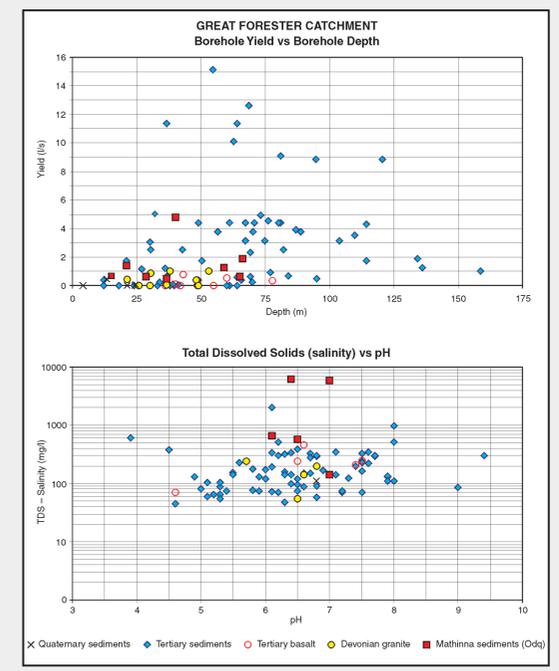
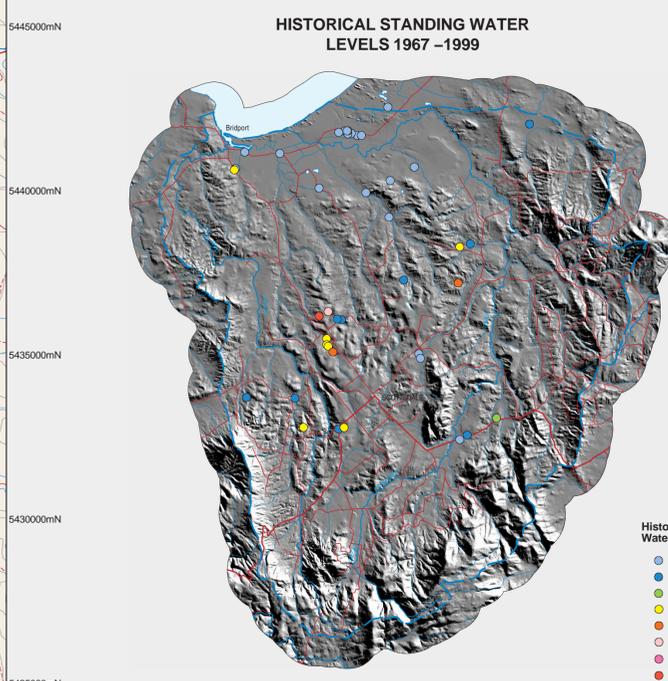
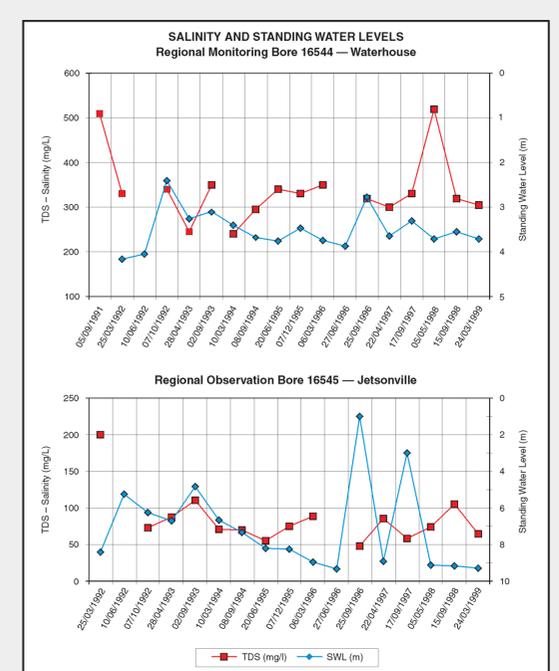
