MEETING MINUTES

Subject: 304 CONCRETION FACILITY DQO MEETING

TO: Distribution BUILDING: 2440 Stevens Ctr, Rm 1600

FROM: J. G. Adler FACILITATOR K. S. Redus

Dept-Operation-Component	Area	Shift	Meeting Dates	Number Attending
WHC RCRA Closures	RCHN	Day	May 31, 1994 June 1, 1994	18

1. SIGNATURES:

Ellen M. Mattlin, Unit Manager, RL Date: 3/3/95

Scott E. McKinney, Unit Manager, Washington State Department of Ecology Date: 12/13/94

Fred A. Ruck III, Contractor Representative, Mgr. WHC RCRA Closures Date: 11/5/95

Ivan L. Metcalf, Contractor Representative, Mgr. WHC Fuel Supply Shutdown Date: 3/8/95

2. K. S. Redus gave a short presentation defining the scope and purpose of the DQO process.

3. The facility description was discussed. The unit boundaries are those identified in the closure plan. Contamination is expected in sumps, drains, and along the walls. The constituents of concern have been previously discussed in detail and RL/WHC and Ecology agree to the list as stated in the closure plan. RL/WHC and Ecology do not feel that there are any imminent threats associated with the 304 Facility, unless the analytical data shows otherwise.

4. The goals of closure effort were identified:

   - Attempt "clean closure" of the structure
   - Attempt to decontaminate to meet Model Toxics Control Act (MTCA) (WAC 173-340-740) Method B Standards or to site-wide background using method detection limits.
   - Defer soil cleanup, if needed, to CERCLA remedial action. This may also include the asphalt surrounding the building.

5. A consensus was reached on the following closure logic:

   - If sample results:

     + are at or below MTCA (WAC 173-340-740) Method B standards or at or below background, then declare the building, pad, and soil as clean
     + meet MTCA (WAC 173-340-740) Method C but exceed MTCA (WAC 173-340-740) Method B, then acceptable as modified closure (as defined in the draft Hanford Facility Permit)
     + exceed background and MTCA (WAC 173-340-740) Method C for the soil, then close as a landfill with a post closure plan (e.g., groundwater monitoring wells, cap system, institutional controls, etc.) in conjunction with the operable unit. (An alternative would be to defer soil remediation to the operable unit, then to address closure.)
     + exceed background and MTCA (WAC 173-340-740) Method C standards for any part of the building structure (i.e., the building, change room, and concrete pads, asphalt pads, etc.), and further decontamination is not performed, then that part of the building structure will be disposed of as mixed waste.

   - If the soil contamination for lead is:

     + Greater than MTCA (WAC 173-340-740) Method A and increase with depth, then a closure as RCRA landfill will be required (or remediate in conjunction with operable unit).
     + Greater than MTCA (WAC 173-340-740) Method A and decreasing with depth for all depths, then modified closure
     + Less than MTCA (WAC 173-340-740) Method A for all depths, then clean closure.

6. The sampling for organics was discussed. The key points are:

   - Overall, more emphasis is being placed on the results from the analysis for the inorganics than the results from the analysis for organics. Operational history shows that the primary potential dangerous waste are the inorganics associated with past operations and waste processing. The organic dangerous waste were only repackaged and stored in the 304 Facility for about 3 months of the building's operable life. Treatment of inorganic dangerous waste occurred for more than 20 years.
   - A sampling preparation methodology has been developed for organics in concrete. It has received a favorable response from Ecology but has not been officially transmitted to Ecology.
   - Asphalt will not be analyzed for organics. The organics preparation/ analysis procedure has not been proven to provide accurate analytical results on asphalt. Also, asphalt contains sufficient natural organics to interfere with any organics analysis looking for the organic constituents of concern.
   - The floor of the change room does not need to be analyzed for organics. Operational history shows that the organics were stored in the main part of the building and only for about 3 months. There were no documented organics spills during this period. Also, the changeroom was constructed after the termination of pre-waste treatment activities

that used organics. There is not a reasonable mechanism present for organics contamination to have occurred in the changeroom floor.
- Changes to Table 7-1 relative to organics:
  + Delete Perchloroethylene (is the same as tetracholorethylene)
  + Delete ethyl acetate (common degradation product, difficult to analyze for)
  + For trichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, 1,1-dichloroethylene, cis-1,1-dichloroethylene, trans-1,1-dichloroethylene, replace SW-846 Method 8010 with Method 8260
  + For MEK, replace SW-846 Method 8010 with Method 8015.

