



**General Register Office for Scotland**  
*information about Scotland's people*

**2006 Census Test  
Evaluation of Data Capture Contract**

**April 2007**

**Table of Contents**

1	Background / Introduction .....	4
2	Procurement .....	4
3	Management of Capture Process.....	5
4	Forms Reconciliation.....	7
5	Data and Image Testing.....	8
6	Data Security & Decommissioning .....	10
7	Logistics .....	11
8	Conclusions and Recommendations.....	12
9	Appendix A.....	16

## 1 Background / Introduction

- 1.1 The procurement for the data capture services for the 2006 Census Test followed the Official Journal of the European Union (OJEU) Restricted Procedure, with the successful contractor appointed to provide these services being Advanced Data Services (ADS) who are based in Glasgow.
- 1.2 This report is an evaluation of both this procurement process, and the work undertaken by ADS to provide the appropriate services to fulfil the requirements of the contract.
- 1.3 The report also contains observations, findings and conclusions from the interaction between the Census field operation and ADS in relation to the forms receipt and reconciliation element of the 2006 Census Test.
- 1.4 The 2006 Census Test took place on Sunday 23<sup>rd</sup> April 2006, and was run in parts of the Glasgow City, West Dunbartonshire, Highland, Stirling, Perth & Kinross and Argyll & Bute Council Areas. From within these Local Authority areas, specific areas known as Census Districts (CD) were created and these were further sub-divided into areas known as Enumeration Districts (ED). In the 2006 Census Test these ED's were sub-divided again into selected areas for testing the four treatments applied, which were: income/post out, non income/post out, income/enumerator delivery, and non income/enumerator delivery.
- 1.5 Using the evaluation specification produced at the start of the project, the primary purpose of the 2006 Census Test was to try out the success of these various treatments, to trial possible new & revised Census questions and operational procedures. All of which should provide information and lessons learnt that will help inform the decisions to be made regarding the 2011 Census Design.

## 2 Procurement

- 2.1 Difficulty was experienced in developing the Schedule of Requirements (SoR) for the OJEU procurement process, as throughout the entire process, some of the requirements had still to be clearly defined or had not yet been defined. With details such as what types and levels of data required for later analysis not being defined until late in the process. However detailed documentation from the 1997 Census Test provided a useful source of reference.
- 2.2 An example of this was the initial decision only to capture the presence of text in the Forename and Surname fields, which was later changed to a requirement to capture and verify this data by double key entry. This particular change of requirement from the initial tender documentation could have added considerable costs to this contract, however, as it transpired ADS were amenable to this late change and it was implemented out with the change control process.

- 2.3 These difficulties were exacerbated due to the relative lack of Census experience of a number of Field and Community Involvement (FCI) and Census and Statistical IT (CaSIT) staff directly involved in the creation of the SoR. Which in turn led to an over dependency on one of the longstanding members of staff, who was also involved with the 2011 requirements specification process, to provide advice. Unfortunately, this resulted in unnecessary delays when the staff member was not available at crucial points during the process. GROS should consider contracting in experts/ specialists to assist in areas where there is not an in-house knowledge base.
- 2.4 In addition, a lot of the background information regarding the 2001 Census that may have been of assistance in drafting the SoR for the 2006 Census Test, was not readily accessible due to a combination of the overly restrictive access policies in place and the unintuitive directory naming conventions. Furthermore, the documents that were not always easily understood by personnel new to the Census environment. All of which, contributed to the difficulties of drafting the SoR and associated Schedules.
- 2.5 The data capture requirements for the 2006 Census Test were relatively uncomplicated, compared to a full Census, because no coding of the captured data was required. As detailed above due to the late specification of the capture and output requirements a lot of this detail was left deliberately blank or ambiguous in the SoR.
- 2.6 However, other than the internal difficulties mentioned above the actual OJEU procurement process was well established and documented. Considerable advice and support was given by the GROS Procurement Manager that was invaluable in ensuring the process followed by GROS met all the statutory requirements. In addition advice and limited Quality Assurance assistance were sought from and given by Scottish Executive Procurement Directorate.

