Trigonometrical Survey of N.S.W. 74-98

Department of Lands

RECONNAISSANCE and MAINTENANCE REPORT

STATION Howick (Pillar) T.S.5470

Co: Durham | Ph: Howick.

Map Sheet: Milbrellbrook South | No: 9033

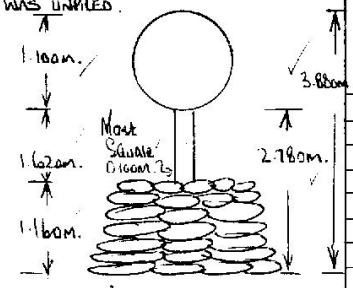
Inspected by: David J. Kain. | Date: 17th November 1975

Authority | Field Book: 01397.

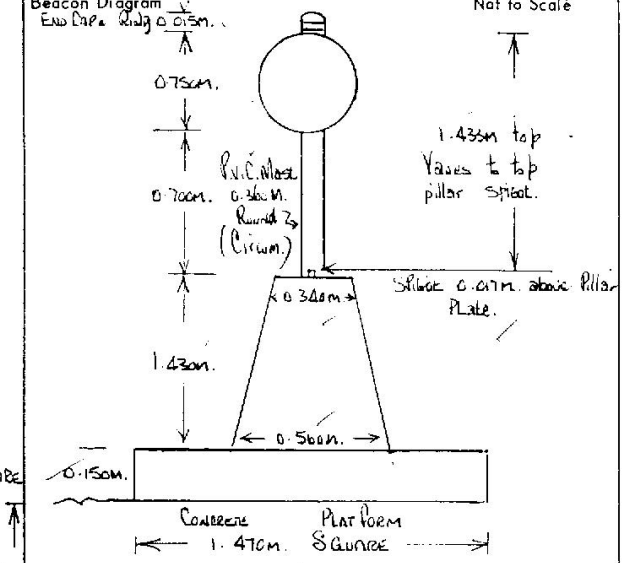
This Trig. Station has been:- *Note: Cross out word or words which do not apply*

1. ~~Completely cleared to permit 360° vision to surrounding Trigs~~.
2. Cleared by lanes bearing 110° ~ 87°M. from Trig. Mast
3. Trig. Mast & Vanes have been painted white & black respectively.
4. The Trig. was unpiled/not unpiled, dimensions now being: Original station mark found ~~not found~~
   Description of mark Stainless Steel Trig. Pin. should be explicit, e.g. Steel plug, Brass plug, Bolt, G.I. Pipe
   Height of mark Level Spigot m ~~above~~ below ~~rock~~/concrete Ar m ~~above~~ below G.L.
   Height of Top Vanes to Top ~~Mark~~ Spigot 1.433 m. Diameter of Vanes (vertical) 0.750 m.
   Height of Cairn —— m. Diameter of Cairn —— m.
   Length of Mast —— m. (approximate if not unpiled)
5. A Concrete Trig Pillar set in conc/~~rock~~ has been placed 2.494 m. bearing 125° °M from Trig. ~~Mast~~ Plug.
6. A Copper Nail set in conc/~~soil~~ has been ~~placed~~ found 6.687 m. bearing 270° °M from Trig. ~~Mast~~ Pillar.
7. A G.I. Pipe set in conc/~~soil~~ has been ~~placed~~ found 3.688 m. bearing 192° °M from Trig. ~~Mast~~ Pillar.
8. A..... set in conc/rock has been placed..... m. bearing..... °M from Trig. Mast
9. Connection Copper Nail to G.I. Pipe : 6.987 m. bearing 126° °M
10. Connection Trig. Plug to Copper Nail 4.762 m. bearing 254° °M
11. Connection Trig. Plug to G.I. Pipe : 5.139 m. bearing 167° °M
12. Connection..... to..... : ..... m. bearing..... °M
13. Diff. Ht. S/Steel Pin is 1.675 m. ~~above~~ below Pillar Plate
14. Diff. Ht. Copper Nail is 1.847 m. ~~above~~ below Pillar Plate
15. Diff. Ht. G.I. Pipe is 1.484 m. ~~above~~ below Pillar Plate
16. Diff. Ht. ..... is ..... m. above below .....

