

ACID SULFATE SOILS - MARYBOROUGH AREA

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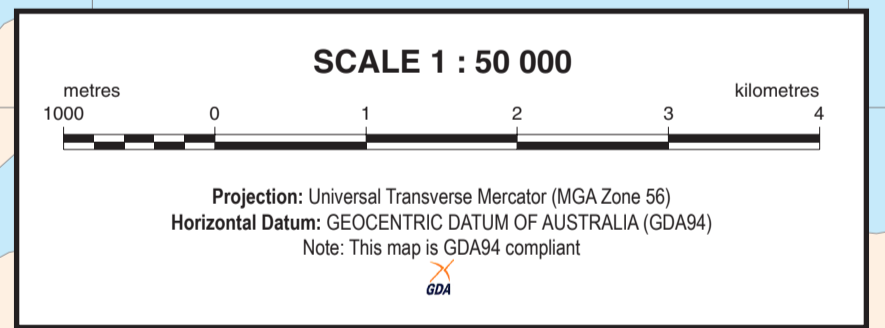
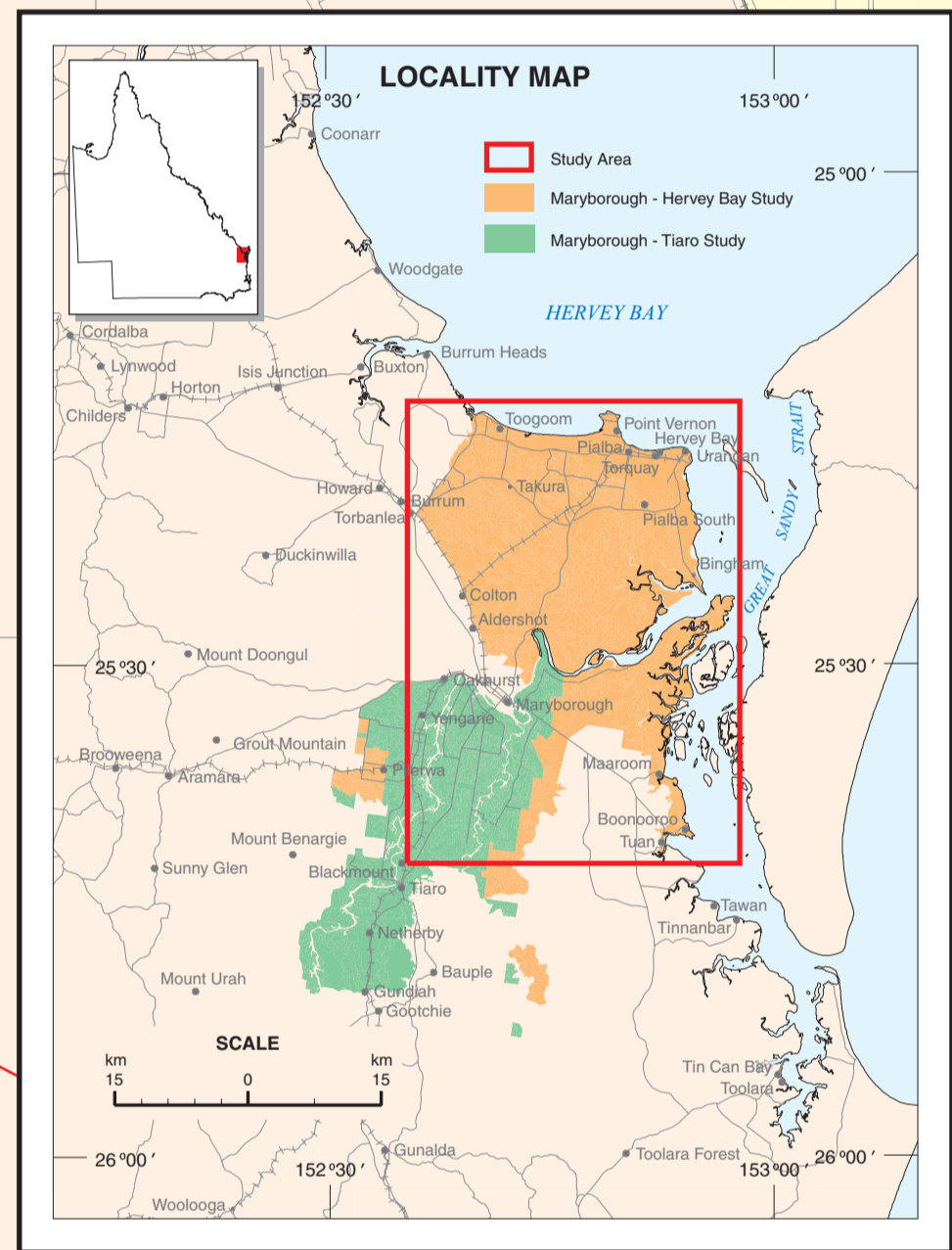
