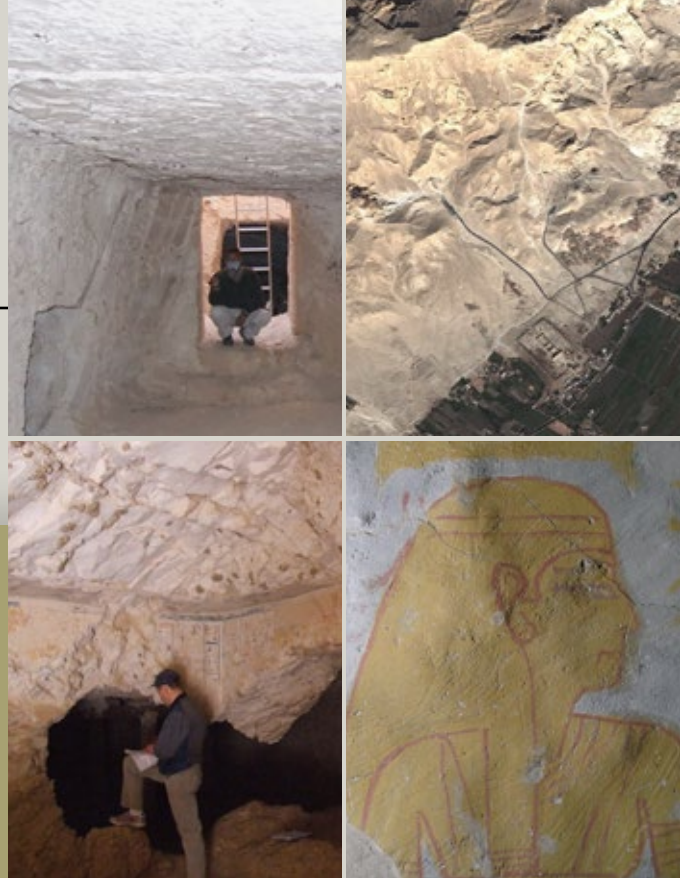

Project Report



Valley of the Queens Assessment Report

Volume 2

Assessment of 18th, 19th, and 20th Dynasty Tombs

A collaborative project of the Getty Conservation Institute
and the Supreme Council of Antiquities, Egypt

Edited by Martha Demas and Neville Agnew

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The Getty Conservation Institute

**Valley of the Queens
Assessment Report**

Volume 2

Assessments of the 18th, 19th, and 20th Dynasty Tombs

2016

THE GETTY CONSERVATION INSTITUTE
LOS ANGELES

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The Getty Conservation Institute works to advance conservation practice in the visual arts, broadly interpreted to include objects, collections, architecture, and sites. The Institute serves the conservation community through scientific research, education and training, model field projects, and the dissemination of the results of both its own work and the work of others in the field. In all its endeavors, the GCI focuses on the creation and delivery of knowledge that will benefit the professionals and organizations responsible for the conservation of the world's cultural heritage.

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Introduction to Volume 2

The Valley of the Queens Project is a collaboration of the Supreme Council of Antiquities (SCA) and the Getty Conservation Institute (GCI) with the aim to develop and implement a comprehensive plan for the conservation and management of the Valley. The project was conceived in two phases. Phase 1 (2006–2010) involved comprehensive research, planning and assessment, followed by development of concept proposals for conservation and management of the entire Valley, which were approved by the SCA in 2009, and culminating in the development of detailed plans, and architectural and engineering drawings where applicable, for Flood Mitigation; Tomb Stabilization and Protection; Conservation of Wall Paintings and Site Elements; Site and Visitor Management; and Site and Visitor Infrastructure. Phase 2 of the project, implementation of these plans, was intended to begin in 2011. Only conservation to stabilize the wall paintings in many of the tombs has been undertaken to date. The bulk of the intended implementation by the SCA has been interrupted by events in Egypt beginning in 2011.

The Phase 1 assessment report is divided into two volumes with the organization following the main assessments. Volume 1 was completed in 2012 (Demas and Agnew 2010); Volume 2 constitutes the current report.

Volume 1 (Parts I – VI) comprises the following aspects of the project:

- Summary table of Phase 1 project activities, the list of participants in this phase of the project, and tables of standardized names and acronyms used in the reports.
- The significance, components, and broad historical overview of the use and context of the site from the 18th Dynasty through the Coptic period; family trees for the 19th and 20th Dynasties and selected profiles of tombs sufficiently well preserved to construct a plausible biography of the deceased and to interpret the iconography; a table of use, research and interventions at the site from the earliest prehistoric evidence through the current project; and comprehensive bibliographies of the sources for QV research and for understanding site management practices in Egypt. Appendices 1-3 are the chronology of ancient Egypt, a history of mapping of the Valley, and a summary of archival photographic documentation. Appendix 4 is a brief record of interventions by the SCA from 2006-2012 that were not part of the GCI-SCA project.
- An assessment of the management context of QV, which includes the main issues affecting operations at the site such as personnel, infrastructure, storage, and waste management, as well as elements of an operational plan and considerations of financial sustainability; visitor management at the site, including visitor statistics and results of visitor surveys and observations undertaken in 2007-2008; the history of visitation to QV and its current status, and the potential to open other tombs and site elements for public visitation.
- Site-wide threats and considerations describes environmental conditions prevailing at the site and within the tombs; the potential for flooding based on computer modeling; and the bat colonies that inhabit many of the tombs.
- The fourteen site elements (non-tomb features) in the Queens Valley and its subsidiary valleys including inventory forms (name; element type; date; general description; objects recovered; table of use, events and interventions; and documentation and references), followed by condition assessments for each site element.

Volume 2 (Parts VII-VIII) is the condition summary of the 111 tombs from the 18th, 19th, and 20th Dynasties in the Valley of the Queens and subsidiary valleys. Included are a summary of tomb architectural development, the geological and hydrological context of the tombs, and the technology of the wall paintings of the 19th and 20th Dynasties.

To assist the user of Volume 2, the list of project participants, the summary table of activities in Phase 1 of the project, the table of standardized spellings, the acronyms and abbreviations used in the report, and the bibliography on the Queens Valley have been repeated here in Volume 2.

For the seventy-seven 18th Dynasty tombs, many of which were not fully accessible owing to safety or other reasons, there is a brief condition assessment. In addition to accessibility issues, documentation of the 18th Dynasty tombs was less available to consult. Confusion related to numbering of some tombs is discussed in Part VII.2 and limitations with respect to the mapping of tombs is noted in Part VII.4. (For a full history of mapping of the Valley see Volume 1, pages 125-9.)

For most of the thirty-four 19th and 20th Dynasty tombs, an inventory form summarizes basic general information (naming systems, attribution, reign; tomb typology and description; objects recovered; table of use, events and interventions; and documentation and references). This is followed by a detailed assessment of the condition of individual tombs. Recommendations that emerged from the assessments are summarized here, but were subsequently fully developed in detailed planning and implementation documents by the GCI in collaboration with Hamza Associates.

The tomb assessments were largely carried out between 2006 and 2009 with additional inputs in 2010 and in brief field seasons in 2012-2013. The principal focus in writing up the assessments, both in the table of interventions and the description of conditions, has been the state of the tombs during the 2006-2010 period. Post-2010 developments are noted as relevant in the individual assessments, but without detail. In 2015 steel doors were installed in 19th-20th Dynasty tombs where none existed and old doors were modified to prevent entry of bats; this took place during the final stage of compiling the report and therefore these changes are not included in the individual tomb assessments.

Acknowledgements for Volumes 1 and 2

The tomb assessments in Volume 2 were undertaken by various teams: The wall paintings team was led by Lori Wong and Stephen Rickerby with seven members of the SCA conservation team (see Participants on following page); the structural and geological assessment and 18th Dynasty tomb assessment team was led by Thomas Roby, David Myers, and Jonathan Bell with engineers from Hamza Associates and Raphael Wüst, assisted by GCI interns Tomomi Fushiya and Will Reynolds and the SCA site management team members (see Participants on following page); flood and hydrologic investigations were led by David Myers with Hamza Associates engineers, and Reda El-Damak and Ashraf Ghanem of Cairo University; and background research on individual tombs was undertaken by Jonathan Bell with David Myers and Tomomi Fushiya; Sameh Zaki of the SCA Documentation Center assisted with research and in accessing and correcting CEDAE photography of the site and the tombs.

In undertaking the three-year assessment for the project, we acknowledge the support of colleagues in the SCA, both in Cairo and in Luxor, in advancing the work (SCA team members and staff who participated in the project are named in the List of Participants). In particular, we wish to thank the Documentation Center of the SCA (CEDAE) for allowing access and use of CEDAE documentation and for supporting new photo-documentation of the painted tombs at QV, and the Conservation Center for assisting with the assessment of the bat colonies. Hossam Mahdy mentored the SCA site management and conservation participants as part of their training within the framework of the project.

At all stages, the research and assessment has been informed by the knowledge and experience of archaeologist Christian Leblanc, who has been generous with sharing information, providing documentation and photographs from the time of the Franco-Egyptian investigations of the Valley, and for reviewing this report. We are especially grateful for permission to use published and unpublished photographs and plans produced by the Franco-Egyptian/ CNRS mission in this report.

Heather McCarthy and Emily Cole contributed significantly to the historical research in Volume 1, especially the iconography of the 19th and 20th Dynasty tombs. Heinz Rütger undertook new topographic mapping of QV. Kent Weeks provided advice on issues of mapping on the West Bank and facilitated the use of the 1981 TMP survey data of QV tombs for conversion to CAD drawings. Bibliographic searches and verification of citations were done by Valerie Greathouse, GCI Information Center. FTIR analysis was undertaken by Herant Khanjian, GCI Science Department. GCI consultant Ron Schmidling prepared and interpreted petrological thin sections for the geological assessment. Christian Dietz, University of Tuebingen, provided information on the ecology and identification of bat species.

We are grateful to Mamdouh Hamza for generously contributing time and effort of the staff of Hamza Associates to the assessment of flooding, geology, structural instability of the tombs, and visitor infrastructure, followed by development of architectural and engineering designs for implementation of these components in Phase 2 of the project.

We thank Romany and Mary Helmy for their essential and always generous and helpful role in facilitating our work in Egypt over many years of collaboration and friendship.

Participants in the QV Project, Phase 1 (2006-2009)

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SCA Conservation Center
Egyptian Antiquities Information System (EAIS)

Christian Leblanc (CNRS)
Kent Weeks (TMP)



QV Project Phase 1: Summary table of activities (2006-2009)

	Background research and gathering of information and photography of all tombs and site elements related to significance, history of use, and condition
	Condition assessment for rock structural stability of 18 th , 19 th and 20 th Dynasty tombs and development of intervention designs for stabilization and protection
	Risk and condition assessment and treatment planning for the 23 tombs of the 19 th and 20 th Dynasty that have surviving plaster or decoration
	Laser scanning of the valley to produce new topographical maps and a GIS integrating TMP and CNRS tomb drawings
	Geological and hydrological mapping, study, and design concepts for site-wide and tomb-specific flood protection
	Assessment of site and visitor management including collection of visitor data; surveys of visitors and guides; and analysis of visitation and interpretation potential
	Development of concept designs for site and visitor infrastructure and for presentation and interpretation of QV, based on visitor management assessment
	Inventory and relocation of study materials from 48 tombs into secure storage and extensive site and tomb cleanup
	Environmental monitoring for RH, temperature, CO ₂ , and dust in QV 44, 55, 66, and exterior environment (on-going)
	Research and trial tests by SCA Conservation Center for exclusion of bat colonies from most tombs and retention in a few selected tombs
	New baseline photographic documentation (digital color) by SCA – CEDAE of 19 th and 20 th Dynasty tombs with paintings
	Training of seven SCA inspectors in site management and seven SCA conservators in wall painting conservation. Included experience at the GCI for SCA inspectors and attendance of wall paintings conservators at an international conference..
	West Bank Coordination meetings: 2006, 2007, 2008 to promote integration of site management planning efforts

Standardized spellings and usage of names and terms in QV assessment report

English transliteration of royal names based principally on usage in Leblanc 2001.

Queens, Princesses, Princes and elites in QV	Kings (New Kingdom)	Sites and Places
Ahmose (Prince)	Ahmose	Abd el-Qurna
Ahmose (Princess)	Akhenaten	Asyut
Amenherkhepshef	Amenhotep	El-Assasif
Amenhotep	Amenmeses	El-Khokha
Baki	Ay	Deir el-Bahari
Bentanat	Hatshepsut	Deir el-Medina
Duatentipet	Horemheb	Deir Esh-Shelwit
Hatneferet	Merenptah	Dra Abu el-Naga
Heka-(...)	Rameses / Ramesside	Malkata
Henuttauy	Semenkhkara	Qurn
Henutmira	Seqenenra Tao	Qurnet Murai
Hori	Seti	Ramesseum
Imhotep	Setnakht	Other terms
Isis-ta-Hemdjeret	Siptah	<i>Hiba</i> (clay-containing calcitic soil)
Khaemwaset	Tausert	<i>Khekheret-nesu</i> (lady-in-waiting)
Merytamen	Thutmosis / Thutmoside	<i>Kheqer</i> frieze (decorative frieze)
Merytra	Tutankhamen	<i>Mastaba</i> (bench, platform)
Minefer	QV site	<i>Mouna</i> (earth & straw plaster)
Minemhat	Dam (pharaonic dam)	<i>Noria</i> (water pot)
Nebettauuy	Deir er-Rumi	<i>Speos</i> (grotto)
Nebiri	Dolmen	<i>Ushabti</i> (funerary figurine)
Nefertari	Graffiti	
Nehesy	Grotto Cascade	Necropolis (s) / necropoleis (pl)
Pareherunemef	Hermit Shelters	Stele (s) / stelae (pl)
Rameses-Meryamen	Italian Mission Building /Schiaparelli Kitchen	
Satra	Kiln	
Sethherkhepshef	Menhir	
Tanedjemy	Observation Posts	
Tyti	Sanctuary to Ptah & Meretseger	
Tuy	Valley of the Queens/Queens Valley/Valley/QV	
Urmerutes	Workmen's Huts /Tomb Workers' Structures	
Names and terms used in iconographical description of tombs		
<i>Akhet</i> (horizon)	Herymaat	Nut
Amun	Horus / -lunmutef / -in-his-youth	<i>Nyny</i> (welcoming ritual)
<i>Ankh</i> (life)	Imentet	Osiris / -Wennenefer
Anubis	Imset	Ptah/ -Soker
Atum	Isis	Pe
<i>Ba</i> (mobile aspect of the soul)	<i>Ka</i> (life force of the soul)	Ra / -Herakty
<i>Djed</i> (pillar, symbol of stability)	Kebehsenuef	Selkis
Duamutef	Ma'at	Taweret
<i>Duat</i> (underworld)	Meretseger	Thoth
Geb	Nebneru	<i>Uraeus</i> (s) / <i>uraei</i> (pl)
Hapy	Nekhbet	Wadjet / <i>Wadjet</i> eye
Harsiese	Nekhen	<i>Was</i> (dominion)
Hathor	Neith	
Hememet	Nephthys	

Acronyms and abbreviations of organizations used in this report

ARCE	American Research Center in Egypt
CEDAE	Centre d'Etude et de Documentation sur l'Ancienne Egypte
CNRS	Centre National de la Recherche Scientifique (Archaeological expedition of the French mission led by Christiane Desroches Noblecourt and later by Christian Leblanc
Antiquities Service/ EAO/SCA	Antiquities Service=Department of Antiquities, founded in 1858 by Mariette; renamed Egyptian Antiquities Organization in 1971 (EAO); Supreme Council of Antiquities from 1993 (SCA); Ministry of State for Antiquities from 2011.
Franco-Egyptian mission	Archaeological mission of CNRS and CEDAE which has been working at the Valley of the Queens since 1970
French mission	Archaeological expedition of the Centre National de la Recherche Scientifique (CNRS)
GCI	The Getty Conservation Institute
IFAO	Institut Français d'Archéologie Orientale
IGN	Institut Geographique National
Italian mission	Turin Museum expedition led by Ernesto Schiaparelli and Francesco Ballerini from 1903 to 1906 and by G. Farina in 1924, 1936-37
KV	Valley of the Kings
MAFTO	Mission Archéologique Française de Thèbes-Ouest (Director, Christian Leblanc as of 1991)
QV	Valley of the Queens
SCA	Supreme Council of Antiquities 1994-2011), formerly Egyptian Antiquities Organization until 1993 [This report continues to use the SCA abbreviation to avoid confusion with its use in Volume 1 and all documents prior to 2011]
TMP	Theban Mapping Project (Director, Kent Weeks)
Turin Museum	Egyptian Museum of Turin / Museo Egizio di Torino

Image credits

Abbreviations used in report	Report pages	Image sources and credits
GCI & SCA	Throughout report	Unless indicated otherwise, images are joint copyright of the Getty Conservation Institute and the Supreme Council of Antiquities, Egypt, emanating from their collaborative projects in the 1980s (Tomb of Nefertari) or from 2005-2010 (Valley of the Queens Project)
CNRS	15, 17, 18, 19, 32, 33, 37, 38, 39, 41, 43, 47, 49, 51, 55, 57, 59, 61, 63, 65, 67, 69, 71, 72, 75, 79, 81, 83, 85, 87, 89, 91, 95, 97, 99, 105, 108, 109, 111, 113, 115, 117, 121, 123, 132, 134, 139, 146, 147, 170, 171, 174, 175, 190, 195, 197, 207, 233, 244, 256, 259, 273, 288, 302, 303, 306, 310, 314, 315, 317, 325, 326, 339, 343, 353, 357, 372, 379, 389, 413, 426, 442, 454, 466, 482, 485, 487, 488	Photos, maps, plans, sections and drawings. © Centre National de la Recherche Scientifique, courtesy of Christian Leblanc
CEDAE	174, 177, 190, 200, 201, 202, 215, 216, 219, 228, 232, 239, 241, 261, 262, 263, 264, 276, 277, 279, 280, 293, 294, 295, 296, 297, 298, 299, 300, 302, 316, 317, 321, 322, 330, 343, 345, 346, 349, 352,, 356, 361, 362, 363, 366, 390, 396, 402, 403, 404, 405, 419, 437, 447, 450, 453, 463, 472, 480, 489	Photos. © Centre d'Etude et de Documentation sur l'Ancienne Egypte (CEDAE 84, etc. = CEDAE 1984, the year photo was taken)
Museo Egizio	12, 356, 396	Courtesy of the Ministero per I Beni e le Attività Egizie. © Archivio Soprintendenza per I Beni Archeologici del Piemonte e del Museo Antichità Egizie
Schiaparelli 1923	131, 215, 227, 238, 240, 293, 315, 330, 361, 362, 402, 404	Schiaparelli, Ernesto, and Missione archeologica italiana in Egitto. [1923]. <i>Relazione sui lavori della Missione archeologica italiana in Egitto, anni 1903-1920: Vol. 1, Esplorazione delle "Valle delle Regina" nella necropoli di Tebe</i> . Torino: R. Museo di antichità and G. Chiantore
DigitalGlobe	13, 128	Satellite image © 2006 DigitalGlobe
Campbell 1910	295	

VII. 18th Dynasty tombs

- 1. 18th Dynasty tomb architecture**
- 2. Archaeological and documentary context**
- 3. Geologic and hydrologic context**
- 4. Introduction to the assessment of the 18th Dynasty tombs**
- 5. Summary table of 18th Dynasty tomb assessments**
- 6. Individual tomb assessments in the Valley of the Queens**
- 7. Individual tomb assessments in the subsidiary valleys**

Part VII.1. 18th Dynasty tomb architecture

Introduction

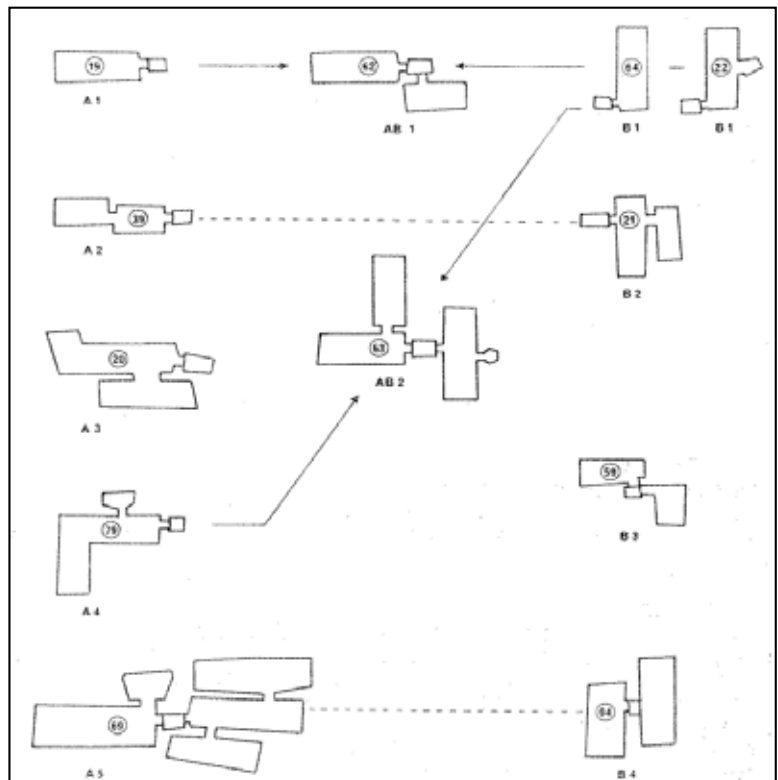
During the 18th Dynasty, a total of 77 tombs were excavated in the Valley of the Queens and adjacent side valleys, making this period the most prolific in terms of tomb construction. In the main wadi of QV, 57 tombs were constructed in both the north and south sides of the wadi channel. Two tombs were also created in the Valley of Prince Ahmose (QV 88 and QV 98), along with three others in the Valley of the Rope (QV 92, QV 93, QV 97) and fifteen in the Valley of the Three Pits (QV 89, QV 90, QV 91 and tombs A-L) (see satellite map on following pages). The shaft type of tomb seems to have been in use in the Valley of the Queens by the end of the 17th Dynasty or the beginning of the 18th Dynasty. QV 47, thought to be the earliest tomb in the Valley, is believed to be the tomb of Princess Ahmose, the daughter of Sequenre Taa, a ruler of the late 17th Dynasty (Porter and Moss I.2, 755, Leblanc 1993, 21). Since the precise date of her death is uncertain, it is possible that the 18th Dynasty may have been underway by the time her tomb was completed. For a brief historical overview of the Valley in the 18th Dynasty and profiles of 18th Dynasty tombs 30, 46, 47 and 88, see Volume 1 of this report, 25-29.

Tomb Development

Almost all tombs from this period consist of a vertical shaft leading down to one or more unadorned chambers, without plaster or paint applied to their interiors. A few of the tombs (eg. QV 11, QV 65) were built to be accessed by ramps and/or steps. Regardless of the entry type, such undecorated burial chambers were common from the end of the Old Kingdom through the early portion of the 18th Dynasty of the New Kingdom. Despite their relative abundance, these simple tombs have not been as thoroughly studied and published as the other more elaborate, painted tombs in the Valley. Therefore, pending a comprehensive analysis of this corpus of 18th Dynasty tombs and their contents, this assessment has relied on the annual mission reports compiled by the Franco-Egyptian team during the course of their excavations, as well the accounts of other archaeologists who had worked in and surveyed the tombs in the Valley, most notably Ernesto Schiaparelli and Elizabeth Thomas.