Original Station Measurements Before Trig. was unpiled.



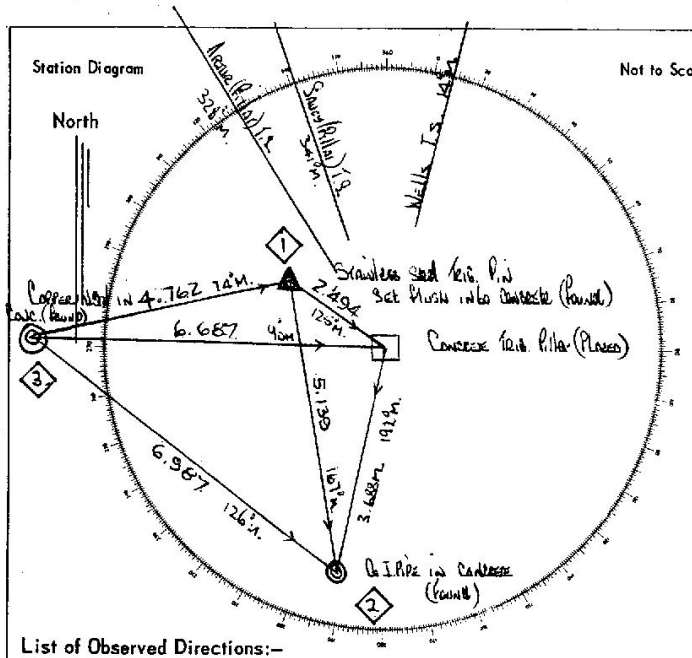
Beacon Diagram End Caps Ring 0.015m. Not to Scale



Date	Record of Station

Prepared by: Checked: EO 7/10/76 Noted on U.T.M. Card Checked

STATION Howick (Pillar) T.S. 5470



List of Observed Directions:–

Standpoint: Concrete Observing Pillar Standpoint: S/steel trig pin

Station	Direction	Station	Direction
Wells T.S.	0 00 00	Savoy Pillar T.S.	0 00 00
G.I. Pipe	178 17 50	Copper Nail	287 06 40
Copper Nail	257 11 10	G.I. Pipe	188 24 10
S/steel Pin	289 13 30	Conc. obs. Pillar	146 18 30
Savoy Pillar T.S.	322 56 10	Wells T.S.	37 03 57

Copper Nail in Conc.

Station	Direction	Station	Direction
Savoy Pillar T.S.	0 00 00		
S/steel Pin	98 04 20		
Conc. obs. Pillar	114 12 50		
G.I. Pipe	145 24 40		
Arthur Pillar T.S.	346 12 01		

Owners Name Mr. Ryan Current Occupant Grazier

Address Wondewai Address

Phone. Leamington - 743 129

Access 17-11-1975 Access to Howick (Pillar) T.S from Muswellbrook.

At Muswellbrook Post Office at 0.0 miles travel via New England Highway toward Singleton.

Mileage	Feature
10.40	Turn into entrance into Liddell Power Station.
11.15	Take Sealed Road off to your Left. (Red and white Electricity Commission Sign, "To E.C. Pumping Stations").
11.45	Pass under New England Highway at "Tinkers Creek".
11.60	Take Left Fork in Gravel Roads.
12.40	Pass Road on your R.H.S.
14.00	Pass Water Pumping Station, follow main Gravel Road.
17.40	Concrete Causeway.
19.20	Take Track off to your Left, down between two steel grids.
19.45	Cross Creek over Concrete Causeway below E.C. Pumping Station Building, follow trail to your Left in a South/East direction Accross open Paddock.
20.10	Through iron gate, follow track with fence on your Left.
20.40	Through two iron gates in cattle yards, follow trail up gentle slope, fence still on your Left.
21.00	Trig. Pillar.

Note:- In dry weather it would be possible to drive a station sedan type vehicle to this trig.

CENTRAL MAPPING AUTHORITY

Department of Lands

Trigonometrical Survey of N.S.W.

