



Department of
Natural Resources

Supplement 2 to the 3rd Edition of the Soil Data Entry Handbook

for the NSW Soil And Land Information System (SALIS)

The 4-page Soil Data Card, Version 4

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Acknowledgments

General acknowledgments are contained in the *Soil Data Entry Handbook* (Milford *et al.* 2001).

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1 INTRODUCTION

1.1 Preamble

This document describes the additional additions and changes released as part of the 4-page Soil Data Card, Version 4 as introduced in January 2006. It supplements the *Soil Data Entry Handbook*, 3rd edition (Milford *et al.* 2001). Only those attributes specific to the 4-page Soil Data Card, Version 4 are described here. This supplement should be used together with the *Handbook*, in which the rest of the fields on the 4-page Soil Data Card, Version 4 are described.

1.2 Standards and References

In keeping with Australian standards for scientific terminology in soil science, terms and definitions found in this handbook follow:

RC McDonald, RF Isbell, JG Speight, J Walker and MS Hopkins 1990, *Australian Soil and Land Survey Field Handbook* (2nd edn), Inkata Press, Melbourne, Vic., Aust.

We acknowledge permission granted by the copyright owners to use these definitions.

For ease of use, definitions of values are generally not sourced within the text. Other than Macdonald *et al.* (1990) as noted, additional sources include:

Bates, RL and Jackson, JA (eds) 1984, *Dictionary of Geological Terms*, 3rd edn, Doubleday, New York, USA.

Gary, M, MacAfee, R and Wolf, CL (eds) 1972, *Glossary of Geology*, American Geological Inst., Washington DC, USA.

Moore, WG 1988, *The Penguin Dictionary of Geography*, 7th edn, Penguin, London, UK.

Morse, RJ, Atkinson, G and Craze, B 1982, *Soil Data Card Handbook*, Soil Conservation Service of NSW Technical Handbook No. 4, Sydney, NSW, Aust.

Abraham SM and Abraham NA 1996, *Soil Data System Site and Profile Information Handbook*, NSW Dept of Land and Water Conservation, Sydney, NSW, Aust.

The following publication contains a complete list of referenced work (**3 References**) and describes the non-unique attributes and values on the Salinity Soil Data Card:

Milford, HB, McGaw, AJE and Nixon, KJ (eds) 2001, *Soil Data Entry Handbook*, 3rd edn, NSW Dept of Land and Water Conservation, Sydney, NSW, Aust.

1.3 Explanation of Text Format

The text of this document is formatted into five different styles:

- ↵ Base font is used for general descriptions and explanations.
- ↵ Database terms such as ATTRIBUTE appear in SMALL CAPITALS, as do characteristics of attributes, e.g., size, type.
- ↵ Feature names are set in **BOLD CAPITALS**.
- ↵ The attributes of each feature are printed in **boldface**.
- ↵ The values of an attribute are printed in *italics* with a definition in smaller type following where necessary.

1.4 The 4-page Soil Data Card, Version 4

This card appears as green text on white, 2 double-sided pages. This further enhanced version of the 4-page card adds fields to support the World Reference Base soil classification (the first Soil Data Card to do so), the general colour field from observation-level cards, and a set of fields to better describe a soil's surface condition, plus other ATTRIBUTES not previously present on the 4-page card. The card also includes a range of useability features such as more advisory information on how to fill in the card and how many VALUES to record for each field (shown next to each field in parentheses).

2 EXPLANATION OF TERMS AND ATTRIBUTES

2.1 World Reference Base

ALPHABETIC CODES, 1 VALUE ONLY

Record the **World Reference Base** (FAO 1998) classification code, using two letters for the Group and another two for the Unit adjective (or three letters for a Unit if using an additional Specifier). Contact the SALIS Administrator for a list of the values if required.