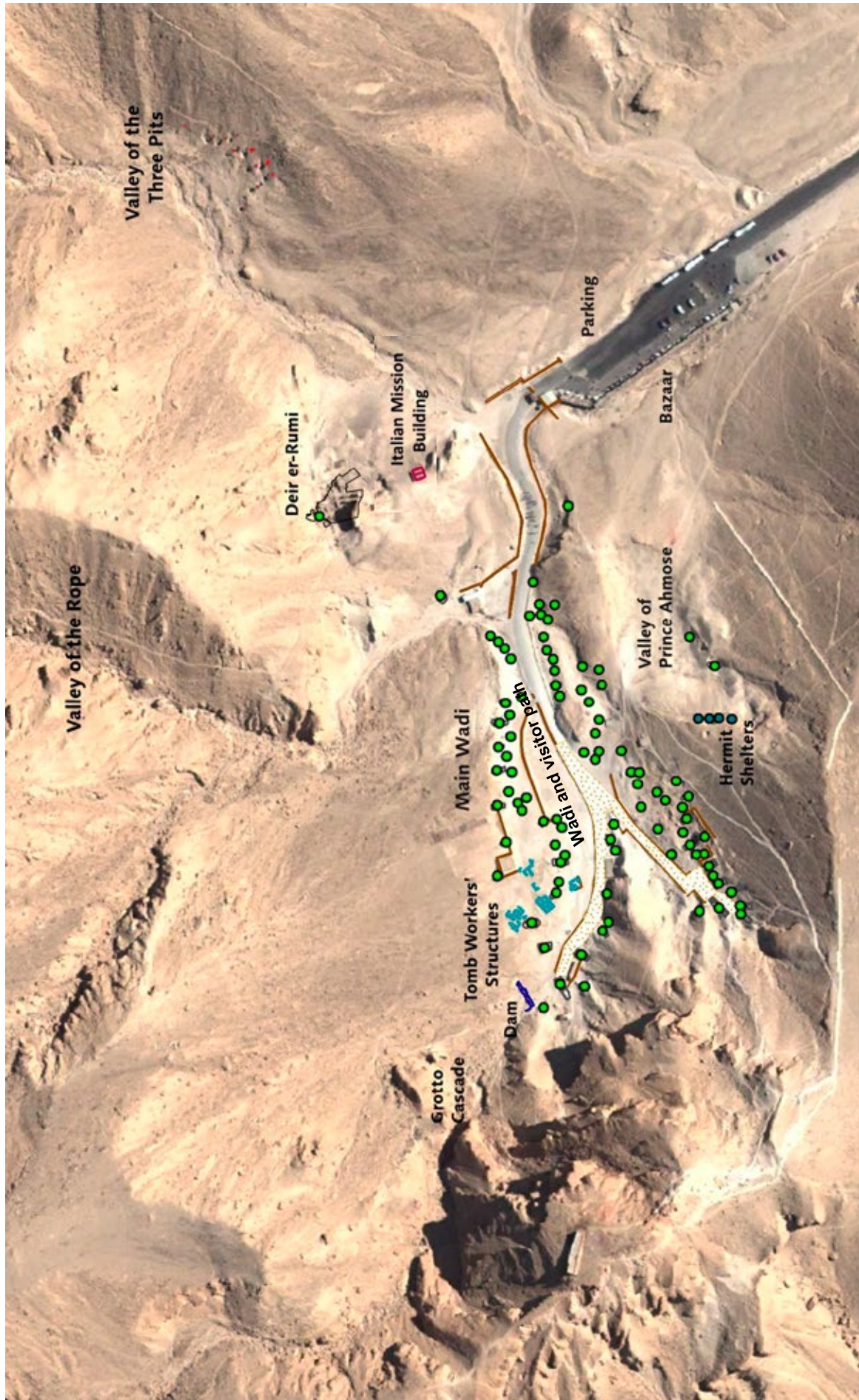
It is important to note the complete absence of any evidence for above-grade superstructures serving as chapels for these tombs (Leblanc 1989, 231). Considering the mixture of archaeological material found within the burial chambers, it is clear that some of the 18th Dynasty tombs were later reused as tombs and enlarged during at least two separate periods, once during the Third Intermediate Period and later again in the Roman Period. Tombs QV 3, QV 7-14, QV 16-18, QV 22, QV 23, QV 32, and QV 77-79 were reused during the Third Intermediate Period. QV 30, QV 47, and QV 88 contained evidence of reuse during the Roman Period.

Typology of 18th Dynasty tombs at QV according to Leblanc (Image: CNRS)





Beginning in 1826, small-scale explorations of the tombs began by Hay of Limplum, J.G. Wilkinson, J. F. Champollion and I Rossellini, and C. R. Lepsius, but it was only in 1903 that a large scale expedition began under E. Schiaparelli and F. Ballerini who conducted annual campaigns from 1903-1906 on behalf of the Turin Museum. This photo, taken in 1903, shows the Valley before excavations began (Image: Museo Egizio).



Valley of the Queens with tombs on north and south sides of the main and side wadis (green dots), subsidiary valleys, and other features marked. (Satellite image © 2006 DigitalGlobe)



Queens Valley with 18th Dynasty (and earlier) tombs on the north side of the main wadi; view toward the east.



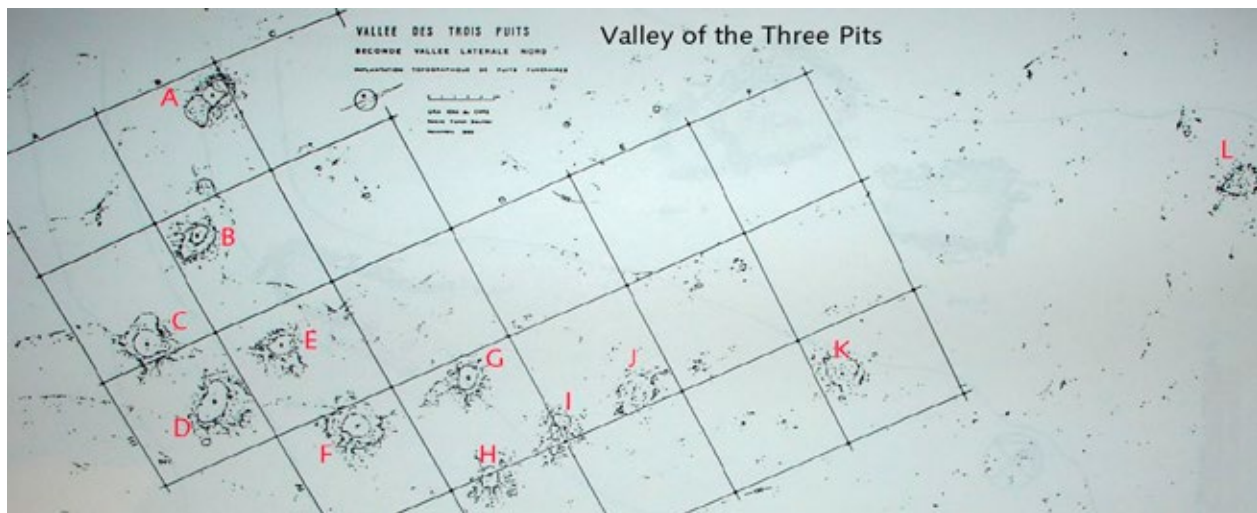
Queens Valley with 18th Dynasty (and earlier) tombs on the south side of the main wadi; Valley of Prince Ahmose marked in the middle, left of photo; view toward the southwest.

Part VII.2. Archaeological and documentary context

Based on the fragmentary nature of their contents, it appears that all the 18th Dynasty tombs had already been looted during antiquity. In most cases, their shafts and chambers have been exposed to the elements since that time, though many had been refilled with debris from erosion. Some of these shaft-style tombs were mentioned during the course of the early field surveys conducted by R. Hay of Linplum, J.G. Wilkinson, J.F. Champollion, I. Rosellini, K.R. Lepsius, H. Brugsch, and G. Daressy. Nevertheless, it was not until the [Turin Museum](#) expedition in 1903 that this kind of tomb was cleared in a methodical way. E. Schiaparelli and F. Ballerini investigated eight of the 18th Dynasty tombs during their initial excavations (1903-1905): QV 30, QV 46, QV 47, QV 87, QV 88, QV 89, QV 90, QV 91, and QV97.

In 1966, Elizabeth Thomas established a comprehensive numbering system for the Valley which included the majority of tombs identified based on the location of their entrances. At that time, Thomas entered some of these tombs and described their condition and contents. Finally, proceeding in earnest from 1984, the Franco-Egyptian (CNRS-CEDAE) team mounted a systematic effort to identify and clear all tombs in Queens Valley and subsidiary valleys, resulting in the discovery of still more 18th Dynasty tombs, particularly those in the Valley of the Three Pits.

During the course of these various efforts to map, name, and excavate the tombs, some confusion has arisen in the numbering system. In the Valley of the Three Pits, tombs A-K are grouped in proximity to each other, but tomb L, at some distance to the north, has sometimes been neglected in accounts of these tombs (see map of Loyrette below).



Tombs (A-L) in the Valley of the Three Pits, modified from Loyrette, 1997 (Image: CNRS).

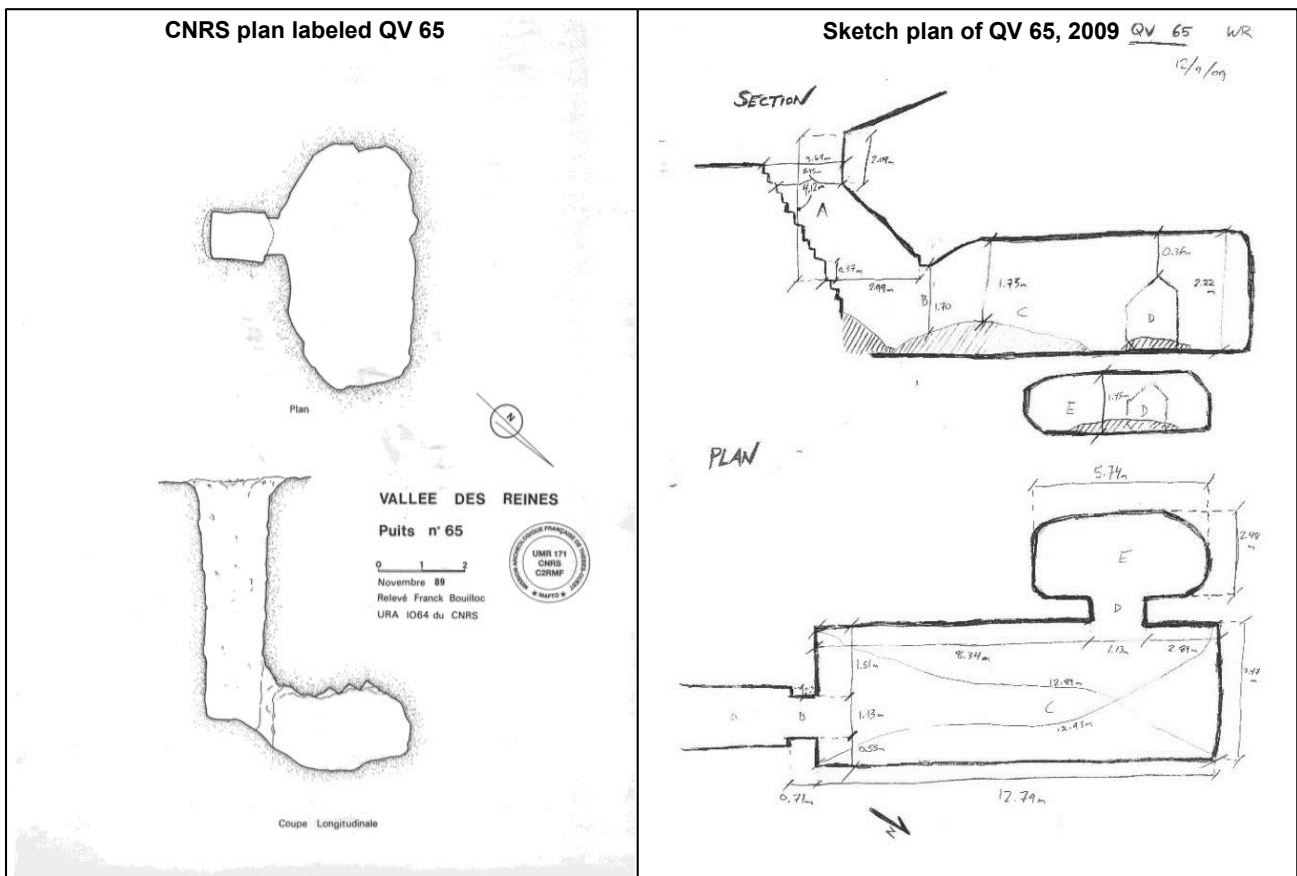
The area to the south and east of the entrance to QV 66 has been particularly problematic, as different numbers have been attributed to the same tombs in the past. With the exception of QV 69, which can easily be distinguished by its five-chamber plan, many tombs in this area are similar in plan and orientation, providing an understandable source of confusion. They all appear to have been rapidly cleared by the Franco-Egyptian team, yielding only modest archaeological material that has been removed and no longer serves as a distinguishing characteristic. Additionally, the tombs in the Valley are not systematically, physically labeled with their numbers or may have two numbers written on the rock. For two tombs in this area, it is not certain how they correspond to any previous numbering system or investigation, and neither are clearly indicated on previous maps. The GCI has designated these two tombs Unknown 1 (U1) and Unknown 2 (U2). Also to be noted, lest it cause confusion, is QV 1. This feature, originally designated as a tomb, was later re-interpreted as a Coptic hermit shelter (see Volume 1, 333-5) and will therefore not be found in Volume 2.

The following additional difficulties and inconsistencies in documentation have been noted in this section:

- The tomb referred to as QV 67 in the CNRS mission report from 1987-1988 field seasons actually refers to the distinctive five-chamber QV 69.
- The tomb referred to as QV 69 in the 1987-1988 CNRS mission report may refer to either QV 67, U1, or U2 (all of which have just one chamber).
- The foldout map of the Valley published as figure 9 in *Ta Set Neferou I* (Leblanc 1989a) includes a tomb labeled "QV 97" in this vicinity, whereas later CNRS publications (e.g., Leblanc and Sesana 1991) place QV 97 in the Valley of the Rope. It also places the entrance of QV 96 as being west of QV 70, whereas in fact it is east of QV 70 (see maps in the following pages).
- In this same *Ta Set Neferou I* (Leblanc 1989a) map, the configuration of the circles marking the entrances of tombs does not match the configuration of tomb entrances observed in situ (see maps in following pages). Therefore, it is difficult to interpret which tombs have been mislabeled.
- Whereas the Leblanc 1989a map includes five tomb openings located roughly south of QV 68 (at that time labeled QV 67, 69, 70, 96, 97), another map (Leblanc 1989, plate XXXI), includes only two (QV 69 and 70, now in a different, correct orientation).
- The plan and section of QV 65 drafted by CNRS in 1989 do not match the actual plan and section of the tomb in situ (see plans and photos on the following pages).
- Two numbers – 59 and 65 – are painted on the left wall of the entrance ramp of QV 65.

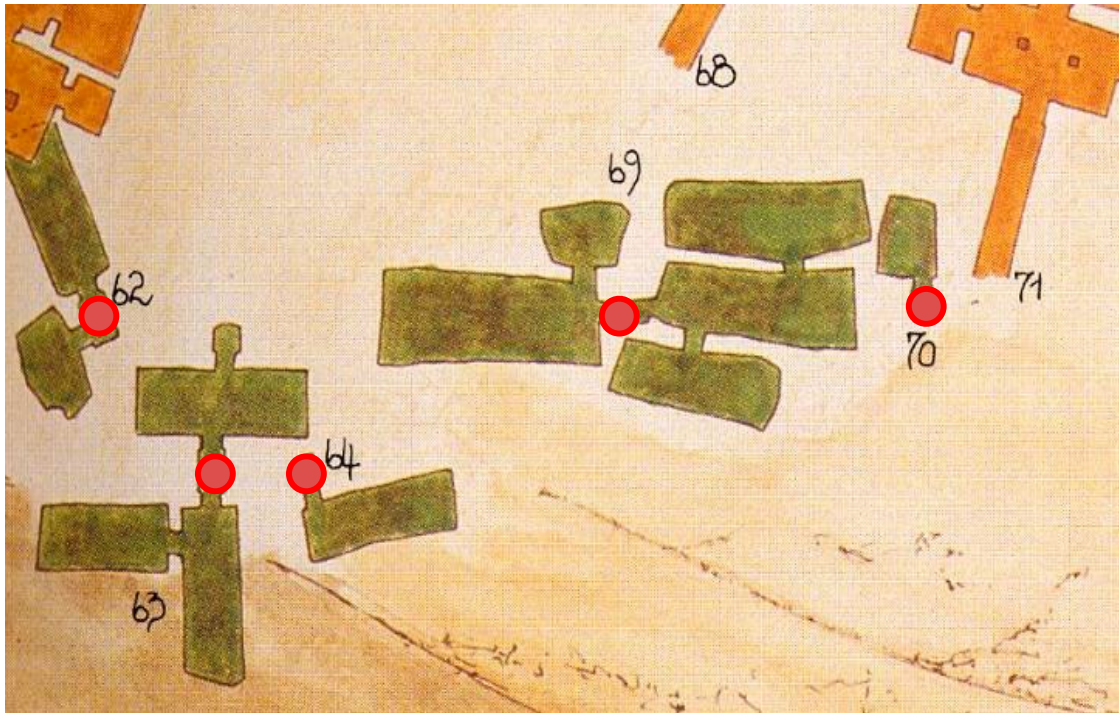


Photograph of area, south of QV 66, with problematic tomb numbers showing tomb openings, with numbering used in all GCI documentation.

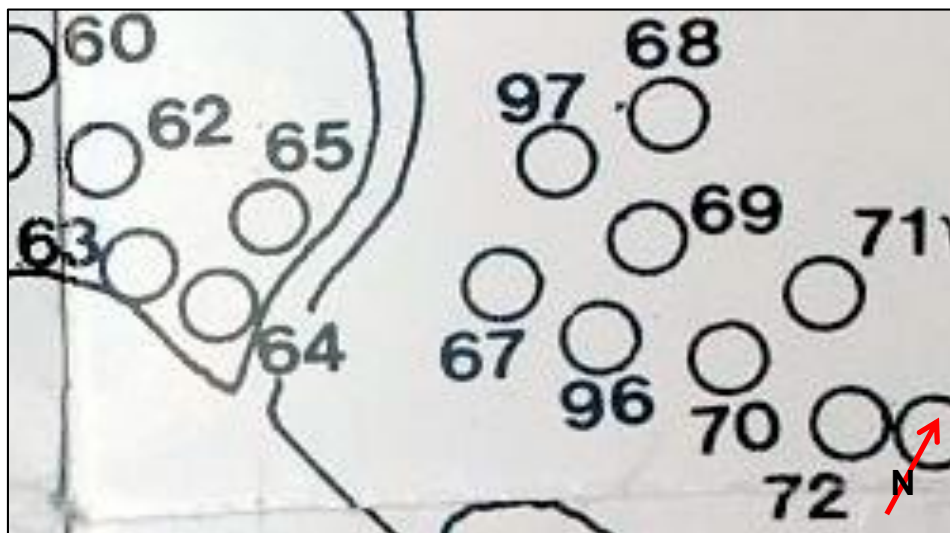


Tomb 65: At upper left is the CNRS drawing of a shaft tomb labeled no. 65. On the right is a sketch plan of tomb believed to be QV 65 (drawn by Will Reynolds, December 2009) based on map location (see individual tomb assessments for enlargement of sketch plan) and matches the sketch plan of E. Thomas (1966, fig. 20, 200), also labeled 65. Photo, bottom left, of what is believed to be tomb 65, with a long stepped ramp and large rectangular main chamber. The tomb to which CNRS drawing labeled QV 65 belongs has not been identified; there is some possibility that it may represent QV 67 (see individual tomb assessment of QV 67).

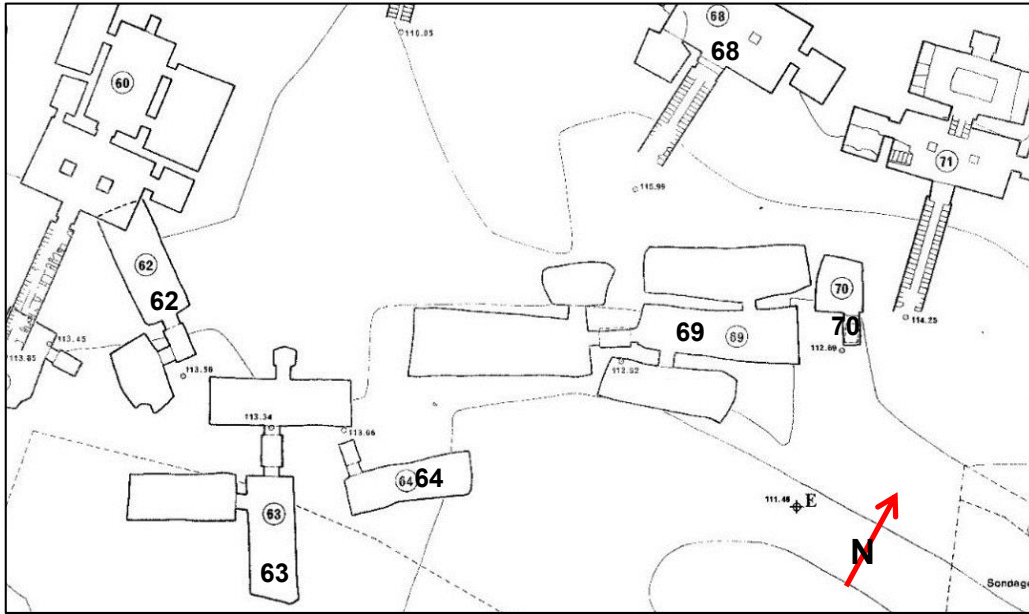
Maps 1-4, below and on the following page, show the area of confusion in numbering of the tombs that has occurred over the years.



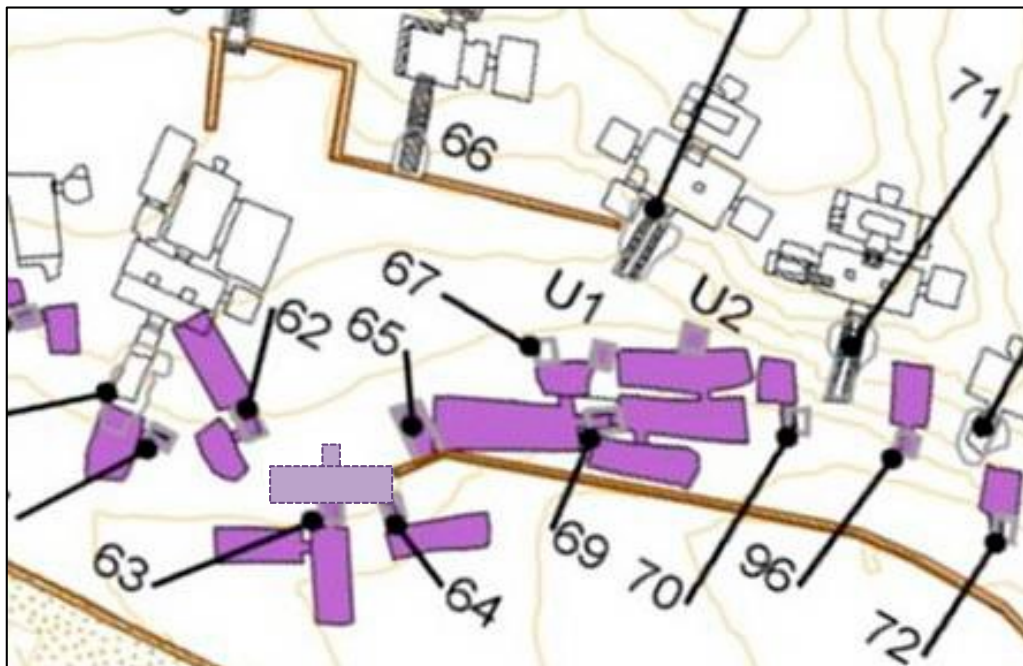
Map 1 is an excerpt from a schematic plan in Leblanc and Siliotti 1993, and is based on the Leblanc 1989 Map 3, colored to indicate dynasty; the entrance to the tombs have been marked here with a red dot following their placement in the Leblanc 1989 Map 3 and verified in the GCI-TMP 2007 mapping (Map 4). (Image: CNRS)



Map 2 is excerpted from Leblanc 1989a (*Ta Set Neferou*, figure 9) and is part of a much larger plan of QV and its subsidiary valleys. Although this map is very schematic, the relationship between the distinctive five-chambered tomb 69 and adjacent tombs as shown on Map 1 does not correspond with the relative location and numbering of tombs in this map. The number 97, marked here directly southwest of QV 68, was subsequently assigned by CNRS to a tomb in the Valley of the Rope, where it has been retained. It may have been used for what we are calling U1 or U2 (see Map 4) at an early stage of CNRS excavation. QV 65 is, however, correctly shown above QV 64 (see location on Map 4). (Image: CNRS)



Map 3 is excerpted from Leblanc 1989 (drawn 1988) and is the most precise and complete map created by the CNRS team. It does not, however, show QV 65 and 67 (shown on Map 2), nor U1 and U2 (added by the GCI, see Map 4). (Image: CNRS)



Map 4 is an excerpt from the GCI 2007 map (based on CNRS mapping of tomb plans and the Theban Mapping Project survey). The chambers of QV 65, 67, U1, and U2 do not appear on Map 3 and were not surveyed by TMP, and therefore do not appear on the GCI map; however, the openings of these tombs (marked with a black dot) were positioned from the laser scanning of the Valley undertaken by the GCI in 2007. (The northernmost chambers of QV 63 are shown here only schematically because these chambers had not been excavated at the time the tomb was surveyed by the TMP.)

In summary, for the purposes of the GCI assessment, planning, and implementation process, we have used the numbering system of the Franco-Egyptian team, supplementing it with the addition of two tombs, U1 and U2, which were previously unmapped.