### **3 Management of Capture Process.**

- 3.1 During the initial stages of the contract a significant period of time had to be spent, by both GROS and ADS staff, refining the data capture and output requirements, with the output requirements schedule in particular, undergoing a number of iterations before a final version was agreed and published. This iteration process could have been shortened considerably through better communication between the FCI and CaSIT branches and if FCI staff had been able to provide a timelier input into the requirements definition process
- 3.2 At the outset of the contract ADS stated that the length of the output period defined in the project timetable was generous and that they believed they would be able to shorten it. The timetable had been compiled by CaSIT support staff based on experience from the 1997 Census Test and the 2001 Census, and had resourced and specified their requirements accordingly.

- 3.3 However, during the early testing stages it became clear that the accuracy of the output and the ability of the GROS Test Team to progress testing would have allowed for the output schedule to have been shortened. Then following the timely and successful delivery of the data for the first 2 CDs, ADS again proposed shortening the timetable by reducing the 5 delivery tranches down to 3 delivery tranches which would have brought the contract completion date forward from 9 November to 12 October, a reduction of some 3 weeks. Based on both the experiences of CaSIT and ADS during the first 2 tranches, and the acceptance that ADS were best placed to determine the timeframe under which they could complete the work, CaSIT agreed to this change and the Project Initiation Document (PID) was amended accordingly.
- 3.4 Unfortunately, in early August at a crucial point in the data capture process, ADS encountered a series of coinciding events, in the form of a server failure, a period of planned annual leave and a period of sick leave of trained operations staff. This combination of events resulted in ADS losing around a week in production time, which had a knock on effect to not just the GROS contract but to all their customers and contracts.
- 3.5 As a result of this setback the data output schedule had to again be revised, and during discussions with ADS it was agreed that the resolution would be to return to the original plan to deliver the data in 5 tranches. Furthermore, during these discussions ADS reported that they had actually miscalculated the effort required to meet the revised timetable, which was based on their success with CD01 and CD02. This was due to them failing to realise that the percentage of placeholder forms in these 2 CD's were far greater than the remaining 3 CD's which had a far greater return rate and therefore significantly more 20 page household forms.
- 3.6 Overall these difficulties had little discernable effect on the data capture project with the revised final data output still being 3 weeks earlier than original project plan date. Also, after consultation with the teams involved in testing and quality assuring and preparing and loading the data it was established that they had the flexibility within their workloads to slot these revised deliver dates into their existing work schedules without any difficulties.
- 3.7 This delay also resulted in ADS failing to meet one of the specified delivery milestones and as such constituted a material breach of contract, and as a result it was open for GROS to enforce the service charge option detailed of the contract. However, after due consideration, and based on the flexibility and performance of ADS to date, the fact that up to this point they had met all milestones, and because they had actively worked to propose and invoke a resolution to the problem, the decision was taken not to enforce these charges. This decision was ratified by the Census Programme Board, the full details of which can be found in Project Snowflake Report Number 3 dated 20/08/2006 which is published in project database CEN1/091 2006 Census Test Data Capture Service in GROSnet.

- 3.8 Another area which had a minor impact on the processing timetable was the need to revisit already completed CD's when direct & late return Census forms which had been received and stockpiled in GROS were introduced to the process. In all around 2000 completed Census forms were returned to GROS either as a result of the PO Box offices having been closed, following the end of the field operation, and the mailed forwarded or because the member of the public had not used the envelope provided and had posted it directly back to GROS. While some direct and late returns had been expected and ADS were aware of the requirement to include these additional forms at pre specified points in the timetable the volumes involved, nearly 4% of the total number of forms issued, was larger than anticipated/expected.

#### 4 Forms Reconciliation

- 4.1 When the boxes of census forms arrived at the processing site, it quickly became apparent that the number of boxes expected, as detailed in the FMIS report submitted by the Census District Managers (CDM's) on 26<sup>th</sup> May 2006, did not match the number of boxes delivered. Furthermore, the number of boxes detailed on the logistics contractors delivery note did not match what was actually delivered. The logistics contractor and ADS finally agreed to amend the receipt docket to reflect what was actually delivered and ADS signed for the boxes.
- 4.2 It was also noted when the boxes were being unloaded that a number of them had apparently been damaged in transit, with the cause appearing to be as a result of full boxes being stacked on top of partially full boxes. Furthermore, the tape provided to the field staff for sealing the boxes was standard brown packaging tape and in a number of instances as a result of the way the boxes were stacked, this tape had come detached and the box was essentially not sealed when delivered.
- 4.3 The next problem encountered by ADS, once they had taken receipt of the boxes, was that in a number of cases, the labels on the boxes were unclear and at times very misleading. A closer examination of the box labels indicated that field staff had reused the delivery labels, but had not made their amendments very clear. For example, for a particular ED, 3 boxes were delivered and were labelled 1 of 4, 2 of 4, & 4 of 4.
- 4.4 In order to remove the possibility of subsequent confusion and potential errors which may be caused by the labelling, and due to the poor condition of the boxes, ADS felt it necessary to re-box the forms.
- 4.5 At the same time as the re-boxing exercise, work commenced on locating the Forms Reconciliation Documents (FRD's). However, ADS were not always able to locate the FRD's, in the boxes marked 1 of *n*, as had been expected. In a number of cases, when located, the FRD's had been split up and banded with the forms referred to on the individual FRD pages. In some instances this meant that the back summary page of the FRD was missing, although some of these were later found in the associated Enumerator Record Books (ERB's).

