

Annex A

Definitions Used by Teams During Survey

- Clear** Room has been inspected, is empty of mission-relevant items, and is certified by the team leader as ready for hand back to Ministry of Science and Technology. The same category may be used to categorize a building.
- Triaged** Room has been triaged (documents, or a representative sample of documents in the room has been examined) and is certified by the Team Leader as ready for hand back to the Ministry of Science and Technology. The same category may be used to categorize a building.
- IOIC** Item(s) of interest identified or possible controlled items(s) (an item that is controlled under Export regulations should have been declared or is a potential sanctions breach). **Action:** still photos taken, Military Grid Reference System (MGRS) geocoords, if possible; relevant ISG Dept. informed; and appropriate action initiated. Details to be entered in comments column.
- IOIL** Item(s) containing a UN or UNSCOM label. **Action:** still photos taken; use of macro setting to ensure clarity of label details; MGRS geocoords, if possible; relevant ISG Department informed; and appropriate action initiated. Details to be entered in comments column.
- IOIU** Item or items not identified. **Action:** still photos taken, MGRS geocoords if possible, ISG informed, details fed back to ISG for identification by other SMEs, and appropriate action initiated. Details to be entered in comments column.
- IC** Items inconsistent with the advertised functionality of the Department or room. **Action:** still photos taken; MGRS geocoords, if possible; relevant ISG Department informed; and appropriate action initiated. Details to be entered in comments column.
- Hazard** Hazard found in room; e.g., source or chem.
- Action** Team extracted without further action. Team checked for possible contamination or injury. Details of hazard to be entered in comments column together with note of action taken.
- Caution** Following the offer and availability of a specialist team from ISG, the word caution was introduced to define a building where it was decided as safe for an exploitation team to enter, provided they were escorted by ISG team.

This page intentionally left blank.

Annex B Team Results

Team Alpha Results/Comments

Building 37

Room 1: Contained motor components and flanges, probably water pumps. Two x Bergeron from Paris UNELEC FA225M4 37kW 50 HP, 4 x smaller water pumps F059675 Vitesse 1485 tpm, Nauteur Mano

31m, Puissance 132 kW. Two x smaller cranes with 2,500-kg capacity, water demineralizer T43401 Bignier Schmidt Laurent (French), made for Technicatome 710027.2 1978.



Figure 37. Building 37, associated mesh storage area and equipment.



Figure 38. Equipment contained in mesh storage area associated with Building 37.

Room 3: Storage of equipment probably for the Tammuz reactors, secondary equipment. Two x heat exchanges (180 sq m, 1986) of Russian heat exchangers, water demineralizer 1978, Bignier Schmidt Laurent (French), 4 x large (1.25m diameter, 8 m long) distillation columns. Two x columns (0.7-m diameter, 8 m long). Crate of unknown items received from Technicatome; miscellaneous valves and fittings to support these columns.

Room 4: Five x B-9 and B-10 permeators.

Room 6: Cable and electric diagrams for Tammuz 1 and 2 reactors.

Building 163, Connex OUTSIDE Building 37

Contained digital-processing equipment, scalars, multiscalars, integrators, I/O analogue boards, computer data racks, 40-channel high-voltage system. Vacuum pumps; Turbo Vac 1500 from Leybold and Heraeus, Figure 39.

Building 53

Is very close to Building 52 and may be included in that complex. The building is a multifunctional building in terms of chemical and biological functionality and was the subject of earlier reporting by CBIST.

