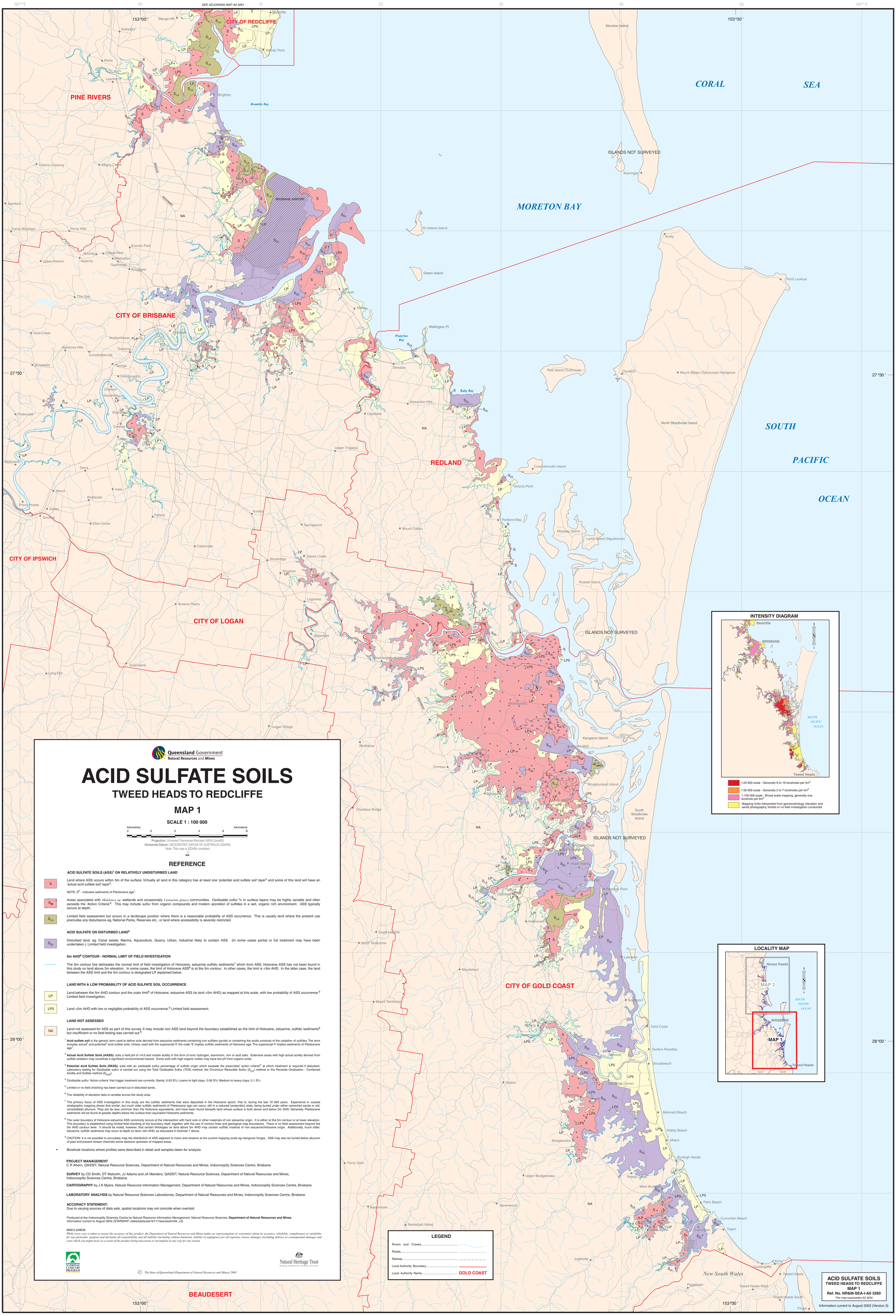
SEE ADJOINING MAP A0 3261
CITY OF REDCLIFFE
PINE RIVERS
CITY OF BRISBANE
REDLAND
CITY OF IPSWICH
CITY OF LOGAN
CITY OF GOLD COAST
BEAUDESERT
MORETON BAY
CORAL SEA
SOUTH PACIFIC OCEAN
ISLANDS NOT SURVEYED
BRISBANE AIRPORT
Bramble Bay
Waterloo Bay
Raby Bay
Redcliffe
Brighton
Sandgate
Eatons Crossing
Albany Creek
Samford
Camp Mountain
Ferny Hills
Everton Park
Upper Kedron
Keperra
Oxford Park
Mitchelton
Gaythorne
Enoggera
The Gap
Gold Creek
Auchenflower
Kenmore Hills
Constitution Hill
Todwong
Brookfield
Taringa
Indooroopilly
Chelmer
Graceville
Sherwood
Corinda
Oxley
Pullenvale
Belbowrie
Darra
Wacol
Inala
Richlands
Priors Pocket
Gailes
Goodna
Ellen Grove
Pallara
Calamvale
Kuraby
Springwood
Mount Cotton
Slacks Creek
Woodridge
Kingston
Loganlea
Browns Plains
Waterford
Greenbank
Long Flat
Logan Village
Beenleigh
Wolffdene
Ormeau
Rumbarg
Chardons Bridge
Eagle Heights
North Tamborine
Maudsland
Mount Tamborine
Nerang
Gilston
Ferny Glen
Upper Mudgeeraba
Mudgeeraba
Beechmont
Neranwood
Numinbah Valley
Ingleside
Southport
Gold Coast
Surfers Paradise
Broadbeach
Goodings Corner
Merrimac
Mermaid Beach
Nobby Beach
Miami
Burleigh Heads
Reedy Creek
West Burleigh
Palm Beach
Currumbin Beach
Currumbin
Tugun
Tallebudgera
Coolangatta
Kirra
Tweed Heads
Tweed Heads West
Tweed Heads South
Fingal
Piggabeen
New South Wales
Moreton Island
Kooringal
St Helena Island
Green Island
Amity
Point Lookout
Wellington Pt
Birkdale
Alexandra Hills
Capalaba
Cleveland
Peel Island (Turkroopar)
Dunwich
Mount (Bippo Oyerpunya) Hardgrave
North Stradbroke Island
Coochiemudlo Island
Victoria Point
Redland Bay
Macleay Island
Lamb Island (Ngudooroo)
Russell Island
Kangaroo Island
Jacobs Well
Woogoompah Island
South Stradbroke Island
Wynnum
Manly
Hope Island
Paradise Point
Oxenford
Helensvale
Labrador
Woongoolba
Mango Hill
Petrie
Lawnton
Kallangur
Woody Point
153°00′
153°30′
27°30′
28°00′
Queensland Government