- 4.6 Over the weeks following the initial delivery of boxed forms to ADS a small number of boxes of completed forms were discovered in Station Road, mixed in with boxes returned by field staff as surplus stationery.
- 4.7 This additional unexpected work therefore incurred additional staff costs, which ADS absorbed, and in total an extra 4 days were required to fully complete the forms reconciliation process.
- 4.8 Furthermore, the net result of the difficulties experienced in sorting out the box numbering, locating the FRD's, and misplaced boxes of forms was that no reconciliation of the forms delivered to ADS against those recorded on the FRD's was possible.
- 4.9 During the reconciliation process ADS staff also found a lot of extraneous material, such as stationery and ERB's mixed in with the completed forms. A full summary of the materials found has been documented and published in the project database CEN1/091 2006 Census Test Data Capture Service in GROSnet.
- 4.10 They also found a small number of Household Forms that were similar in content but of a different design to the standard Household Form. These forms were brought back to Ladywell House and after investigation it was discovered that a number of large print Household Forms had been printed and dispatched to field staff for issue to members of the public with sight difficulties. However, following the investigation and after discussion with FCI staff it was still unclear who took the decision to use large print forms or how they were distributed to the field staff.
- 4.11 A separate evaluation report has also been produced (*a link to which can be found in section 9 of this report*) by CaSIT support staff, following an analysis of the quality of the data contained within the FRD's. However, the table in Appendix A provides details of analysis carried out to investigate what appears to be missing forms. On investigation, in almost all cases what appear to be missing forms are as a result of poor handwriting in detailing CD, ED and Line Number. However in some cases it does highlight poor enumeration. It is recommended that in future the FRD is designed to enable the document to be easily scanned in order for more detailed analysis to be carried out.

## 5 Data and Image Testing

- 5.1 From the initial employment of ADS to the signing off and acceptance of the final data and images, a number of tests and quality assurance procedures were put in place. The purpose was to ensure that ADS captured and output the data and images as per the specification, and furthermore did not inadvertently introduce data skew or bias as part of the overall process.
- 5.2 A separate report has been produced (*a link to which can be found in section 9 of this report*) detailing the data testing and quality elements of the data capture contract, and this section primarily covers the image testing and quality assurance elements of the contract. However, also discussed here is the Mark

Sense element of the process, which was hard to test or quality assure as, although rules and guidance were provided, it relied more heavily on the judgement of the ADS keying staff and the CaSIT support staff.

- 5.3 Mark Sense was the mechanism used during the 2006 Census Test for identifying a page of a form where a comment or mark, in addition to expected responses to questions, had been written by the respondent. In addition this process also provided an extra check to ensure that no marks or extraneous output were being introduced during the capture process.
- 5.4 However, it proved difficult to define for ADS keying staff what constituted a mark sense mark on a form. It was noted that in general keying staff were used to correcting what they perceived as an incorrect response. However, as GROS wanted to know where a member of the public had had difficulty with a question or had written a comment and no actual correction was required, this went against the keying staffs instincts. It was generally agreed that the mark sense rule was a difficult rule to describe and apply as it required the operator to make a subjective judgement on what the intentions of the member of the public who completed the form were.
- 5.5 In each test phase and following the receipt of each tranche of data and images, a sample of the images was checked against the original form. This was done to ensure that all responses had been captured as written, and where marks other than question answers had been put on a form, these had been captured and output as mark sense.
- 5.6 During testing of the image output from CD 04 it was noted that 3 images from the test sample failed to open for viewing using the SCOTS default image viewer. Further investigation into the CD 04 images, brought to light that approximately 30% of those images, subjected to further testing, also failed to open using the default image viewer. Therefore more images from earlier CD's were checked and this highlighted, to a lesser extent, that around 18% of the images from CD 03 failed to open. However, all images retested from CD's 01 and 02 opened successfully.
- 5.7 A detailed examination of the reason behind this failure pointed to a known problem between the compatibility of some *.tif* compression algorithms and Microsoft Operating Systems. The default image viewing software in SCOTS 3 is MS Document Imaging and the failure to open occurred when using this software. When the default image viewing software was changed to MS Document and Fax Viewing, all images opened but the load up time was considerably longer than when using MS Document Imaging. The fact that all images could be opened proved that the images themselves were not corrupt.
- 5.8 This problem was referred back to ADS to check that our assessment of the problem was correct and for them to suggest a remedy that would allow all images to open using the SCOTS default image viewer. ADS reformatted all images into a format known to work in the SCOTS default image viewing software, however, in many cases this introduced more problems and a number of the images would not open at all. The main barriers to resolving this issue