RECONNAISSANCE and MAINTENANCE REPORT

74-98

STATION HOWICK O.P. TS 5470

Co: DURHAM | Ph: HOWICK

Map Sheet: MUSWELLBROOK - S | No: 9033-S

Inspected by: C. J. BROWN | Date: 6TH January, 1976.

Authority C. M. A. | Field Book: 1477

This Trig. Station has been:-

Note: Cross out word or words which do not apply

1. Completely cleared to permit 360° vision to surrounding Trigs. ✓
2. Cleared by lanes bearing ..... from Trig. Mast
3. Trig. Mast & Vanes have been painted white & black respectively. ✓
4. The Trig. was unpiled/~~not unpiled~~, dimensions now being:

   Description of mark *Concrete Observation Pillar.* should be explicit, e.g. Steel plug, Brass plug, Bolt, G.I. Pipe

   Height of mark ..... m above/~~below~~ rock/concrete *1:47* m above/~~below~~ G.L.

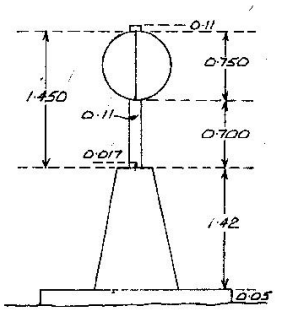
   Height of Top Vanes to Top Mark *1:450* m. Diameter of Vanes (vertical) *0·750* m.

   ~~Height of Cairn~~ ..... m. ~~Diameter of Cairn~~ ..... m.

   Length of Mast *0·700* m. (approximate if not unpiled)
5. A *G.I. Pipe* set in conc/~~rock~~ has been placed *3·689* m. bearing *188* °M from Trig. Mast
6. A *Copper Nail* set in conc/~~soil~~ has been placed *6·686* m. bearing *267* °M from Trig. Mast
7. A *Trig. Pin* set in conc/~~soil~~ has been placed *2·494* m. bearing *299* °M from Trig. Mast
8. A ..... set in conc/rock has been placed ..... m. bearing ..... °M from Trig. Mast
9. Connection *Trig. Pin* to *G.I. Pipe* : *5·138* m. bearing *161* °M
10. Connection *Trig. Pin* to *Copper Nl.* *4·762* m. bearing *251* °M
11. Connection ..... to ..... : ..... m. bearing ..... °M
12. Connection ..... to ..... : ..... m. bearing ..... °M
13. Diff. Ht. *G.I. Pipe in Conc.* is *1·485* m. ~~above~~/below *Pillar Plate*
14. Diff. Ht. *Copper Nail in Conc* is *1·847* m. ~~above~~/below *Pillar Plate*
15. Diff. Ht. *Trig. S/S Pin in Conc* is *1·676* m. ~~above~~/below *Pillar Plate*
16. Diff. Ht. ..... is ..... m. above/below .....

C. B. 2/14/76
SENIOR TRIGONOMETRICAL SURVEYOR

Beacon Diagram — Not to Scale

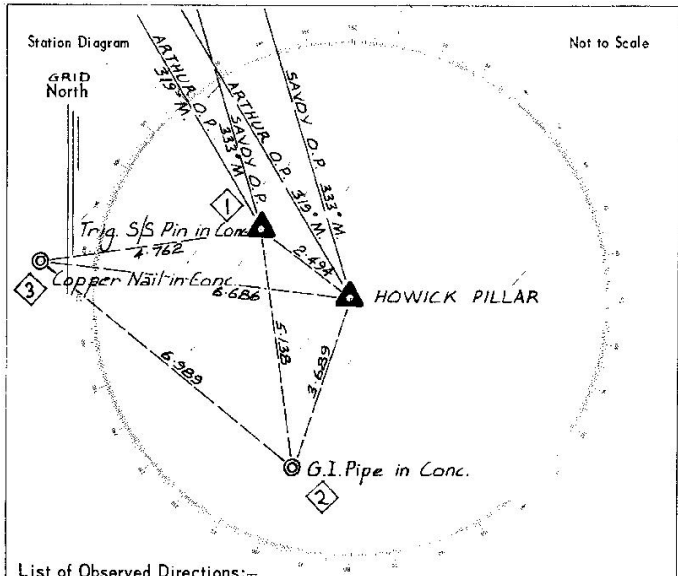


Date	Record of Station

Prepared by: C. J. Brown Checked: J.R.B. Noted on U.T.M. Card Checked

STATION HOWICK O.P. TS 5470

Station Diagram — Not to Scale



Owners Name.....