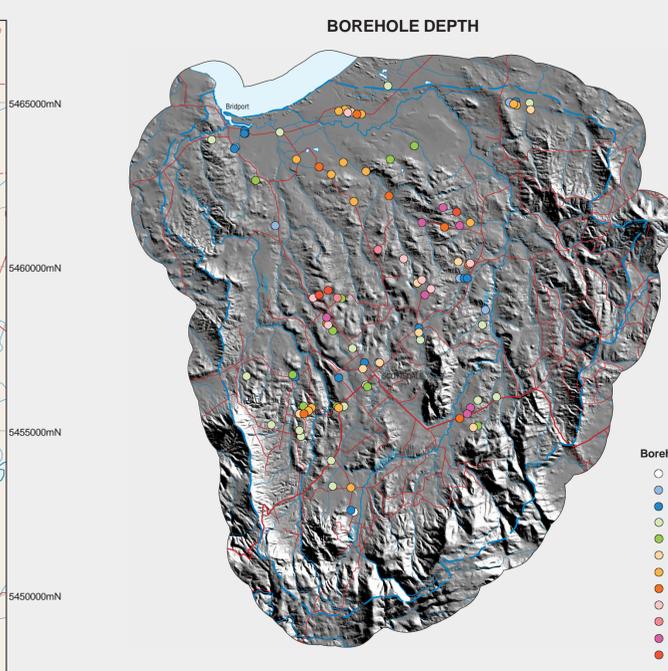
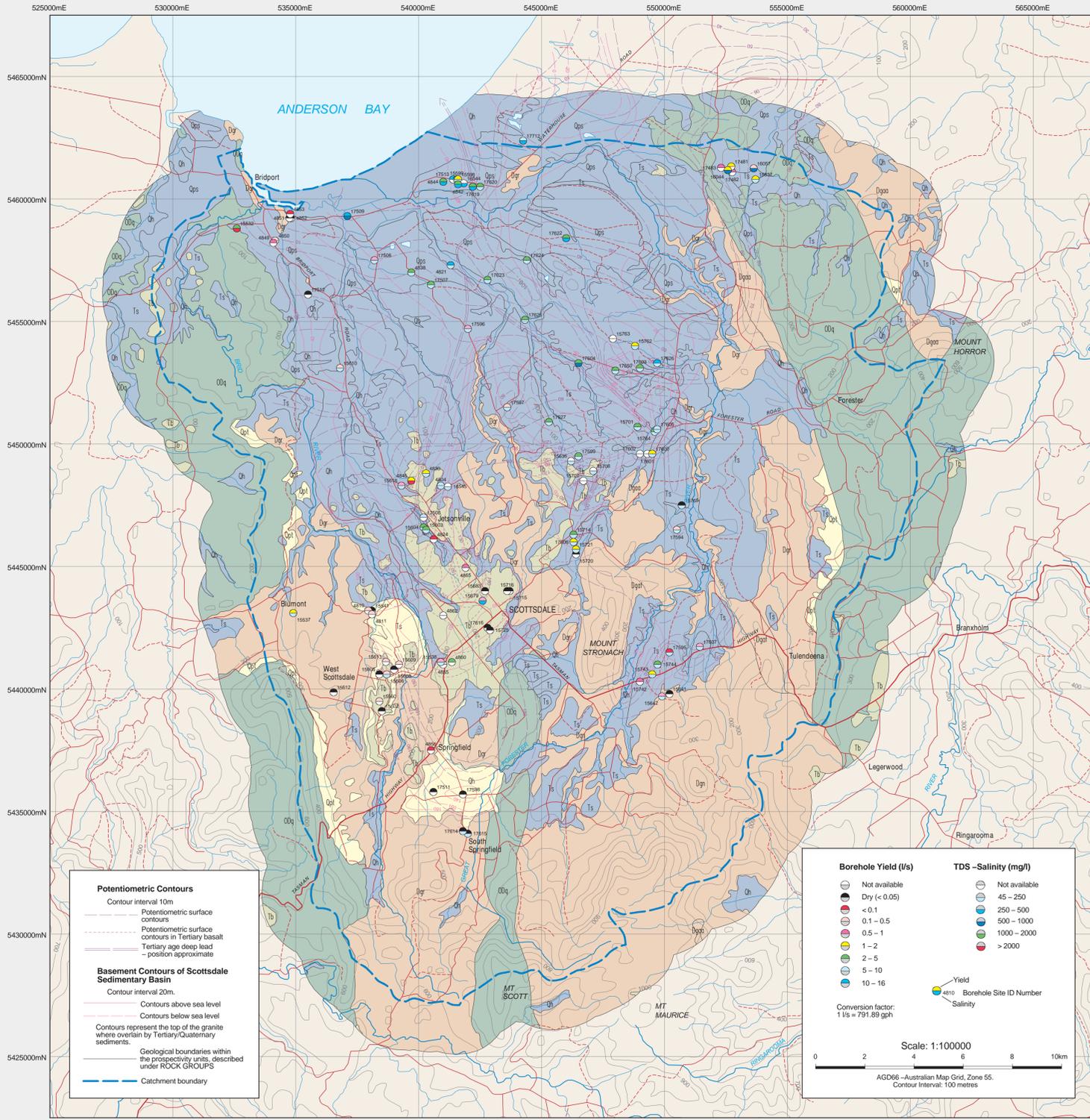