7. The statistical aspects of false positives and false negatives were discussed. For closure of the 304 Facility, a false negative has a higher impact than a false positive. A false negative (show site as clean when it is contaminated) could result in potential harm to human health and the environment and in regulatorially improper disposal of dangerous waste. A false positive (show site as dirty when it is clean) results in disposing of clean material as dangerous waste. With a false positive there are no potential adverse affect to human health and the environment and there are no regulatory violations.

8. Sample locations and the number of samples were discussed. Several changes were made in the sampling plan. The results of the discussion are as follows:

   - The number of random concrete core samples on the floor of the main building was increased by 1, from 6 to 7. This was done to support the statistical objectives.
   - The number of soil samples was increased by 1, from about 7 to ~~about~~ 8. This was done to support the statistical objectives. GM FOR III
   - The number of authoritative concrete core samples was increased by 1, from 3 to 4. ~~This was done to include a potential pathway to the environment (i.e., crack in the floor).~~ ON FLOOR OF MAIN BLDG. GM FOR III
   - Wipe sampling of the change room walls was eliminated from the initial sampling after decontamination. This reduction was made based on the agreement that the chances of contamination were low. However, if wipe sampling of the walls of the main building indicates that contamination is present after decontamination, then all four changeroom walls will be decontaminated and the east and west walls (Figures 7-8 and 7-10) of the change room will be sampled.
   - The change room concrete core sample (for organic and inorganics) has been changed to a concrete chip sample for inorganics only.
   - Table 7-2 will be revised to reflect these changes and to better illustrate where the sample locations are. (See attached draft Table 7-2.)
   - Table 7-3 will be revised to reflect the changes made to the total number of samples and the required number of quality assurance samples. (See attached draft Table 7-3.)
   - Figure 7-14 will be revised to show:
     + An additional sampling location for soil and concrete at the crack by the south wall
     + The sampling location for soil and concrete at the north expansion joint on the concrete loading pad

that used organics. There is not a reasonable mechanism present for organics contamination to have occurred in the changeroom floor.
- Changes to Table 7-1 relative to organics:
  + Delete Perchloroethylene (is the same as tetracholorethylene)
  + Delete ethyl acetate (common degradation product, difficult to analyze for)
  + For trichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, 1,1-dichloroethylene, cis-1,1-dichloroethylene, trans-1,1-dichloroethylene, replace SW-846 Method 8010 with Method 8260
  + For MEK, replace SW-846 Method 8010 with Method 8015.

7. The statistical aspects of false positives and false negatives were discussed. For closure of the 304 Facility, a false negative has a higher impact than a false positive. A false negative (show site as clean when it is contaminated) could result in potential harm to human health and the environment and in regulatorially improper disposal of dangerous waste. A false positive (show site as dirty when it is clean) results in disposing of clean material as dangerous waste. With a false positive there are no potential adverse affect to human health and the environment and there are no regulatory violations.

8. Sample locations and the number of samples were discussed. Several changes were made in the sampling plan. The results of the discussion are as follows:

- The number of random concrete core samples on the floor of the main building was increased by 1, from 6 to 7. This was done to support the statistical objectives. SM
- The number of soil samples was increased by 1, from about 7 to ~~about~~ 8. This was done to support the statistical objectives. CM
- The number of authoritative concrete core samples was increased by 1, from 3 to 4. This was done to include a potential pathway to the environment (i.e., ~~crack in the floor~~). → ON FLOOR OF MAIN BLDG. CM
- Wipe sampling of the change room walls was eliminated from the initial sampling after decontamination. This reduction was made based on the agreement that the chances of contamination were low. However, if wipe sampling of the walls of the main building indicates that contamination is present after decontamination, then all four changeroom walls will be decontaminated and the east and west walls (Figures 7-8 and 7-10) of the change room will be sampled. SM
- The change room concrete core sample (for organic and inorganics) has been changed to a concrete chip sample for inorganics only.
- Table 7-2 will be revised to reflect these changes and to better illustrate where the sample locations are. (See attached draft Table 7-2.)
- Table 7-3 will be revised to reflect the changes made to the total number of samples and the required number of quality assurance samples. (See attached draft Table 7-3.)
- Figure 7-14 will be revised to show:
  + An additional sampling location for soil and concrete at the crack by the south wall
  + The sampling location for soil and concrete at the north expansion joint on the concrete loading pad

+ The sampling location for soil at the south expansion joint on the concrete loading pad
+ The soil sampling locations in the sump and in the trench.

