File 7014

WAIMEA DRILLING CO.

№ 1420

DRILLERS WATER WELL LOG FORM

WELL-OWNER Woodbourne Air base — LOCALITY Married Patch

ADDRESS Ministry of Works Blenheim — MAP SHEET No. P28

DRILLING FIRM above — GRID REFERENCE* 818 658

DRILLER G Butler — N.Z.G.S. WELL No. P28W/1115

DRILLING DATE 2-10-74 — WATER RIGHT No.

REDUCED LEVEL OF WELL SITE (M above mean sea level) / Cable Tool Rig

STRATA				DETAILS OF AQUIFERS		
DEPTH FROM SURFACE (m)		COLOUR	DESCRIPTION	DEPTH FROM SURFACE (m)		STATIC WATER LEVEL (m)
Top	Bottom			Top	Bottom	
0	·3	brown	topsoil + small pebble			
·3	1	yellow	clay			
1	1·5	brown	sand			
1·5	4·26	grey	cobble to medium sand + clay (yellow)			
4·26	12	"	" " " " " , some yellow clay bound areas.			
12	13·7	"	" " " " " , yellow clay bound			
13·7	14·32	grey	brown stained cobble to medium sand WB	13·7	14·32	2·743
14·32	15·24	grey	cobble to medium sand, some clay bound.			
15·24	16·45	"	" " " " " , yellow clay bound			
16·45	17·98	"	brown stained cobble to medium sand, WB	16·45	17·98	2·743
17·98	19·81	"	cobble to medium sand + clay			

CASING DIAMETER (mm) 200 mm — LENGTH (m) 13·4

SCREEN TYPE slotted 170 mm ID casing — SET AT 12·8 — 19·81

SCREEN LENGTH (m)† 7·01 — SLOT SIZE 10 mm

DRAWDOWN (m) 2·743 / 3·353 — AFTER 1 / 1 HOURS PUMPING AT 756 / 1362 (LITRES/MIN)

REMARKS (INCLUDING NOTES ON CORES AND SAMPLES TAKEN) —

*If no grid reference available supply rough sketch of locality relative to road intersections on the back of this form.
†If more than one list depth of all screens.

B.& S.N. 36467

№ 1420

WAIMEA DRILLING CO.

DRILLERS WATER WELL LOG FORM

WELL-OWNER Woodbourne Air base — LOCALITY Married Patch (MQ well)

ADDRESS Ministry of Works Blenheim — MAP SHEET No.

DRILLING FIRM above — GRID REFERENCE*

DRILLER G Butler — N.Z.G.S. WELL No. P28w/1115

DRILLING DATE 2-10-74 — WATER RIGHT No.

REDUCED LEVEL OF WELL SITE (M above mean sea level) / Cable Tool Rig

STRATA				DETAILS OF AQUIFERS		
DEPTH FROM SURFACE (m)		COLOUR	DESCRIPTION	DEPTH FROM SURFACE (m)		STATIC WATER LEVEL (m)
Top	Bottom			Top	Bottom	
0	·3	brown	topsoil + small pebble			
·3	1	yellow	clay			
1	1·5	brown	sand			
1·5	4·26	grey	cobble to medium sand + clay (yellow)			
4·26	12	"	" " " " , some yellow clay bound areas.			
12	13·7	"	" " " " yellow clay bound			
13·7	14·32	grey	brown stained cobble to medium sand WB	13·7	14·32	2·743
14·32	15·24	grey	cobble to medium sand, some clay bound.			
15·24	15·75	"	" " " " yellow clay bound			
16·45	17·98	"	brown stained cobble to medium sand WB	16·45	17·98	2·743
17·98	19·81	"	cobble to medium sand + clay			

CASING DIAMETER (cm) 200 mm — LENGTH (m) 13·4

SCREEN TYPE slotted 170mm ID casing — SET AT 12·8 — 19·81

SCREEN LENGTH (m)† 7·01 — SLOT SIZE 10 mm

DRAWDOWN (m) 2·743 / 3·353 — AFTER 1 / 1 — HOURS PUMPING AT 756 / 1362 (LITRES/MIN)

REMARKS (INCLUDING NOTES ON CORES AND SAMPLES TAKEN) —

*If no grid reference available supply rough sketch of locality relative to road intersections on the back of this form.
†If more than one list depth of all screens.

