

This Agreement is made the day of 1999

BETWEEN:

- (1) MINISTER OF AGRICULTURE, FISHERIES AND FOOD of Nobel House, 17 Smith Square, London SW1P 3JR ("MAFF");
- (2) THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE of St. Clements House, 2-16 Colegate, Norwich, NR3 1BQ (the "Controller"); and
- (3) CRANFIELD UNIVERSITY of Wharley End, Cranfield, Bedford, MK43 0AL ("Cranfield").

WHEREAS:

- (A) By an agreement dated 24th April 1987 between The Agricultural and Food Research Council, The Trustees of the Lawes Agricultural Trust ("LAT"), Cranfield (formerly The Cranfield Institute of Technology) and MAFF the SSLRC was transferred to Cranfield (the "Transfer Agreement").
- (B) As part of the arrangements effected by the Transfer Agreement Cranfield took over the responsibility for the security, maintenance and future development of LandIS (as defined herein).
- (C) Prior to and after the Transfer Agreement MAFF commissioned a substantial amount of work on LandIS and such commissions continue.
- (D) At no time prior to or after the Transfer Agreement have the parties agreed on the ownership of the IPRs (as defined herein) subsisting in the Pre-1987 Rights.
- (E) MAFF intends to provide further financial support for LandIS through separate funding agreements.
- (F) MAFF and Cranfield have agreed that LandIS should be owned, exploited and made available on the terms and subject to the conditions of this Agreement.
- (G) The Controller pursuant to the grant of letters patent administers Crown copyright on behalf of the Crown.

NOW IT IS HEREBY AGREED as follows:

1. DEFINITIONS

- 1.1 In this Agreement, unless the context requires otherwise the expressions listed below shall have the following meanings:

"Crown User"	means the Crown, but excluding Non Departmental Public Bodies (including all Research Councils) and Other Organisations as listed in the
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Civil Service Year Book 1997 (2nd edition).

- "IPRs" means patents, copyrights, database rights and proprietary know how (whether registered or unregistered and including applications for any such right) and all rights of equivalent or similar effect anywhere in the world for the full term of such rights and any renewals or extensions of such rights.
- "LandIS" means that part only of the computerised information system containing soil and related databases operated by Cranfield which comprises the data referred to in Parts 1 and 2 of Schedule 1 hereto and references to LandIS shall include any part thereof excluding any Crown Copyright data originated, supplied or licensed by any Government department, agency or part of the Crown other than MAFF.
- "MAFF Rights" means all IPRs originated or commissioned by MAFF and owned by the Crown relating to those parts of LandIS detailed in Part 2 of the Schedule 1 hereto and, unless otherwise agreed, all such IPRs arising out of any other commission from any Crown User relating to the development of LandIS.
- "Pre-1987 Rights" means all IPRs relating to those parts of LandIS detailed in Part 1 of Schedule 1 hereto.
- "Research Purposes" means bona fide research the results of which are not used or intended to be used for commercial purposes.
- "SSLRC" means the Soil Survey and Land Research Centre which form part of the School of Agriculture, Food and Environment within Cranfield University.
- "Unauthorised User" shall have the meaning set out in clause 7.2.
- 1.2 In the event of any inconsistency between the terms of this Agreement and the terms of any other existing Agreement to which both MAFF and Cranfield are parties then the terms of this Agreement shall prevail.
- 1.3 Headings in this Agreement are for convenience only and shall not affect its interpretation.

2. LANDIS

2.1 Subject to clause 2.2 and 5.3, it is acknowledged and agreed that Cranfield shall have the exclusive right to market, distribute, license and enforce LandIS to and against all third parties. Subject to clause 2.2, 3 and 4, Cranfield shall use its reasonable endeavours to exploit commercially LandIS. MAFF shall provide all necessary assistance, give all consents and grant all rights (so far as it is able to do so) necessary to enable Cranfield to enjoy and exploit such rights.

2.2 Cranfield shall not:

2.2.1 grant any licence of LandIS inconsistent with the rights granted to MAFF pursuant to clause 3 or of the rights of users for Research Purposes pursuant to clause 4; or

2.2.2 enforce LandIS against an Unauthorised User otherwise than in accordance with clause 7.

3. CROWN USER

3.1 At the written request of a Crown User, Cranfield shall consent to specifically identified use of Pre-1987 Rights by any Crown User for non commercial purposes provided that such Crown User shall pay a reasonable sum in respect of the cost to Cranfield of accessing and abstracting the relevant data, including the direct cost of connect time and computer support time relating to the specific use requested by the Crown User.

3.2 In relation to all requests pursuant to clause 3.1, Cranfield shall issue an authorisation in the form set out in Schedule 2. If Cranfield refuses to grant an authorisation to any Crown User then it shall notify MAFF in writing, providing reasons why such authorisation was refused. Cranfield agrees to review any refusal, if appropriate and not to refuse to issue such authorisation if the Crown User complies with the terms set out in clause 3.1.