were that ADS used a different Operating System version and also they were not able to recreate the SCOTS environment. The decision was therefore taken to retain the original images and to continue to use the provided workaround until such times as we could fully investigate and resolve the problem.

## **6 Data Security & Decommissioning**

- 6.1 From the outset of the data capture contract, the integrity and security of the Census data and the physical forms was highlighted and emphasised to ADS.
- 6.2 During the testing phase when dummy data was being captured the contractor was permitted to email the output files to GROS, however, this was acceptable as no data relating to real people was collected or processed and also the data volumes involved were relatively small. However, when the process moved to the output of data from 'live' forms no electronic data exchange was permitted, with all data and images being burnt onto CD ROM and DVD disks which were then either collected personally by GROS staff or delivered directly to named GROS staff by ADS personnel.
- 6.3 The Data Capture contract further specified that on completion of the project all census related data should be removed from the contractors systems by the method and process specified in HMG Infosec Standard 5 to the Baseline Standard. During the lead up to the decommissioning phase, work began to look at how the data erasure work should be planned and implemented, and from initial meetings with ADS it became clear that a full implementation, using an approved erasure product, of Infosec 5 Baseline Standard would have major implications for their systems.
- 6.4 It transpired that, although ADS have and still do, carry out work for the Ministry of Defence, they had previously never been required to carry out a cleansing process to the standards required by this contract. Subsequently they had not fully read the Infosec standards guidance provided or appreciated what exactly was required of them. As a consequence ADS had stored GROS data on their main server alongside the data from their other contracts and clients. The problem therefore for ADS was that the required cleansing process would completely remove all data and system information, including that of other clients, from the server hard drive resulting in severe difficulties for ADS and their other clients.
- 6.5 Nevertheless, ADS worked with GROS Information Security staff and the data erasure software supplier to devise and agree a solution that allowed confidential census data to be erased to Infosec 5 standards from the ADS systems while retaining all their other clients' data. The planned audit of ADS hardware that had been subjected to the cleansing process had to be abandoned. This was because ADS had brought the hardware back into operation before the audit had been carried out. It transpired that the audit software could only be used on 'cleaned' hardware that has no software reinstalled. Unfortunately the staff managing the data capture contract were not informed of this requirement so ADS were also not aware of it. This issue should not arise in forthcoming Census work as all hardware will be dedicated

but should be noted if other business areas in GROS have a requirement to subject hardware to Infosec 5 standards.

- 6.6 It had initially been agreed that all paper Census forms would be destroyed by a certified contractor on ADS premises, and the GROS Information Security Officer was involved at an early stage and approved the detailed processes described for this work. This decision was subsequently reversed by the Census Programme Board who determined that the completed forms should be retained by GROS. A Retention Schedule for the 2006 Census Test Forms was therefore devised, agreed and lodged with the GROS Information Officer and the 2006 Census Test forms were transported by CaSIT support staff from the ADS premises to Station Road.