Part VII.3. Geologic and hydrologic context

It is convenient to distinguish between the 18th Dynasty tombs on the north side of the main wadi and those on the south side, as their geologic context differs markedly. Almost all of the entry shafts for 18th Dynasty tombs on the south side of the wadi were carved into the lowermost part of Member I, with their chambers carved into the uppermost portion of the Esna Formation. Given the presence of shale within these tombs, their rock walls and ceilings have deteriorated more significantly than tombs on the north side. Compared to the marl, the Esna shale is both mechanically weaker and more clay-rich, meaning that it is more vulnerable to the adverse effects of water infiltration. Furthermore, some tombs (e.g. QV 48) have relatively shallow roof structures composed of a thin layer of fractured, highly weathered rock overlying the chambers, making their ceilings susceptible to collapse (see also geological overview in Volume 1, 17-19).

The 18th Dynasty tombs on the north side of the main wadi were also excavated into part of the rotated block originating in the upper or middle part of Member I. Although these tombs do not make contact with the Esna shale, Wüst asserts that the tombs lie in close proximity to the horizon of the shale.

Additionally, the upper part of the middle section of Member 1 contains abundant salt minerals that can be mobilized through contact with water (Wüst 2008, 63). These salts are manifested as both infill within fault and joint planes and efflorescence on rock surfaces. Numerous samples (from QV 20 and 21 as well as from five tombs from later periods) have been analyzed by Hamza Associates, and the salts predominantly consist of anhydrite or calcite (Hamza 2009, 46). While the growth of salt and halite crystals contributes to deterioration of the bedrock, the risk of damage from salts is much less than that from the expansion and contraction of bedrock exposed to water during flood events.

Although most of the 18th dynasty tombs on the north side of the wadi were cut relatively deep into bedrock, some are also at risk due to their relatively shallow roof structures, particularly QV 65 and QV 67. At the surface, these tombs are covered by Pleistocene fanglomerate deposits representing the former Valley floor, suggesting that the uppermost bedrock has undergone substantial weathering in geologic time to a depth of at least one meter. According to Wüst, the weathered state of this uppermost bedrock crust exacerbates large-scale salt crystallization (halite and gypsum) along fractures at depths up to ten meters.

Faulting

Considering the geology of the Valley as a whole, both Wüst and Hamza Associates recognize two distinct trends in the local faulting: those faults that run NE-SW and those that run E-W. Wüst's assessment indicates parallel geologic faults in the areas of tombs QV 29, QV 32, and QV 87, QV 27 and QV 30, as well as tombs QV 25-26 and QV 46-48, which he suggests are the result of rotational sliding movements during the slumping of the Theban formation. On the other hand, the geological report of Hamza Associates postulates that the fault planes facilitating the original rotation of Member I are most likely found within the Esna shale and that most faults in the Valley are the result of regional tectonic activity. Faults trending NE-SW may be associated with Red Sea rifting and faults running E-W may be related to the Kalabsha fault near Aswan (Hamza 2009, 19). Regardless of the mechanism of faulting, tombs built into the Esna shale are more prone to deterioration due to movement along pre-existing local faults. While mapping the precise path and extent of these faults would require further investigation and clearing of surface, it is sufficient for our purposes to understand that many tombs are prone to movement and associated damage in the event of regional seismic activity or continued slumping of the Theban formation.

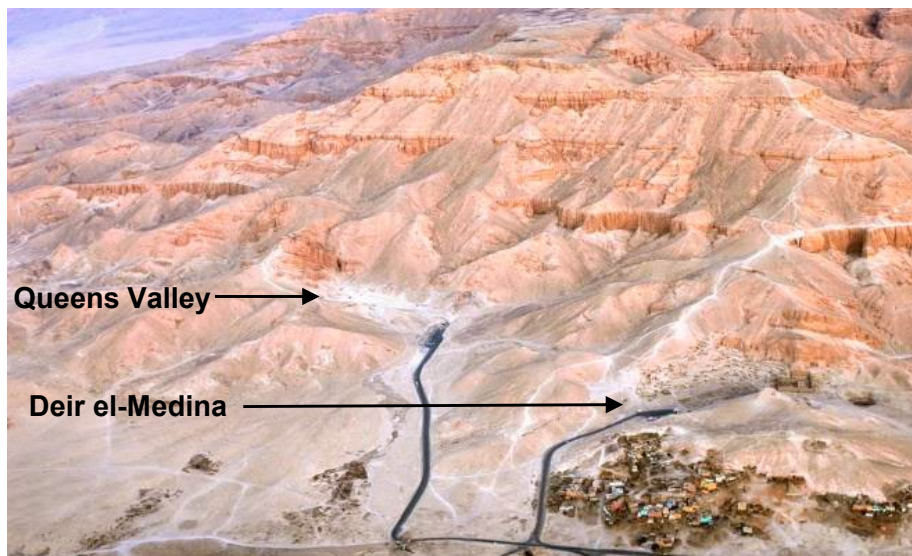
Flooding

In terms of vulnerability to flooding, the 18th Dynasty tombs may be divided in two general groups. Those tombs nearest the main wadi channel (QV 2-QV 12, QV 20-QV 22, QV 59, QV 61-QV 65, QV 76-QV 79, QV 83, QV 94) are under threat of inundation by water and debris from a major flood unless their openings are sealed shut. Other tombs near the main channel but with slightly higher elevations (QV 13-QV 19) or located to the upslope side of the retaining wall on the north side of the main wadi (QV 67, QV 69, QV 70, QV 72, U1, U2) are at risk of flooding from drainage through the main channel either under an extreme flood or if the main channel in the downstream direction were to become obstructed by alluvial debris during a flood. It is especially important to protect QV 69 from flooding as it currently serves as a storage area for archaeological study material from the Valley. For a more detailed discussion of flood risk and associated maps see Volume 1, Part V.2.

Regardless of their relative vulnerability, thirty-one of the 18th dynasty tombs exhibit direct evidence of previous flooding in the form of debris and dried, caked mud in their chambers. The majority of the tombs that have flooded, particularly those partially composed of shale, have suffered from varying degrees of related rock deterioration.

The 18th Dynasty tombs on the south slope of the southwest branch of the wadi are generally in locations less susceptible to infiltration as a result of runoff associated with precipitation events because of their relatively small catchment areas. However, many of them show evidence of either modern (QV 30, QV 32, QV 37, QV 39, QV 47) or historic (QV 32, QV 35) flooding. Flow lines produced through GIS hydrologic analysis also show that storm water runoff is channeled down slope directly toward the entrances of QV 26, QV 29, QV 35, QV 37, and QV 39 (see Volume 1, Part V.2).

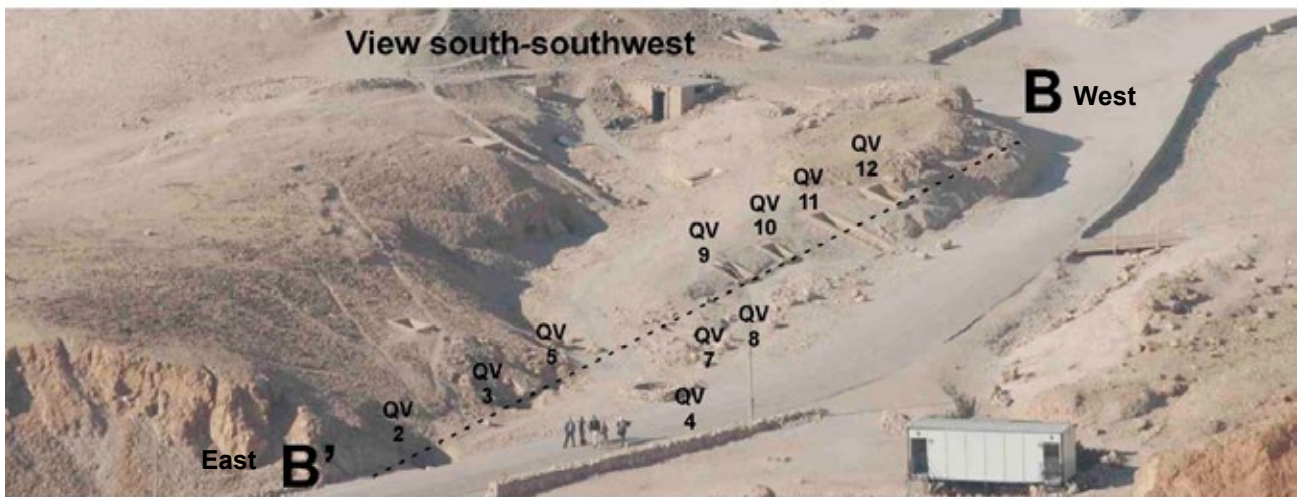
Given the presence of shale in most of the 18th Dynasty tombs on the south side of the main wadi and their proximity to the wadi, any flooding will have severely detrimental effects and flood protection for those tombs is a high priority. Furthermore, in two instances (QV 97, QV L) in subsidiary valleys, it is apparent that runoff debris associated with flooding and erosion can accumulate in volumes substantial enough to entirely obscure the entrance of such tombs. In the case of QV 97, the tomb entrance was occluded in as little as 56 years, the time between its initial discovery by E. Schiaparelli and the inventory of E. Thomas. The entrance was later rediscovered by the Franco-Egyptian team using ground penetrating radar. As for QV L, it was originally discovered and mapped in 1989 by the Franco-Egyptian team and was no longer visible by the time of our assessment, suggesting that without proper erosion control, tombs can be completely reburied in less than twenty years.



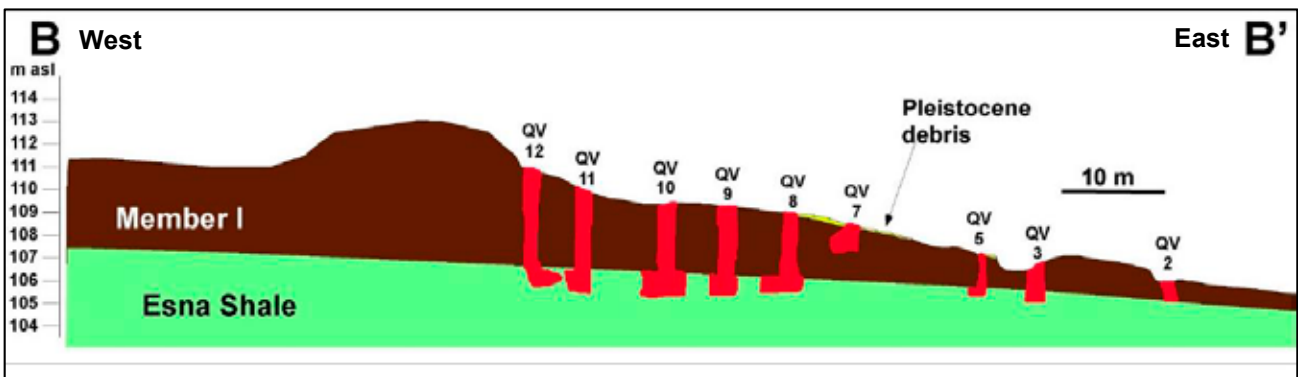
Aerial view of Queens Valley in context. The steep Theban plateau rising up behind the Valley with its tombs illustrates the threat from flash floods.



View of the 18th Dynasty tombs 7-12 on the south side of the main wadi and through which the geological transect below runs.



Line of geological transect through 18th Dynasty shaft tombs 2 -12 (Wüst 2009).



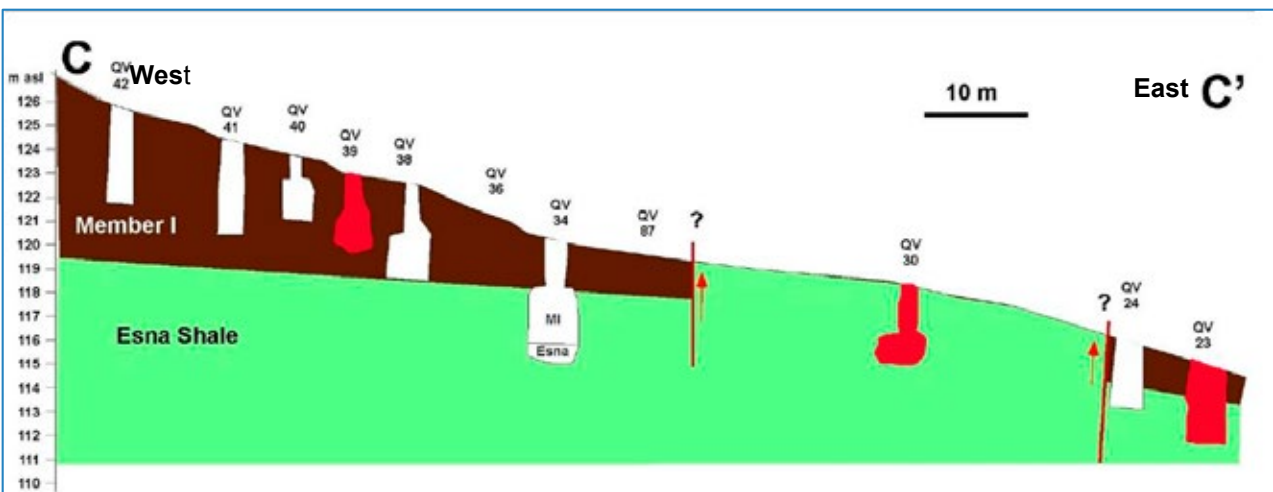
As seen in this schematic section of the transect through QV 2-12, the shafts of the 18th Dynasty tombs (with red infill) on the south side of the main wadi were excavated into Member I, with the chambers largely cut into the Esna shale (from Wüst 2009). Note the section is reversed from transect line above.



View of 18th - 19th-20th Dynasty tombs on the south side of the side wadi in area of weak rock and collapse.



Line of geological transect through tombs 23 - 42 on south side of the main and side wadis (Wüst 2009).



Schematic section (from Wüst 2009) along transect shows both 18th (with red infill) and 19-20th Dynasty tombs (white infill) on the south side of the main and side wadis. Tombs on this transect were cut mainly in Member 1 with the exception of QV 34 and QV 30, which were cut into Esna shale. Note the section is reversed from transect line above.

Part VII.4. Introduction to the assessment of 18th Dynasty tombs

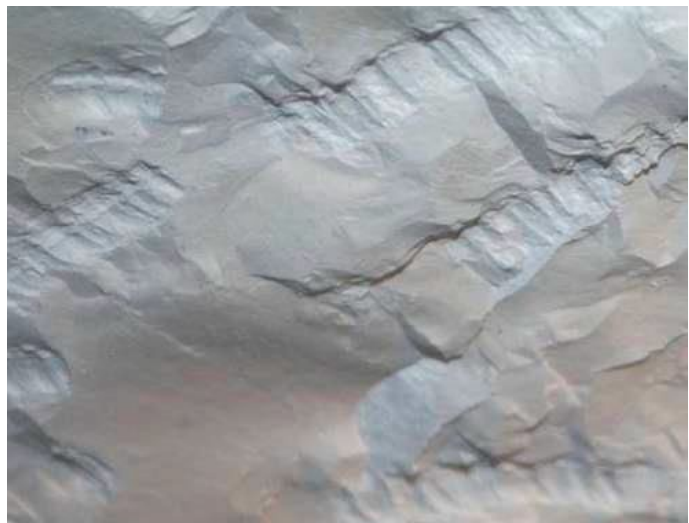
The physical assessment of the 18th Dynasty tombs was conducted over the course of several field seasons, beginning in 2006. In general, the assessment process consisted of two levels of inspection: a rapid visual assessment of all tombs and a more detailed assessment of selected tombs with consultant geologists and a geotechnical engineer from Hamza Associates. Comprehensive assessment of all 18th Dynasty tombs was not possible since a number of tombs proved too hazardous or difficult to enter. Thus, QV 89, 90, 91, 92, 93, 97, and A-L were not assessed from the interior, and the lower chambers of QV 23 and QV 78 were not assessed.

The assessment process also included a review of published and unpublished descriptions and documentation related to these tombs. The accounts of Schiaparelli, Thomas, and the Franco-Egyptian expedition are particularly important references describing the archaeological excavation and the general condition of many of these tombs. In comparison to the decorated tombs of later dynasties, these tombs have been published less thoroughly, and the assessment has relied in large measure on unpublished CNRS mission reports. The tomb plans and sections that are reproduced here were prepared by the Franco-Egyptian team and/or based on the Theban Mapping Project. The 63 tombs surveyed by the Theban Mapping Project in 1981 were converted into digital CAD drawings in 2007 in connection with the GCI project. These plans, however, are often incomplete since they were surveyed prior to clearing of the tombs by the Franco-Egyptian mission. There are no plans for a few of the 18th Dynasty tombs. Nevertheless, despite the dearth of source material, a clear picture emerges that the condition of many of these tombs has deteriorated significantly over the last century due to their exposure to flood water, erosion, biological activity, and lack of maintenance of the site.

The 18th Dynasty tombs exhibit a variety of conditions, often related to the bedrock from which they were excavated combined with the effects of water infiltration. The rock of different clay content ranges from highly fissile and friable rust-brown shale (known locally as *taflah*) to smooth, hard, cream-colored marl; the former is far more fragile and unstable than the latter. Although almost all tombs exhibit some localized rock fracturing and salt infill, some suffer extensive fracturing, widespread rock loss, and thick, fibrous salt (halite) crystal growth. Fourteen tombs were considered unstable during the initial assessment and required geotechnical assessment to determine the need for shoring or other interventions prior to any closure with a shaft cover or reburial.



Fissile, rust-brown shale with salt infill, detail from QV 47.



Detail of tool marks on hard, cream-colored marl of QV 69.

Recommendations are noted briefly in the individual assessments. The recommendations relate mainly to protection of these tombs from the effects of infrequent, but destructive, flood waters and accompanying debris. In most cases, it is recommended that the tomb entrance should be capped to prevent flood water infiltration, debris and trash fill; partial or complete backfilling is recommended for some tombs. Detailed specifications for capping, backfill or plugging of tomb shafts, or otherwise stabilizing them with shoring or other treatments, have been developed for all tombs as part of the implementation planning for the site that followed the assessment.

The local bat population presents a special challenge: a number of tombs are used as roosts and it is necessary to ensure that tombs are free of bats before they are covered or reburied. Due to the ecological importance of bats to the local agriculture, three poorly preserved shaft tombs (15, 48, 78) with sizeable bat populations in deep chambers were proposed for protection from flood waters and visitors without excluding the bats. Another two tombs (QV 20 and 78 or 82) were proposed to keep uncovered and possibly lit from within to allow visitors to view the shafts from above, after ensuring protection from flooding.

Many of the shaft tombs were used by the site guardians to dump trash. Trash was cleared from all the tombs in 2007 and 2008 as part of the GCI project. Study material that had been left in the tombs by the Franco-Egyptian project, and disturbed by animals or humans over the years, was collected, inventoried and stored by CNRS and SCA in 2008 and 2010; these materials are noted in the individual assessments (for more context see Volume 1, Parts III.9 and 10). The Summary Table of Tombs that follows in Section 5 includes the main flooding and structural risks, principal recommendations and available documentation (plans and sections).

The assessments of individual tombs are divided by the valleys in which they are located. The majority of the tombs (57) are from the Valley of the Queens (see Section 6); only 20 are from the subsidiary valleys (see Section 7).

Part VII.5. Summary table of 18th Dynasty tomb assessments

Tomb	Name/Titles	Flood Evidence/Risk	Biological Activity	Door/Cover	Structural risk	Recommendations	CNRS Plan/section	TMP Plan/section
QV 02	Anonymous	---	---	none	low	Reburial. As of Feb. 2010, SCA had reburied the tomb.	Plan and Section, Mar 1988	none
QV 03	Anonymous	dried mud; near main drainage	---	masonry surround with grill	low	shaft plug	Not consulted, archived in Paris	none
QV 04	Anonymous	dried mud; near main drainage	---	reburied	low	Shaft plug. As of Feb. 2010, SCA reburied the tomb.	No drawings	plan, sections
QV 05	Anonymous	near main drainage	---	masonry surround with grill	low	Reburial; As of Dec. 2009, SCA installed masonry surround.	Plan and Section, Mar 1988	plan, section
QV 06	Anonymous	near main drainage	---	masonry surround with grill	low	Reburial; As of Dec. 2009, SCA installed masonry surround.	Plan and Section, Mar 1988	plan, section
QV 07	Anonymous	dried mud; near main drainage	---	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	plan
QV 08	Prince Hori, Anonymous Princess, and Imenousekhet	near main drainage	1 bat seen Jan 2008	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	plan, section
QV 09	Anonymous	near main drainage	1 bat seen Jan 2008	masonry surround	low	shaft cover	Not consulted, archived in Paris	plan, section
QV 10	Anonymous	near main drainage	bat droppings	masonry surround	low	shaft cover	Plan, section, 1985	plan, section
QV 11	Anonymous	near main drainage	wasp nests	partial masonry surround	medium	annual monitoring of ceiling fracture in Chamber B, and door installation	Plan, 1985	plan, section
QV 12	Anonymous	thin cover of mud/silt; near main drainage	wasp nests	masonry surround	low	shaft cover	Not consulted, archived in Paris	plan, section
QV 13	Anonymous	---	bird and wasp nests	none	low	geotechnical assessment and shaft plug	Not consulted, archived in Paris	plan, section
QV 14	Anonymous	flood debris observed during CNRS excavation	---	masonry surround	low	shaft cover	Plan and Section, Mar 1986	plan, section
QV 15	Anonymous	---	large number of bats noted in Jan. 08/Dec.09	masonry surround	medium	geotechnical assessment; shaft cover with bat access; shelf in Chamber C should be monitored on an annual basis	Not consulted, archived in Paris	plan, section

Tomb	Name/Titles	Flood Evidence/Risk	Biological Activity	Door/Cover	Structural risk	Recommendations	CNRS Plan/section	TMP Plan/section
QV 16	Anonymous	---	bat droppings	none; rubble wall in front of chamber	low	shaft plug; to deny bats access to QV 16, an internal wall must be constructed between QV 15 and QV 16	Not consulted, archived in Paris	plan, section
QV 17	Princesses Merytra (I) and Urmerutes	---	---	masonry surround with grill	low	shaft cover	Plan and section, Nov 1986	plan, section
QV 18	Anonymous	---	1 bat seen in Jan. 08; bird and wasp nests	masonry surround with grill	low	shaft cover	section, NO DATE	NONE
QV 19	Anonymous	---	dormant wasp nests	masonry surround with grill	low	shaft cover	Plan and section, NO DATE	plan, section
QV 20	Anonymous	flood recorded in 1994	---	masonry surround with grill	high, overlaps with QV 19	shaft to be left open for visitor viewing; bi-annual monitoring and shaft cover	Plan (Nov 1987), section (Mar 1988)	plan, section
QV 21	Anonymous	flood recorded in 1994	bat droppings	masonry surround with grill	low	shaft cover	Plan and 2 sections, NO DATE	plan, section, axon
QV 22	Anonymous	dried mud	---	masonry surround with grill	low	shaft cover	Plan and 2 sections, NO DATE	plan
QV 23	Anonymous	---	bats heard in lower shaft	masonry surround with grill	low	shaft cover	Plan, Nov 1988	plan, section
QV 25	Anonymous	prone to upslope runoff	---	masonry surround with grill	low	shaft cover	Plan, Nov 1987	plan, section
QV 26	Anonymous	direct flow from upslope (ArchHydro)	---	masonry surround with grill	low	shaft cover	Plan, Nov 1987	plan, section
QV 27	Anonymous	direct flow from upslope (ArchHydro)	---	filled with debris	low	reburial	Plan, Nov 1987	NONE
QV 28	Tomb was not located; presumed to lie under guard house.							
QV 29	Anonymous	---	---	None	low	reburial	Not consulted, archived in Paris	NONE
QV 30	Nebiri	dried mud; direct flow from upslope (ArchHydro)	one bat observed, Jan.08	masonry surround with grill	low	shaft cover	Plan and section, Nov 1986	plan, section