4. RESEARCH

4.1 Subject to clause 4.2, Cranfield agrees to grant licences of LandIS data to third parties for Research Purposes on a royalty free basis (except for a reasonable sum in respect of the cost to Cranfield of accessing and abstracting the relevant data, including the direct cost of connect time and computer support time relating to the specific licence for Research Purposes).

4.2 Any person who requires a licence for Research Purposes of LandIS data pursuant to clause 4.1 shall:

4.2.1 provide complete and accurate details of the nature and extent of the proposed use;

- 4.2.2 be subject to reasonable limitations on the amount of data that will be provided and the period for which the data can be used;
- 4.2.3 be subject to a requirement that their senior executive officer or equivalent grade or seniority sign a declaration in terms that confirm that the proposed use will be for Research Purposes and a confirmatory declaration after the relevant research has been completed in the same terms (with such changes as may be necessary),

and Cranfield shall grant to each such user a licence based on the terms disclosed to MAFF (with such amendments as may be necessary in a particular case).

5. MAFF RIGHTS

- 5.1 MAFF and the Controller hereby grant a non-exclusive licence (with the right to sub-licence) to Cranfield to use the MAFF Rights such licence to be royalty-free.
- 5.2 Cranfield undertakes to keep complete and accurate records of all licences granted of MAFF Rights, including details of the projects in relation to which such use was proposed and the royalty paid by licensees in respect of such rights. Cranfield shall permit MAFF to inspect such records at all reasonable times, subject to prior written notice. At the request of MAFF, Cranfield shall provide details of royalties paid by licensees of MAFF Rights and recognise that such royalties should not exceed a level which is reasonable in all the circumstances.
- 5.3 Nothing in this Agreement shall limit MAFF's right to make MAFF Rights available to Crown Users or to enforce MAFF Rights against any third party infringing or making unauthorised use of such rights provided that MAFF shall notify Cranfield of any licensing or enforcement by it pursuant to this clause 5.3.

6. TERM AND TERMINATION

- 6.1 This Agreement shall continue without limit of time and shall not be capable of termination by any party.
- 6.2 In the event that neither MAFF nor any Crown User funds Cranfield at a level commensurate with the value of funding presently provided, then Cranfield may require MAFF and the Controller to assign promptly all its right, title and interest in the Pre-1987 Rights to Cranfield to hold unto Cranfield absolutely .
- 6.3 After the assignment by MAFF to Cranfield pursuant to clause 6.2:
 - 6.3.1 at the request and cost of MAFF such cost to be reasonable, Cranfield shall provide to MAFF a complete electronic copy of the MAFF Rights for non-commercial purposes (together with such software which is

proprietary to Cranfield and is necessary for MAFF to access and manipulate such data);

- 6.3.2 at the written request of a Crown User, Cranfield shall consent to specifically identified use of MAFF Rights by any Crown User for non commercial purposes provided that such Crown User shall pay a reasonable sum in respect of the cost to Cranfield of accessing and abstracting the relevant data, including the direct cost of connect time and computer support time relating to the specific use requested by the Crown User;
- 6.3.3 at the written request of a Crown User, Cranfield shall consent to specifically identified use of Pre-1987 Rights by any Crown User for non commercial purposes on reasonable terms and in any event the costs charged to Crown Users shall not exceed the costs charged to arm's length third parties and such costs shall be discounted by an equitable amount to reflect the financial contribution of MAFF under the relevant commission agreement pursuant to which the specific data set was created or modified;
- 6.3.4 Cranfield shall not assign any rights in LandIS to any third party (such assignment to be subject to the terms of this Agreement), without providing MAFF with a reasonable opportunity to negotiate for an assignment of such rights on terms no less favourable than offered to such third party;
- 6.3.5 the provisions of clause 3.1 and 7.2 shall cease to apply, but for the avoidance of doubt and without limitation, clauses 4.1 and 5.1 shall continue to apply,

provided that Cranfield shall have no obligation pursuant to clause 4, 6.3.2 or 6.3.3 in the event that it no longer provides LandIS data to third parties on a commercial basis.

- 6.4 In the event that Cranfield is unwilling or unable to maintain the facilities to ensure that LandIS is commercially exploited and to enable MAFF to have access to LandIS in substantially the same manner as has been provided at the date hereof, then (except in the circumstances contemplated by clause 6.2 and 6.3) MAFF may require Cranfield to provide it with a complete electronic copy of the Pre-1987 Rights and the MAFF Rights to enable MAFF to continue to benefit from the rights granted to it in respect of the Pre-1987 Rights pursuant to this Agreement (but not for any other purpose) and to use the MAFF Rights in future without limitation.

7. ENFORCEMENT

- 7.1 Subject to clause 7.3, in relation to any unauthorised use or infringement of LandIS, MAFF shall at the request of Cranfield provide all reasonable assistance in relation to the commencement or prosecution of any litigation or other

proceedings necessary to prevent such unauthorised use or infringement including becoming a party to such litigation or other proceedings. Cranfield shall have sole conduct of any such proceedings and, subject to indemnifying MAFF for all reasonable costs incurred in relation to such proceedings, shall be solely entitled to any damages or other award in favour of Cranfield or MAFF in such proceedings.