## 7 Logistics

- 7.1 While the logistics contract was not directly the responsibility of CaSIT there was an overlap with the data capture contract at the point where the completed forms were delivered from the field staff to the processing site. Therefore this section of the report sets out the CaSIT and ADS experiences of this element of the process.
- 7.2 A detailed specification suggesting the type of arrangements necessary for the secure transfer of completed forms from field staff to the processing site was drafted by CaSIT support staff and circulated to FCI for their consideration. This document can be found at L:\SHARED\PROJECT\2011 Processing\2006 Test\Procurement. However, FCI later reported that GROS were contractually bound to use the Scottish Executive call off logistics contractor ANC, and from the information provided to CaSIT it was unclear how many, if any, of the requirements contained in the draft specification were included as requirements when ANC were appointed to carry out the forms collection work.
- 7.3 On the day the completed test forms were received at the processing site by ADS, the logistics contractor who actually delivered the census forms was not ANC, as expected, but a different company called Joe Ray of Prestonpans. Furthermore, all the forms arrived in one van whereas it had been agreed with ANC that the forms would be delivered in two vans. The idea being that should one van, and its contents, be destroyed then GROS would still have the remainder of the completed forms to work with.
- 7.4 These events raised questions that relate to the security and integrity of the whole process of collecting and transferring boxes of completed census forms from field staff to the processing site. Apart from the risk of having all completed forms in one van, another point to consider was that a number of the boxes were damaged, with many split and the tape sealing having come detached. These boxes were therefore in effect open on arrival at the processing site. There is no suggestion that any forms were removed, or even viewed by the logistics staff, however, these staff were unknown to GROS and had to the best of our knowledge not signed the census confidentiality document.

7.5 Finally, the question of indemnity had still not been fully addressed. It is understood from the documentation available that the GROS contractual agreement with ANC included minimum indemnity of around £15,000. However, the 2006 Census Test will cost the taxpayer something in the region of £1.2m and if the single van which delivered the census forms to ADS had been involved in an accident, and the forms destroyed or lost, there would have been little or no recompense to the public purse. This matter is the subject of a separate investigation and report being carried out by GROS information & data security staff.

## 8 Conclusions and Recommendations

8.1 In the lead up and during the 2006 Census Test, there was a general lack of experience within both the FCI and CaSIT branches, with the few experienced personnel having to deal with cross-cutting requirements for their time which added pressure into the process. This was further compounded by a combination of late decisions, the belief that changes to requirements could easily be made further into the project, and a failing to appreciate the complexity of setting up a data capture service. There needs to be an earlier definition and understanding of the requirements, which could only be achieved by better communication and information sharing between all branches involved.

8.2 It is essential that contractors have a clear understanding of the data that will be required from the capture process to avoid unnecessary additional costs at a late stage in the contract. A clear and early steer must be given by those who will be undertaking analysis of the data as to the standard of data required from the process. In particular, it is important that the output specification is agreed and finalised at an early stage in the process.

8.3 As the Census takes place every 10 years and in the interim staff move on for varying reasons, it is very much a learning process for a number of staff involved in the planning and implementation of Census procedures. There is however, a wealth of material available in the form of electronic documentation which could have been utilised, had there been a more meaningful naming convention for the directory structures. A more comprehensive access control policy should have been implemented to allow appropriate staff to have access to the relevant documentation. It is recommended that;

- All the documentation for 2006 Census Test is easily accessible and intuitively structured to allow this information to be fully utilised.
- The 2001 documentation should be revisited and restructured as there is a significant amount of useful information which could be referred to in the run up to the 2011 Census.
- GROS should consider contracting in experts/specialists to assist in areas where there is not an in-house knowledge base.

- An information catalogue should be prepared as a definitive list of all available Census documentation. This should be provided in electronic and paper formats.
- 8.4 Due to the generous timetable and the flexibility of both the printing and processing contractors involved, the procurement and running of these projects were considered to be successful. However, it is essential that change control procedures are more rigorously managed in the 2011 Census to avoid a direct impact on both the timetable and the cost of the Census exercise. One solution which would ease/negate a number of the problems encountered would be to ensure that the printing and processing elements were controlled by one branch. However, success can only be achieved if there are improved and more structured lines of communication between all branches. It is recommended that printing and processing elements be lead and co-ordinated by CaSIT branch.
- 8.5 One of the positives which can be drawn from the procurement aspect of the 2006 Census data processing contract was how smoothly the actual OJEU procurement process went and how well it was managed and supported by the in-house procurement team.
- 8.6 The management of the processing contract went according to plan with all but 1 of the project milestones being achieved or exceeded. The 1 missed milestone was caused by a number of coinciding incidents, which involved a major hardware failure and a number of staff absences at the processing site. These incidents could have been avoided by building in redundancy into both the hardware to have a back up system available and the keying staff to have enough trained staff to cover any absences. However, the extra hardware option obviously comes at a cost and in view of the fact that this was only a test and the probability of a major incident was low this was seen as an acceptable risk. ADS conceded that they had miscalculated and had too small a team of keying staff available to cope with the combination of planned annual leave and sick leave. As the processing site will be built specifically for the 2011 Census, hardware and staff redundancy requirements should be specified in detail in the Statement of Requirements.
- 8.7 An area which introduced additional work for the processing contractor was the late return forms, which were manually inserted and scanned by ADS. However, this approach would not be sustainable in 2011 and consideration needs to be made as to how this element is incorporated into the operational design. It is recommended that a cut-off date for the final submission of late returns be included in the timetable. A system should be put in place to record Direct and Late Returns.
- 8.8 Interaction between the field and the processing operations is a vital link in the Census. The difficulties experienced by the processing contractor in relation to the condition and labelling of Census boxes on delivery to the processing site illustrates a deficiency in the training of field staff. If GROS is to be confident that all completed forms and other materials are accounted for, it is essential that field staff understand the procedures for sorting census material and the