Tomb	Name/Titles	Flood Evidence/Risk	Biological Activity	Door/Cover	Structural risk	Recommendations	CNRS Plan/section	TMP Plan/section
QV32	Anonymous	dried mud	one bat seen Jan. 2008, mud wasp nests	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	plan, section
QV35	Anonymous	large amount of debris	---	rubble surround	low	shaft plug	1 plan, 2 sections (1988-89)	NONE
QV 37	Anonymous	dried mud and staining; direct flow from upslope (ArchHydro)	wasp nests	rubble wall near entrance	low	shaft plug	1 plan (April 1985)	plan, section
QV 39	Anonymous	direct flow from upslope (ArchHydro)	large number of bats seen in Feb 2008	Dec 2009: masonry surround with grill	low	shaft plug (as of Dec. 09, SCA built masonry surround)	1 plan (Nov 1987), 1 section (Mar 1988)	NONE
QV 46	Imhotep	direct flow from upslope (ArchHydro)	bat droppings	masonry surround with grill	low	shaft plug (as of Dec. 09, SCA built masonry surround)	1 plan, 1 section NO DATE	NONE
QV 47	Princess Ahmose	accumulation of silt and debris	3 bats seen in Jan 2008	masonry surround with grill	low	shaft plug	Not consulted, archived in Paris	plan, section
QV 48	Anonymous	dried mud, flood recorded in 1994	at least 15 bats seen Jan. 2008	masonry surround with grill	low	allow bat access	1 plan (Nov 1987)	plan, section
QV 59	Anonymous	---	bat guano, wasp nests	masonry surround with grill	low	shaft cover	1 plan (Nov 1987)	plan, section
QV 61	Anonymous	dried mud, flooding recorded in 1994	staining from bats; wasp nests	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	plan, section
QV 62	Anonymous	flood recorded in 1994; near main drainage	bat droppings and staining; wasp nests	masonry surround with grill	low	shaft cover; may need raised surround to protect from flood	1 plan (Nov 1987)	plan, section
QV 63	Anonymous	flood recorded in 1994; near main drainage	---	masonry surround with grill	high	shaft cover; stabilization of interior	Not consulted, archived in Paris	plan, section
QV 64	Anonymous	flood recorded in 1994, dried mud; near main drainage	staining from bats, wasp nests, silverfish	masonry surround with grill	low	shaft cover	1 plan (Nov 1987), 2 sections (Mar 1988)	NONE
QV 65	Anonymous	flood recorded in 1994, dried mud; near main drainage	3 bats seen in Jan 2008, 10+ bats seen in Dec. 2009	rubble wall in front of ramp	low	door installation; barrier/sill wall at top of ramp to protect against flood	CNRS drawing mislabeled 65	NONE
QV 67	Anonymous	dried mud (floor, ceiling)	wasp nests, spiders, bat droppings	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	NONE

Tomb	Name/Titles	Flood Evidence/Risk	Biological Activity	Door/Cover	Structural risk	Recommendations	CNRS Plan/section	TMP Plan/section
QV 69	Anonymous	cracked, dried mud on floors	---	masonry surround with grill	low	shaft cover, special protection necessary due to storage of study materials	1 plan, 3 sections (Mar 1988)	NONE
QV 70	Nehesy	adhered mud/silt	wasp nests, droppings (bats)	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	NONE
QV 72	Prince Baki and Princess Hatneferet	---	wasp nests, bat evidence, gecko, silverfish	masonry surround with grill	low	shaft to be left open for viewing from above	Not consulted, archived in Paris	NONE
QV 76	Princess Merytra (II)	near main drainage	---	filled with rubble	low	reburial	1 plan (Nov 1987)	NONE
QV 77	Anonymous	near main drainage	bat seen in Nov 2007; insect nests and gecko	masonry surround with grill	low	shaft cover	1 plan, 1 section (Nov 1986)	NONE
QV 78	Anonymous	near main drainage	many bats in chamber and rear shaft in Jan 2008	masonry surround with grill	low	allow bat access	1 plan, 1 section (Nov 1986)	plan, section
QV 79	Anonymous	dried mud, near main drainage, direct flow from upslope (ArchHydro)	5 bats seen in Jan 2008; wasp nests	masonry surround with grill	low	shaft cover	1 plan (Nov 1987), 3 sections (Mar 1988)	NONE
QV 81	Heka...	dried mud (apparently flooded from QV3 via connection)	at least 1 bat seen in Jan 2008, 5+ bats seen in Dec. 2009	masonry surround with grill	low	geotechnical assessment and shaft cover	2 sections (Mar 1988), plan (1989)	NONE
QV 82	Prince Minemhat and Prince Amenhotep	dried mud	---	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	NONE
QV 83	Anonymous	near main drainage	---	masonry surround with grill	low	shaft cover	Not consulted, archived in Paris	plan, section
QV 87	Anonymous	---	---	masonry surround with grill	low	shaft plug; as of Dec. 09, SCA built masonry surround	1 plan, 1 section (Oct 1989)	NONE
QV 88	Prince Ahmose	---	---	None	low	reburial	1 plan, 1 section (Nov 1989)	NONE
QV 89	Anonymous	---	---	None	unknown	localized erosion mitigation	NONE	NONE

Tomb	Name/Titles	Flood Evidence/Risk	Biological Activity	Door/Cover	Structural risk	Recommendations	CNRS Plan/section	TMP Plan/section
QV 90	Anonymous	---	---	None	unknown	localized erosion mitigation	NO DRAWING	NONE
QV 91	Anonymous	---	---	None	unknown	localized erosion mitigation	NO DRAWING	NONE
QV 92	Anonymous	---	---	None	unknown	localized erosion mitigation	Documentation archived in Paris	NONE
QV 93	Anonymous	---	---	None	unknown	localized erosion mitigation	Documentation archived in Paris	NONE
QV 94	Anonymous	erosion of shaft; near a side drainage	---	rubble wall around entrance	unknown	reburial	1 plan, 2 sections (Mar 1988)	NONE
QV 96	Anonymous	silt	bat droppings, wasp nests	masonry surround with grill	low	shaft cover	1 plan, 1 section (Nov 1989)	NONE
QV 97	Anonymous	debris accumulated in front of door, previously reburied	---	metal door, rubble wall in front of door	unknown	Remove accumulated debris near door and entry ramp and take measures to mitigate erosion	1 section (December 1995)	NONE
QV 98	Anonymous	---	---	partially filled with debris	low	reburial	NO DRAWING	NONE
QV U1	Anonymous	dried mud	evidence of bats; wasp nests	masonry surround with grill	low	shaft cover (prototype installed in 2008)	NO DRAWING	NONE GCI sketch plan only
QV U2	Anonymous	dried mud	---	masonry surround with grill	low	shaft cover	NO DRAWING	NONE
QV A-L	QV A: Min... QV G: Kari All others: Anonymous	cemented ochre colored powder attests to previous water infiltration in some tombs	---	none	unknown	install diversion walls upslope to mitigate erosion; rebury tombs QV D and QV H, which are already largely filled with debris	Plan, Section for QV E; Plan for QV J	NONE

QV 97 (in blue font): Tombs located in the subsidiary valleys

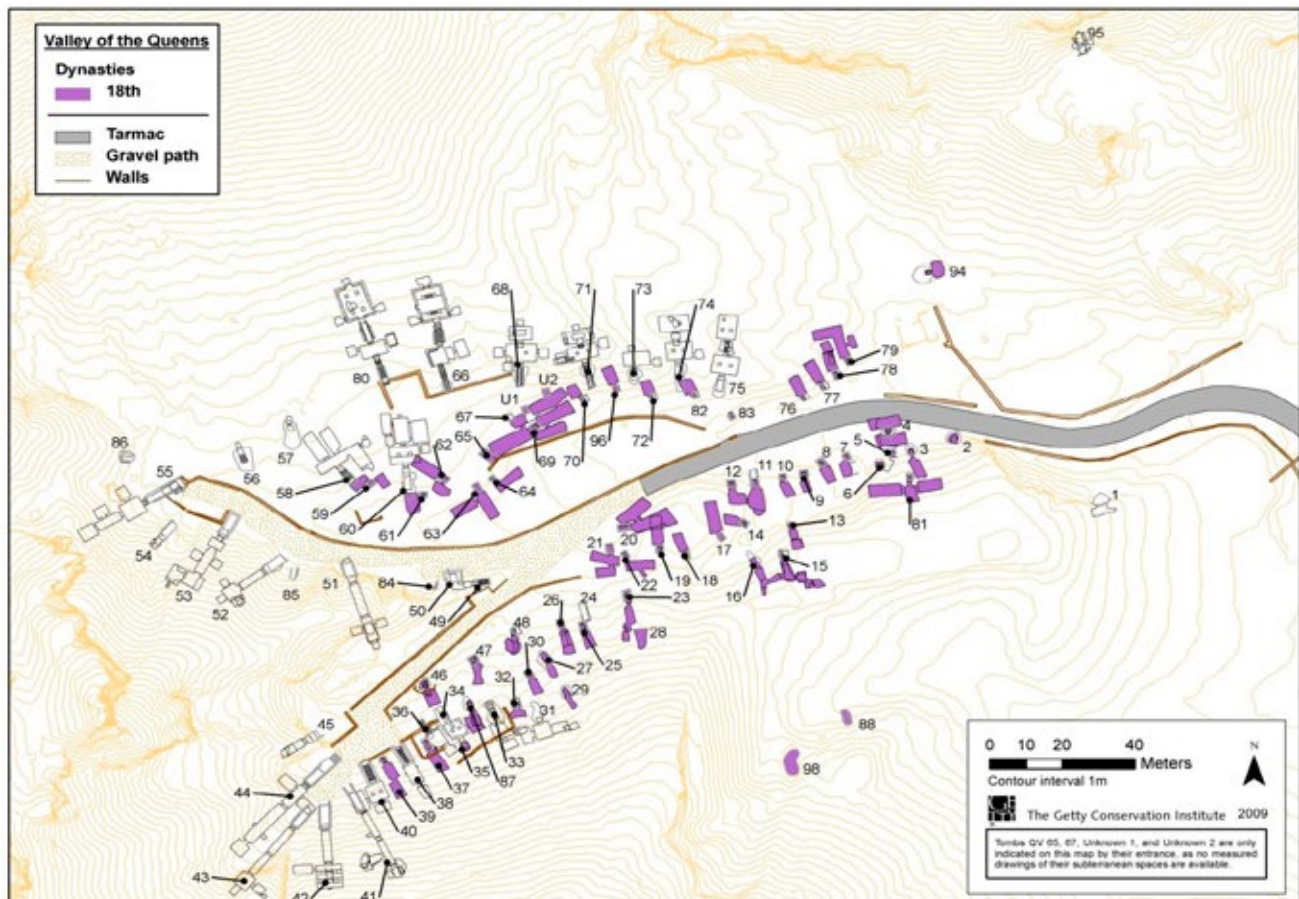
Part VII.6. Individual tomb assessments - Valley of the Queens

The majority of 18th Dynasty tombs (57) are from the Valley of the Queens; tomb numbers are listed in the table below. Assessments of the twenty tombs in the subsidiary valleys are described in Section 7.

18th Dynasty tombs in the Valley of the Queens

2	9	16	23	32	59	69	81
3	10	17	25	35	61	70	82
4	11	18	26	37	62	72	83
5	12	19	27	39	63	76	87
6	13	20	(28)*	46	64	77	94
7	14	21	29	47	65	78	96
8	15	22	30	48	67	79	U1 & 2

*QV 28 was not located and is believed to lie under the guard house.



Queens Valley with 18th Dynasty tombs highlighted in purple.

QV 2 – Anonymous

General Description

QV 2 is a shallow pit lying on the southern edge of the paved visitor path and is almost entirely filled with debris. The tomb was similarly filled in the time of E. Thomas' inspection. The tomb was last cleared in 1987 by the Franco-Egyptian team.

Condition

Because the pit is filled with debris, it was inaccessible for assessment. The rock above and around the shaft opening is friable.

Deterioration Factors

Flood debris and erosion had gradually reburied most of the tomb by the time of the assessment in 2007.

General Recommendations

As QV 2 is already largely filled, it is recommended to rebury the tomb, so as to better protect it from water infiltration and debris fill. In 2009, the SCA filled remainder of the tomb with scree.

Archaeological Materials

None.

References

Thomas 1966.



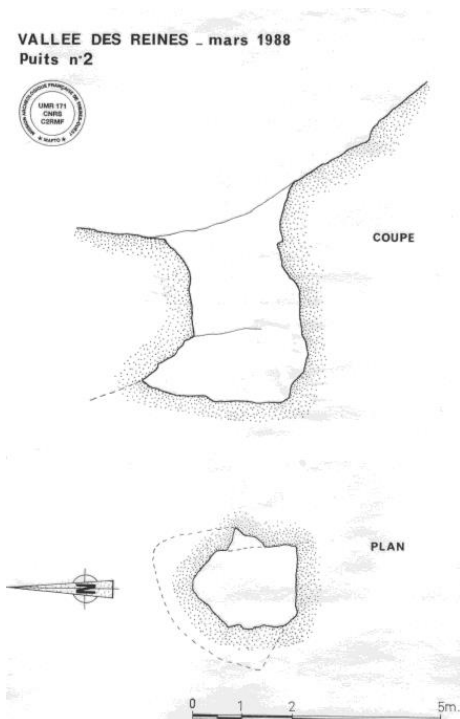
Overview of pit adjacent to visitor path.



View of entrance in 2007, prior to SCA reburial.



The tomb following reburial with scree by SCA in 2009.



Drawing: CNRS

QV 3 – Anonymous

General Description

QV 3 is located on the south side of the paved visitor path. As of December 2009, the SCA had installed a masonry surround and metal grill surrounding the entrance of the tomb. It consists of a rough, vertical shaft leading to a poorly formed chamber (B). Chamber (B) consists of a marl slab on top of weak, deteriorating shale, with no clearly defined floors or walls. There is a small connection through the rear of chamber (B) to QV 81's chamber (C).

At the time of E. Thomas' inspection, she noted that QV 3 held a horned bovine skull and potsherds. She also noted interconnections between tombs QV 3, 5, and 6, although she was unsure whether these were made intentionally during original construction or were created at some later date. These connections are no longer visible. The tomb was last cleared in 1984-85 by the Franco-Egyptian team.

Condition

The tomb shaft appears stable. The ceilings of the chambers appear stable, though the shale comprising the walls is weak and continues to collapse. Cracked, dried mud is present on the floor and ceiling of the first chamber, indicating that the tomb has flooded in the past, presumably during the 1994 flood. Because the opening of QV 81 is relatively high up the hill slope, dried mud in QV 81 likely indicates that past flood waters passed from QV 3 into QV 81.

Deterioration Factors

The inherently weak shale and past flooding have contributed to the deterioration of the tomb's chambers. It continues to be at high risk of flooding due to the low position of its opening next to the main drainage channel.

General Recommendations

A shaft plug is recommended to seal the tomb and ensure visitor safety. As it adjoins QV 81, interventions for both tombs require coordination.

Archaeological Materials

Noted by Thomas: bovine skull and potsherds

References

Thomas 1966.



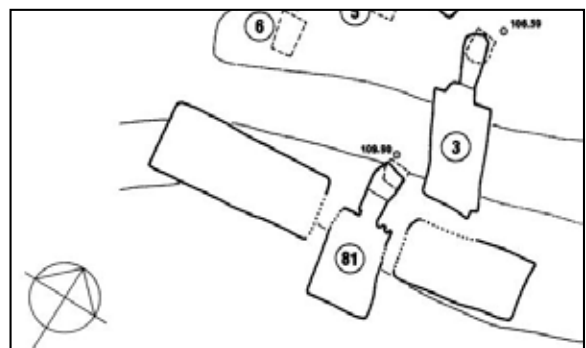
Entrance to QV 3 prior to installation of masonry surround by SCA.



QV 3 shaft with trash accumulation at bottom.



View of the marl slab above shale in first chamber, seen from connection with QV 81.



QV 3 plan excerpted from Leblanc 1989 map (CNRS tomb plan was not available), does not show connection with QV 81 (Drawing: CNRS).

QV 4 – Anonymous

General Description

The shaft of QV 4 is located just south of the paved visitor path, and as of February 2010, it has been reburied. The plan completed by the Theban Mapping Project shows two chambers - a northerly chamber (D) located under the paved visitor path and a southerly chamber (C) to the path's south. Only chamber (C) was accessible during the time of assessment, since the entrance to chamber (D) had been blocked by debris.

Condition

Chamber (C) consists of a marl slab on top of deteriorating shale. Large blocks of marl have collapsed from the chamber's ceiling. The tomb shaft appears stable. Following an assessment in December 2009, the chamber walls and ceiling were judged to be stable provided that the tomb remains dry. Dried, cracked mud on the floor of chamber (C) indicates past flooding.

Deterioration Factors

The rock in the tomb, particularly the shale, has disintegrated due to flooding and associated swelling and shrinking. Prior to 1995, the paved road above the tomb was used for vehicle access to the site and it is possible that vibrations from passing cars and buses contributed to structural instability within the tomb. Following reburial, the threat from flooding is partially mitigated, though no information is available about the type of fill material used by the SCA.

General Recommendations

It is recommended that a shaft plug be installed to seal the tomb against entry of floodwater, debris, animals, and for visitor safety. However, as of February 2010, the area surrounding the entrance of the tomb was associated with the works to install underground electrical cables and lights throughout the Valley. To facilitate these works, the SCA filled the shaft and entry of the QV 4 with what appears to be a mixture of soil and limestone rubble.

Archaeological Material

None.

References

None.



Low rubble wall surrounds shaft entrance during initial assessment (2007).



As of Dec. 2009, the SCA had installed a masonry surround with a metal grate.



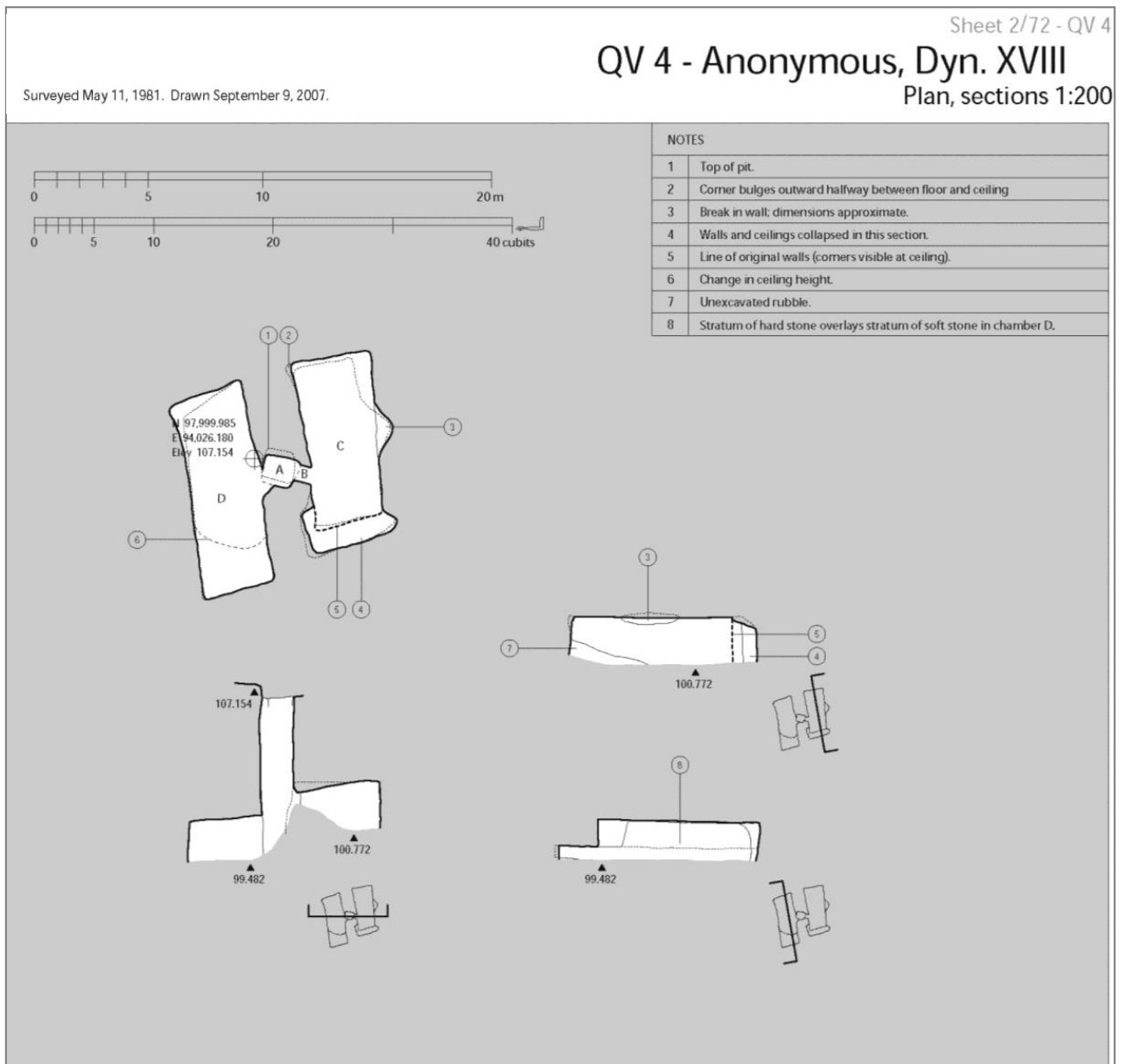
As of February 2010, the shaft had been reburied by the SCA.



Adjacent beds of shale (bottom) and marl (top) clearly distinguished by their color and characteristics.



Rock from ceiling collapse in chamber (C).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 5, 6 – Anonymous

General Description

QV 5 and 6 are adjacent tombs located on the south side of the main wadi, a few meters from the edge of the paved path. Both tombs have shallow shafts and are partially filled with debris. As of November 2009, the SCA had installed masonry surrounds with metal grills over the tomb entrances.

E. Thomas recorded that QV 3, 5, and 6 were all interconnected, though no evidence of this can be seen today. She also noted ceiling rock fall in QV 5 and the absence of any objects in both tombs.

Condition

The marl rock of both tomb shafts is friable, with loose rock perched precariously near the entrances. Because both tombs are largely filled with debris, their chambers were inaccessible for assessment.

Deterioration Factors

Presumably flood and natural debris fill have resulted in partial burial of both tombs.

General Recommendations

It is recommended that both tombs be reburied to protect them from flooding and to ensure visitor safety.

Archaeological Material

None

References

Thomas 1966.



QV 5 entrance before installation of surround.



QV 5 shaft entrance with surround in 2009.



QV 5 shaft partially filled by debris and trash, seen from above.



QV 6 shaft entrance before installation of surround.

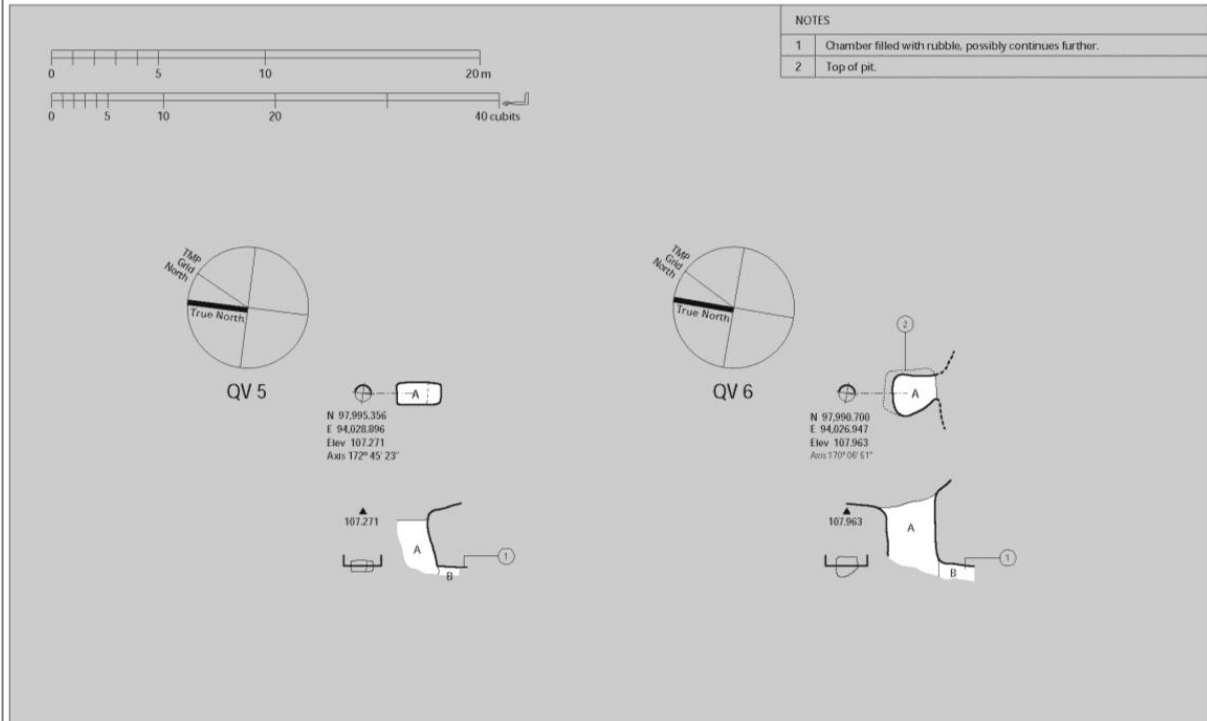


QV 6 shaft entrance with surround installed in 2009.

