277	681.95	394099.69	5397580.38	-41.566299	145.729888
1278	681.68	394090.29	5397577.71	-41.566322	145.729775
1279	681.42	394080.48	5397575.60	-41.566340	145.729657
1280	681.20	394070.85	5397573.28	-41.566359	145.729541
1281	680.93	394060.93	5397571.49	-41.566374	145.729422
1282	680.78	394050.94	5397569.93	-41.566387	145.729302
1283	680.42	394041.11	5397568.34	-41.566400	145.729184
1284	680.25	394031.38	5397566.65	-41.566414	145.729067
1285	680.12	394021.46	5397565.34	-41.566424	145.728947
1286	679.92	394011.50	5397563.88	-41.566436	145.728828

1287	679.89	394001.87	5397562.78	-41.566445	145.728712
1288	679.85	393991.82	5397561.89	-41.566451	145.728591
1289	679.78	393981.90	5397560.09	-41.566466	145.728472
1290	679.83	393972.12	5397558.20	-41.566482	145.728355
1291	679.91	393962.33	5397556.27	-41.566498	145.728237
1292	679.96	393952.35	5397554.42	-41.566513	145.728117
1293	680.02	393942.66	5397552.41	-41.566530	145.728000
1294	680.04	393932.72	5397549.93	-41.566551	145.727881
1295	680.16	393923.15	5397547.85	-41.566569	145.727766
1296	680.14	393913.38	5397546.07	-41.566583	145.727648
1297	680.04	393903.58	5397544.71	-41.566594	145.727530
1298	679.82	393893.54	5397543.74	-41.566602	145.727410
1299	679.47	393883.55	5397542.73	-41.566610	145.727290
1300	679.13	393873.74	5397541.69	-41.566618	145.727172

Traverse: 95AGS-AB2

File Name: PM9502.ASC

"Date: April, 1995

Station Elev. Easting

Northing

Latitude

Longitude

Number (m) (m)

(m)

(dec. deg)

(dec. deg)

RC4 719.61 394242.16

5399161.04

-41.552084

145.731875

GPS016 685.89 394266.96

5397707.84

-41.565174

145.731916

GPS006 685.36 394982.18

5398580.93

-41.557405

145.740645

Station		Elev.		Easting		Northing		Latitude		Longitude	
Number	(m)	(m)	(m)	(m)	(m)	(dec. deg)					
RC4	719.61	394242.16	5399161.04	-41.552084	145.731875						
GPS016	685.89	394266.96	5397707.84	-41.565174	145.731916						
GPS006	685.36	394982.18	5398580.93	-41.557405	145.740645						
	686.52	394960.77	5398553.87	-41.557646	145.740383						
	686.36	394970.43	5398556.09	-41.557628	145.740500						
	686.70	394922.50	5398543.33	-41.557736	145.739923						
	685.79	394998.98	5398564.54	-41.557555	145.740843						

 = PAIR OF PAINT MARKS @ INTERSECTION OF MURRAY'S FLAIN ROAD WITH CRADLE MOUNTAIN LINK ROAD.

 = SECOND PAIR OF PAINT MARKS @ SAME INTERSECTION.