labelling of boxes in order for census material to be transported correctly and securely.

- 8.9 In view of the condition of the boxes received at the Processing Site, consideration should be given to the quality of the boxes used for transporting and storing the forms. Detailed instructions should be provided to the field on how to stack/store and seal the boxes. It is recommended that completed Census questionnaires be stored in archival quality boxes based on the specification used in the 1991. Official Census tape with an appropriate logo should be supplied which must be used to seal Census boxes. Box labelling should also be re-assessed and an investigation carried out to ascertain whether there was merit in using the design of the 1991 and 2001 label.
- 8.10 The initial specification for the capture services included an option for the contractor to provide image viewing software. ADS offered to provide a propriety image viewing software package. Examination of the solution provided showed that it would not fully meet our requirements or be cost effective. Although the cost of the software was only \$250, there was an additional cost of £900 for the software to be validated for installation within the SCOTS environment. GROS staff time costs needed to be considered. As an alternative, CaSIT staff developed an in-house solution, which apart from around 3 days development and support time at B1 level, was cost free as it utilised software readily available through SCOTS.
- 8.11 The process of quality assuring the images was a manual process and as such was a slow process which could only, realistically in the available timetable, review a very small number of the images. Nevertheless, of those images checked, the quality was high. It is recommended that a quality sampling strategy is agreed for checking the quality of the images from the Processor.
- 8.12 It was difficult to ensure that the Mark Sense rules were applied consistently by keying staff, as they found the rules difficult to apply as it went against their natural instinct to correct obvious errors. The keyers were confused as to whether to apply Mark Sense for changes to questions, annotations or extraneous marks on the page. We are aware that it will still be necessary to use Mark Sense technology in the 2011 Census to capture for example the presence of text in the signature box. However, keying instructions should avoid the need for complex interpretation during manual intervention.
- 8.13 During final discussion with the processing contractor on the decommissioning phase of the project, it was evident that GROS had made the assumption that ADS were aware of the Infosec standards for cleansing their systems. This assumption was made as ADS had in the past and continued to, carry out work for the MOD. However, ADS conceded that they should have educated themselves better on the full implications of cleaning computer hardware to the required standards. In the future, on projects where an external contractor will have access to confidential Census data, comprehensive guidance on the use of data erasure software and its implications should be provided before any contract is signed. It is recommended that this guidance should be given a

higher profile in the Statement of Requirements. The requirements should also give potential contractors a clear understanding of data erasure procedures and their implications particularly in relation to how confidential GROS data is stored electronically, thus minimising the impact of the data cleaning process on their systems and business

- 8.14 In view of the problems encountered with regard to the logistics contractor who delivered the 2006 Census Test Forms to the Processing Site, it is essential that a comprehensive Service Requirement document which fully meets the Census Confidentiality guidelines is drafted.. The contractor appointed must be able to meet these requirements in full.
- 8.15 Finally it should be noted that the evaluation of the 2006 Test is a 'work in progress'. Evaluation work on the 2006 Test is ongoing particularly statistical evaluation of the captured data which it is expected will result in further reports on findings and recommendations.