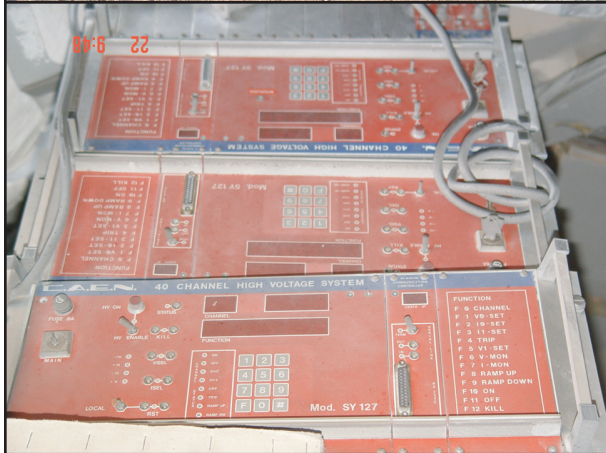


Figure 39. Container adjacent to Building 37 and sample of contents.

Nuclear



Figure 40. Building 53 laboratory-scale process.



Figure 41. Spray dryer and other process equipment in Building 53.

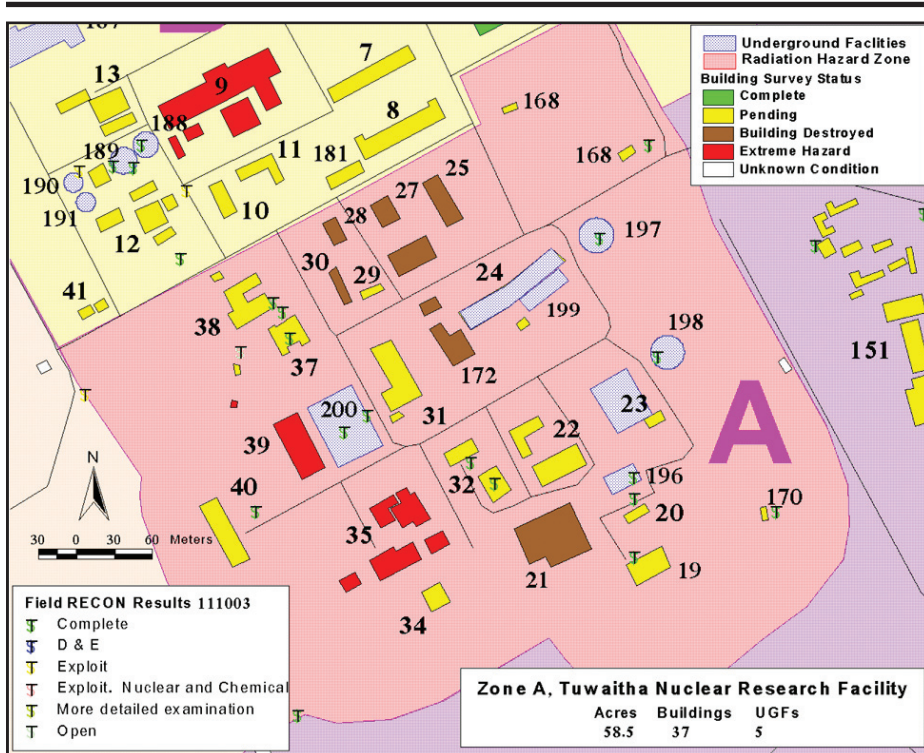


Figure 42. Tuwaitha Complex—Zone A (status of buildings before the 20-22 November 2003 survey mission).

Room 1: Chemical-processing pilot plant laboratory, configured for water filtration; plant for clove oil production, well water distillation, and softening of filtered water, distillation of boiler water, and a process for Lipton wax. A substitute, formula, and picture of layout obtained. A production scheme also existed for KCl, NaOH, NaCl and ZnO. Seven items of UN-labeled equipment (Annex E). Other similar equipment and other less sophisticated equipment were present, which did not have labels. It was noticed that certain equipment was missing from the chemical processes mentioned above.

Room 9: Laboratory-scale process for producing new chemical products and product purity testing.

Room 15: Directors office (Mawan Fuad Aziz) had iridium pellets in varying sizes and in vials scattered over his desk. There is postmission speculation over the use of these pellets.

Building 59: Identified as health physics lab but also contained biological and chemical laboratories.