B.& S.N. 36467

R 25/03

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

NEW ZEALAND GEOLOGICAL SURVEY

Ministry
18 OCT 1974
BLENHEIM

Ground Water

DRILLERS' LOG FORM

Locality of Drillhole or Well: WOODBOURNE PLAYING FIELD Grid Reference N / S / /

Job for: MINISTRY OF WORKS

of (Address): P28W/1115

Date of Starting: 2-10-74 Date of Finishing: 15-10-74

Drilling Firm: WAINEA DRILLING Driller: A Burt

LOG

STRATA			WATER			
Depth from Surface		Description of Ground	Static	Yield When	Drawdown	Casing and Screen:
Top	Bottom	Passed Through	Level*	Pumped	when Pumped	Diameter, Depth, and Size of Slots
0	65'	Clay, brown sand & gravel 40'	9'	18,000 GPH.	11'	8" 44' 7" 23'
		40'-45' Cemented gravel				14' slotted 3/8" x 12"
		45'-54' Grey-brown stained gravel				
		Brown sand, some Cream clay W.B.				
		59'-65' Cemented gravel				
		Mr P. Blaylock				

*or Artesian Head

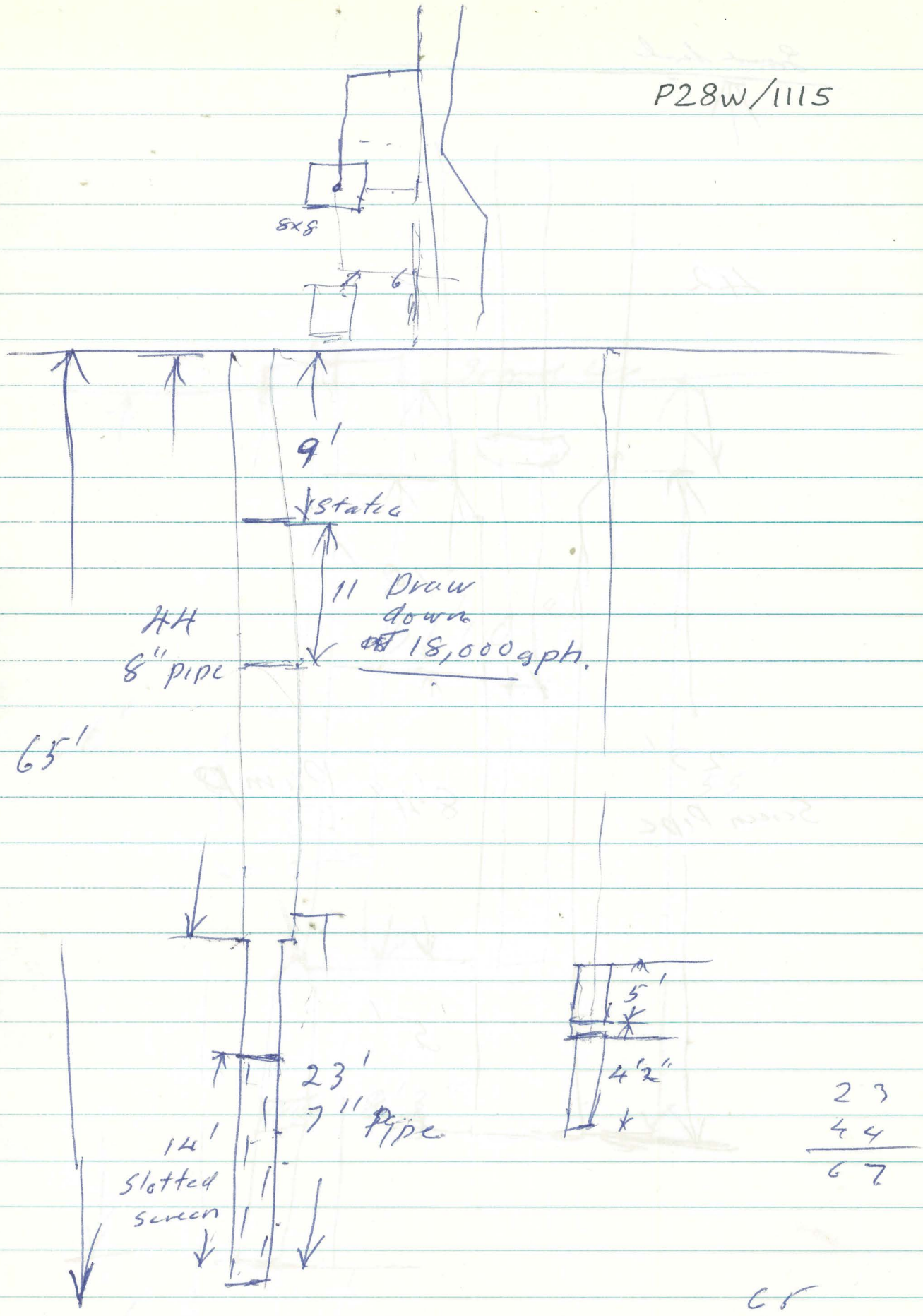
Additional Information and Remarks (e.g. Casing, Screen Type and Lengths)