2.2 Surface Condition

2.2.1 Expected Surface Condition (Wet)

CHOICE, 1 VALUE ONLY

The surface condition of a soil may have a characteristic appearance when wet: this **expected wet condition** may affect the use of the soil and is diagnostic of particular soil characteristics.

Reference List of VALUES

2	<i>cracked</i>	Cracks equal to or wider than 6 mm penetrate to 0.3 m or more and at least 1 crack per square metre. Cracks may lie below a thin massive surface layer.
3	<i>self-mulched</i>	Soil surface layer is highly pedal and loose, forming a mulch.
4	<i>loose</i>	Incoherent mass of individual particles or aggregates forms the soil surface. The surface is easily disturbed by pressure of forefinger.
5	<i>soft</i>	Coherent mass of individual particles or aggregates forms the soil surface. The surface may be easily disturbed by pressure of forefinger.
6	<i>firm</i>	Coherent mass of individual particles or aggregates forms the soil surface. The surface may be disturbed or indented by moderate pressure of forefinger.
7	<i>hard set</i>	Soil surface layer is compact, hard and apparently apedal. A surface seal may or may not occur.
8	<i>surface crust</i>	Thin surface layer or flake, usually less than 10 mm thick, can be separated from and lifted off the soil below, and often seals the surface from penetration by moisture.
9	<i>trampled</i>	Soil surface has been extensively disturbed under dry conditions by hoofed animals.
10	<i>poached</i>	Soil surface has been extensively disturbed under wet conditions by hoofed animals.
13	<i>other</i>	Record the type of condition, e.g., cryptogam, in SITE FIELD NOTES .

2.2.2 Expected Surface Condition (Dry)

CHOICE, 1 VALUE ONLY

The surface condition of a soil may have a characteristic appearance when dry: this **expected dry condition** may affect the use of the soil and is diagnostic of particular soil characteristics.

Reference List of VALUES

2	<i>cracked</i>	Cracks equal to or wider than 6 mm penetrate to 0.3 m or more and at least 1 crack per square metre. Cracks may lie below a thin massive surface layer.
3	<i>self-mulched</i>	Soil surface layer is highly pedal and loose, forming a mulch.
4	<i>loose</i>	Incoherent mass of individual particles or aggregates forms the soil surface. The surface is easily disturbed by pressure of forefinger.
5	<i>soft</i>	Coherent mass of individual particles or aggregates forms the soil surface. The surface may be easily disturbed by pressure of forefinger.
6	<i>firm</i>	Coherent mass of individual particles or aggregates forms the soil surface. The surface may be disturbed or indented by moderate pressure of forefinger.
7	<i>hard set</i>	Soil surface layer is compact, hard and apparently apedal. A surface seal may or may not occur.

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|----|------------------------|--|
| 8 | <i>surface crust</i> | Thin surface layer or flake, usually less than 10 mm thick, can be separated from and lifted off the soil below, and often seals the surface from penetration by moisture. |
| 9 | <i>trampled</i> | Soil surface has been extensively disturbed under dry conditions by hoofed animals. |
| 10 | <i>poached</i> | Soil surface has been extensively disturbed under wet conditions by hoofed animals. |
| 12 | <i>water repellent</i> | Water is not readily absorbed into the surface layer. The degree of water repellence can be recorded in SITE FIELD NOTES . |
| 13 | <i>other</i> | Record the type of condition, e.g., cryptogam, in SITE FIELD NOTES . |

3 ERRATA

3.1 Coarse Fragment Shape and Size

The number of recordable values listed for these ATTRIBUTES on the card is incorrect. Both **Coarse Fragment Shape** and **Coarse Fragment Size** can accept a maximum number of 3 recorded VALUES per **Type**, rather than 1 recorded VALUE as stated on the card.

3.2 Erodibility Tests

The heading **Erodibility Tests** on the card should read **Crumb Test**, as this section contains only ATTRIBUTES relevant to that particular FIELD. (This error is also present on all other versions of the 4-page Soil Data Card.)