Rooms 1, 2, 29-45: Were health physics, remainder were bio/chem related. Also pilot plant for reverse osmosis system (RO). Some bioresearch was marine oriented.

Room 1: Was where liquid scintillation counter should have been (sampling trays seen); counter had been moved into the bunker next door. Contained smallscale UNSCOM- labeled powder dispenser, model 3433, Annex E.

Room 5, 22 and 29: Rooms for RO.

Room 9: Miscellaneous laboratory-scale bio-related equipment, nutrient media, and chemicals.

Room 15 and 17: Chem/bio laboratories, multiple chemicals all over the floor, photos of scene and listings from cabinets taken.

Room 14: Bacteriology laboratory. Life studies of bio in Tigris River, Legionella and Bacillus Subtillis. Photo reference DSCO1593.

Room 23: Probable autoclave Hirayama HA30 picture.

Room 32: Soil-sampling laboratory. Some unidentified instrumentation.

Photo references DSC01603 - DSC01631 and DSCO 1565 – 1593 1594 to 1600. Some laboratories had been looted, burned, flooded, and doors damaged.

Building 119

Personnel bunker: Storing liquid scintillation counter, and supporting chemicals. Also contained 0.5-dia x-1-m furnace (photo references DSCO 1557 and DSCO 1554–1563).

Building 167

Computer-processing center, programs, support systems. No equipment, computer media (exploited), Open-source literature on rail gun.

Side Building (167/1)

Room 1 and 2: Nondestructive test center, X-ray, Dye Penetrant, and Magaflux penetrant.

Room 3: Former photography development laboratory at the rear.

Photo references for above DSCO 1534 – DSCO 1538. Significant quantity of documents collected in DOCEX of 11 November 2003.

Building 181

Functionality does not match given description. Building was fitted as a branch of the Al Rashid bank (letter heads). Years of branch records going back to 1998.

Team Bravo Results/Comments

Building 7

Training building.

Rooms 1–31: Recovered electronic media. Documents relevant to keyword list were taken for exploitation. Some rooms had been systematically burned; evidence of destruction of large quantity of

documents. Significant numbers of folders were seen containing receipts for correspondence. Many ledger books, duty rosters. Nothing relevant to ISG identified at this time.

Building 3

Medical reception/health physics.

Room 24: Cryostat examined, cryostat serial number 2130, type CPVDS 30 – 20190 photo reference DSCN 0437. Protective clothing and decontaminant aerosol seen.

Rooms 1 – 30: Documents taken for exploitation from rooms 3, 17, and 30.

Building 82

Electronic Design Center. Computer media and a box of documents collected for future exploitation. Extensive fire damage on first floor; cylinder identified—possible missile transportation canister. Photographs DSCN 0449 and DSCN 0450.

Building 60

Pharmaceutical medical kit and Diagnostic Center. Computer media recovered throughout the building, no documents taken for triage. Burst plasma bags and other items consistent with building function. Chemicals on the floor.

Building 42/43

Technical library and conference facility. Extensive range of Ph.D. theses located in basement and first floor. Building contained in basement a publication production and photographic capability. One box of documents retrieved and a substantial quantity of electronic media, including floppy disk, VHS media, tape cassettes, and photographic negatives recovered from basement, for exploitation.

Iraqi Document Collection:

At 1225 on 22 November, Team Bravo noticed 15 Iraqis removing documents and boxes from building 82. Team Bravo challenged the Iraqis, and their

linguist screened the documents and determined then to be professional and scientific publications that were being moved to another building within Tuwaitha for protection. Dr. Saleh Ahmed Hassan was leading this effort for MOST. Building 82 had previously been exploited and cleared by Team Bravo. At the request of the lead SME, Team Bravo also obtained the names of all the Iraqis and the name of the person to whom they reported in MOST.