QV 5, 6 - Anonymous, Dyn. XVIII

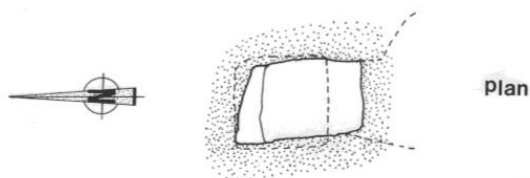
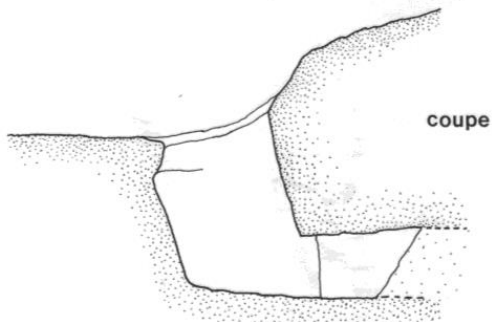
Plans, sections 1:200

Surveyed May 11, 1981. Drawn September 9, 2007.

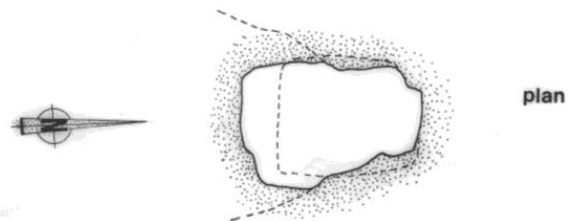
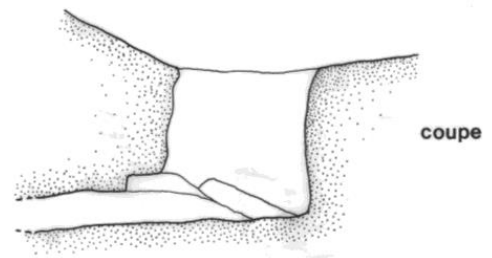


Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

VALLEE DES REINES mars 1988
puits n° 5



VALLEE DES REINES mars 1988
puits n° 6



Drawings: CNRS.

QV 7 – Anonymous

General Description

QV 7 lies on the south side of the main wadi, between the paved visitor path on the wadi floor and the higher footpath to the south. The shaft, which is partially filled with debris, has a modern cemented masonry surround without metal grill or mesh. The tomb has a primary chamber (B) and what has been interpreted to be part of a second chamber (C), shown on the plan that follows.

E. Thomas recorded that QV 7, 8, 9, and 10 were all similar in plan, though QV 7 had an addition that may have been excavated after the tomb was initially completed. The last clearing of the tomb was conducted by the Franco-Egyptian team in 1985-86.

Condition

Chamber (B) consists of a marl slab ceiling with walls generally comprised of shale. The tomb shaft appears stable. The marl ceiling of chamber (B) is extensively fractured, though following assessment, it has been judged to be stable. Silt was observed on the walls of shaft (A) and thick cracked, dried mud on the floor and ceiling of chamber (B), indicating past water infiltration, presumably during the 1994 flood. Trash had accumulated at base of shaft, removed in 2007 and 2008.

Deterioration Factors

Water infiltration has likely impacted the stability of the tomb, particularly affecting the fragile shale into which the tomb is principally excavated. Flooding continues to be a serious threat due to the location of the tomb's unprotected shaft next to the main drainage channel.

General Recommendations

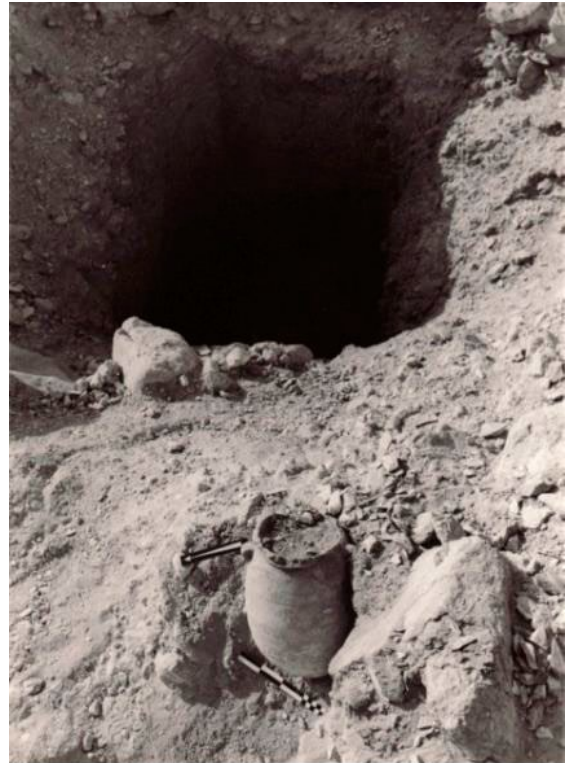
It is recommended that a shaft cover be installed to prevent entry of water, debris, and animals, as well as to ensure visitor safety.

Archaeological Material

None recorded. Nevertheless, archeological material appears to have been recovered adjacent to the tomb entrance (see 1985 photo above).

References

CNRS 1988, 22
Thomas 1966.



Area around shaft during excavation, 1985 (Image: CNRS).



Shaft as it currently appears, with built masonry surround.



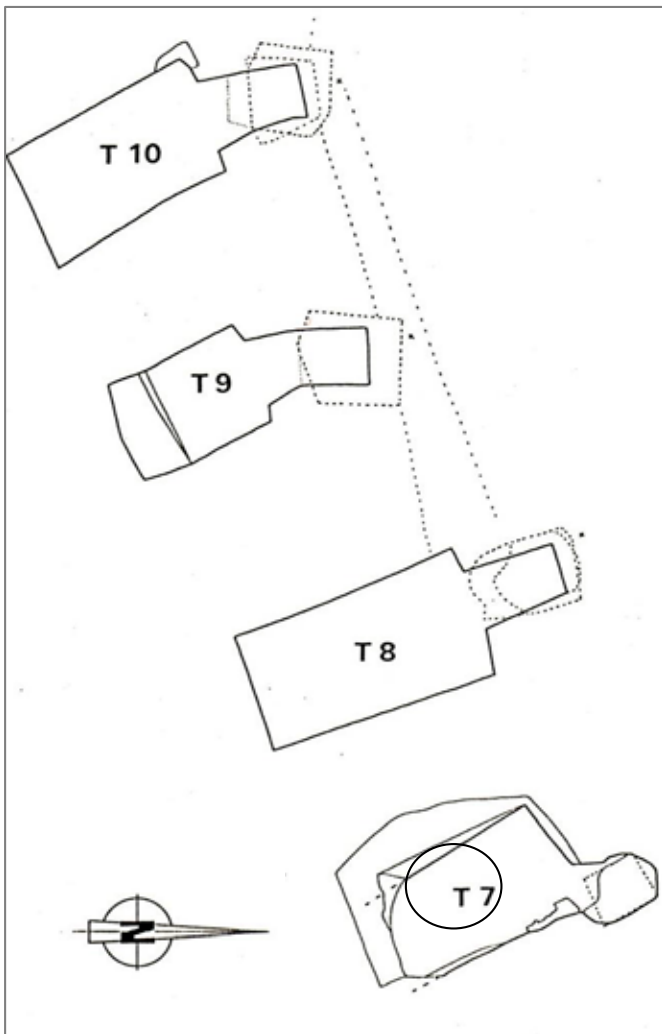
View of main chamber (B) with rock collapse on left.



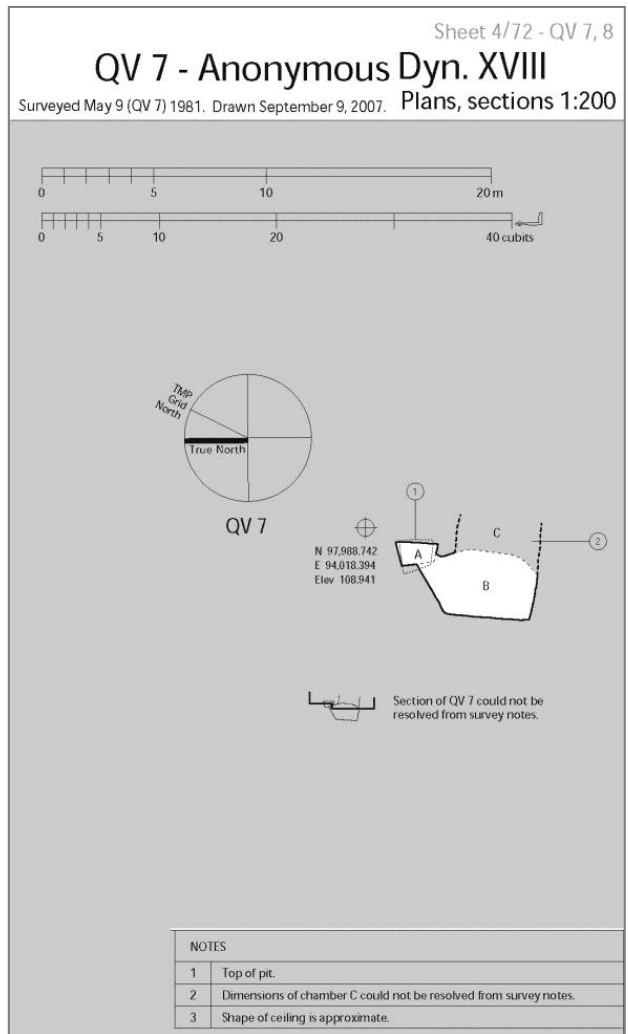
View of shaft from above.



Trash and debris accumulated at base of shaft (removed in 2007).



Drawing: CNRS 1987-1988 (Lecuyot 1988).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 8 – Prince Hori, Anonymous Princess, and Imenousekhet

General Description

QV 8 lies on the south side of the main wadi, between the paved path and the higher footpath to the south. The tomb has one chamber and the shaft has a modern masonry surround with cement plaster spanned by a metal grill.

E. Thomas recorded that QV 7-10 are all similar in configuration. The last clearing of the tomb was conducted by the Franco-Egyptian team in 1984-85. The tomb was not fully cleared when TMP survey was undertaken.

Condition

The tomb generally appears stable. Its shaft and chamber ceiling are marl, and the walls and floor of the chamber are cut into shale that appears to be of a higher quality than that found in adjacent tombs QV 3, 4, 7, and 81. Trash had accumulated at base of shaft, removed in 2007

Deterioration Factors

The tomb opening is susceptible to flooding, endangering the shale of the main chamber.

General Recommendations

It is recommended that a shaft cover be installed to prevent entry of water, debris, and animals, as well as to ensure visitor safety.

Archaeological Material

Removed from tomb by CNRS: six fragmentary mummies; six human skulls, bones of at least thirteen adult individuals and seventeen children; linen shrouds with inscriptions

Study materials cleared by CNRS and SCA in December 2010: 6 bags of bones, 1 bag wood fragments.

References

CNRS 1988, 22
Macke et al. 2002, 27



Shaft entrance with masonry surround. SCA installed a metal grill in December 2009.



Roughly cut shaft of good quality marl.



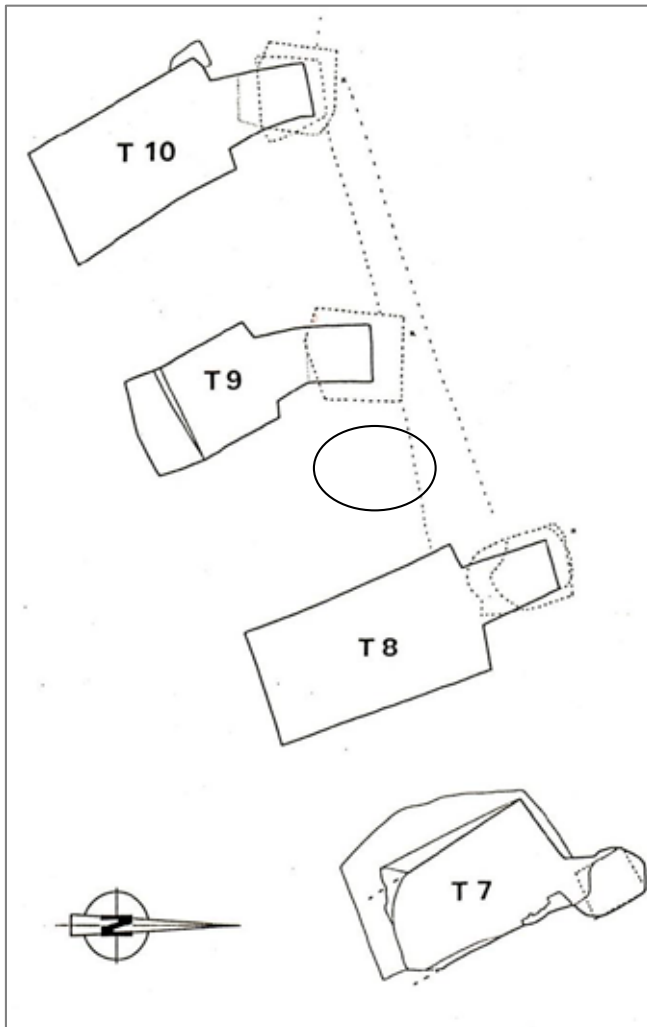
Chamber interior, looking towards the entrance and shaft.



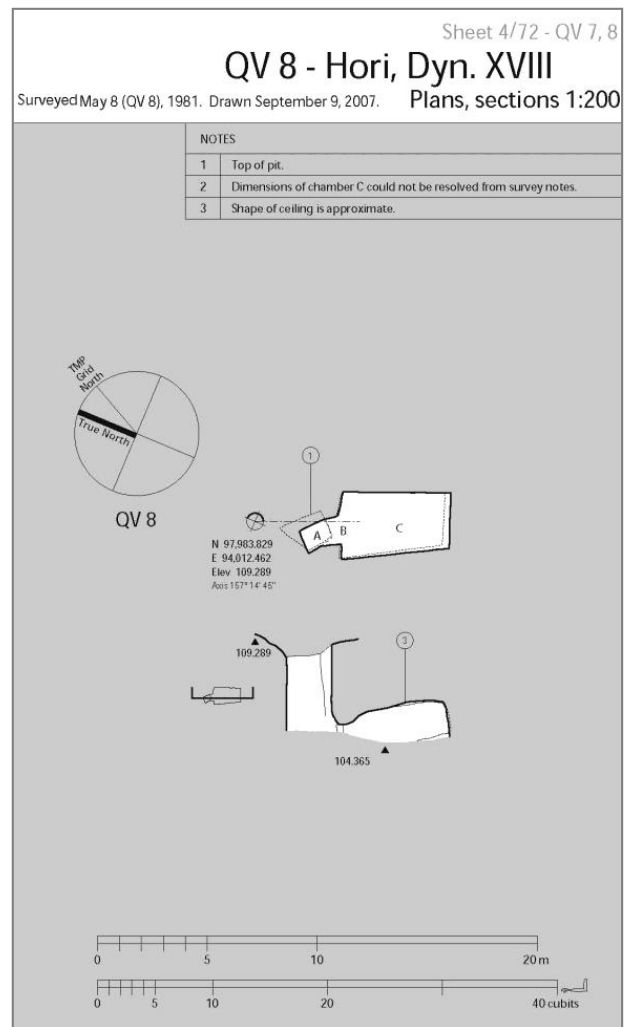
Detail of banded marl and shale in rear wall of tomb chamber, also seen in QV 9.



Accumulation of trash at bottom of shaft.



Drawing: CNRS 1987-1988 (Lecuyot 1988).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 9, 10 – Anonymous

General Description

QV 9 and QV 10 are on the south side of the main wadi, between the paved path and the higher footpath to the south. The tombs have one chamber each and the shaft entrances have modern built surrounds with cement plaster and no metal grill or mesh. QV 9 has a bench cut from the rock in the rear of the chamber

E. Thomas recorded that QV 7-10 are all similar in layout. The last clearing of the tombs was conducted by the Franco-Egyptian team in 1985 (QV 10) and 1986-87 (QV 9).

Condition

Both tombs generally appear stable. They are cut into mixed marl types, with their shafts cut largely into marl but reaching shale layers near their bottoms. The main chamber of both tombs is cut into interbedded layers of marl and fractured shale. Trash littered bottom of shaft.

One bat was seen in QV 9 by the assessment team, and bat urine and droppings were observed in areas of the ceiling of QV 10.

Deterioration Factors

The tomb openings are susceptible to flooding, and the shale of their main chambers is particularly susceptible to damage resulting from flood.

General Recommendations

It is recommended that a shaft cover be installed to prevent entry of water, debris, and animals, as well as to ensure visitor safety.

Archaeological Material

Removed from QV 9 by CNRS: 3 fragmentary mummies; 5 human skulls; bones from at least 10 adult individuals and 9 children.

Study materials cleared by CNRS and SCA in December 2010: 1 crate and 1 bag pottery fragments; 1 bag of wood fragments and linen; 2 bags of bones.

Removed from QV 10 by CNRS bones from at least 9 children and 12 adults; 9 human skulls

Study materials cleared by CNRS and SCA in October 2008: several large jars; 1 bag of linen and avian bones; 1 bag wood; 1 bag pottery.



QV 9 shaft opening with masonry surround.



Rear of QV 9 with rock-cut bench and inter-bedded marl and shale; study material in situ prior to removal by SCA and CNRS.



QV 10 shaft opening with surround.

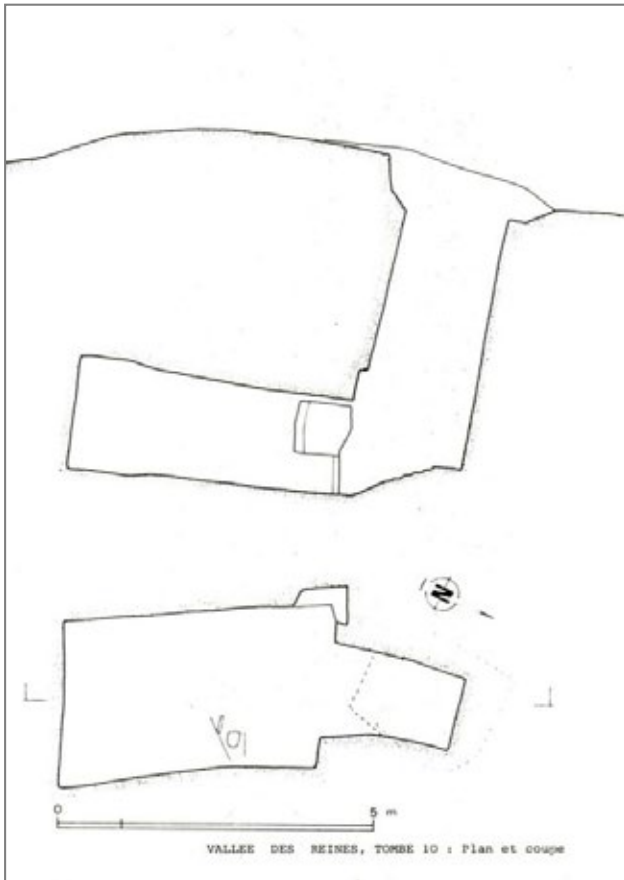


QV 10 chamber with inter-bedded marl and shale; study material in situ prior to removal by SCA and CNRS.

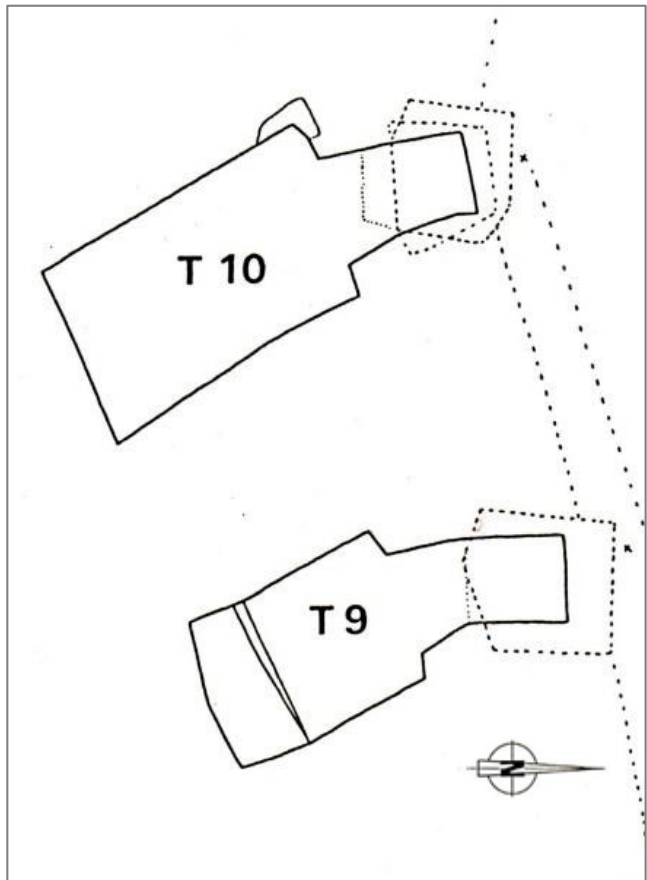
References

Macke et al. 2002, 27.

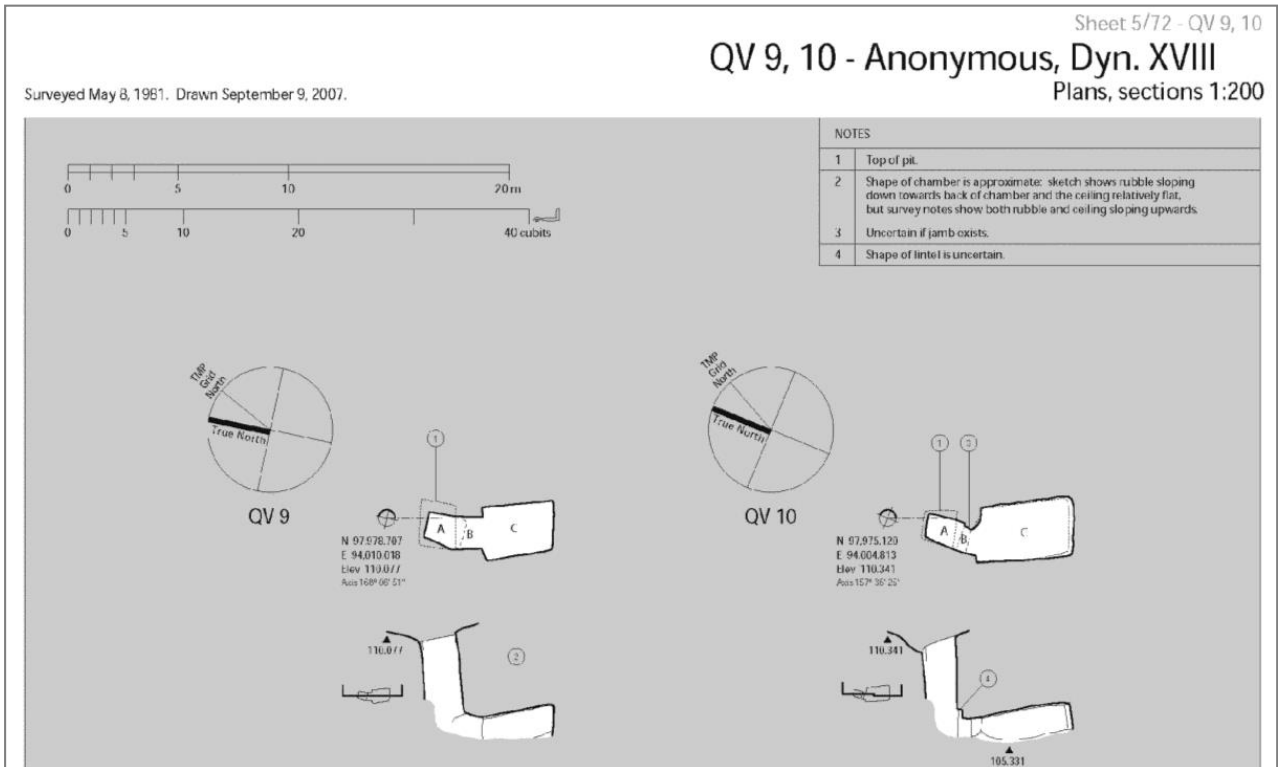
Thomas 1966, 187.



Drawing: CNRS (Lecuyot 1985).



Drawing: CNRS 1987-1988 (Lecuyot 1988).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 11 – Anonymous

General Description

QV 11 lies on the south side of the wadi along the main visitor path, between QV 10 and QV 12 which it adjoins. Unlike most 18th Dynasty tombs, it has a ramp with steps. The entrance has a large modern masonry surround on three sides, such that the ramp remains accessible. QV 11 has two pits dug into the shale floor of chamber (B).

The shaft tomb was recorded by E. Thomas as the “first of the large shafts and large rooms” (1966, 187). She mentions that QV 11 is quite rough and that if there was an original connection between QV 11 and QV 12, the doorway would have been “enlarged from natural causes.” Thomas also mentions an “excavation” in the rear of QV 11, but it is unclear if this refers to one of the two pits in the tomb later explored by the Franco-Egyptian team in 1985-6.

Condition

Excavated into the clay-rich shale of the south side of the wadi, QV 11 has large transecting ceiling fractures running the length and width of the tomb. Upon geotechnical assessment by Hamza Associates, it was recommended that the most prominent of these ceiling fractures should be monitored for future movement. The two pits are cut into poor quality, rust-colored shale with prominent salt veins. An overhang of rock has been shored with a wooden member in the south pit. Both pits have areas of fallen rock. Some wasp nests are present on the rock surface.