Address.....

.....

Access

Current Occupant.....

Address.....

.....

List of Observed Directions:–

Standpoint: Conc. Observation Pillar

Station	Direction
ARTHUR O.P.	359 59 60
SAVOY O.P.	13 47 21
G.I. Pipe in Conc.	229 08
Copper Nail in Conc.	308 02 30
Trig. S/S Pin in Conc.	340 04

Standpoint: Trig S/S Pin in Conc.

Station	Direction
ARTHUR O.P.	359 59 60
SAVOY O.P.	13 47 39
Pillar Spiggot	160 05
G.I. Pipe in Conc.	202 10 30
Copper Nail in Conc.	291 54

Station	Direction	Station	Direction

Department of Lands

Integration ey of N.S.W.

RECONNAISSANCE and MAINTENANCE REPORT 2520

STATION HOWICK (P) TS 5470

Co: DURHAM | Ph: HOWICK

Map Sheet: MUSWELLBROOK | No: 9033

Inspected by: P.McBeath | Date: 22-3-76

Authority ISD Newcastle | Field Book: P.D.P 334

This Trig. Station has been:-

Note: Cross out word or words which do not apply

1. Completely cleared to permit 360° vision to surrounding Trigs. ✓
2. Cleared by lanes bearing ..... from Trig. Mast
3. Trig. Mast & Vanes have been painted white & black respectively. ✓
4. The Trig. was unpiled/not unpiled, dimensions now being:

   Description of mark CONCRETE PILLAR should be explicit, e.g. Steel plug, Brass plug, Bolt, Concrete Pillar

   Height of mark ..... m above/below rock/concrete 1·41 m above/below G.L.

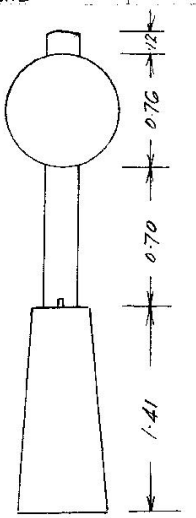
   Height of Top Vanes to ~~Top Mark~~/Top pillar plate 1·46 m Diameter of Vanes (vertical) 0·76 m.

   Height of Cairn 1·41 m. Diameter of Cairn ..... m.

   Length of Mast 1·58 m. (approximate if not unpiled)

5. A S.S. Trig. plug set in conc/~~rock~~ has been ~~placed~~/fd 2·490 m. bearing 314 °M from Trig. ~~Mast~~/pillar
6. A. G.I.P set in conc/~~soil~~ has been ~~placed~~/fd 3·687 m. bearing 190 °M from Trig. ~~Mast~~/pillar
7. A. C.S. set in conc/~~soil~~ has been ~~placed~~/fd 6·684 m. bearing 263 °M from Trig. ~~Mast~~/pillar
8. A. ..... set in conc/rock has been placed/fd ..... m. bearing ..... °M from Trig. Mast/pillar
9. Connection Trig plug to G.I.P : 5·133 m. bearing 165 °M
10. Connection Trig plug to C.S. : 4·758 m. bearing 253 °M
11. Connection ..... to ..... : ..... m. bearing ..... °M
12. Connection ..... to ..... : ..... m. bearing ..... °M
13. Diff. Ht. Pillar plate is 1·676 m. above/below SS. Trig plug
14. Diff. Ht. Pillar plate is 1·478 m. above/below G.I.P.
15. Diff. Ht. Pillar plate is 1·843 m. above/below C.S.
16. Diff. Ht. Trig. plug is 0·165 m. above/below C.S. Trig plug is ·202 m below G.I.P.