Well pumped better than it appeared while drilling While developing a lot of coarse sand came out which did not show up while hole was being drilled.

Please send a copy of this form to:—

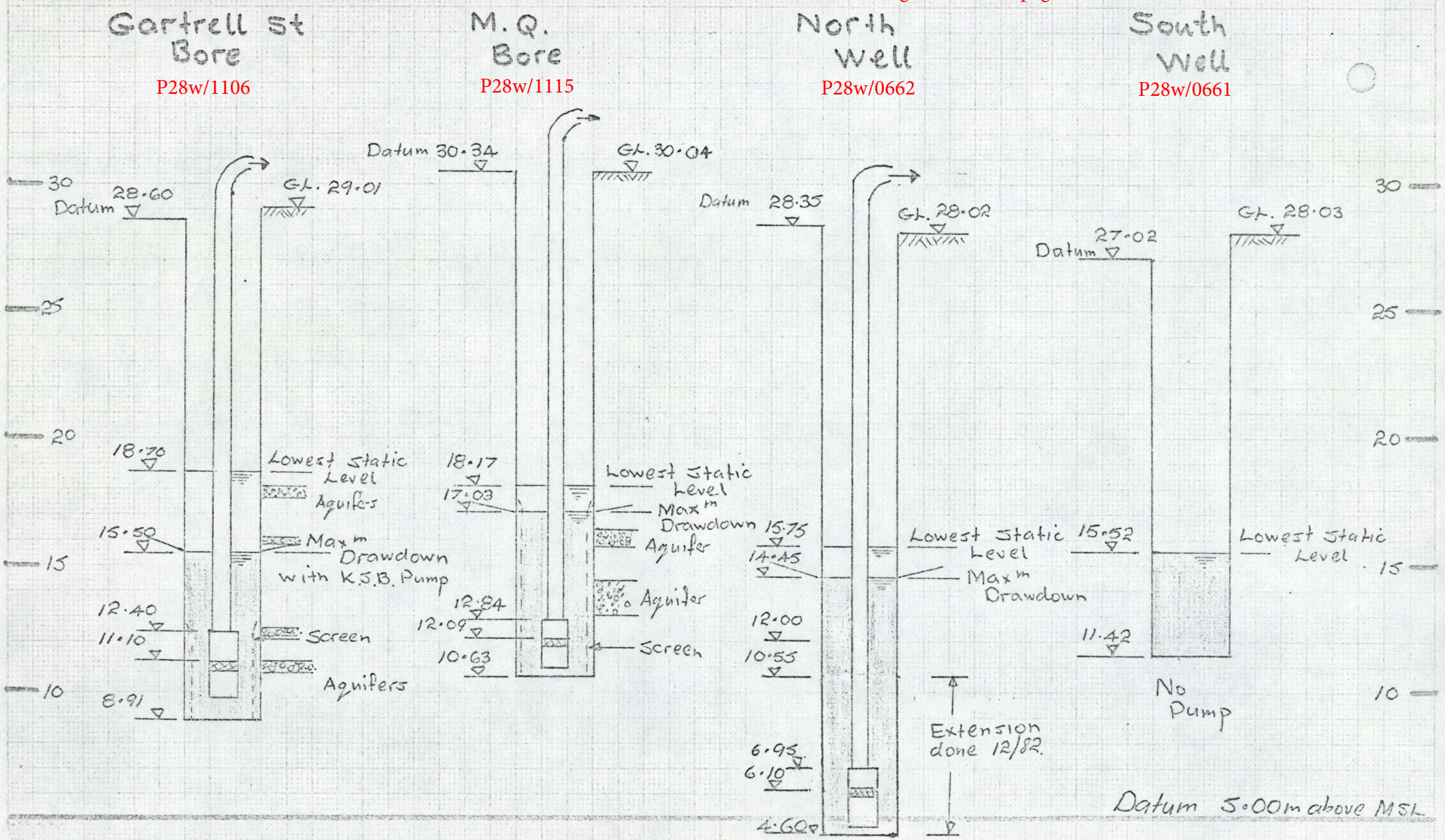
100 Pads/7/67—37346 X 21 SIR (G.S.) 11

P28W/1115



23
44
67

65
14
51



RNZAF Base Woodbourne

Water Supply

Water levels shown are for 5/82 and in metres

Ammended: 2/83.

Vert. Scale 1 : 20

No.	AMENDMENTS	BY	DATE	No	AMENDMENTS	BY	DATE
	Extracted from Woodbourne Area General Information, page 23.						

L.B.		DESIGNED	J. J. C. 10/81
F.B.		DRAWN	J. J. C. 10/81
C.B.		TRACED	L. P. T. 10/81
FILE		CHECKED	
APPROVED			

MARLBOROUGH CATCHMENT BOARD

DRAWING TITLE
WATER TABLE CONTOURS (m.a.m.s.l.) AND STREAMTUBES FOR 20th MARCH 1981
WOODBOURNE AREA

CATCHMENT No.

N.Z. METRIC GRID REF.

SCALE 1 : 8000

PLAN No. 1654

SHEET 1 OF 1

RNZAF BASE WOODBOURNE
WATER PERMIT APPLICATION
ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

THE PROPOSAL:

RNZAF Base Woodbourne seeks to abstract up to 3600 cubic metres of water per day from three wells situated on Base.

This is not an application to abstract an additional amount of water but is an application for water previously taken under Crown Water Right 1176 for 3600 cubic metres per day, and Water Right MLB810047 for 2500 cu metres per day from the Gartrell Street well.

The wells concerned are:

P28w/662 P28W/~~661~~	North well	Grid ref 827657
P28W/1115	Married Quarter well	Grid ref 818659
P28W/1106	Gartrell Street well	Grid ref 816661

An additional well, P28w/661 P28W/~~662~~ - South well, is used for observation only.

No more than 2500 cubic metres per day will be abstracted from the Gartrell Street well.

The water will be for domestic, industrial, irrigation and firefighting usage.

Well details:

South well, P28w/661 P28W/~~662~~, is sunk to a depth of 16 metres below ground level and is now used only as an observation well having no pump installed.