- 7.2 Should Cranfield decide not to take any enforcement action in relation to an unauthorised use or infringement of LandIS, MAFF shall be entitled to take such proceedings at its own expense provided that no such action shall be taken by MAFF without Cranfield's consent (such consent not to be unreasonably withheld or delayed). Cranfield shall provide all reasonable assistance to MAFF subject to MAFF indemnifying Cranfield for all reasonable costs incurred in relation to such proceedings.
- 7.3 If Cranfield notifies MAFF that it has reason to believe that the Crown, any governmental agency, agent or contractor contracted by the Crown is infringing or making unauthorised use of LandIS ("Unauthorised User") then MAFF undertakes to take all reasonable steps to prevent such infringement or unauthorised use. MAFF shall within 28 days of such notification notify Cranfield of the steps which it has taken in relation to such unauthorised use and provide details of the response from the Unauthorised User. Cranfield undertakes that no proceedings shall be threatened or commenced against such Unauthorised User prior to receiving the response from MAFF.

8. INTELLECTUAL PROPERTY

- 8.1 Subject to any third party rights and any prior contractual commitments to a third party, MAFF and Cranfield agree that the Pre-1987 Rights are owned jointly in equal shares and hereby assign with the consent and under the direction of the Controller all their respective right, title and interest in the Pre-1987 Rights (and any paper records incorporating data from which such rights were compiled or created) to hold unto MAFF and Cranfield jointly.
- 8.2 Neither MAFF, the Controller nor Cranfield shall assign any of its right, title or interest in or to LandIS, without the prior written consent of the other (save that MAFF may assign its rights in LandIS as part of any reorganisation of MAFF pursuant to which the functions and responsibilities of MAFF remain with or are transferred under the Crown and Cranfield may assign its rights in LandIS as part of any reorganisation of Cranfield pursuant to which any subsidiary or body into which such rights are assigned remains in the control of Cranfield).
- 8.3 Subject to clause 8.1, nothing in this Agreement shall be taken to alter the ownership of any IPRs in LandIS, including MAFF Rights or IPRs owned by any third party.
- 8.4 MAFF shall keep Cranfield informed of all requests received for access to data within LandIS, the granting of which would contravene the terms of this Agreement. If at any time, MAFF is required to grant a licence of or access to

Pre-1987 Rights contrary to the provisions and restrictions in this Agreement, then to the extent that such requirement would not apply were Cranfield to own all rights, title and interest in the Pre-1987 Rights, then MAFF shall promptly assign all its rights, title and interest in such rights to Cranfield. For the avoidance of doubt, and without limitation, clauses 3 and 4 shall continue to apply in such circumstances.

- 8.5 Cranfield and MAFF shall not and MAFF shall use its best endeavours to procure that a Crown User does not remove or alter any copyright notice appearing on or in relation to any LandIS data. Copyright notices for LandIS shall state "© Cranfield University and for the Controller of HMSO".

9. REVIEW

At the written request of either party giving not less than 1 months notice, MAFF and Cranfield shall meet to discuss the operation of this Agreement and any issue arising therefrom.

10. CLAIMS AGAINST CRANFIELD

In the event that a Crown User threatens or commences proceedings against Cranfield in relation to any LandIS data provided pursuant to clause 3, then Cranfield shall notify MAFF as soon as it becomes aware of such dispute. At the request of Cranfield, MAFF shall take all reasonable steps to resolve such dispute or potential dispute and shall reimburse to Cranfield all costs or damages payable by Cranfield to such person.

11. DISPUTE RESOLUTION

- 11.1 In the event of any dispute between the parties, a meeting shall be held between the Director of SSLRC and Head of Rural and Marine Environment Division, MAFF and in the event that this meeting does not resolve the dispute, there shall be a further meeting between the Vice Chancellor of Cranfield and Head of Environment Group, MAFF.
- 11.2 In the event that the dispute is not resolved pursuant to clause 11.1, then the dispute shall be resolved by mediation. Either party may request that a neutral adviser or mediator ("the Mediator") be appointed who shall be agreed between the parties or, if they are unable to agree upon the identity of the Mediator within 14 days after a request by one party to the other, or if the Mediator agreed upon is unable or unwilling to act, either party shall within 14 days from the date of the proposal to appoint a Mediator or within 14 days of notice to either party that he is unable or unwilling to act, apply to the Centre for Dispute Resolution ("CEDR") to appoint a Mediator.
- 11.3 The parties shall within 14 days of the appointment of the Mediator meet with him in order to agree a programme for the exchange of all relevant information and the structure to be adopted for negotiations to be held. If considered

appropriate, the parties may at any stage seek assistance from the CEDR to provide guidance on a suitable procedure.