GROUNDWATER PROSPECTIVITY GREAT FORESTER CATCHMENT

GROUNDWATER PROSPECTIVITY SERIES
TASMANIAN GEOLOGICAL SURVEY
MINERAL RESOURCES TASMANIA

MINERAL RESOURCES
TASMANIA
DEPARTMENT OF INFRASTRUCTURE
ENERGY AND RESOURCES



Potentiometric Contours
Contour interval 10m
— Potentiometric surface contours
- - - Potentiometric surface contours in Tertiary basalt
- - - Tertiary age deep lead - position approximate

Basement Contours of Scottsdale Sedimentary Basin
Contour interval 20m.
— Contours above sea level
- - - Contours below sea level
- - - Contours represent the top of the granite where overlain by Tertiary/Quaternary sediments.

Geological boundaries within the prospectivity units, described under ROCK GROUPS
— Catchment boundary

Borehole Yield (l/s)
● Not available
● Dry (< 0.05)
● < 0.1
● 0.1 - 0.5
● 0.5 - 1
● 1 - 2
● 2 - 5
● 5 - 10
● 10 - 16

TDS - Salinity (mg/l)
● Not available
● 45 - 250
● 250 - 500
● 500 - 1000
● 1000 - 2000
● > 2000

● Yield
● Borehole Site ID Number
● Salinity

Conversion factor:
1 l/s = 791.89 gph

Scale: 1:100000
0 2 4 6 8 10 km
AGD66 - Australian Map Grid, Zone 55.
Contour Interval: 100 metres