Beacon Diagram — Not to Scale

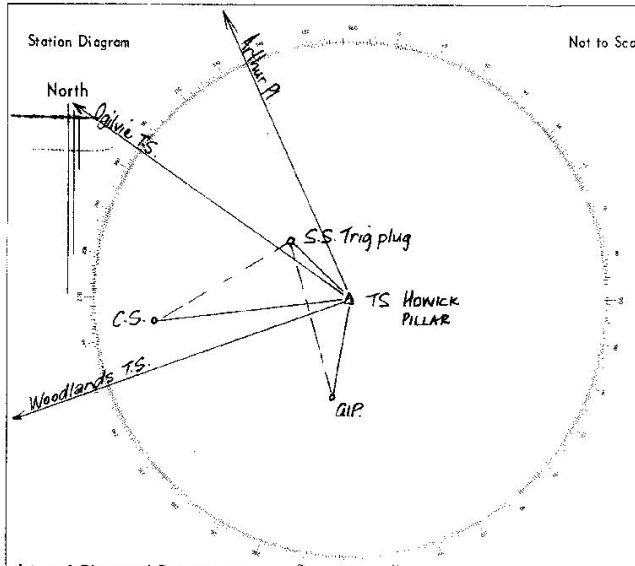


Date	Record of Station
17-11-75	Pillar Placed.

Prepared by: P.McBeath. Checked: A. Burrows.

STATION HOWICK (P) TS 5470

Station Diagram — Not to Scale



List of Observed Directions:–

Standpoint: Howick Pillar

Station	Direction	Station	Direction
TS Arthur Pl.	0° 00' 00.0"	TS Arthur Pl.	0° 00' 00"
G.I.P.	229° 07' 07"	Howick Pl.	160° 03' 36"
Woodlands T.S.	286° 56' 21.5"	G.I.P.	202° 10' 25"
C.S.	308° 02' 19.5"	Woodlands T.S.	286° 55' 49.5"
Ogilvie T.S.	331° 08' 15.5"	C.S.	291° 54' 48.5"

Standpoint: S.S. Trig plug

Station	Direction	Station	Direction
S.S. Trig plug	340° 04' 49.5"	Ogilvie T.S.	331° 08' 00"

Owners Name Heroic Pastoral Co. — Current Occupant .....

Address ..... — Address .....

22-3-1976

Access * Accessible by 2 wheel drive vehicle to within 3 min walk of Trig. in Dry weather conditions only.
From Singleton take New England Hwy towards Muswellbrook
Take turn off to Liddell Power Stn.

Kms.	Feature
00.	Liddell Power Station turn off on New England Hwy.
1.5	Take left turn onto road that follows pipeline through subway under New Eng. Hwy. (Near power stn)
2.0	Pass turn off on right that follows pipeline, follow good gravel road.
9.15	Pass dirt road on left that leads to Jerrys Plains.
11.35	Conc. causeway.
14.2	Turn left off road between two iron grids and head south towards pumping station along faint track.
14.6	Cross conc. causeway near pumping stn and turn left up hill. Pick your own way up hill gradually veering towards fence on right.
15.6	Through iron gate, follow fence to cattle yards.
16.0	Drive to southern end of cattle yards and through 2 iron gates. Follow fence to Trig.
16.7	Trig.

CENTRAL MAPPING AUTHORITY

GEODETIC SURVEY OF N.S.W.

GEODETIC STATION RECONNAISSANCE and MAINTENANCE REPORT

STATION: HOWICK (P)	No.: 5470
MAP SHEET SCALE 1:250 000 Singleton	
INSPECTED BY:	DATE: 16.11.77
AUTHORITY: C.M.A.	FIELD BOOK:

Description: *Note: Cross out word or words which do not apply*

1. Cleared by lanes bearing..... from Trig. Mast
2. Mast & Vanes have been painted white & black respectively.
3. The station/pillar was unpiled/not unpiled/constructed on.....19....., dimensions now being:

   Description of mark.....should be explicit, e.g., S/Steel Pillar Plate, Steel plug, Brass plug, Bolt, G.I. Pipe

   Height of mark.....m. above/below rock/concrete; Mark is.....m. above/below G.L.