**9 Appendix A**

Summary CD01					
Bar Code	CD	ED	Highest Form Number	Actual Number	Number of Missing Forms*
716693401	1	1	512	508	4
440052301	1	2	532	534	-2
440077201	1	3	510	423	87
443077501	1	4	516	516	0
442938001	1	5	664	527	137
443021501	1	6	494	490	4
440170701	1	7	735	483	252
710436301	1	8	474	474	0
443022101	1	9	511	511	0
710550701	1	10	513	511	2
710665401	1	12	570	570	0
440324601	1	13	759	491	268
440287801	1	14	502	503	-1
442659001	1	15	501	501	0
440413401	1	16	484	483	1
443398501	1	17	494	493	1
440441001	1	18	516	512	4
440485501	1	19	886	501	385
440507801	1	20	487	488	-1
440538101	1	21	513	511	2
443339301	1	22	526	526	0
440578301	1	23	849	518	331
711337501	1	24	485	484	1

Summary CD02					
Bar Code	CD	ED	Highest Form Number	Actual Number	Number of Missing Forms*
443542401	2	1	780	491	289
716096501	2	2	520	518	2
440645301	2	3	483	487	-4
440712301	2	4	511	510	1
716133001	2	5	505	503	2
711670101	2	6	508	507	1
715912001	2	7	532	529	3
440806501	2	8	519	519	0
440926601	2	9	570	571	-1
440724301	2	10	529	528	1
441197801	2	11	498	493	5
440816701	2	12	504	504	0
440963801	2	13	815	497	318
441407701	2	14	507	505	2
716102501	2	15	468	460	8
443512201	2	16	491	487	4
712288301	2	17	484	483	1
443539701	2	18	485	486	-1
441078801	2	19	510	510	0
441109801	2	20	1120	488	632
443634001	2	21	490	482	8
715986601	2	22	531	506	25
441181701	2	23	484	485	-1
442086501	2	24	500	501	-1
441223301	2	25	829	568	261
442761901	2	26	533	523	10
441314101	2	27	508	509	-1
440775301	2	28	512	509	3
441240901	2	29	543	542	1
441529101	2	30	522	512	10
441609601	2	31	501	492	9



Summary CD03						
Bar Code	CD	ED	Highest Form Number	Actual Number	Number of Missing Forms*	
441584601	3	1	512	506	6	
441539101	3	2	506	506	0	
713249901	3	3	515	517	-2	
716401601	3	4	511	510	1	
716346301	3	5	579	528	51	
441451301	3	6	512	513	-1	
715879701	3	7	527	524	3	
713533301	3	8	520	519	1	
441367701	3	9	807	498	309	
441826401	3	10	531	488	43	
441905801	3	11	500	498	2	
441869501	3	12	513	511	2	
715880501	3	13	508	505	3	
713871501	3	14	505	505	0	
441776201	3	15	474	474	0	
716111701	3	16	484	483	1	
441711001	3	17	824	459	365	
716114701	3	18	480	477	3	
714134501	3	19	464	464	0	
715858401	3	20	491	491	0	
714243701	3	21	485	483	2	
443623401	3	22	478	473	5	
714351501	3	23	484	482	2	

Summary CD04						
Bar Code	CD	ED	Highest Form Number	Actual Number	Number of Missing Forms*	
443119301	4	1	448	445	3	
716171201	4	2	463	457	6	
442620901	4	3	459	456	3	
716172001	4	4	485	483	2	
714599301	4	5	414	413	1	
714642601	4	6	373	371	2	
716242201	4	7	375	373	2	
442468401	4	8	532	408	124	
714776201	4	9	391	391	0	
716182801	4	10	403	401	2	
716240101	4	11	360	358	2	
714904401	4	12	359	360	-1	
443162801	4	13	430	432	-2	
442237101	4	14	456	453	3	
715049001	4	15	417	416	1	
442160301	4	16	322	255	67	

Summary CD 05						
Bar Code	CD	ED	Highest Form Number	Actual Number	Number of Missing Forms*	
442146501	5	1	442	442	0	
716202601	5	2	403	420	-17	
716398601	5	3	450	444	6	
442045701	5	4	487	485	2	
716260701	5	5	489	427	62	
443486301	5	6	439	437	2	
716274001	5	7	412	413	-1	
443722701	5	8	356	353	3	
716247601	5	9	366	362	4	
443753601	5	10	432	428	4	
442385101	5	11	567	448	119	
442249301	5	12	458	457	1	
442240701	5	13	463	458	5	
443761701	5	14	438	444	-6	
442303201	5	15	493	487	6	
443803001	5	16	506	503	3	

*\* Negative numbers are as a result of duplicate forms. These duplicates are almost exclusively handwritten placeholder forms.*