AQUIFER TYPE	PROSPECTIVITY	ROCK GROUPS	NUMBER OF BORES	NUMBER OF SUCCESSFUL BORES	YIELD ¹ (l/s)	SALINITY ² AS TDS (mg/l)	GENERAL AQUIFER CHARACTERISTICS
POROUS (INTERGRANULAR)	HIGH	Quaternary - coastal sand and gravel (Qps), sand, gravel and mud of alluvial, fluvial and aeolian origin (Qs). Tertiary sediments - dominantly non-marine interbedded sand, fine quartz gravel, clayey gravel, silt and clay. Occasional sandstone and conglomerate beds (Ts).	71	53	range 0.02 - 15.15 mean 3.49	range 45 - 2040 mean 216	Yields are generally suitable for domestic, livestock and irrigation purposes. Often high yielding bores where thickness of sand and gravel deposits exceeds five metres. Yields are limited where thick clay deposits exist. Quaternary aquifers (Qps and Qs) have variable yields and salinity. There are more than five Tertiary sand or gravel aquifers (confined and unconfined aquifers). Their extent and inter-relationships are largely unknown. Quality: salinity of the water renders it usually suitable for most purposes. Water type is mainly NaCl (some Na, Ca, Mg, HCO ₃ Cl) with average Sodium Absorption Ratio (SAR) of 2.87 (0.55 - 11.20). Reported low pH values (< 5 for 50% of measurements) occasionally cause elevated metal concentrations and should be regularly monitored. Vulnerability to pollution: high unless a layer of low permeability material overlies the aquifer.
POROUS (INTERGRANULAR)	LOW-MODERATE	Quaternary clayey talus derived from Mathinna Super Group (Qst). Tertiary sediments with probably higher clay content than the remaining part of the Tertiary sedimentary basin (Ts).	4	1	range 0.02 - 0.75 mean no data	No data	Low yields, possibly suitable for domestic and/or livestock purposes. Water quality data not available, possibly low salinity. Vulnerability to pollution: moderate unless highly porous areas occur at the top of the aquifer, when vulnerability will be high.
FRACTURED	HIGH	Ordovician - Devonian sediments (Mathinna Super Group), turbidite sequence of well jointed and folded siltstone, mudstone and fine sandstone (Ods).	8	8	range 0.55 - 4.79 mean 1.47	range 140 - 6190 mean 1850	Variable yields, usually adequate for most domestic and livestock purposes. Irrigation yields possible in some highly fractured areas. Quality: variable, usually suitable for most purposes in higher rainfall areas. Water type is mainly NaCl with Sodium Absorption Ratio (SAR) usually < 5 (west of Bridport salinity in bore 15532 is > 5000 and SAR > 15 - water not suitable for irrigation). Vulnerability to pollution: high unless a layer of low permeability material overlies the aquifer.
FRACTURED	LOW-MODERATE	Tertiary basalt - deeply weathered, generally red clay with basalt boulders, some layers of fresh vertically jointed basalt rock (Tb).	9	4	range 0.08 - 0.75 mean 1.42	range 71 - 480 mean 245	Low yields generally suitable for domestic and occasionally for livestock purposes. Quality: suitable for most purposes. Water type is mainly Na (Mg) HCO ₃ Cl. Vulnerability to pollution: moderate unless highly porous areas occur at the top of the aquifer, when vulnerability will be high.
FRACTURED	LOW	Devonian granitoids - sparsely fractured, adamellite/granite (Dgr), granodiorite (Dgr), granodiorite/adamellite (Dgn) and alkali-feldspar granite (Dgr).	9	6	range 0.06 - 1.01 mean 0.63	range 55 - 240 mean 159	Limited groundwater resources. Yields generally low, dependent on fracture frequency and localised joint concentrations. Highly fractured areas may yield domestic and livestock supplies. Quality: suitable for most purposes. Water type is mainly Na (Ca) HCO ₃ Cl. Vulnerability to pollution: low unless highly fractured zones occur without a low permeability cover.

¹ Based on known data. RELIABILITY: In areas of the catchment where there is lack of water bore data, the groundwater prospectivity has not been proven.

The data for this map was derived from the Tasmanian 1:250000 digital Geological Survey Geological Atlas, Groundwater Prospectivity Map of Tasmania (1:500000), Geology of the Scottsdale Sedimentary Basin (Map 1), Hydrogeology of the Scottsdale Sedimentary Basin (Map 2), Groundwater database "BORNS" and is based upon the potential for groundwater within the present rock types in Great Forester Catchment. Some anomalies occur between the basement and topographic contours due to the data being derived from different sources.

This map is not the result of a concise survey and groundwater potential is indicative only. It does not remove the need for site specific investigations. For more information refer to the published "Hydrogeology and Geology of the Scottsdale Sedimentary Basin" V.R. Moore 1992, which is available from Mineral Resources Tasmania.

Groundwater potential data compiled by M.Latinovic B.Sc(Hons).

Digital groundwater data available from Data Management Branch, Mineral Resources Tasmania.
Digital base information from Land Information Services Division, Department of Primary Industries, Water and Environment.

Map produced by the Data Management Branch, Mineral Resources Tasmania using G.I.S. software.
AGD66 - Australian Map Grid, Zone 55.

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