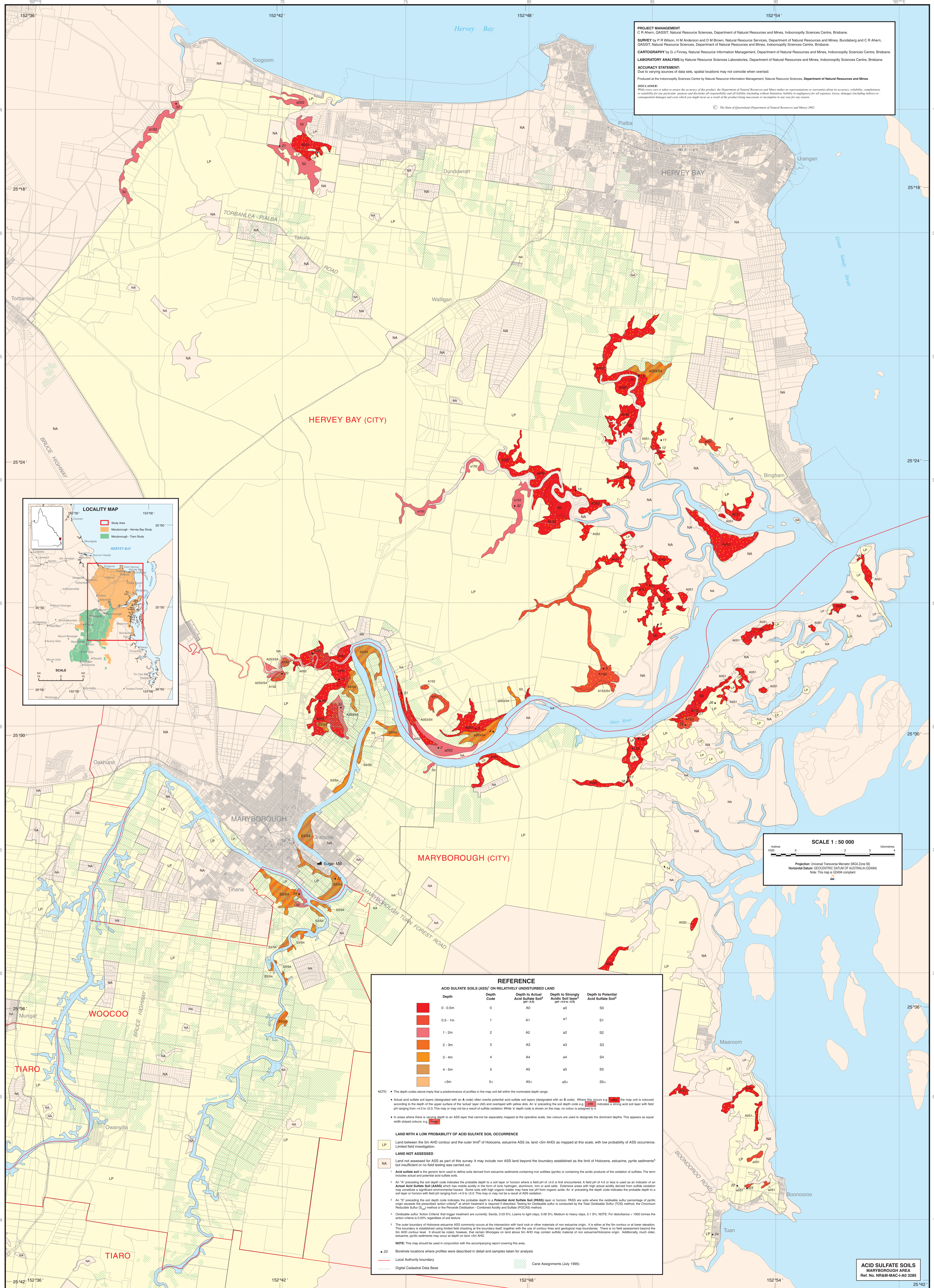
LABORATORY ANALYSIS by Natural Resource Sciences Laboratories, Department of Natural Resources and Mines, Indooroopilly Sciences Centre, Brisbane.