Team Charlie Results/Comments

Connex Adjacent to Building 182

Contained 2 British Aircraft Corporation infrared laser systems and other related items. Some documents taken for exploitation.

Building 54

Contained growth media, corn meal, agar, and date syrup. Provided access to Building 171 UGF. This building (54) and underground complex (171) were the subject of CBIST survey. UN-labeled bioreactors (4) were identified (Annex E) and a quantity of mission-relevant documents taken for exploitation.

Building 103

Underground water tank, no large exposed entrances. NSTR without diving capability.

Building 75

Environmental radiation monitoring. Some mission-relevant documents taken for exploitation.

Building 56

Biological Fertilizer Plant/Quality-Control Laboratory. Blueprint of facility found, building in accordance with that document. Equipment list found, most of equipment missing. Some mission-relevant documents taken for exploitation.

Building 8

Administration building, quantity of documents taken for exploitation.

Team Delta Results/Comments

Building 12

Divided through middle referred to as 12/1 and 12/2. Visit was carried out with security team in attendance, as this building was identified as a CAUTION.

12/1: Neutron generator building. Offices upstairs; e.g., health physics, radioisotope study, and flash X-ray.

Ground floor contained:

Rooms 2 and 4: Dr. Jobori, head of neutron source projects office. Office contained documents pertaining to beryllium (Be) and other neutron generators. (Physics was relevant to neutron initiator for a WMD).

Room 7: Contained neutron generator in pristine condition, covered with PVC drapes. Also glove box with U / Pu source.

Room 12: Chemical laboratory containing various acids and a cerium (Ce) source embedded in the floor.

12/2: Sign on outside labeling as Chemical Directorate. Rooms found relating to PCB development, film laboratory, cryogenics; single office had documents relating to laser research.

Room 4: Bottle of Fomblin oil found, used for lubrication of centrifuge bearings, not big enough for a complete centrifuge enrichment farm but could be relevant to laboratory-scale facility.

Room 5: Medical room, contained documents relating to various pathogens documents removed for exploitation.

Room 6: Contained folders and binders of records for pharmaceutical equipment purchase/procurement. Sample taken for exploitation.

Building 10

Cryogenics production. Generators for nitrogen (N₂) and helium (He) seen, not significant in themselves.

Building 43

Auditorium facility NSTR.

During an interview with a source, there were indications of the presence of a large quantity of hidden documents in the basement of this facility. On inspection by members of ISG's Nuclear team in July 2003, it was found that the document store had been systematically burned.

Building 5

Contained offices of IAEC.

Ground floor, mostly burned, could have started in small conference room. Magnetic media taken but no exploitable documents recovered.

Room 37 basement: Document storage for IAEC. Documents found from 2002 dealing with UNSCOM and IAEA inspections; documents gathered and submitted for exploitation.

Building 4

Document storage and reactor operations building, also contained a heating, ventilation and air-conditioning (HVAC) system.

Room 4: Interesting find made of a document referencing "heavy water." This document was among other documents dealing with water for HVAC applications. Specific checks on translation are being made to clarify this reference in view of its possible relevance to a WMD program.

Room 41: Electronics repair office, document found relating to thyristors; document taken for exploitation. Thyristors are relevant to nuclear device trigger systems.

Team Golf Results/Comments

Team Golf, the fifth team, was responsible for visiting all the target structures outside the berms in zones Foxtrot, Golf, and Hotel. During the 3 days of the mission, the team visited 69 structures some not previously identified, confirming MGRS, where possible functionality, and ISG status relevance. With one

exception, Building 151, all the sites were clear, some were destroyed or vandalized, some were the remains of air defense sites, and others were watch towers. A number were inhabited by squatters.

Building 134

May have been an old guard building. Building was wrecked, but among the rubble was found the remains of a water distillation set and steam generation equipment, parts of a laboratory cold chamber, the cabinet of an environmental chamber, and the remains of a centrifuge capable of more than 10,000 rpm.