Deterioration Factors

The highly fractured nature of both the marl and the shale in the tomb is the principal cause for concern and areas of loss. Due to the proximity of the entrance to the main drainage channel, it is possible that the entry of floodwater may have contributed to deterioration in the tomb, though no direct evidence of previous flooding was observed.

General Recommendations

It is recommended that a secure surround be built and door installed at the entrance to the chamber to prevent entry of floodwater, debris, and animals. A sill wall at the top of the ramp and increasing the height of the surround would serve to further protect the tomb.



Tomb entrance with ramp and partial surround.



Passage into QV 12 as seen from Chamber B with west pit in foreground; a wall of friable shale to the right.



Rock overhang in south with shoring below.

The ceiling fractures in chamber (B) should be monitored at regular intervals, at least once a year. Interventions must be coordinated with those of QV 12 since the two tombs are connected.

Archaeological Material

Removed by CNRS: 48 human mummies; 33 skulls; 25 mandibles; bones from at least 117 adults and 29 children; 4 canopic vessels.

Study materials cleared by CNRS and SCA in October 2008: potsherds, plaster and wooden fragments.

References

CNRS 1987-1988, 26.

Macke et al. 2002, 27.

Lecuyot 1987, 28.

For drawings of QV 11, see QV 12 assessment that follows.



Ceiling fracture in chamber (B) near arrow.

QV 12 – Anonymous

General Description

The single-chambered QV 12 lies on the south side of the wadi along the main paved path, adjacent to QV 11, which it adjoins through the southeast corner of the chamber. The entrance is in front of QV 16 with a modern cement-coated masonry surround with no protective metal grill or mesh.

The shaft tomb was recorded by E. Thomas as adjoining QV 11, although she questions whether the opening is original. The tomb was last cleared by the Franco-Egyptian team in 1986-7. Given the nature of the archaeological material, the individual originally interred in the tomb was likely of an elevated rank.

Condition

Like its adjoining neighbor, QV 12 is cut into intercalated beds of differing quality rock: orange-brown shale, grey clay-rich marl, and white marl. Much of the rock is loose or detaches easily. Some areas of rock show signs of blackening. Nevertheless, following the assessment of this tomb, it appears to be in generally stable condition. A layer of fine silt over the floor of the tomb suggests flooding from the 1994 rains. Some wasp nests are also present on the rock surface.

Deterioration Factors

The poor quality of some of the rock in the tomb is the principal cause for areas of loss. Floodwater entering the tomb has likely contributed to the deterioration of the tomb in the past.

General Recommendations

It is recommended that a shaft cover be installed to prevent entry of rain, floodwater, debris and animals.

Archaeological Material

Removed by CNRS: 5 fragmentary mummies; 7 human skulls; bones from at least 12 adults and 5 children; golden tip of a scepter inscribed with the name of Thutmosis II.

Study materials cleared from QV 12 by CNRS and SCA in December 2010: 2 crates of bones and linen wrappings; 3 large ceramic jars.

References

Macke et al. 2002, 27.
CNRS 1987-1988, 26.



Shaft entrance with masonry surround.



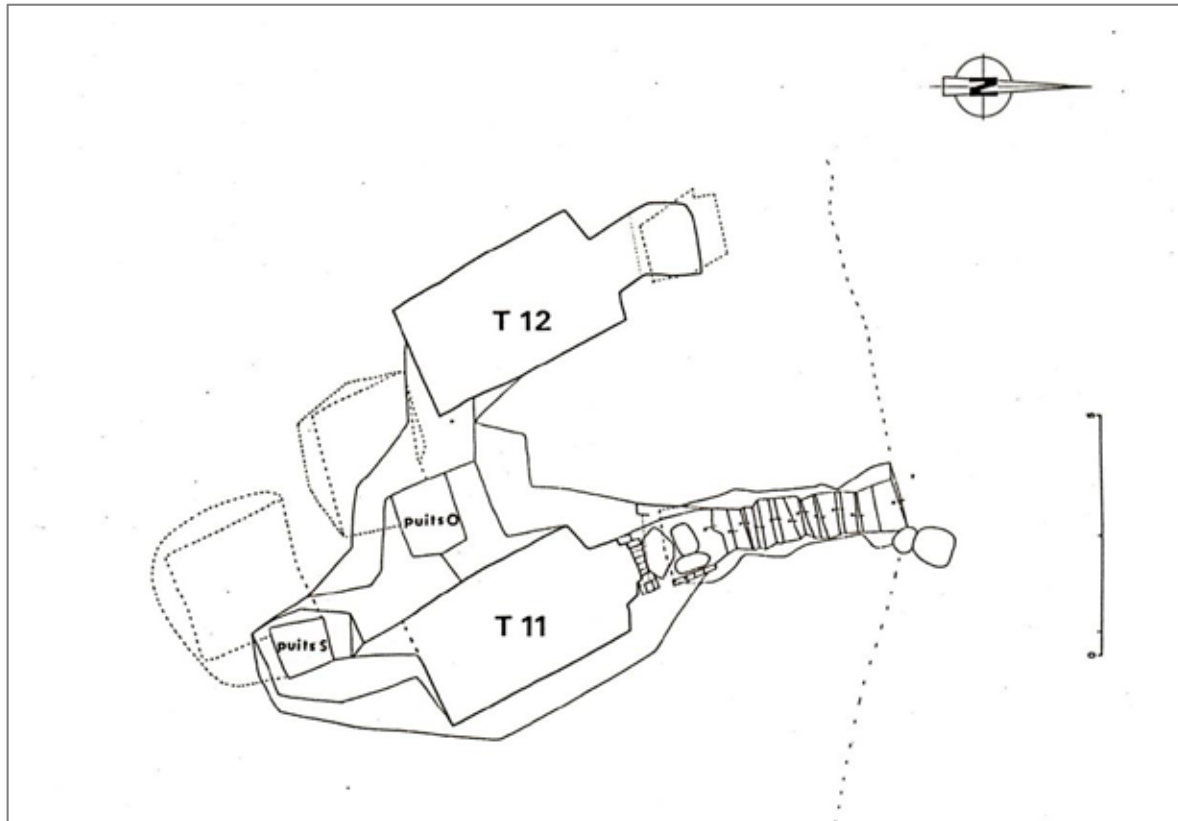
Overview of chamber (B) with bands of different rock types.



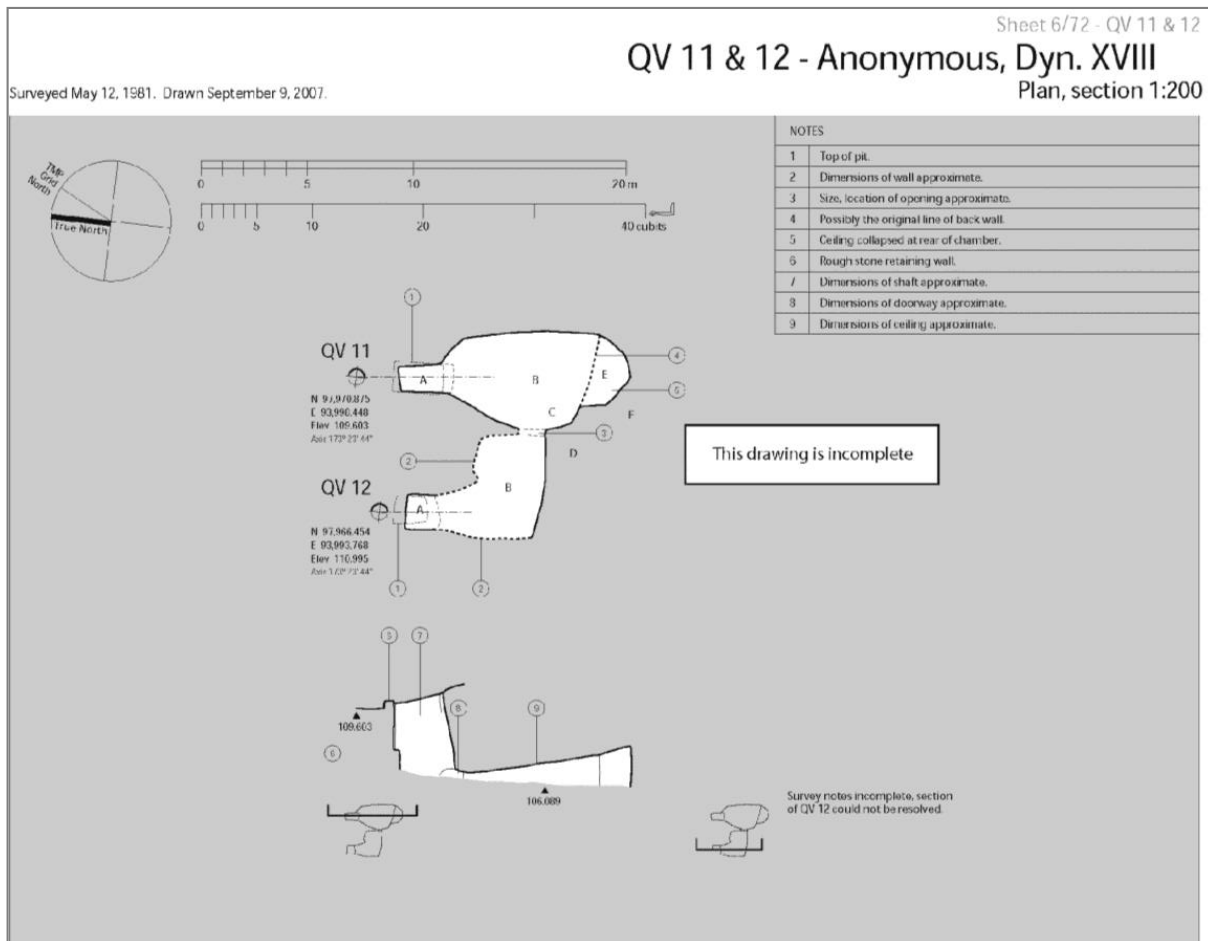
Detail of rock on west wall of tomb, with some surface blackening.



Passage connecting to QV 11.



Drawing: CNRS 1987-1988 (Lecuyot 1988).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 13 – Anonymous

General Description

QV 13, a two-chambered tomb, is located on the south side of the wadi, adjacent to the secondary footpath to the south of the main visitor path. The entrance has no built surround or any other enclosure. The rock into which the tomb is cut is fractured.

E. Thomas noted that QV 13 was the first of the "tandem" tombs, characterized by the layout of two consecutive chambers, the rear often larger than the first. She further noted that the tomb, though more complex in layout, is "small and rough" and impacted by the poor quality of the rock from which it was cut. The tomb was last cleared by the Franco-Egyptian team in 1984-85.

Condition

Chambers (C) and (E) consist of inter-bedded shale and marl, with marl ceilings. The rock of the entire tomb is highly fractured. The tomb generally appears stable, with no signs of fallen rock, although the upper area of the passage between chambers (C) and (E) appears in particularly poor condition. Following a geotechnical assessment by Hamza Assoc. in December 2009, the tomb was deemed to be in stable condition. The ceilings of chambers (C) and (E) are blackened. Bird and wasp nests were observed in the tomb.

Deterioration Factors

The poor quality of rock in parts of the tomb is the principal cause of areas of loss.

General Recommendations

As installation of a shaft cover is not feasible due to the nature of the opening, it is recommended that the shaft be plugged to prevent entry of water, debris, and animals, as well as to ensure visitor safety.

Archaeological Material

Removed by CNRS: 23 human skulls; 68 fragmentary mandibles; 4 fragmentary mummies

Study materials cleared from QV 13 by CNRS and SCA in December 2010: several fragmented human and animal bones; fragments of human mummies; 1 restored pottery vessel.



Tomb entrance.



Overview of chamber (E) showing fractured and blackened rock.



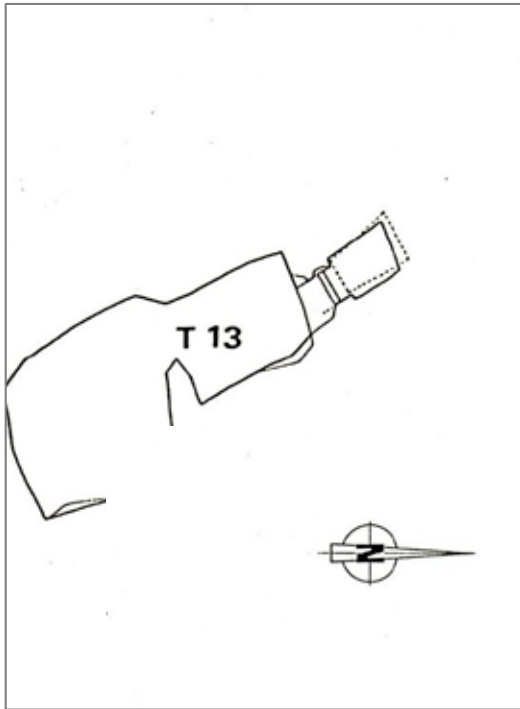
Chamber (C) looking toward chamber (E) with fractured doorway (D) between.



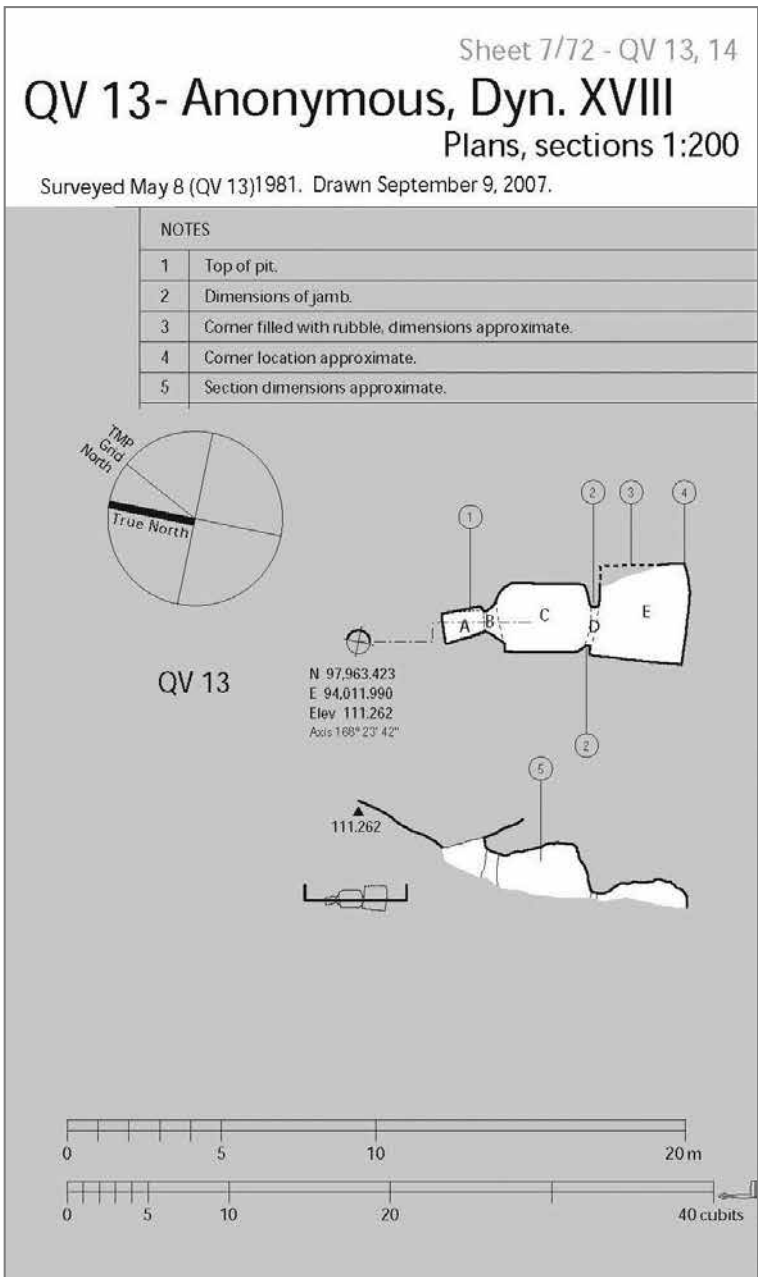
Detail of passage (D) and active bird nest with eggs (arrow).

References

Macke et al. 2002, 27.
 Thomas 1966, 187.



Drawing: CNRS 1987-1988 (Lecuyot 1988).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 14 – Anonymous

General Description

QV 14 lies on the south side of the main wadi along the secondary footpath, opposite QV 13. It consists of a shaft leading vertically to one chamber. The shaft entrance has a modern masonry surround.

E. Thomas was only able to “estimate” the tomb’s subterranean layout, but called it a “well cut pit.” The tomb was last cleared by the Franco-Egyptian team in 1986, who observed that the debris in the tomb was cemented to the floor due to previous water infiltration. They also found evidence suggesting that the tomb was reused during the Third Intermediate Period and possibly during the Roman Period as well.

Condition

The tomb is excavated from extensively fractured rock, although it generally appears stable. The shaft and ceiling of the main chamber are composed of marl, and all the rock of the main chamber below the ceiling is shale, slightly orange in color.

Deterioration Factors

The tomb opening is in a position that could be vulnerable to flooding, and the shale of its main chamber is particularly susceptible to damage resulting from flood.

General Recommendations

Installation of a shaft cover is recommended to prevent entry of floodwater, debris, and animals.

Archaeological Material

Removed by CNRS: fragments of funerary objects; pottery sherds; fragments of a burned wooden sarcophagus; bone fragments.

Study material cleared from QV 14 by CNRS and SCA in December 2010: 3 boxes and 3 bags of pottery sherds, 1 bag of bones.

References

CNRS 1987-1988, 150.
Thomas 1966, 187.



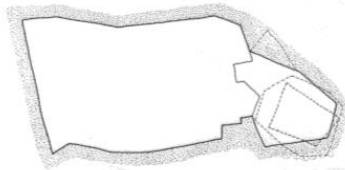
Tomb entrance with surround.



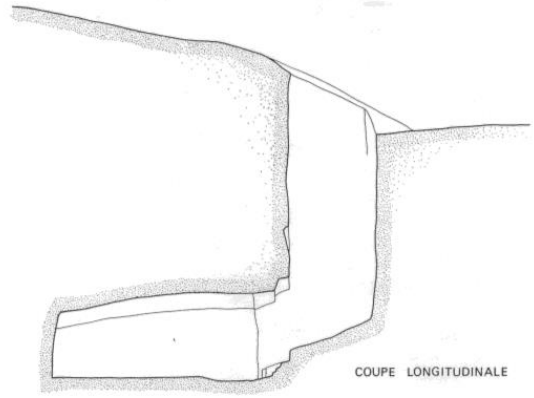
View of the shaft from above.



View of main chamber with boxes of study materials. Note marl rock of ceiling and shale below.



PLAN



COUPE LONGITUDINALE



Drawings: CNRS.

Sheet 7/72 - QV 13, 14

QV 14 - Anonymous, Dyn. XVIII

Plans, sections 1:200

Surveyed May 7 (QV 14), 1981. Drawn September 9, 2007.

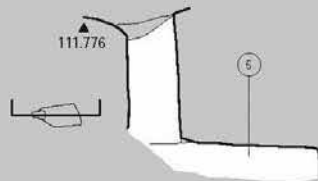
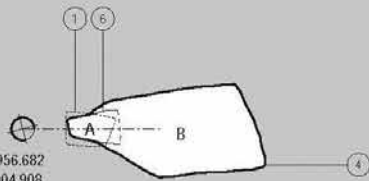
NOTES

1	Top of pit.
2	Dimensions of jamb.
3	Corner filled with rubble, dimensions approximate.
4	Corner location approximate.
5	Section dimensions approximate.
6	Shape and dimensions of opening approximate.



QV 14

N 97,956.682
E 94,004.908
Elev 111.776
Azim 265° 13' 22"



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 15, 16 – Anonymous

General Description

QV 15 and 16 lie on the south side of the Valley, on the upper slope of a small ridge. They are connected in the middle, creating one large continuous subterranean space. QV 15 is the larger of the two with two consecutive side chambers leading to a lower shaft and chamber. QV 16 has two chambers set perpendicularly. QV 15 has a typical shaft entrance with masonry surround; QV 16 is accessible through a steep, rough ramp.

E. Thomas considers both tombs to be "tandem" in their layout, indicating that consecutive chambers make up the tomb. She notes the presence of small pits 2m deep in both tombs and records the presence of bats in QV 15. Thomas suggests that these tombs may have been examined by Schiaparelli, since the fill is more irregular than usual, with at least one apparent localized excavation. The tombs were last cleared by the Franco-Egyptian team in 1987 (QV 15) and 1985-86 (QV 16). Based on the archaeological material recovered, QV 15 was reused at least twice, during the Third Intermediate Period and during the Roman period.

Condition

As evident from the exterior of QV 16, the tombs are cut into differing marl types. The entrance is cut into shale lying below a bed of highly fractured, less clay-rich marl. On the interior of both tombs, both rock types are visible. Fracturing of the ceiling and localized rock loss are evident throughout the tomb. Blackening of some of the rock surface is also present. Trash littered the chamber floor.

Previous efforts to stabilize loose rock with mortar are evident, particularly around the entrance of QV 16.

The lower shaft in the rear of QV 15 is host to a large community of bats, estimated at around 100 in February 2008. A similar number were present in December 2009. Droppings are visible throughout the tomb.

Deterioration Factors

The inherent weakness of the rock and its susceptibility to moisture have led to rock fracturing and localized loss. Blackening of the rock surface was presumably caused by fire.



QV 15 entrance with masonry surround.



QV 16 entry shaft showing cream-colored fractured marl above grey shale (above); detail of shale (below).



View of interior of QV 16, with connection to QV 15 (center).

General Recommendations

Both tombs were geotechnically assessed in December 2009 by Hamza Associates. QV 16 was found to be stable. Likewise, QV 15 is generally stable, though there is a delaminated shelf in the ceiling of chamber (C) that should be regularly monitored. Since the tombs have long been home to colonies of bats and it is a goal of the project to leave some already inhabited tombs open to bats, which are important for the local ecology, it is recommended that QV 15 have a shaft cover that allows bat access, while the entrance to QV 16 be plugged. If the bats are to remain only in QV 15, a barricade wall must also be built to separate the two tombs.

Archaeological Material

Removed by CNRS: 77 fragmentary mummies, 74 skulls, bones representing at least 204 adults and 36 children; fragmented animal bones; pottery sherds.

Study materials cleared from QV 15 by CNRS and SCA in October 2008: crates and stacks of mummies, animal bones, pottery sherds; cleared from QV 16: bags and crates of mummy parts, bones, wood fragments.

References

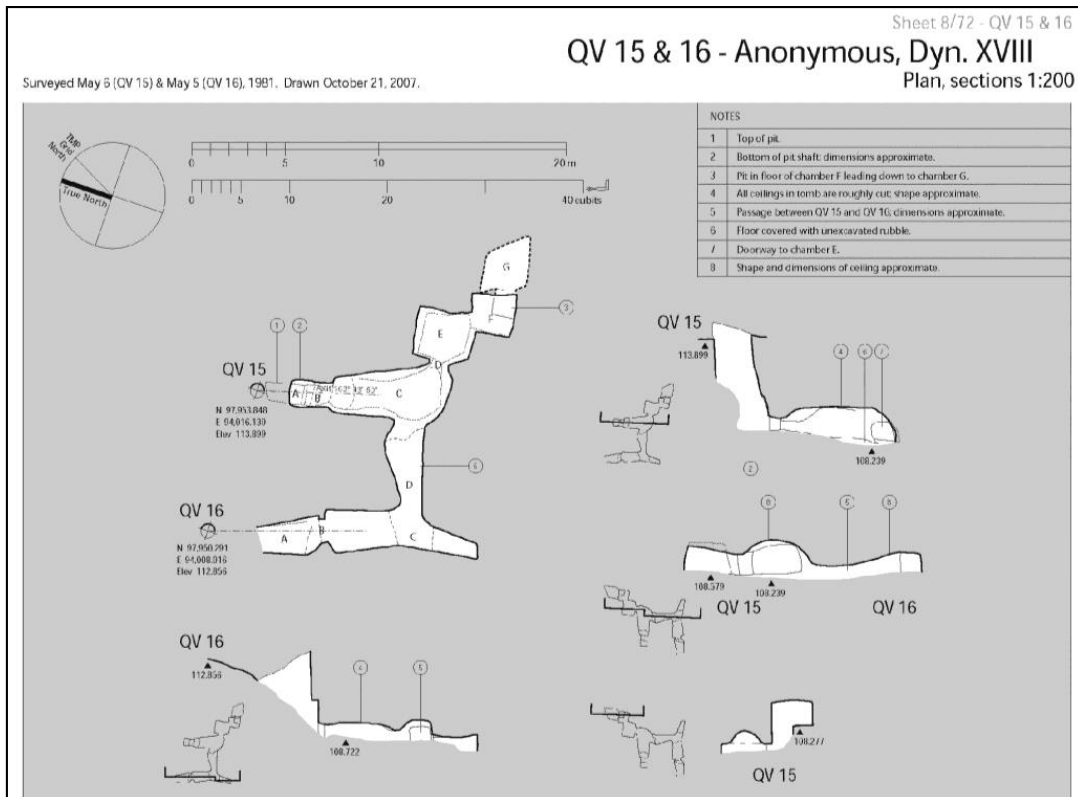
- CNRS 1987-1988, 27.
- Macke et al. 2002, 28.