ACCURACY STATEMENT:
Due to varying sources of data sets, spatial locations may not coincide when overlaid.

Produced at the Indooroopilly Sciences Centre by Natural Resource Information Management, Natural Resource Sciences, Department of Natural Resources and Mines.

DISCLAIMER:
This report was prepared to assist in the management of the Maryborough area. It is not intended to be used as a basis for any legal or financial decision. The Queensland Government and its employees accept no liability for any loss or damage, including consequential loss or damage, arising from the use of this report or any information contained therein.

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REFERENCE

Depth	Depth Code	Depth to Actual Acid Sulfate Soil ¹ (m)	Depth to Strongly Acidic Soil Layer ² (m)	Depth to Potential Acid Sulfate Soil ³ (m)
0 - 0.5m	0	A0	a0	S0
0.5 - 1m	1	A1	a1	S1
1 - 2m	2	A2	a2	S2
2 - 3m	3	A3	a3	S3
3 - 4m	4	A4	a4	S4
4 - 5m	5	A5	a5	S5
>5m	5+	A5+	a5+	S5+

NOTE:

- The depth codes above imply that a performance of profiles in the map unit will fall within the nominated depth range.
- Actual acid sulfate soil layers (designated with an A code) often overlie potential acid sulfate soil layers (designated with an S code). Where this occurs a 0.5m map unit is colour-coded according to the depth of the upper surface of the 'actual' layer (A0) and overlaid with yellow dots. An 'a' preceding the soil depth code e.g. a0.5m indicates a strongly acid soil layer with field pH ranging from 4.0 to 5.0. This may or may not be a result of sulfide oxidation. While 'a' depth codes are shown on the map, no colour is assigned to it.
- In areas where there is varying depth to an ASS layer that cannot be separately mapped at the operative scale, two colours are used to designate the dominant depths. This appears as equal width striped colours, e.g. a1/a2.

LAND WITH A LOW PROBABILITY OF ACID SULFATE SOIL OCCURRENCE

LP Land between the 5m AHD contour and the outer limit⁶ of Holocene, estuarine ASS (ie. land <math>< 5m</math> AHD) as mapped at this scale, with low probability of ASS occurrence. Limited field investigation.

LAND NOT ASSESSED

NA Land not assessed for ASS as part of this survey. It may include non ASS land beyond the boundary established as the limit of Holocene, estuarine, pyrite sediments⁶ but insufficient or no field testing was carried out.

ACID SULFATE SOIL is the generic term used to define soils derived from estuarine sediments containing iron sulfides (pyrite) or containing the acidic products of the oxidation of sulfides. The term includes actual and potential acid sulfate soils.

¹ An 'A' preceding the soil depth code indicates the probable depth to a soil layer or horizon where a field pH of 5.0 or less is first encountered. A field pH of 4.0 or less is used as an indicator of an Actual Acid Sulfate Soil (AASS) which has mobile acidity in the form of ionic hydrogen, aluminum, iron or acid salts. Estuarine areas with high actual acidity derived from sulfide oxidation may constitute a significant environmental hazard. Some soils with high organic matter may have low pH from organic acids. An 'a' preceding the depth code indicates the probable depth to a soil layer or horizon with field pH ranging from 4.0 to 5.0. This may or may not be a result of ASS oxidation.

² An 'S' preceding the soil depth code indicates the probable depth to a Potential Acid Sulfate Soil (PASS) layer or horizon. PASS are soils where the oxidizable sulfur percentage of pyritic origin exceeds the prescribed 'action criteria'⁴ at which treatment is required if disrupted. Testing for Oxidizable Sulfur (TS) is conducted by the Chromium Reducible Sulfur (RS₂) method or the Peroxide Oxidation - Combined Activity and Sulfate (POCAS) method.

³ Oxidizable sulfur 'Action Criteria' that trigger treatment are currently: Sands, 0.03 5%; Loams to light clays, 0.06 5%; Medium to heavy clays, 0.1 5%. NOTE: For disturbance > 1000 tonnes the action criteria is 0.02% regardless of soil texture.

⁴ The outer boundary of Holocene estuarine ASS commonly occurs at the intersection with hard rock or other materials of non estuarine origin. It is either at the 5m contour or at lower elevation. This boundary is established using limited field checking at the boundary itself, together with the use of contour lines and geological map boundaries. There is no field assessment beyond the 5m AHD contour level. It should be noted, however, that certain lithologies on land above 5m AHD may contain sulfidic material of non estuarine/Holocene origin. Additionally, many older, estuarine, pyrite sediments may occur at depth on land <math>< 5m</math> AHD.

NOTE: This map should be used in conjunction with the accompanying report covering this area.

• 23 Borehole locations where profiles were described in detail and samples taken for analysis.

— Local Authority boundary
— Digital Cadastral Data Base
— Cane Assignments (July 1995)