Natural Resources and Mines
ACID SULFATE SOILS
TWEED HEADS TO REDCLIFFE
MAP 1
SCALE 1 : 100 000
kilometres
2 0 2 4 6 8
Projection: Universal Transverse Mercator (MGA Zone56)
Horizontal Datum: GEOCENTRIC DATUM OF AUSTRALIA (GDA94)
Note: This map is GDA94 compliant
REFERENCE
ACID SULFATE SOILS (ASS)[1] ON RELATIVELY UNDISTURBED LAND
S
Land where ASS occurs within 5m of the surface. Virtually all land in this category has at least one 'potential acid sulfate soil' layer[3] and some of this land will have an 'actual acid sulfate soil' layer[2].
NOTE: S[P] - indicates sediments of Pleistocene age[1].
S_W
Areas associated with Melaleuca sp. wetlands and occasionally Casuarina glauca communities. Oxidisable sulfur % in surface layers may be highly variable and often exceeds the 'Action Criteria'[4]. This may include sulfur from organic compounds and modern accretion of sulfides in a wet, organic rich environment. ASS typically occurs at depth.
S_LA
Limited field assessment but occurs in a landscape position where there is a reasonable probability of ASS occurrence. This is usually land where the present use precludes any disturbance eg. National Parks, Reserves etc., or land where accessibility is severely restricted.
ACID SULFATE ON DISTURBED LAND[5]
S_DL
Disturbed land, eg. Canal estate, Marina, Aquaculture, Quarry, Urban, Industrial likely to contain ASS. (In some cases partial or full treatment may have been undertaken.). Limited field investigation.
5m AHD[6] CONTOUR - NORMAL LIMIT OF FIELD INVESTIGATION
The 5m contour line delineates the normal limit of field investigation of Holocene, estuarine sulfidic sediments[7] which form ASS. Holocene ASS has not been found in this study on land above 5m elevation. In some cases, the limit of Holocene ASS[8] is at the 5m contour. In other cases, the limit is <5m AHD. In the latter case, the land between the ASS limit and the 5m contour is designated LP explained below.