- Soil sampling at each sampling location was changed from surface, 1 ft, 2 ft, and 3 ft (as stated in the closure plan) to 0-6 inches, 6-18 inches, and 18-24 inches.

9. For waste that occurs as part of the decontamination and sampling effort, it should be treated as 'investigation derived waste'(IDW). The handling of IDW is given in the WHC Environmental Investigations and Site Characterization Manual (WHC-CM-7-7).

Draft **Draft**

Table 7-2. Sampling Summary of the 304 Facility

Sampling Phase	Location	Reference Figure	Number of sampling locations
Phase I	North Wall Wipe Samples	Fig. 7-2	2
	South Wall Wipe Samples	Fig. 7-3	2
	East Wall Wipe Samples	Fig. 7-4	2
	West Wall Wipe Samples	Fig. 7-5	2
	Girders Wipe Samples	See text	1
	Floor Sump Authoritative concrete core sample Soil samples, 0-6 in, 6-18 in, 18-24 in Trench Authoritative concrete core sample Soil samples, 0-6 in, 6-18 in, 18-24 in Crack Authoritative concrete core sample Soil samples, 0-6 in, 6-18 in, 18-24 in Drain Authoritative concrete core sample Various locations Random concrete core samples	Fig. 7-6 and Fig. 7-14	 1 3 1 3 1 3 1 7
	Outside Storage Pad North expansion joint Authoritative concrete core sample Soil samples, 0-6 in, 6-18 in, 18-24 in South expansion joint Soil samples, 0-6 in, 6-18 in, 18-24 in West asphalt pad Asphalt core sample	Fig. 7-14	 1 3 3 1
	Outside west of building 1st Random location Asphalt core sample Soil samples, 0-6 in, 6-18 in, 18-24 in 2nd Random location Asphalt core sample Soil samples, 0-6 in, 6-18 in, 18-24 in	See text	 1 3 1 3
	Outside east of building Asphalt core sample Soil samples, 0-6 in, 6-18 in, 18-24 in	see text	 1 3
Phase II	Specific sampling locations will be determined upon evaluation of the Phase I sampling data.	TBD	TBD
	Change Room East Wall (if required by evaluation of phase I sampling data, see text) Wipe sample	Fig. 7-8	1
	Change Room West Wall (if required by evaluation of phase I sampling data, see text) Wipe sample	Fig. 7-10	1

TBD To be determined

DRAFT **DRAFT**

Table 7-3. Field Quality Control Samples for the 304 Facility.

Sampling Phase	Type of Sample	Number of sampling locations	Duplicate Sample	Equipment Blank	Trip Blank (est.)	Field Blank
Phase I	Concrete Core		1	1	3	na
	random	7				
	authoritative	5				
	Concrete Chip	1	1	1	1	na
	Soil			1	3	na
	0- 6 inches	8	1			
	6-18 inches	8	1			
	18-24 inches	8	1			
	Wipe	9	1	na	1	na
	Asphalt	4	1	1	1	na
	QA/QC					
	inside bldg	na	na	na	na	1
	outside bldg	na	na	na	na	1
Phase II	Random Concrete Core (if required)	TBD	1	1	TBD	na
	Concrete Chip (if required)	TBD	1	1	1	na
	Wipe (if required)	TBD	1	na	1	na
	Asphalt Core (if required)	TBD	1	1	1	na
	QA/QC					
	Inside building	na	na	na	na	1
	Outside building	na	na	na	na	1

TBD To be determined
na Not applicable
QA/QC Quality assurance/quality control
Assumptions:

1. This table represents the minimum number of QC samples. If samples of each type are not completed in one day, the QC samples will be collected each day.
2. The number of trip blanks is the best estimated based on experience. Actual number of trip blanks will depend on the number of shipping containers required.