- 11.4 Unless otherwise agreed, all negotiations connected with the dispute and any settlement agreement relating to it shall be conducted in confidence and without prejudice to the rights of the parties in any future proceedings.
- 11.5 If the parties reach agreement on the resolution of the dispute, the agreement shall be reduced to writing and shall be binding on the parties once it is signed by or on behalf of the parties.
- 11.6 Failing agreement, either of the parties may invite the Mediator to provide a non-binding but informative opinion in writing. Such an opinion shall be provided on a without prejudice basis and shall not be used in evidence in any proceedings relating to the Agreement without the prior written consent of both parties.
- 11.7 If the parties fail to reach agreement in the structured negotiations within 60 days of the Mediator being appointed, or such longer period as may be agreed by the parties, then any dispute or difference between them may be referred to the courts.

12. CONFIDENTIALITY

MAFF shall treat as confidential all information forming part of LandIS and shall not use or disclose such information save as contemplated by this Agreement provided that this obligation shall not apply to:

- (i) information in the public domain otherwise than through breach of MAFF's or any Crown Users' obligation of confidence to Cranfield;
- (ii) information which MAFF is required by law to disclose, provided that MAFF gives advance prior notice of such disclosure to Cranfield;

13. FURTHER ASSURANCE

MAFF and Cranfield shall, from time to time on request of the other, do or procure the doing of all acts and/or the execution of all documents in a form satisfactory to MAFF or Cranfield (as appropriate) which are necessary for giving full effect to this agreement and securing to MAFF or Cranfield (as appropriate) the full benefit of the rights of the parties under this Agreement.

14. NO PARTNERSHIP

Nothing in this Agreement and no action taken by the parties under this agreement shall constitute a partnership, association, joint venture or other co-operative entity between MAFF, the Controller and Cranfield or any of them.

15. VARIATION

The provisions of this Agreement may only be varied, amended or otherwise modified in a written document signed by an authorised representative of MAFF and Cranfield.

16. WAIVER

16.1 No delay or omission on the part of either party to this Agreement in exercising any right, power or remedy provided by law or under this Agreement shall impair such right, power or remedy or operate as a waiver thereof.

16.2 The single or partial exercise of any right, power or remedy provided by law or under this Agreement shall not preclude any other or further exercise thereof or the exercise of any other right, power or remedy.

17. SEVERABILITY

If at any time any provision of this Agreement is or becomes illegal, invalid or unenforceable that shall not affect or impair the legality, validity or enforceability of any other provision of this Agreement.

18. NOTICES

18.1 All notices and other documents to be served under this Agreement shall be in writing and shall be sent to the address of the recipient set out in this Agreement or to such other address as the recipient may stipulate by notice.

18.2 All notices may be delivered personally or by couriered post or fax and shall be deemed to have been served upon receipt.

19. ASSIGNMENT

19.1 Subject to clause 19.2 and save as expressly stated herein, neither MAFF nor Cranfield shall assign all or any part of its rights under this Agreement.

19.2 In the event that Government is reorganised such that the functions, duties and responsibilities of MAFF are conferred on another Government department or agency, MAFF shall procure that such successor department or agency enters into a direct contractual relationship with Cranfield agreeing to be bound by the same obligations as are assumed by MAFF hereunder.

20. FORCE MAJEURE

Each party shall be excused from performance of any of its obligations hereunder to the other party (the "Non-Claiming Party") for any period and to the extent that the party (the "Claiming Party") is prevented from performing any obligation in whole or in part, as a result of delays caused by an act of God, war, civil disturbance, court order or any other cause whatsoever beyond the

Claiming Party's reasonable control ("a force majeure event"). The Claiming Party shall promptly notify the Non-Claiming Party of the nature and extent of the circumstances giving rise to the delay or non-performance. The Non-Claiming Party may terminate if such force majeure event continues for more than a continuous period of 6 months.

21. ENTIRE AGREEMENT

- 21.1 For the purposes of this clause, "Pre-contractual Statement" means a draft, agreement, undertaking, representation, warranty, promise, assurance or arrangement of any nature whatsoever, whether or not in writing, relating to this agreement made or given by a party to this agreement or any other person at any time prior to the date of this agreement.
- 21.2 This Agreement constitutes the whole and only agreement between the parties relating to the ownership and licensing of LandIS and supersedes and extinguishes any Pre-contractual Statement. Each party acknowledges that in entering into this agreement it is not relying upon any Pre-contractual Statement which is not set out in this agreement. No party shall have any right of action against any other party to this agreement arising out of or in connection with any Pre-contractual Statement (except in the case of fraud) except to the extent repeated in this Agreement.

22. GOVERNING LAW AND JURISDICTION

- 22.1 This Agreement shall be governed by the laws of England and Wales.
- 22.2 Subject to clause 11, the parties submit to the non-exclusive jurisdiction of the courts of England and Wales.

IN WITNESS- whereof the parties have executed this Agreement on the day and year first above written.