View of QV 15; rock staining visible with localized loss, trash in foreground.



Delaminated shelf (arrow) in the ceiling of QV 15 chamber (C).



Drawing:
 Surveyed by
 TMP in 1981
 and digital
 CAD
 drawings
 commission
 ed by GCI in
 2007.

QV 17 – Merytra (I) and Urmerutes

General Description

QV 17 is a single-chambered tomb located on the south side of the main wadi and visitor path, behind a low natural mound into which a number of tombs are cut. The shaft has a modern masonry and cement surround at its opening, spanned by a metal grill.



Shaft entrance with masonry surround.

E. Thomas was unable to enter the tomb, but noted that it had relatively little debris in its shaft and a typical layout, although with an atypically large main chamber. She suggested that the Schiaparelli mission may have cleared this tomb. The tomb was last cleared in 1986 by the Franco-Egyptian team, who speculate that the tomb may have been thoroughly pillaged in antiquity.



Main chamber, looking towards entrance.

Condition

The tomb is cut into marl of consistently good quality, and it appears to be in stable condition. Nevertheless, the ceiling and east wall of the main chamber are fractured, isolating some slabs of rock that are potentially unstable.



Main chamber, with pile of human remains and stones visible at the rear.

Localized rock staining associated with bat activity is evident, although no bats were recorded by the assessment team. There were many wasp nests.

Deterioration Factors

The tomb opening is in a location adjacent to a side drainage, and its rock is susceptible to damage if flooded.

General Recommendations

It is recommended that a shaft cover be installed over the built surround to prevent entry of floodwater, debris, and animals.

Archaeological Material

Removed by CNRS: fragments of human and animal bones; scarab; fragments of inscribed canopic vessels.

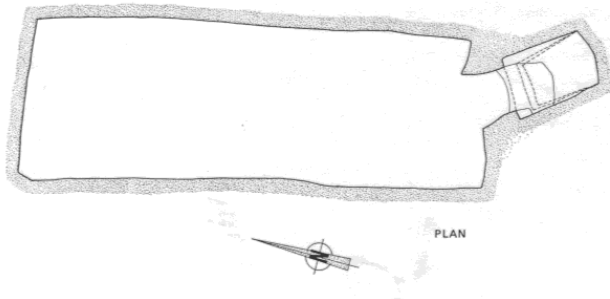
Study materials cleared by CNRS and SCA in December 2010: large piles of sorted mummified human remains, 5 bags bones, 3 baskets pottery, 2 bags of wood.



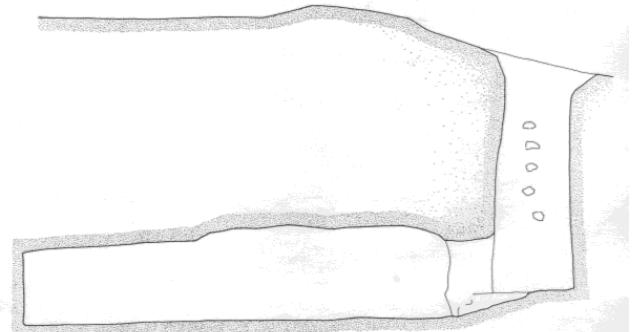
Shaft with ladder and remnants of wasps nests in foreground.

References

CNRS 987-1988, 154.
Loyrette 1987, 38-42.



PLAN



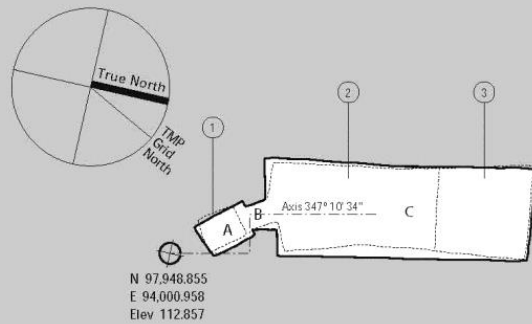
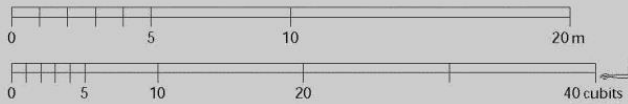
COUPE LONGITUDINALE

Drawings: CNRS

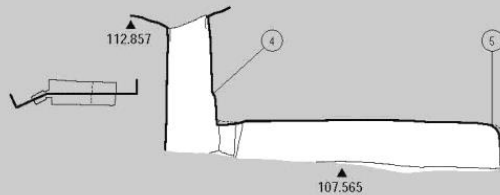
QV 17 - Merytra (I) & Urmerutes, Dyn. XVIII

Plan, section 1:200

Surveyed May 7, 1981. Drawn September 9, 2007.



N 97,948.855
E 94,000.958
Elev 112.857



NOTES

1	Top of pit.
2	Ceiling broken at front of chamber C.
3	Ceiling preserved at rear of chamber C.
4	Bulge in pit wall; shape approximate.
5	Sloped corner; dimensions approximate.

Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 18 – Anonymous

General Description

QV 18 is a single-chambered tomb located on the south side of the main wadi, behind a low natural mound into which a number of tombs are cut. It lies above the footpath path to the south of the main path, and was adjacent to the old electricity building before that building was removed. The relatively deep shaft has a modern cemented masonry surround spanned by a metal grill.

E. Thomas was unable to enter the tomb, but noted that it contained a small amount of debris fill and had a typical layout. She suggested that the Schiaparelli mission may have cleared it. The tomb was last cleared in 1987-88 by the Franco-Egyptian team. Based on the archaeological material recovered at that time, it appears that the tomb was constructed during the reign of Amenhotep III and was probably reused during the Third Intermediate Period.

Condition

The tomb is generally stable, though the rock surface in the chamber is extensively blackened, which hindered identification of the rock type and condition. It appears that most of the tomb is composed of marl, although there is shale at the bottom of the east and south parts of the chamber. The ceiling of the chamber is extensively fractured.

At least one bat was recorded by the assessment team and accumulated droppings on the floor are evidence of long-term habitation. A bird's nest was also noted in the shaft and an old wasp nest in the main chamber. Trash littered the floor of the shaft and entry to the main chamber, removed in 2007.

Deterioration Factors

While the location of the tomb's opening is relatively high up from the bottom of the side drainage created by the footpath, the shale within the tomb is susceptible to damage if flooded.

General Recommendations

It is recommended that a shaft cover be installed over the built surround to prevent entry of floodwater, debris, and animals.



Shaft entrance with masonry surround and young palm (since removed).



Proximity of entrance to old generator building (since removed).



Debris and trash have accumulated at bottom of shaft.



Chamber interior with blackened surface and trash on floor.

Archaeological Material

Removed by CNRS: wooden sarcophagus mask; burnt sarcophagus fragments; scattered human remains.

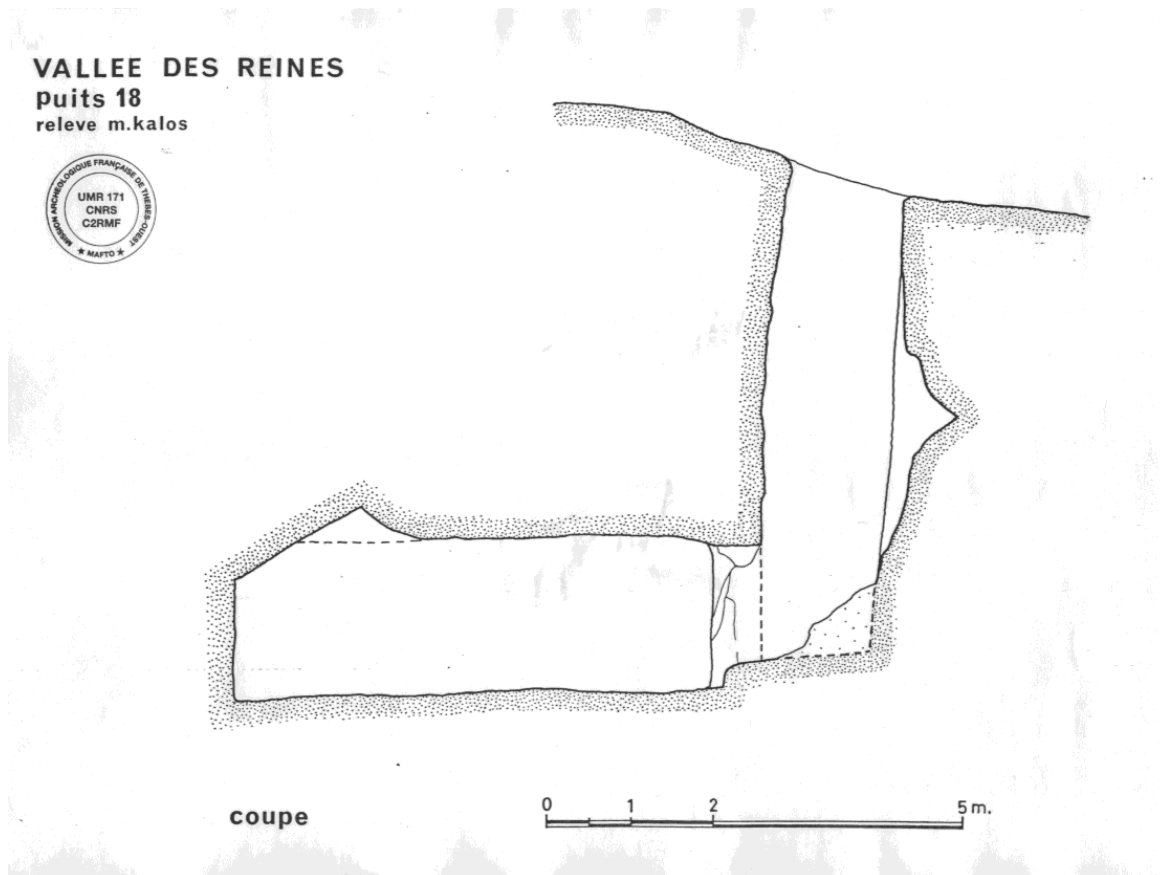
Study materials cleared from QV 18 by CNRS and SCA in December 2010: 5 bags and 2 crates of pottery; 2 bags and 2 crates of bones.

References

CNRS 1987-1988, 160-167.



Bird nest in shaft (above) and bat roosting (below).



Drawing: CNRS.

QV 19 – Anonymous

General Description

QV 19 is a single-chambered tomb located on the south side of the main wadi. It lies atop a low mound along a secondary footpath and its chamber is perpendicular to and partially overlies the chamber of QV 20. The shaft has a modern masonry surround spanned by a metal grill or mesh.

E. Thomas was unable to enter the tomb, but noted that it had little debris fill and a typical layout, although its chamber was atypically large. She suggested that the Schiaparelli mission may have cleared this tomb. The tomb was last cleared in 1987 by the Franco-Egyptian team.

Condition

The entire tomb is cut into relatively good quality marl, and appears generally stable. However, there is significant fissuring through the chamber both along its length and width, with substantial separation of rock at the upper rear wall of the chamber and within the shaft. One prominent fissure occurs midway between the entrance and the rear wall, extending continuously through the floor, ceiling, and both walls. This fissure was also noted by the Franco-Egyptian team at the time of their clearing campaign. Since the rear half of QV 19 is immediately above the chamber of QV 20, the tomb was evaluated for signs of slumping and delamination by Hamza Associates. Joint planes throughout the tomb, including this fissure, appear to be a local manifestation of a more extensive movement in the bedrock, and no signs of ceiling slumping in QV 20 are evident.

Wasp nests are present on the surface of the rock, particularly the ceiling.

Deterioration Factors

Provided that QV 20 remains stable, QV 19 will also remain in stable condition.

General Recommendations

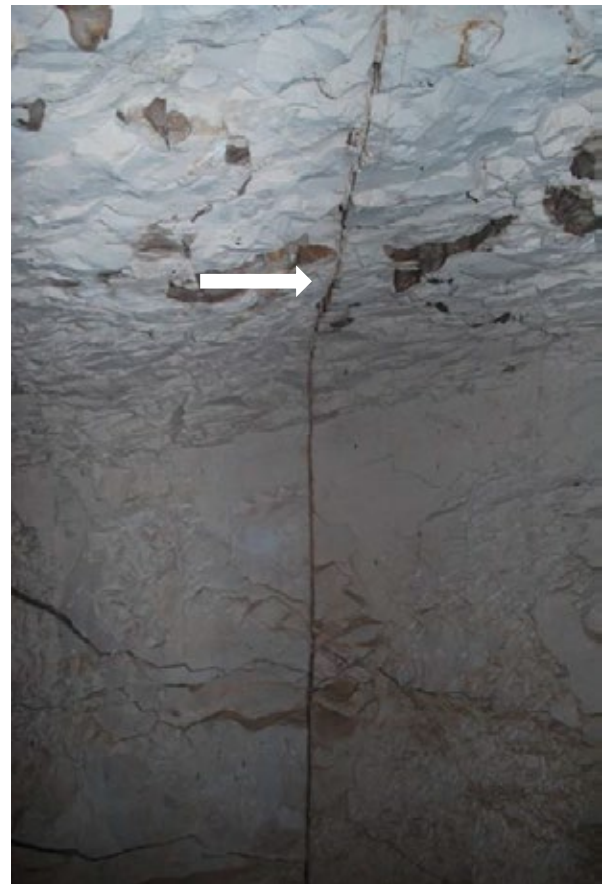
It is recommended that a shaft cover be installed over the built surround to prevent entry of floodwater, debris, and animals.



Shaft entrance with masonry surround.



Main chamber, looking towards entrance.



Fissure (indicated by arrow) extends continuously through the floor, ceiling, and both walls.

Archaeological Material

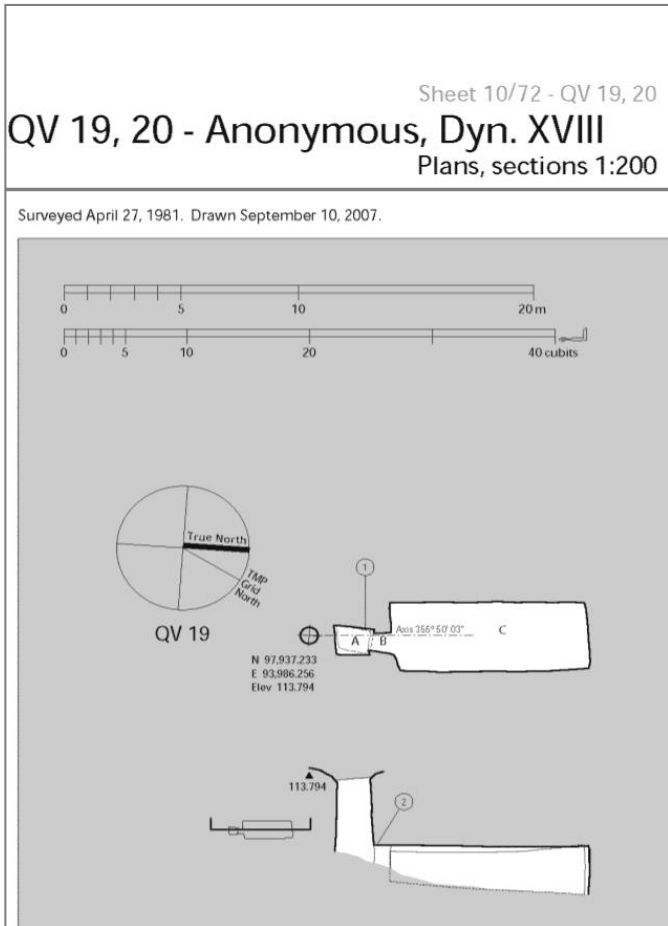
Material cleared from QV 19 by CNRS and in December 2010: a few fragmented human bones and mummy wrappings.

References

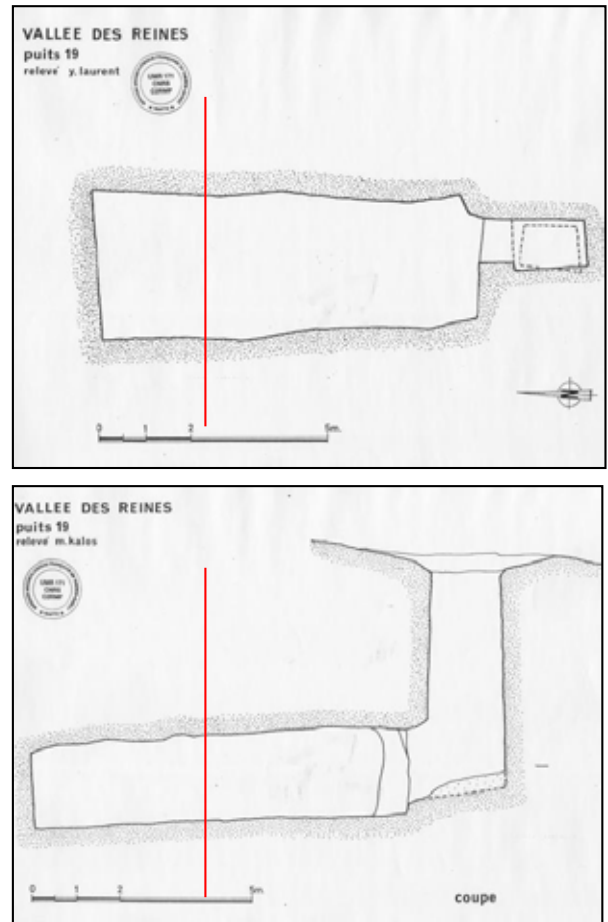
CNRS 1987-1988, 27.



Lateral displacement of chert nodule divided by fissure indicates movement along the fault plane mentioned above.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawings: CNRS. Approximate location of fissure shown above in red

QV 20 – Anonymous

General Description

QV 20 is located on the south side of the main wadi, along the principal visitor path, and partially underlies QV 19. The tomb has two long chambers side by side with an original connecting passageway now almost destroyed because of partial collapse of the interior wall and related rock fall. The deep shaft has well cut hand or foot holds on one side. The shaft has a modern masonry surround with cement plaster, spanned by metal grills with torn mesh.

E. Thomas described QV 20 as one of the largest tombs with a large, well cut shaft, and probable royal association. She speculated that Schiaparelli began working there, since she found few potsherds. The Franco-Egyptian team last cleared the tomb in 1986. During the course of their efforts, they noted that the precarious state of the walls and ceiling in the tomb prevented them from systematically clearing it in its entirety.

Condition

The tomb is cut into rock of varying quality, comprising orange-brown shale and cream-colored marl. The shale is highly fractured and collapsing into large piles. Large blocks of marl have also fallen from the ceiling and interior wall. Localized, but substantial salt efflorescence is present on rock surfaces. Although no direct evidence of flood entry has been found, anecdotal evidence indicates severe flooding and resulting rock collapse, heard from above after water was pumped out following the 1994 flood.

Despite the dramatic deterioration of the rock in the tomb, QV 20 is considered stable according to a geotechnical assessment conducted by Hamza Associates in December 2009, provided that floodwaters no longer enter the tomb. Nevertheless, since QV 19 is located directly above the rear portion of QV 20, a bi-annual inspection to monitor for signs of settlement in the ceiling of QV 20 is recommended.



Tomb entrance with masonry surround and metal grill.



Tomb shaft with cut hand or foot holds, visible within the oval.



Adjacent beds of marl (top) and shale (bottom).



Rock piles associated with collapse of interior walls.

Deterioration Factors

The inherently poor quality of the rock in the tomb and the impact of flood waters are the principal causes for deterioration.

General Recommendations

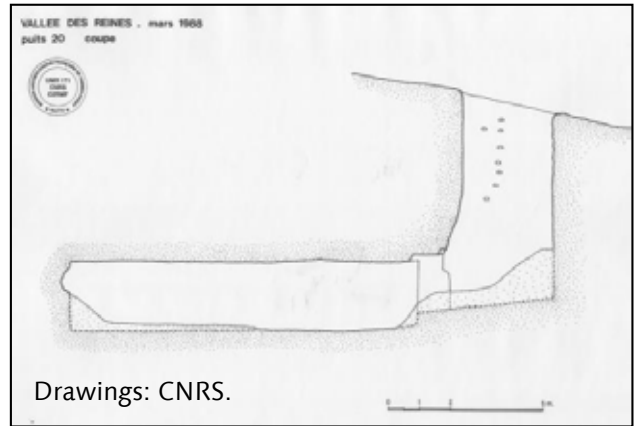
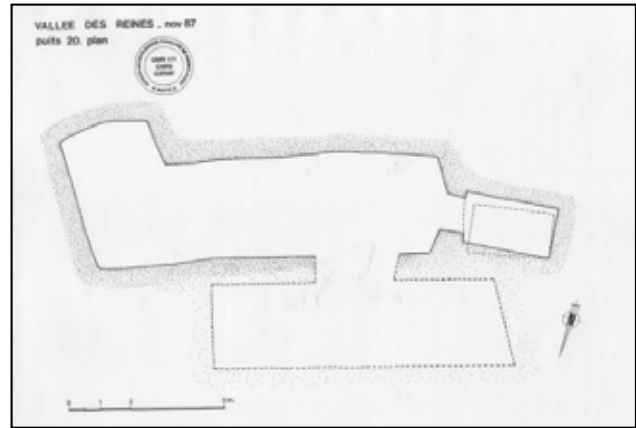
Because of the quality of the shaft, the clear hand or foot holds, and its proximity to the visitor path, it is recommended that the shaft surround be left open with a metal grill for visitor viewing from above. The surround will need to be raised to prevent entry of floodwater and debris and bi-annual monitoring will be undertaken to ensure that there is no settlement in the ceiling in the rear portion of the tomb.

Archaeological Material

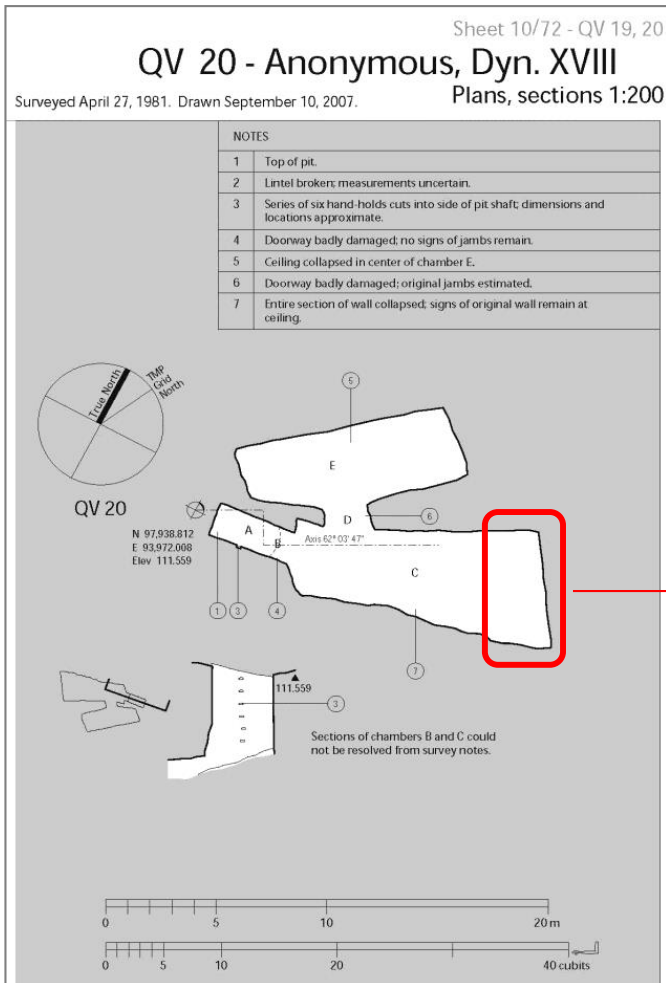
The Franco-Egyptian team noted that their investigations were impeded by extensive debris from ceiling/wall collapse, and thus there were no significant archaeological finds.

References

CNRS 1987-1988, 28.



Drawings: CNRS.



Approximate area where QV 19 overlaps QV 20

Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 21 – Anonymous

General Description

QV 21 lies on a slight slope on the south side of the wadi, along the principal pathway. It has two elongated chambers (C) and (E) on different axes. The shaft has a cement-coated masonry surround at its opening as well as a metal grill with mesh.