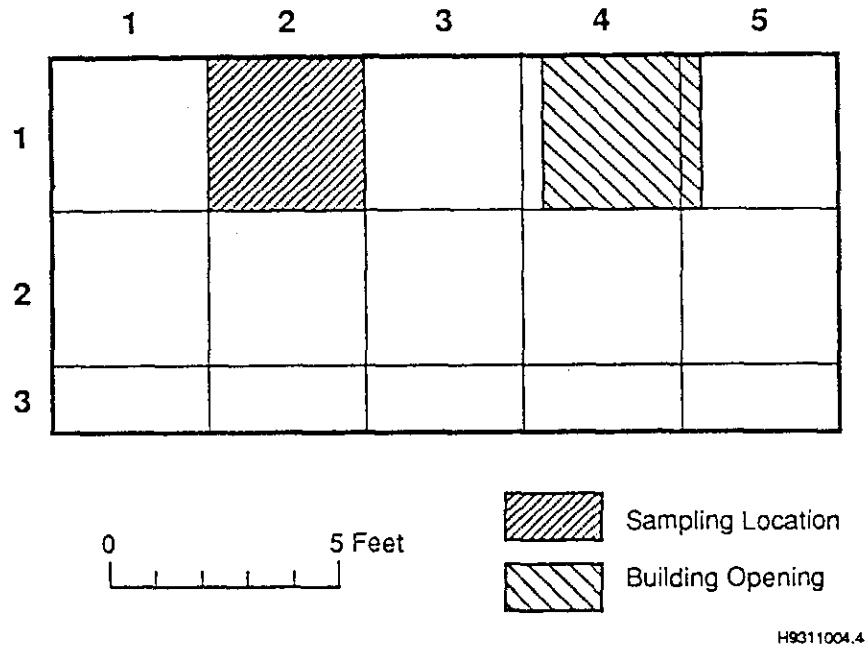

Figure 7-8. 304 Concretion Facility, East Wall Changeroom Wipe Sampling Locations.

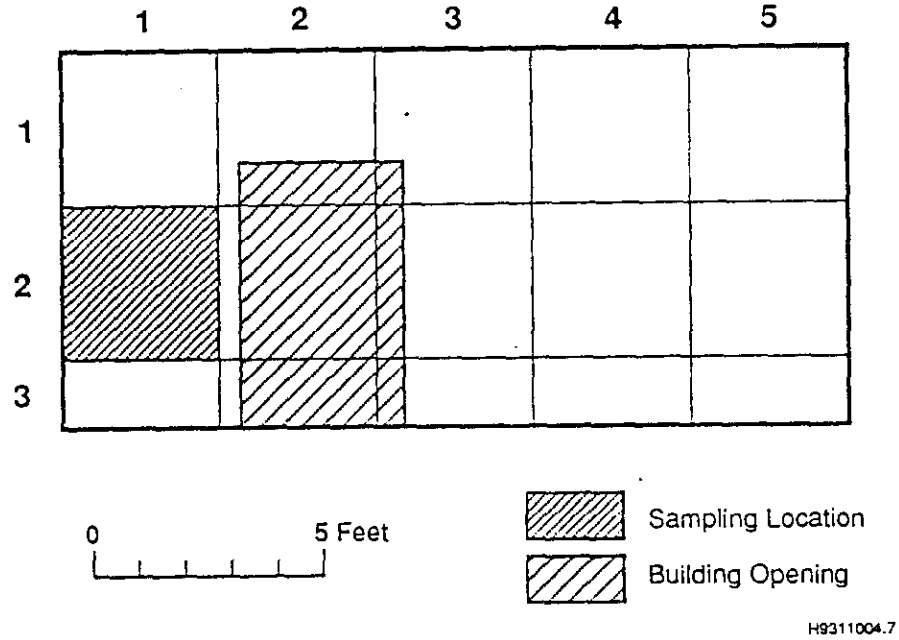

Figure 7-10. 304 Concretion Facility, West Wall Changeroom Wipe Sampling Locations.

SUPPLEMENTAL DQO MEETING OF 8/25/94

1. Attendees:

J. G. Adler	WHC
J. K. Bartz	GSSC
K. E. Knox	WHC
E. M. Mattlin	RL
S. E. McKinney	Ecology (via video telecon)
J. L. Wright	WHC

2. The purpose of this meeting was to discuss several DQO issues that either were not covered or not covered in sufficient detail at the May 31 to June 1, 1994 DQO meeting. These issues need to be resolved before the 304 Facility Sample and Analysis Plan can be completed.