   Height of Top Vanes to Top Mark/Pillar plate .....m. Diameter of Vanes (vertical).....m.

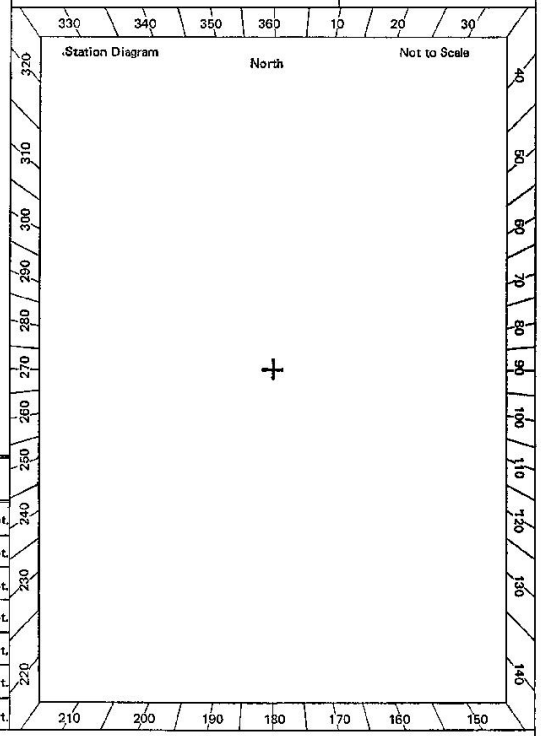
   Height of Cairn.....m. Diameter of Cairn.....m. Name Plate found/not found/placed.

   Length of Mast .....m. (approximate if not unpiled)
4. A.....set in conc/rock has been placed/found, bearing.....°M from Mast/Plug/Pillar
5. A.....set in conc/rock has been placed/found, bearing.....°M from Mast/Plug/Pillar
6. A.....set in conc/rock has been placed/found, bearing.....°M from Mast/Plug/Pillar
7. A.....set in conc/rock has been placed/found, bearing.....°M from Mast/Plug/Pillar
8. Action required:.....

STANDPOINT: **STANDPOINT:**

Mark	Direction	Horiz. Distance	Height Difference	Mark	Direction	Horiz. Distance	Height Difference
			above/below standpt.				above/below standpt.
			above/below standpt.				above/below standpt.
			above/below standpt.				above/below standpt.
			above/below standpt.				above/below standpt.
			above/below standpt.				above/below standpt.
			above/below standpt.				above/below standpt.
			above/below standpt.				above/below standpt.

Station Diagram — North — Not to Scale



Prepared by: *Checked:* *Noted on U.T.M. Card* *Checked*

St 2733–1

St 2733–2 D. West, Government Printer

STATION HOWICK (P) TS·5470

Beacon Diagram — Not to Scale

This section to be completed by officer constructing pillar.

Original station mark found/not found.

Description of mark: .....

Original beacon found/not found.

Description of beacon: .....

Height Top of Vanes to Top Mark.....m.

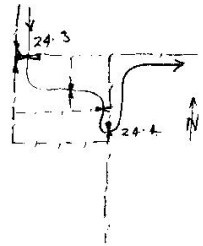
Height of mark.....m. above/below rock/conc.....m. above/below G.L.

Diameter of Vanes .....m. Height of Cairn .....m.

Original Beacon has/has not been destroyed by me.

Access report of 16.11.77

0.00kms	Ravensworth P.O. Head south towards Singleton
1.0	Take right turn "Lemington 11"
2.9	Grid. Continue along road crossing 11 grids
16.8	Grid and end of bitumen.
17.4	Grid
17.45	Two tracks off to right, take sharper of two
18.8	Gate
19.6	Pass dam on LHS
20.1	Gate. Ignore tracks to both sides .. keep on going straight ahead.
21.8	Pass under power line
22.7	Turn left before gate and follow fence
24.3	Yards....see sketch
24.4	Leave yards and follow fence on LHS in an easterly direction.
25.3	HOWICK (P)



SKETCH

Date	Record of Station
16.11.77	Trig visited. .Access updated.