SCHEDULE 1

Schedule 1, Part 1, Pre 1987 Rights

Tablespace		Table	Description	Data Origins	Date Collection	Table Creation or Modification			
Name	Name			Source		Date	Last Modified	Commission Year	MAFF Project Code
Data collected and entered into LandIS pre 1987 but modified subsequently									
AGROCLIM	MD_5K		Moisture deficits (MD) and potential transpiration (PT) at 5km resolution.	SSLRC 61- 75 970 stations	61-75	86	93-96	93-96	LE0309, SR0105
	SERIES_FCZONE		Wetness class and workability assessment codes.	Full profile descriptions	77	85	87, 93-96	87, 93-96	(k) LandIS, LE0309, SR0105
	WA_WEIGHTS		Workability assessment codes and autumn, spring weightings.	SSLRC expert systems	84	84	93-96	93-96	LE0309, SR0105
AUGERS	AUGER70_HOR		Auger bores (1:250000) horizon details.	Auger bore descriptions from 1:250,000 mapping	75-82	86	93-96	93-96	LE0309, SR0105
	AUGER70_SITE		Auger bores (1:250000) site details.	Auger bore descriptions from 1:250,000 mapping	75-82	86	93-96	93-96	LE0309, SR0105
CLASSIF	MAJOR_GROUP		Major soil group code and name. Includes major group 9 (man made soils) and 1.5 (man made raw soils).	SSLRC TM14 - subgroup description	80	PRE 86	92, 93-96	92, 93-96	(k) LandIS, LE0309, SR0105
	SERIES		Soil series. Includes series 4005 (Man made raw soils) and 4008 (Disturbed soils). Series 1145 (LUDGVAN) is in subgroup 09.12. L indicates rationalised in 84 (see TM17).	SSLRC bulletins, memos, records Soil series definition see SSLRC TM 17/14 subsequent new series details from John Hollis	84	86	95	92, 93-96	(k) LandIS, LE0309, SR0105
GBSOIL	COVENTRY		Map unit symbol (e.g. Sh, WQ). Coventry area.	COVENTRY SOIL MAP at 1:50,000 100m resolution	84	85	96		SR0105
MAPS	NATMAP_100M		Map unit (run length encoded) in 100m pixels (from 0,0 point).	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NATMAP_1K		National map units, percentage occurrence at 1km pixel resolution.	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NATMAP_5K		National map units, percentage occurrence at 5km pixels.	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NATMAP_COMPONENTS		Map units, component series, percentage of series in current map unit.	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NATMAP_SERIES_1K		Soil series, percentage occurrence at 1km pixels. Urban areas are expanded to show urban soils.	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NATMAP_SERIES_5K		Soil series, percentage occurrence at 5km pixels. Urban areas are expanded to show urban soils.	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NATMAP_UNITS		Part of national map legend map unit properties i.e. National Map Soil symbol (map unit), qualifier (e.g. 1,2,3), code D or V (dominance or variability of soil series in soil association)	NATIONAL MAP	75-82	PRE 85	93-96	93-96	LE0309, SR0105
	NGR_FULL		Numeric and alphabetic codes for 100km squares in Britain. Including squares more than 1000km north of the origin.	NATIONAL MAP	80	86	93-96	93-96	LE0309, SR0105
NSI	NSI_EXTRACT		NSI analytical results for lime requirement, pH, extract. P, K, Mg, Zn, Cu, Ni, Cd, Pb, Co, Mn.	National Soil Inventory data & samples	66-86	86	93-96	93-96	LE0309, SR0105
	NSI_HOR		Horizon details for NSI records	National Soil Inventory data & samples	66-86	85	93-96	93-96	LE0309, SR0105
	NSI_LABNOS		SSLRC lab numbers for NSI samples and associated grid reference plus ADAS lab. no. and sample texture	National Soil Inventory data & samples	66-86	86	93-96	93-96	LE0309, SR0105
	NSI_SAMPLES		Sample details from NSI records	National Soil Inventory data & samples	66-86	85	93-96	93-96	LE0309, SR0105
	NSI_SITE		Site details for NSI	National Soil Inventory data & samples	66-86	85	93-96	93-96	LE0309, SR0105
	NSI_TOTALS		Contains NSI analytical results for extracts of aqua regia P, K, Ca, Mg, Na, Fe, Al, Co, Mn, Ba, Zn, Cu, Ni, Cd, Pb.	National Soil Inventory data & samples	66-86	86	93-96	93-96	LE0309, SR0105
REPRES	REP_CHEM		Representative Profile - analytical code and results for chemical properties	Full profile descriptions	53-86	84	94	93-96	LE0309, SR0105
	REP_FULL_HOR		Representative Profile - Full horizon details (not validated).	Full profile descriptions	69-84	84-86	93-96	93-96	LE0309, SR0105
	REP_FULL_HOR_TXT		Representative Profile - Full text details of each horizon (not validated).	Full profile descriptions	69-84	84-86	93-96	93-96	LE0309, SR0105
	REP_FULL_SITE		Representative Profile - Full site details (not validated).	Full profile descriptions	69-84	84-86	93-96	93-96	LE0309, SR0105
	REP_FULL_SITE_TXT		Representative Profile - Full text details of the site (not validated).	Full profile descriptions	69-84	84-86	93-96	93-96	LE0309, SR0105
	REP_LABNOS		Representative Profile - sample no and sample depths details	Full profile descriptions	53-86	84	94	93-96	LE0309, SR0105
	REP_LABS		Representative Profile - general laboratory details	Full profile descriptions	53-86	84	94	93-96	LE0309, SR0105
TOPOCAD	ALT_5K		Altitude (m) at 5km resolution for England and Wales.	4 points 500m offset from true 5k & NSI grids (87/8)	87	88	93-96	93-96	LE0309, SR0105
	ALT_NSI		Representative altitudes of 4 points around NSI GRID_5K (offset 500m)	4 points 500m offset from true 5k & NSI grids (87/8)	87	88	93-96	93-96	LE0309, SR0105
	ALT_REP		Representative altitude (m) of the 500m pixel referenced at the SW corner	4 points 500m offset from true 5k & NSI grids (87/8)	87	88	93-96	96	LE0309, SR0105