North well, P28w/662 P28W/~~661~~, was originally sunk to a depth of 17.5 metres below ground level but following water shortages in 1982 it was extended with a 950mm steel liner to a depth of 24 metres. The pump in this well is set at 21.92 metres and is capable of a pumping rate of 1.9 cubic metres per minute. The critical water level warning alarm activates if the water level in the well falls below 20.5 metres.

The Married Quarter well, P28W/1115, is situated on the northern side of the Sports field west of the Gymnasium was drilled in 1974 to a depth of 20 metres. This is a 200mm well primarily used for irrigation but which can be switched into the main supply should there be a requirement. The well is screened from 12.8 to 19.81 metres and is a slotted 170mm ID casing, slots being 10mm. The well has a rated capacity of 0.756-1.362 cubic metres per minute. The pump is set at 17.95 metres and is capable of pumping .479 cubic metres per minute. The critical level alarm activates if the level falls below 16.6 metres.

Gartrell Street well, P28W/1106, is situated at the north western corner of the Married Quarter area was drilled in 1982 following water shortages. This is a 800mm steel lined well sunk to a depth of 20 metres. The well is screened from 16.61 metres and the pump is set at 17.91 metres. The pump is capable of pumping 1.059cu metres per minute. The rated capacity of this well is 2.2 cubic metres per minute. The critical level alarm activates when the water level falls below 14.4 metres.

Usage details:
A 150mm Rising Main connects all wells to the Base water tower which has a capacity of 420 cubic metres. The height of the Static Head above ground level when full is 20.7 metres and the working head range is 20.7 metres to 20 metres

An additional concrete storage tank with a capacity of 2,268 cubic metres provides storage for the Base sprinkler system. This tank is located at the north-west corner of No 2 hangar.