3. GSSC (J. K. Bartz) and WHC (J. G. Adler) discussed the Open DQO issues handout (attachment 8) with Ecology (S. E. McKinney). The handout presents information on the following topics: Data Validation level, data package requirements, depth of chip samples, solvent for use in wipe sampling, equipment and field blanks, trip blanks and the quality control samples for wipe samples, concrete core samples, asphalt core samples, soil samples, and concrete chip samples. GSSC and WHC explained each topic to Ecology's satisfaction.

4. On the handout's item 6, 2nd bullet, last sentence, the text was changed from "...if contamination from all sources is..." to read "if blank contamination is". This change was requested by Ecology (S. E. McKinney) and was made with the consent of GSSC (J. K Bartz) and WHC (J. G. Adler). This change is also included on the attachment 8 handout.

5. Ecology (S. E. McKinney) requested copies of *Data Validation Procedures For Radiological Analysis*, WHC-SD-EN-SPA-001, and *Data Validation Procedures For Chemical Analysis*, WHC-SD-EN-SPA-002. These items are identified on the handout and will be referenced in the 304 Concretion Facility Sample and Analysis Plan. WHC (J. G. Adler) stated that copies of these documents will be made and copies sent to Ecology.

6. Ecology (S. E. McKinney) indicated that there were no objections to the content of the handout. However, Ecology reserved the right to make additional comments on both the handout and on the Sampling and Analysis Plan. WHC (J. G. Adler) stated that RL and WHC understood Ecology's position.

ATTACHMENT

DQO Issues
From the meeting of 8/25/94

1. DATA VALIDATION LEVEL

Data validation will be conducted to Level D as defined in the *Data Validation Procedures For Radiological Analysis* (WHC 1993a) and *Data Validation Procedures For Chemical Analyses* (WHC 1993b), as appropriate. Level D validation consists of the following:

- verification of required deliverables
- verification of requested versus reported analyses
- verification of transcription errors
- evaluation and qualification of results based on analytical holding times
- matrix spikes
- laboratory control samples (radiological samples only)
- laboratory duplicates
- analytical method blanks
- chemical recoveries
- tracer recoveries
- surrogate recoveries
- initial and continuing instrument calibrations
- quench monitoring
- counting instrument resolution checks
- calculation checks.

2. DATA PACKAGE REQUIREMENTS

Data Packages will of the "stand-alone" type. There will be 100% validation due to the small size of the sample set and that similar types of samples (e.g., all wipe samples) can be batch analyzed at the analytical laboratory. The SAP will specify that the samples be batched.

3. DEPTH OF CHIP SAMPLES

Chip samples will be taken to a depth of approximately 3/8 inches. Rational: Work at 183-H showed that contamination was only in the top 1/4 inches of the concrete.

4. CHOICE OF TCLP EXTRACTION SOLUTION FOR WIPE SAMPLING

TCLP extraction fluid no. 2 has been specified in the SAP as the solvent for wipe sampling. The rational for selection of extraction fluid no. 2 over no. 1 is that extraction fluid no. 2 is the stronger of the two weak acid solutions. Extraction fluid No. 1 has a pH of 4.93 and extraction fluid No. 2 has a pH of 2.88. As a stronger acid, extraction fluid No. 2 would probably remove more contaminants. Neither is strong enough to significantly affect the substrate.

5. EQUIPMENT AND FIELD BLANKS

There are two possible media for use with the Equipment and Trip blanks:

- Certified Clean Silica Sand(representative of soil and concrete)
- Deionized Water (better sensitivity to contamination)

Recommend the use of deionized water.

6. TRIP BLANKS

Propose to eliminate trip blanks for volatile organics in soil:

- Neither sand nor DI water is a suitable medium for a trip blank for soil. Sand has little to no affinity for adsorbing volatile organics. Water absorbs organics, whereas soil primarily adsorbs organics; because the mechanism is different, water is not a suitable material.

- The field or equipment blanks will "trip" with the routine samples and will contain any volatile contamination that may be present. Because this is not a research-oriented project, there is no interest in determining the source of any possible contamination. We are aware that, if blank contamination is detectable, we will have to repeat sampling.