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SCHEDULE 1

Schedule 1, Part 1, Pre 1987 Rights

Table/par	Table Name	Description	Data Origins Source	Date Collection	Table Creation or Modification			
					Date	Last Modified	Commission Year	MAFF Project Code
Data collected pre 1987 but entered into LandIS subsequently								
AGROCLIM	GB_MD_5K	PSMD at 5km for Great Britain	SSLRC 61-75 970 stations	61-75	98	98		LE0309, SR0105
	GRASS_SUIT	Grass suitability table	SSLRC TM13 - soil survey applications	79	91	93-98	91, 93-96	(i) LandIS, LE0309, SR0105
	GRASS_TRAFFIC	Grass suitability table for trafficability	SSLRC TM13 - soil survey applications	79	91	93-98	91, 93-99	(i) LandIS, LE0309, SR0105
	GRASS_YIELD	Grass suitability table for grass yield	SSLRC TM13 - soil survey applications	79	91	93-98	91, 93-96	(i) LandIS, LE0309, SR0105
	POACH_RISK	Poaching risk table, dependent on moist zone, wetness class, depth to impermeable layer, and retained water.	SSLRC TM13 - soil survey applications	79	91	93-98	91, 93-98	(i) LandIS, LE0309, SR0105
	RAIN_5K	Rainfall data at 5km intervals	SSLRC 1961- 1975 970 stations	61-75	88	93-98	87, 93-98	(k) LandIS, LE0309, SR0105
CLASSIF	BRIEF_PROFILE	Brief description for series	SSLRC Regional Bulletins	84	89	93-98	89, 93-98	(i) LandIS, LE0309, SR0105
	BRIEF_PROFILE_HOR	Horizon depths, notation and description for this series	SSLRC Regional Bulletins	84	89	93-98	89, 93-98	(i) LandIS, LE0309, SR0105
	SERIES_CORREL	Soil series not in the rationalised list giving their modern correlatives	SSLRC bulletins, memoirs, records. Soil series definition see SSLRC TM 17/14 subsequent new series details from John Hollis	84	88	93-98	87, 93-98	(k) LandIS, LE0309, SR0105
	SERIES_DEFN	All rationalised soil series with data on parent material type, lithology, mineralogy and particle size groupings for top, contrasting layers and drift type	Soil series definition see SSLRC TM 17/14 subsequent new series details from John Hollis	84	88	93-98	87, 93-98	(k) LandIS, LE0309, SR0105
	SOIL_GROUP	Soil groups and names. Includes major group 9 (man made soils) and 1.5 (man made raw soils)	SSLRC TM14 - subgroup description	80	88	93-98	87, 93-98	(k) LandIS, LE0309, SR0105
	SOIL_SUBGP	Soil subgroups and names. Includes major group 9 (man made soils) and 1.5 (man made raw soils)	SSLRC TM14 - subgroup description	80	88	93-98	87, 93-98	(k) LandIS, LE0309, SR0105
GBSOIL	GB_COMPONENTS	Map Units and component series	NATIONAL MAP. England and Wales map data from SSLRC. Scottish map unit data from MLURI	84	96	96	See footnote 1	See footnote 1
	GB_NT	Great Britain Soil 100km tile. Map units at 100m resolution	NATIONAL MAP. England and Wales map data from SSLRC. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1
	GB_NU	Great Britain Soil 100km tile. Map units at 100m resolution	NATIONAL MAP. England and Wales map data from SSLRC. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1
	GB_NX	Great Britain Soil 100km tile. Map units at 100m resolution	NATIONAL MAP. England and Wales map data from SSLRC. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1
	GB_NY	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_NZ	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_OV	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SD	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SE	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SH	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SJ	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SK	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SM	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SN	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SO	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SOIL_1K	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. Scottish map unit data from MLURI. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SOIL_5K	5km summary of data from 100m map unit data	GB SOIL MAP. Scottish map unit data from MLURI. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SP	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1
	GB_SR	Great Britain Soil 100km tile. Map units at 100m resolution	GB SOIL MAP. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1