LAND WITH A LOW PROBABILITY OF ACID SULFATE SOIL OCCURRENCE
LP
Land between the 5m AHD contour and the outer limit[8] of Holocene, estuarine ASS (ie land <5m AHD) as mapped at this scale, with low probability of ASS occurrence.[9] Limited field investigation.
LP5
Land >5m AHD with low or negligible probability of ASS occurrence.[9] Limited field assessment.
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, sulfidic sediments[8] but insufficient or no field testing was carried out.[9]
[1] 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[2] and potential[3] acid sulfate soils. Unless used with the superscript P, the code 'S' implies sulfidic sediments of Holocene age. The superscript P implies sediments of Pleistocene age[1].
[2] Actual Acid Sulfate Soils (AASS): soils a field pH of ≤4.0 and mobile acidity in the form of ionic hydrogen, aluminium, iron or acid salts. Extensive 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.
[3] Potential Acid Sulfate Soils (PASS): soils with an oxidisable sulfur percentage of sulfidic origin which exceeds the prescribed 'action criteria'[4] at which treatment is required if disturbed. Laboratory testing for Oxidisable sulfur is carried out using the Total Oxidisable Sulfur (TOS) method, the Chromium Reducible Sulfur (S_{CR}) method or the Peroxide Oxidisation - Combined Acidity and Sulfate method (S_{POS}).
[4] Oxidisable sulfur 'Action criteria' that trigger treatment are currently: Sands, 0.03 S%; Loams to light clays, 0.06 S%; Medium to heavy clays, 0.1 S%.
[5] Limited or no field checking has been carried out in disturbed lands.
[6] The reliability of elevation data is variable across the study area.
[7] The primary focus of ASS investigation in this study are the sulfidic sediments that were deposited in the Holocene epoch, that is, during the last 10 000 years. Experience in coastal stratigraphic mapping shows that similar, but much older sulfidic sediments of Pleistocene age can occur, still in a reduced (anaerobic) state, being buried under either cemented sands or old, consolidated alluvium. They are far less common than the Holocene equivalents, and have been found beneath land whose surface is both above and below 5m AHD. Generally, Pleistocene sediments will be found at greater depths below the surface than equivalent Holocene sediments.
[8] 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, much older, estuarine, sulfidic sediments may occur at depth on land >5m AHD, as discussed in footnote 7 above.
[9] CAUTION: It is not possible to accurately map the distribution of ASS adjacent to rivers and streams at the current mapping scale eg mangrove fringes. ASS may also be buried below alluvium of past and present stream channels some distance upstream of mapped areas.
• Borehole locations where profiles were described in detail and samples taken for analysis
PROJECT MANAGEMENT
C R Ahern, QASSIT, Natural Resource Sciences, Department of Natural Resources and Mines, Indooroopilly Sciences Centre, Brisbane.
SURVEY by CD Smith, DT Malcolm, JJ Adams and JA Manders, QASSIT, Natural Resource Sciences, Department of Natural Resources and Mines, Indooroopilly Sciences Centre, Brisbane.
CARTOGRAPHY by J K Myers, Natural Resource Information Management, Department of Natural Resources and Mines, Indooroopilly Sciences Centre, Brisbane.
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.
Information current to August 2003 (STARSHIP: cdata3/jobs/job16117/sea/sea5m94_v3)
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NATIONAL LANDCARE PROGRAM
Natural Heritage Trust
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INTENSITY DIAGRAM
Redcliffe
BRISBANE
Tweed Heads
SOUTH PACIFIC OCEAN
1:25 000 scale - Generally 8 to 16 boreholes per km²
1:50 000 scale - Generally 2 to 7 boreholes per km²
1:100 000 scale - Broad scale mapping, generally one borehole per km²
Mapping Units interpreted from geomorphology, elevation and aerial photography; limited or no field investigation conducted
LOCALITY MAP
Noosa Heads
MAP 2
BRISBANE
MAP 1
Tweed Heads
QLD
NSW
LEGEND
Rivers and Creeks
Roads
Railway
Local Authority Boundary
Local Authority Name GOLD COAST
ACID SULFATE SOILS
TWEED HEADS TO REDCLIFFE
MAP 1
Ref. No. NR&M-SEA-I-A0 3260
This map supersedes A0 3234
Information current to August 2003 (Version 3)
THIS MAP IS SUBJECT TO FINAL AMENDMENTS