7. QC FOR WIPE SAMPLING

The following are the field quality control samples to be collected for the wipe samples:

- One duplicate wipe sample for inorganic analysis. The duplicate will be collected from a 100 cm^2 adjacent to the original sample, i.e. within the 1 m^2 sample grid. The sample will be collected from the random sample grid location shown in Figure 8.

- One equipment blank (clean filter paper with TCLP extraction fluid No. 2) for inorganic analysis per day of wipe sampling. This sample will remain sealed during the sampling event and the filter paper will not be handled in the field.

- At least one field blank (clean filter paper with TCLP extraction fluid No. 2) collected per day of wipe sampling or for each 20 samples. The filter paper will be removed from the container and exposed to air for the same amount of time required to collect a wipe sample.

In addition to the quality control samples listed above, one confirmatory wipe sample will be collected. This sample will only be taken once during the sampling of the 304 Concretion Facility.

- One confirmatory wipe sample for inorganic analysis. The confirmatory sample will be collected from the same 100 cm^2 area as the original wipe sample. The sample will be collected from the random sample grid location shown in Fig. 9.

8. QC FOR CONCRETE CORE SAMPLES

The requirements for the field blanks for the concrete core and asphalt core samples collected at the 304 Concretion Facility are as follows:

- One duplicate concrete core sample for inorganic analysis. The sample will be collected from the random sample location shown in Figure 3.

- One duplicate concrete core sample for volatile organic analysis. The sample will be collected from the random sample location shown in Figure 3.

- One equipment blank for inorganic analysis per day of sampling.

- If field decontamination procedures are used, collect at least one field blank collected per day of sampling or for each 20 samples

The cores will be collected as close to each other as possible.

9. QC FOR ASPHALT CORE SAMPLES

The requirements for the field blanks for the concrete core and asphalt core samples collected at the 304 Concretion Facility are as follows:

- One duplicate asphalt core sample for inorganic analysis. The sample will be collected from the same sample location as the asphalt core sample collected on the outside east of the building. See Section 5.6 of the SAP for details on the location.

- One equipment blank for inorganic analysis per day of sampling.

- If field decontamination procedures are used, collect at least one field blank collected per day of sampling or for each 20 samples

The cores will be collected as close to each other as possible.

10. QC FOR SOIL SAMPLES

The requirements for the field blanks for the soil samples collected at the 304 Concretion Facility are as follows:

- Three duplicate soil samples for volatile organic analysis. Duplicate soil samples will be collected at 0 to 6-inch, 6 to 18-inch, and 18 to 24-inch levels. This location has the greatest potential for volatile organics contamination. The samples will be collected from the sump sampling location shown in Figure 2.

- Three duplicate soil samples for inorganic analysis. Duplicate soil samples will be collected at 0 to 6-inch, 6 to 18-inch, and 18 to 24-inch levels. Each duplicate sample will be taken on a different sampling day. One of the duplicate soil samples will be collected from the floor drain sampling location shown in Figure 2. The other two dupicates will be taken from locations determined by the Sampling Field Team Leader and the locations will be recorded in the field logbook.

- One equipment blank for inorganic analysis per day of sampling.

- If field decontamination procedures are used, collect at least one field blank collected per day of sampling or for each 20 samples.

11. QC FOR CONCRETE CHIP SAMPLES

The requirements for the field blanks for the concrete chip samples collected at the 304 Concretion Facility are as follows:

- One duplicate concrete chip sample for inorganic analysis. The sample will be collected from the random sample grid location shown in Figure 5
- One equipment blank for inorganic analysis per day of sampling.
- If field decontamination procedures are used, collect at least one field blank collected per day of sampling.

DISTRIBUTION:

J. G. Adler	H6-23
J. K. Bartz	R3-82
D. L. Duncan	EPA - Seattle
D. L. Edwards	S3-90
G. D. Hendricks	B1-42
M. S. Hendrix	H4-23
L. C. Hulstrom	H6-03
R. N. Krekel	A5-15
E. M. Mattlin	A5-15
S. E. McKinney	Ecology - Lacey
I. L. Metcalf	L6-26
S. G. Metcalf	T6-50
A. L. Prignano	H6-23
D. E. Rasmussen	N1-47
K. S. Redus	B1-42
J. A. Remaize	L6-26
F. A. Ruck	H6-23
J. A. Sheriff	B1-42
W. E. Strohben	H4-23
E. A. Weakley	L6-26
J. L. Wright	L6-26