All pumps are controlled by level switches located in the water tower within the working head range and are staged in operation.

A lime dosing pump and associated tanks are located on the top floor of the water tower and flouride and chlorine are automatically mixed into the system through a sophisticated metering system.

The water supply at Base Woodbourne has to sustain 65,000 square metres of industrial and educational buildings, barracks, kitchens and messes. Additionally water supply is required for household supply to 176 Married Quarters at Woodbourne.

Water is also required for irrigation of sports fields, golf course and lawns and gardens. Allowing for 100mm per month over the 34ha capable of being irrigated equates to a daily usage of 1150 cubic metres per day for this use. Actual usage for irrigation is considerably less.

Firefighting requirements consist of reticulation to sprinkler systems in many buildings and fire hydrants. The maximum firefighting requirement is 160 cubic metres per hour although the maximum recorded outflow from the tower with the fire booster pump running against zero head is 240 cubic metres per hour.

It is difficult to assess the proportions of water required for industrial and domestic use as the many sub-mains are not metered, it is probably in the region of 60% industrial and 40% domestic.

Water usage per day in past year:

	Max	Min
Summer	1380 cu metres	540 cu metres
Winter	1204 cu metres	505 cu metres

The amount of 3600 cubic metres per day is sought to allow for increased water usage with expected growth of operations at Woodbourne.

EFFECT ON THE ENVIRONMENT:

It is unlikely that the proposal will have any significant adverse effect on the environment.

The only actual effect on the environment will be in the volume of water taken from the aquifer and this volume rarely approaches the maximum daily amount sought. Historically there has been no adverse environmental effects directly attributable to the quantities of water abstracted by RNZAF Base Woodbourne. It is therefore unlikely that the continued usage of the resource at current levels will impact further on the environment.

The taking of water in the quantity sought will have no socio-economic or cultural effects on the community.

There will be no physical effect on the area in respect of landscape or visual effect.

No detrimental effect is foreseen in respect of this application on any ecosystems, plant life or habitats.

This application will not have a detrimental impact on any natural or physical resource.

MITIGATION MEASURES:

RNZAF Base Woodbourne maintains a responsible attitude towards the conservation of the groundwater resource by the implementation of the following measures;

1. Metering and daily reading of well levels and water usage.
2. Cyclic pumping to alternate well usage.
3. A conservative irrigation regime.
4. Installation of water savers on all Base urinals.

PERSONS INTERESTED OR AFFECTED:

The following persons with land adjoining RNZAF Base Woodbourne have been advised in writing of this application for a Water Permit:

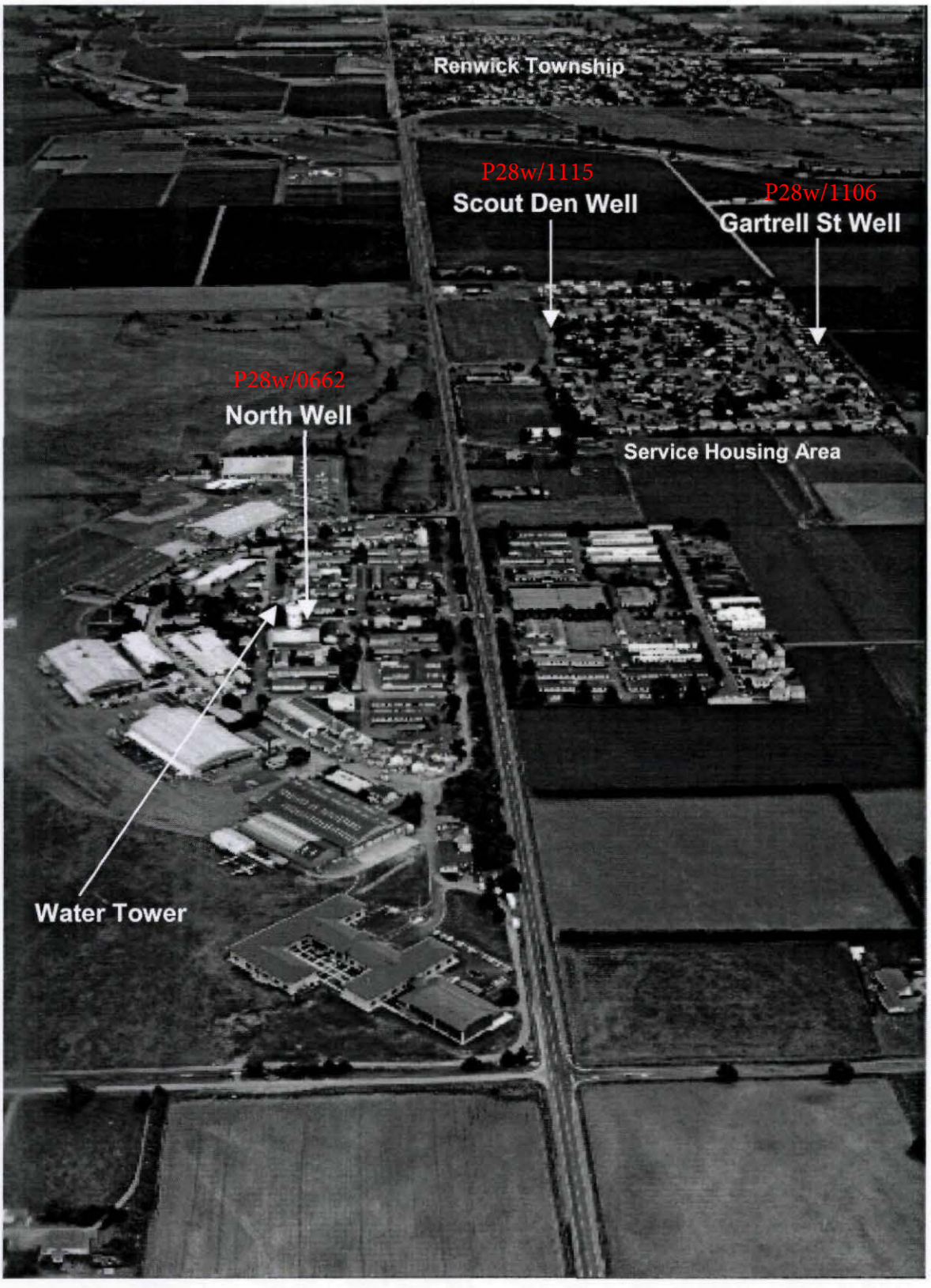
Mr J. H. Bay, Old Renwick Road, Blenheim.
Mr M. D. Bishell, Caythorpe, Middle Renwick Road, Blenheim.
Mrs J. W. Gill, Middle Renwick Road, Blenheim.
The Manager, Hi-way Takeaways, Main Road, Woodbourne.
Mr P. K. Jackson, Wyndale, Old Renwick Road, Blenheim.
Mr I. Jordan, Middle Renwick Road, Blenheim.
The Manager, Montana Wines Limited, RD 4 , Blenheim.
The Manager, Woodbourne Store, Main Road, Woodbourne.
Mr J. N. Stichbury, Runnymede, Old Renwick Road, Blenheim.
Mr J.R. Walsh, Woodbourne Farm, RD2, Blenheim.

MONITORING:

The Base Woodbourne water system is run and maintained by Serco Defence who employ trained staff 7 days per week. Daily well level readings and water usage readings are taken by these staff and forwarded monthly to the Services Flight at Base Woodbourne and to the Regional Council. In addition to the readings from the three wells being used, readings are taken from the South well and the Woodbourne Store well.

J. E. DOBBS
for Base Commander
22 APRIL 1992

RNZAF BASE WOODBOURNE



RNZAF Base Woodbourne view west

1. Which rivers cause your Board the most problem in terms of the maintenance of a stable channel, able to pass the required sediment and water flows? (Please note if they are braided gravel bed or meandering single thread type rivers).

2. On average do you have an excess or a lack of gravel suitable for extraction as a construction material?

3. What are your main problems in channel design and river training works?
   e.g. - Selection and control of the channel width and alignment.
   - Control of land use on river berms and riparian land.
   - High cost of control works.

4. (a) Does your Board have any problems with coastal erosion?
   (b) Do you consider the rivers in your area have a significant influence on local beach stability. If so, in what way?

5. In your experience, what are the main sources of sediment supply to the gravel bed rivers in your area?