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SCHEDULE 1

Schedule 1, Part 1, Pre 1987 Rights

Tablespace	Table	Description	Data Origins	Data Collection	Table Creation or Modification			
					Name	Name	Source	Date
	GB_ST	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1
	GB_SU	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. Scottish map unit data from MLURI	75-82	96	96	See footnote 1	See footnote 1
	GB_SW	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SX	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SY	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_SZ	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TA	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TF	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TG	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TL	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TM	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TO	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TR	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_TV	Great Britain Soil 100km tile. Map units at 100m resolution.	GB SOIL MAP. England and Wales map data from SSLRC	75-82	96	96	See footnote 1	See footnote 1
	GB_UNITS	Legend from NATIONAL MAP and SCOT_MU from MLURI	NATIONAL MAP. Scottish map unit data from MLURI	84	96	96	See footnote 1	See footnote 1
MAPS	NATMAP_SUBGP_1K	National map subgroups by 1km pixels (from 0,0 point).	NATIONAL MAP	79	90	93-96	90, 93-96	I LandIS, LE0309, SR0105
	NATMAP_SUBGP_5K	National map subgroups by 5km pixels (from 0,0 point).	NATIONAL MAP	79	88	93-96	87, 93-96	(K) LandIS, LE0309, SR0105
NSI	NSI_GENERATED97	Computed values for NSI points for depth to significant features, indicators of susceptibility and risk and available water.	National Soil Inventory data & samples	79	93	97		LE0309, SR0105
	NSI_SOIL_STRUCT	Table for determining structure of subsols from the nature of their ped faces and their particle size class.	National Soil Inventory data & samples	79	96	96		SR0105
REPRES	REP_HOR	Representative Profile - validated and classified horizon details	National Soil Inventory data & samples	69-84	90-92	93-96	90-96	PS0410, LE0309, SR0105
	REP_PHYS	Representative Profile - analytical codes and results for physical properties	Full profile descriptions	69-84	89	91, 93-96	89, 91, 93-96	I LandIS, LE0309, SR0105
	REP_SITE	Representative Profiles - validated and classified horizon details	Full profile descriptions	69-84	90-92	93-96	90-96	PS0410, LE0309, SR0105
SOILPROPS	AP_DEPTH_LIMITS	Limits of total and easily available water for different crops.	SSLRC TM9 - Water Retention, Porosity and Density of Field Soils	77	96	96	96	SR0105
	AP_FINE_EARTH	Available Water (AP) for fine earth content.	SSLRC TM9 - Water Retention, Porosity and Density of Field Soils	77	96	96	96	SR0105
	AP_STONES	Available Water (AP) for stone content	SSLRC TM9 - Water Retention, Porosity and Density of Field Soils	77	96	96	96	SR0105
	AP_TEXTURE	Texture classification for calculation of available water	SSLRC TM9 - Water Retention, Porosity and Density of Field Soils	77	96	96	96	SR0105
	LAYERS	Groups of horizons with similar properties categorised for each valid series and landuse group combination and assigned typical upper and lower depths.	Full profile descriptions	69-84	94			LE0309, SR0105
	SERIES_HOR	Representative horizon notation for horizons of each series sequenced by depth.	Full profile descriptions	69-84	90	93-96	89-92, 93-96	I LandIS, LE0309, SR0105
	SERIES_HOR_PROPS	Analytical properties- average, max., min., SD, count for representative horizons by series.	Full profile descriptions	69-84	90	93-96	89-92, 93-96	I LandIS, LE0309, SR0105
	SERIES_PROPS	Series related properties.	Full profile descriptions	69-84	85	89-92, 93-96	89-92, 93-96	I LandIS, LE0309, SR0105
	LAYER_ANAL_PROPS	Analytical results for each layer, as defined in the LAYERS table, with SD and an indication if from expert judgement or whether generated from analytical measurements	Full profile descriptions	69-84	94	96	94, 96	LE0304, SR0105
	LAYER_CALC_PROPS	Calculated properties for each layer, as defined in the LAYERS table, using properties in LAYER_ANAL_PROPS and computational models	Full profile descriptions	69-84	94	96	94, 96	LE0304, SR0105

¹ Creation of the GB SOIL Tablespace was funded by Cranfield

SCHEDULE 1

Schedule 1 Part 2 MAFF Rights ²

Table		Description	Data Origins		Data Collection		Table Creation or Modification			
Name	Name		Source	Date	MAFF Project Code	Date	Last Modified	Commission Year	MAFF Project Code	
AUGERS	AUGER_COUNT_100K	Count of 1:250,000, post 1:250,000 auger bores and NSI field records by 100x100km squares.	Auger bore descriptions from 1:250,000 mapping and post 1:250,000 mapping. National Soil Inventory data & samples	86-94		88	98		LandIS LE0304 SR0102 LE0309,SR0105	
	AUGER_COUNT_10K	Count of 1:250,000, post 1:250,000 auger bores, NSI field records in 10x10km sheets in each 100k square.	Auger bore descriptions from 1:250,000 mapping and post 1:250,000 mapping. National Soil Inventory data & samples	86-94		88	98		LandIS LE0304 SR0102 LE0309,SR0105	
	AUGER98_HOR	Auger bores (ex 1:250000) horizon details.	Auger bore descriptions	87-94	Boston pt, Acid SO ₂ , EHF's pt, Rabbits M Radiation Safety SS0101, 102, 103 CC0402, BD0702	89	98	89-98	LandIS LE0304 SR0102 LE0309,SR0105	
	AUGER98_SITE	Auger bores (ex 1:250000) site details.	Auger bore descriptions	87-94	Boston pt, Acid SO ₂ , EHF's pt, Rabbits M Radiation Safety SS0101, 102, 103 CC0402, BD0702	89	98	89-98	LandIS LE0304 SR0102 LE0309,SR0105	
	AUGER98_CTRL	Auger bores (ex 1:250000) control section.	Auger bore descriptions	87-94	Boston pt, Acid SO ₂ , EHF's pt, Rabbits M Radiation Safety SS0101, 102, 103 CC0402, BD0702	87-94	98	89-98	LandIS LE0304 SR0102 LE0309,SR0105	
GBSOIL	EC_GB_5K	Dominant soil for a 5km pixel for Great Britain determined manually. Includes England, Wales and N. Ireland but excludes Scotland.	EC-GB 5KM MAP soil map at 1:1,000,000 - 88	92-95	LE0307, NT0902, SR0104	92-95	96	92-95	LE0307, NT0902, SR0104, LE0309, SR0105	
	EC_UK_UNIT	UK Map units corresponding to EC map units for Great Britain.	EC-GB 5KM MAP soil map at 1:1,000,000 - 88	92-95	LE0307, NT0902, SR0104	92-95	96	92-95	LE0307, NT0902, SR0104, LE0309, SR0105	
NSI	NSI_TEXTURES	NSI analytical results for particle size distribution	National Soil Inventory data & samples	90-92		93	97	89-92, 93-98	NSI data National Soils Inventory, LE0309/SR0105	
	NSI_ADD_ELMS	NSI additional elements	NSI additional elements analyses	92-98	LE0305, SR0103	98				
SOILPROPS	SERIES_LUGROUP	All possible series, landuse group combinations with an indication of whether it occurs in England and Wales	Full profile descriptions	94	PS0410	94	96		PS0410, LE0309, SR0105	
T200	T200-Stations	Stations for T200 project	AFRC ARCMET	61-80		93	96	93-96	CC0309, LE0309, SR0105	
	T200-TEMP	Daily minimum and maximum	AFRC ARCMET	61-80		93	96	93-96	CC0309, LE0309, SR0105	

² Schedule 1, Part 2 will be revised from time to time (if appropriate) to identify new Tables included within LandIS incorporating additional data generated for MAFF- Commissioned projects.

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SCHEDULE 2

Crown User Authorisation

THIS AGREEMENT dated _____, 1999 is entered into by Cranfield University of Warley End, Cranfield, Bedford, MK43 0AL ("Cranfield") pursuant to an agreement dated [_____] 1999 between the Minister of Agriculture Fisheries and Food, The Controller of Her Majesty's Stationery Office and Cranfield relating to the use and exploitation of LandIS ("LandIS Agreement").

WITH: [_____] ("Crown User")

Details of LandIS data requested : [_____] ("LandIS Data")

Details of purpose for which LandIS Data are required : [_____] ("Permitted Use")

Sum payable to Cranfield by the Crown User : £[_____] ("Fee")

Period for which LandIS Data are required : [_____] ("Term")

In consideration of the Fee payable by the Crown User, Cranfield hereby consents to the use by the Crown User of the LandIS Data for the Permitted Use for the Term subject to the following conditions:

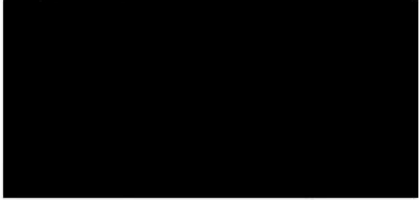
1. The Crown User may not authorise or allow a third party to use or reproduce the LandIS Data.
2. The Crown User shall treat as confidential all information forming part of the LandIS Data and shall not use or disclose such information save as expressly agreed provided that this obligation shall not apply to:
 - (i) information in the public domain otherwise than through breach of the Crown User's obligation of confidence to Cranfield;
 - (ii) information which the Crown User is required by law to disclose, provided that the Crown User gives advance prior notice of such disclosure to Cranfield.
3. Cranfield may terminate this agreement on written notice having immediate effect in the event that the Crown User breaches any terms set out in this agreement.
4. The Crown User shall not assign all or any part of its rights under this agreement.
5. This agreement shall be governed by the laws of England and Wales.

IN WITNESS whereof the parties have executed this agreement on the day and year first above written.

.....
Agreed for and on behalf of
Cranfield

.....
Agreed for and on behalf of
the Crown User

Signed by [redacted])
for and on behalf of MINISTER OF)
AGRICULTURE, FISHERIES AND)
FOOD in the presence of:)



Signed by [redacted])
for and on behalf of THE)
CONTROLLER OF HER MAJESTY'S)
STATIONERY OFFICE in the)
presence of:)



LT972950.276

Signed by [redacted])
for and on behalf of CRANFIELD)
UNIVERSITY in the presence of:)