E. Thomas described this tomb as one of the “crosswise” tombs, with a unique plan. Thomas reported that the tomb was well cut in good rock, with a deep shaft. At the time of her visit, a number of objects were present. The tomb was last cleared in 1986 by the Franco-Egyptian team. Based on the archaeological material they recovered, the tomb appears to have been reused during the Third Intermediate, Roman and Coptic periods. Previous efforts conducted by the Egyptian Antiquities Organization to stabilize the rock walls and ceiling with mortar are evident throughout the tomb and shaft.

Condition

The tomb is cut into an area of intersection of two different types of rock: shale and marl. The horizon between the two rock types runs throughout the tomb, and is relatively vertical in chamber (E). Fracturing and loss of both types of rock are widespread throughout the tomb. A geotechnical assessment was conducted by Hamza Associates in December 2009, and the tomb was deemed to be structurally sound.

Bat droppings were observed in the tomb.

Deterioration Factors

Given its proximity to the main wadi, QV 21 is susceptible to flooding, and flood waters last entered the tomb in 1994. The rock throughout the tomb is extensively fractured, and the shale in particular has deteriorated following exposure to water. The relatively vertical bedding planes of the rock in chamber (E) has allowed gravity to accelerate the rate of decay.

General Recommendations

A shaft cover should be installed over the built surround to prevent entry of floodwater, debris and animals.



Shaft entrance with masonry surround, metal grill and mesh.



Doorway (D) between chambers (C) and (E).



Chamber (E) showing relatively vertical interface between two rock types: dark shale on the left (with mortar interventions) and lighter marl on the right.



Detail of interface between marl and shale.

Archaeological Material

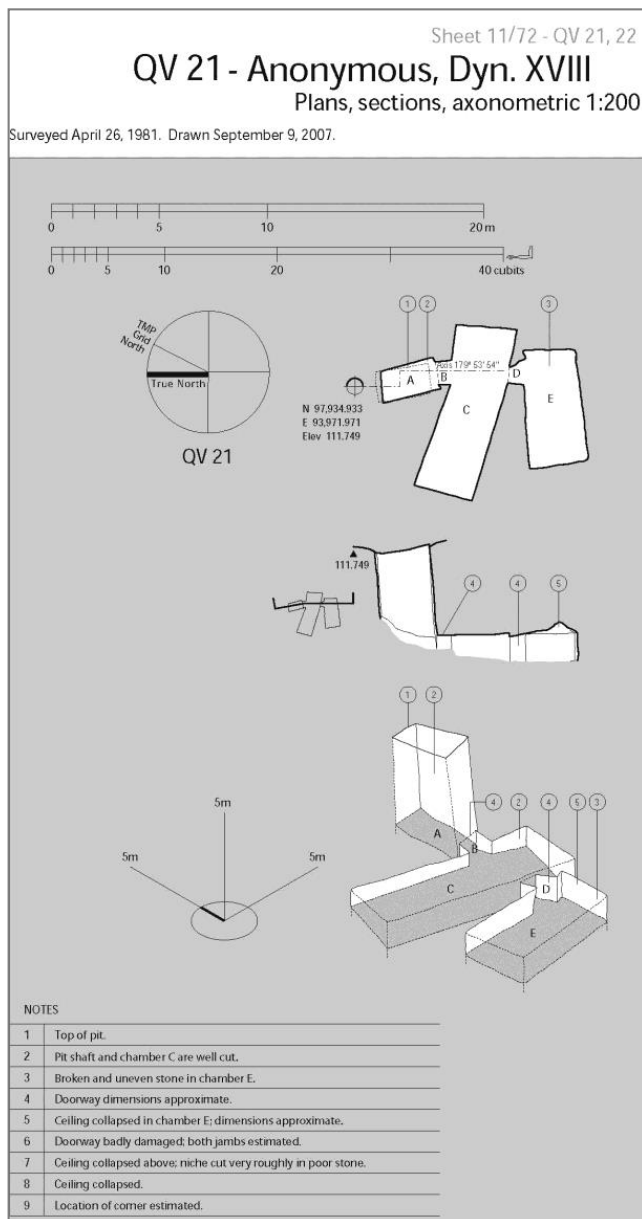
Observed by Thomas: bones, potsherds, pieces of a limestone canopic vessel.

Removed by CNRS: 1 mummy (Third Intermediate Period); pottery assemblage.

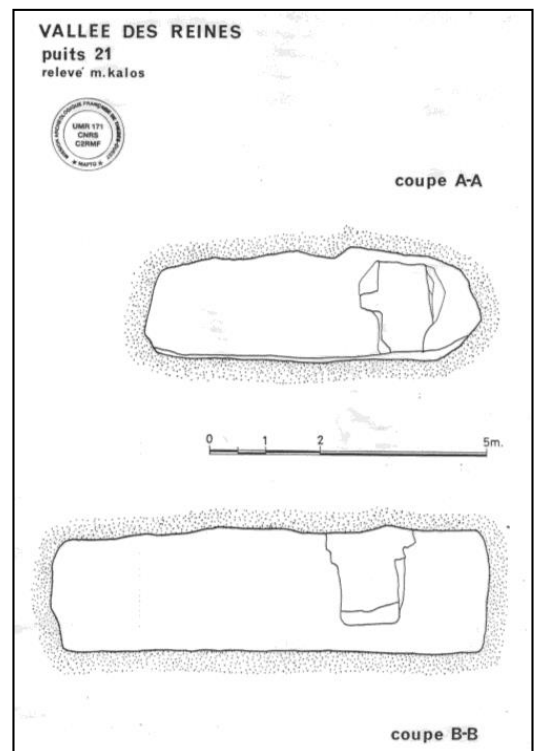
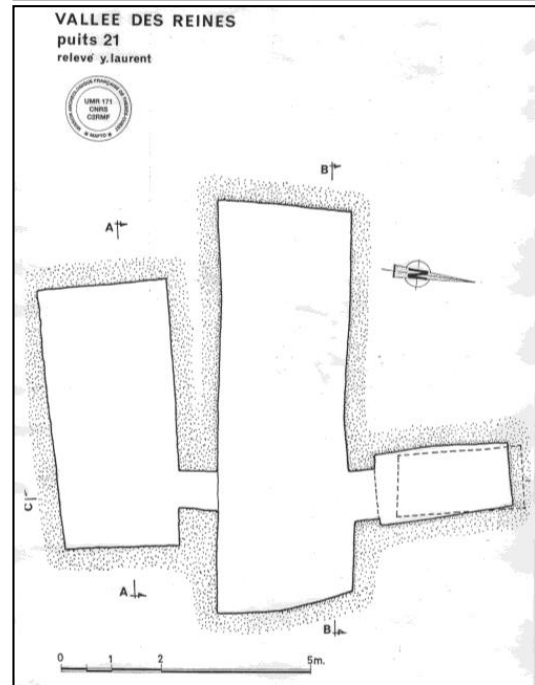
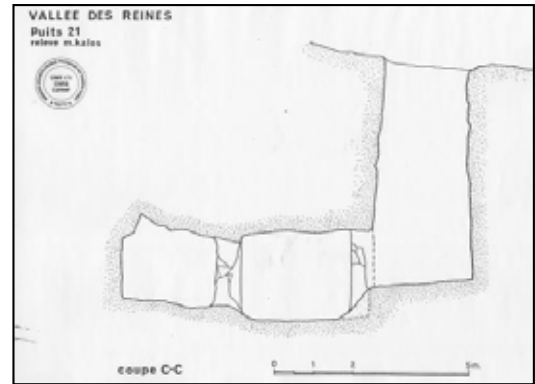
Study materials cleared from QV 21 by CNRS and SCA in October 2008: 12 boxes, 22 bags of pottery/bones, and 2 crates of pottery.

References

- CNRS 1987-1988, 28.
- Macke, Macke-Ribet, Leblanc, and Connan 2002, 28.
- Thomas 1966, 187.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawings: CNRS.

QV 22 – Anonymous

General Description

QV 22 lies on a slight slope on the south side of the wadi, along the south side of the principal pathway. It has one main chamber perpendicular to the shaft and a small side chamber (D), or niche, at a 45 degree angle. The shaft has a cemented brick surround spanned by a metal grill with mesh.

E. Thomas described this tomb as one of the "crosswise" tombs, with an uncommon plan and a deep shaft. At the time of her visit, a number of artifacts were present. The tomb was last cleared in 1986-87 by the Franco-Egyptian team. They noted that its contents were similar to those of QV 21.

Condition

Like its neighbors, QV 22 is cut into an area of intersection between two different qualities of rock. The marl and shale are separated by a clear horizon which runs in a nearly vertical fashion along the length of the main chamber. More specifically, the southern portion of the eastern end of the main chamber as well as the entirety of the side chamber are cut into weak, highly fractured, brown shale. The remainder of the tomb is composed of marl. In some areas where shale is present, there are signs of rock fall and deterioration.

Dried, cracked mud is present on the walls of the shaft and on the floor of the main chamber, providing evidence of previous flooding or water infiltration.

Deterioration Factors

More vulnerable to damage from water infiltration, the shale has deteriorated more rapidly than the marl in this tomb.

General Recommendations

It is recommended to install a shaft cover over the built surround to prevent entry of floodwater, debris, and animals.

Archaeological Material

Observed by Thomas: mummified dog; fragments of fine pottery, bone, and wood.



Shaft entrance with surround.



Main chamber with interface (indicated by arrow) between two rock types: dark shale on the right and lighter marl on the left.



Side chamber (D).

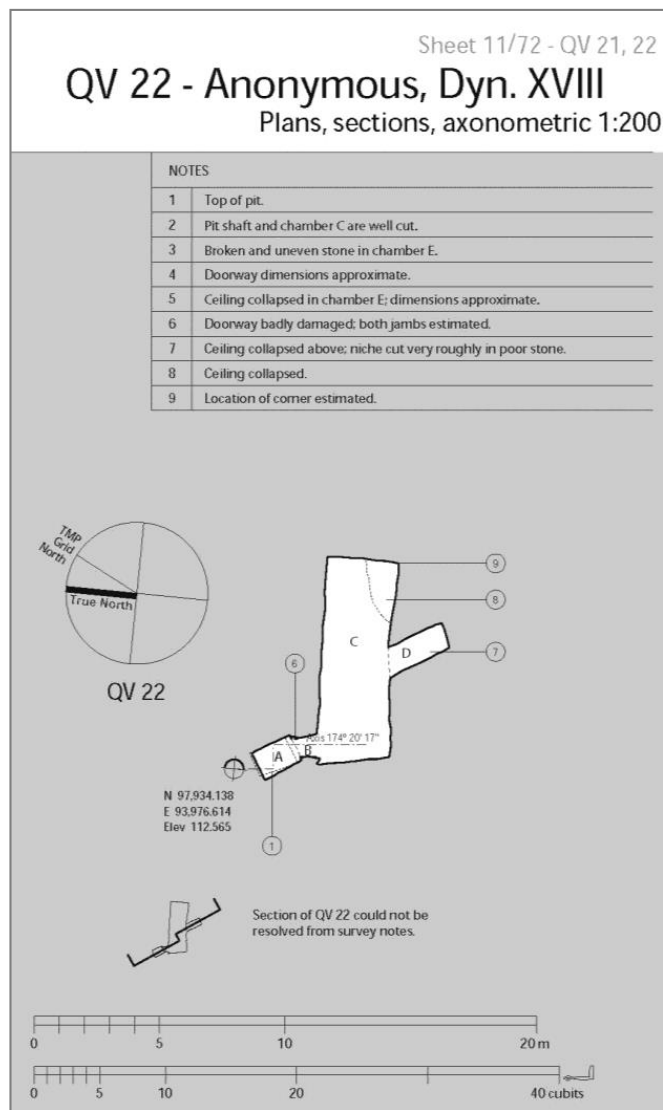


Shale deteriorating in main chamber, adjacent to entrance of side chamber.

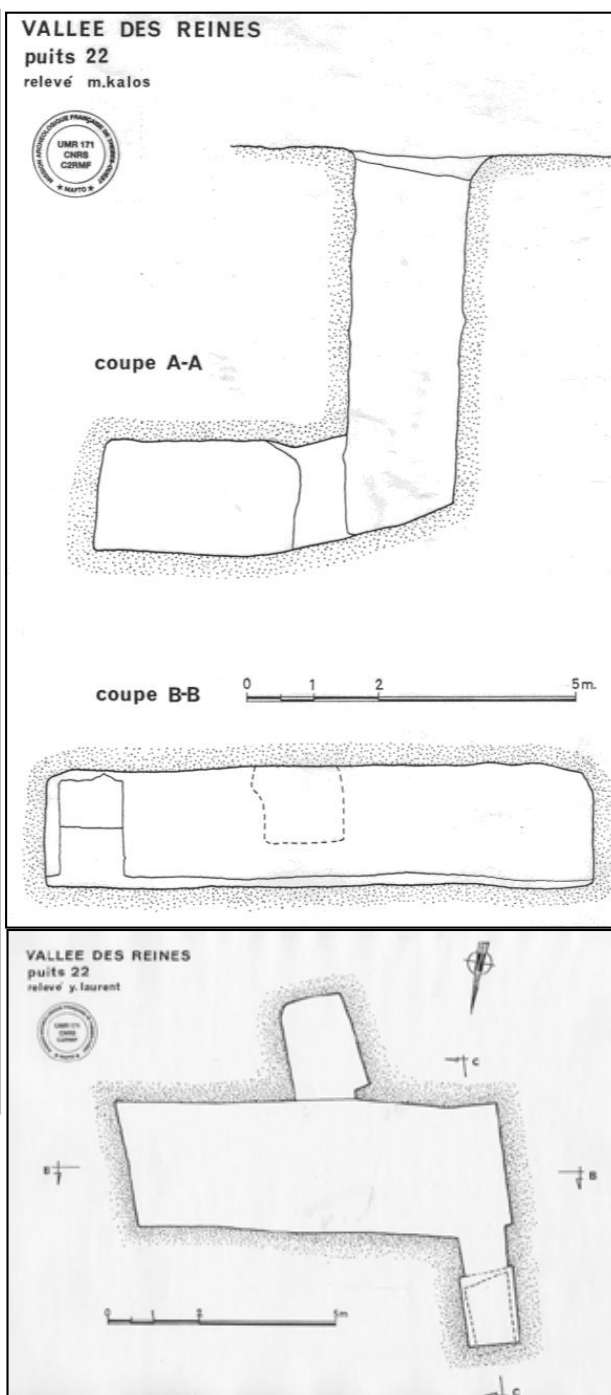
Study materials cleared by CNRS and SCA in October 2008: 11 bags and 1 basket of bones, 10 bags linen, 1 box wood, 3 bags pottery, 1 mummy.

References

CNRS 1987-1988, 28.
 Thomas 1966, 187.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawings: CNRS.

QV 23 – Anonymous

General Description

QV 23 lies on a slight slope on the south side of the wadi, a few meters south of the principal pathway and near the SCA guard house. It has one main chamber leading to a smaller side chamber at its rear. In this side chamber is a shaft leading to a still deeper lower chamber, which was not inspected during this assessment. The main shaft has a modern cemented brick surround spanned by a metal grill.

The tomb was not visited by Thomas. It was last cleared in 1987-88 by the Franco-Egyptian team. Archaeological material from the tomb suggests it was reused during the Third Intermediate Period.

Condition

The tomb generally appears stable. It is cut into both marl and shale. The wall and ceiling surfaces in both upper chambers are blackened. Although this blackening made it difficult to assess the nature of the rock, it appears that the lower part of the main chamber is cut into shale, with the upper part appearing to be marl. Most of rock in the main chamber is fractured.

Bats were heard during the inspection, and are presumed to be roosting in the lower chamber. The number of individuals is unknown.

Deterioration Factors

The tomb rock is vulnerable to significant damage in the event of flooding or water infiltration.

General Recommendations

Installation of a shaft cover over the built surround is recommended to prevent entry of floodwater, debris, and animals.

Archaeological Material

Removed by CNRS: 67 fragmentary human mummies; 61 human skulls; bones from at least 89 adults and 28 infants; fragments from a painted wooden sarcophagus.

Study materials cleared from QV 23 by CNRS and SCA in October 2008: pile of mummy remains, 9 sacks linen, 7 sacks pottery, 1 sack wood, 1 sack straw, 1 basket fragments.

References

CNRS 1987-1988, 28.



Shaft entrance with masonry surround.



Pile of rubble partially occluding main entrance.

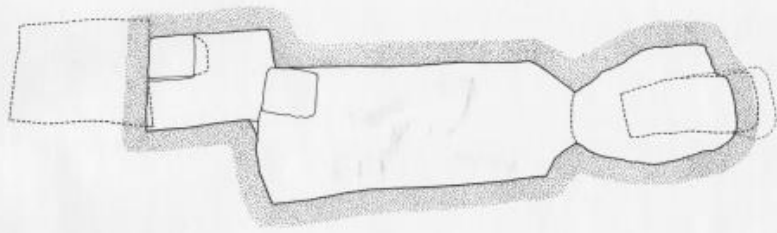


Main chamber, with entrance to smaller side chamber at its rear (arrow); black patina on chamber walls and ceiling.



Interior shaft in side chamber, leading to lower chamber where bats were heard roosting.

VALLEE DES REINES — nov. 1988
 puits n° 23



PLAN



Drawing: CNRS.

Sheet 12/72 - QV 23, 25

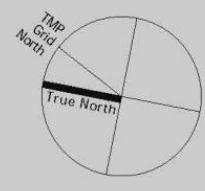
QV 23- Anonymous, Dyn. XVIII

Surveyed April 29 (QV 23) Drawn September 9, 2007.

Plans, sections 1:200

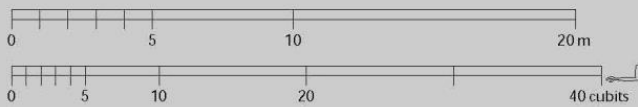
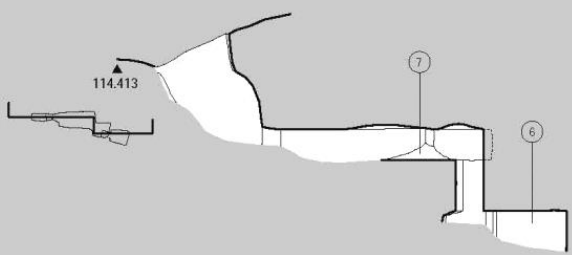
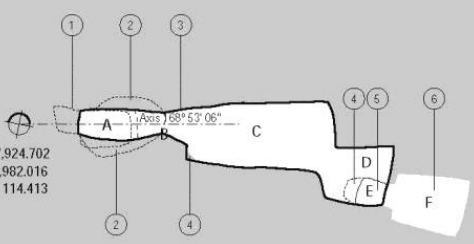
NOTES

1	Top of pit.
2	Poor stone; sides of original pit shaft broken.
3	Shape of wall is uncertain.
4	Rear niche in pit.
5	Pit shaft in floor of chamber D.
6	Pit chamber filled with mummies; dimensions of chamber approximate.
7	Floor covered in debris.
8	Small break into QV 24.
9	Details of entry uncertain.



QV 23

N 97,924.702
 E 93,982.016
 Elev 114.413



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 25 – Anonymous

General Description

QV 25 is a single-chambered tomb on the south side of the Valley. It lies south of the fork in the wadi, at the beginning of the southwest branch and upslope from the retaining wall. The shaft entrance has a masonry surround coated with cement. The unfinished tomb QV 24 lies immediately to the north of QV 25, and actually adjoins through a small break in the shaft. Due to the blackening found on all surfaces of the chamber, the nature of the rock is difficult to discern in many places. Still, it is clear that the tomb is comprised of both marl and shale.

E. Thomas mentioned that the shaft is roughly cut and the chamber thoroughly blackened. She further speculated that QV 24 was cut later and was most likely abandoned after reaching QV 25.

Condition

While the blackened rock is extensively fractured and some loss of friable rock is evident, the tomb appears to be stable overall. The floor was littered with trash at the time of assessment and removed in 2007.

Deterioration Factors

The poor quality of rock in areas has led to localized loss and friability. The tomb opening is also in a location susceptible to large amounts of upslope runoff.

General Recommendations

Installation of a shaft cover over the built surround is recommended to prevent entry of floodwater, debris, and animals. The opening to the unfinished QV 24 should be filled.

Archaeological Material

Study material cleared from QV 25 by CNRS and SCA in December 2010: portion of a mummified body.

References

Thomas 1966, 184-188.



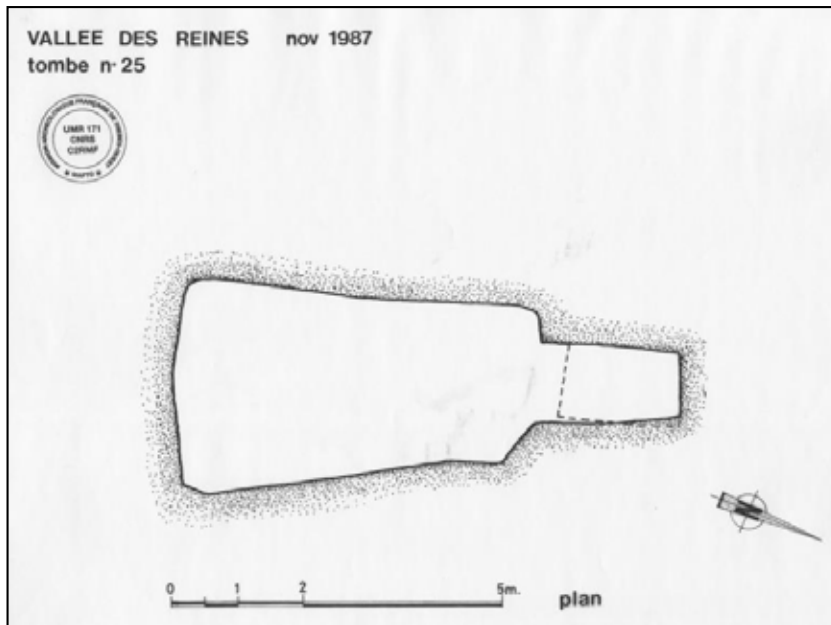
Shaft entrance of QV 25 with masonry surround and unfinished QV 24 in the foreground.



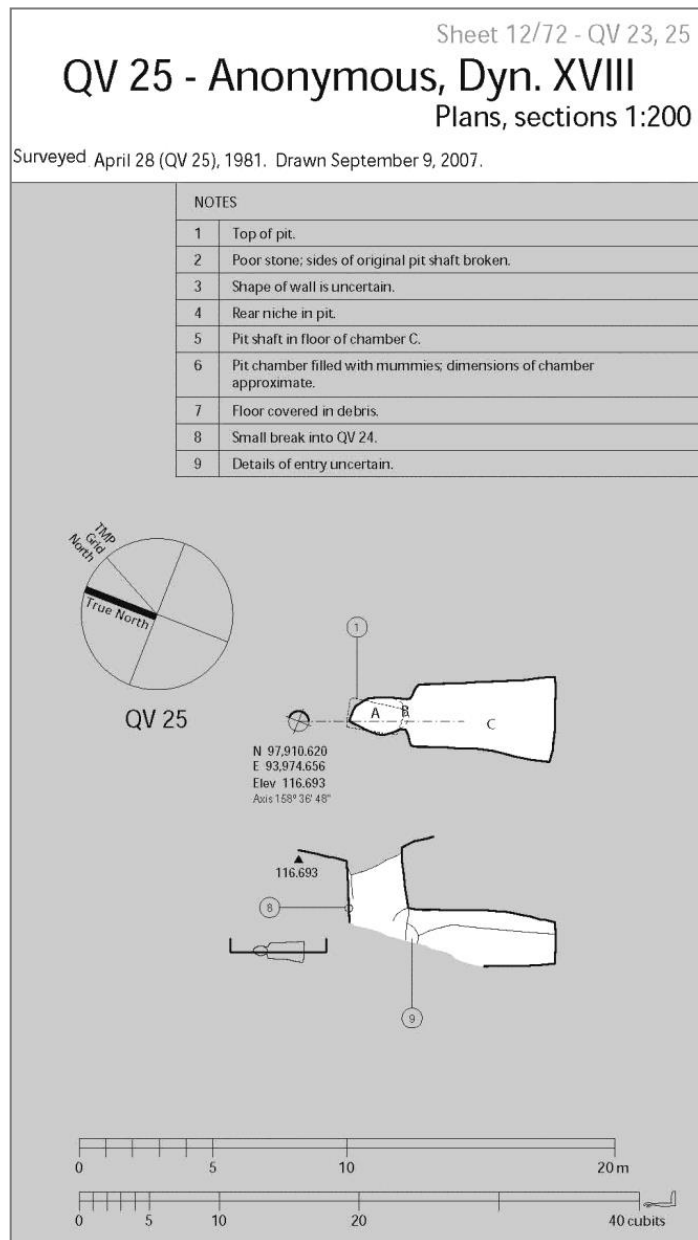
View of chamber entrance from shaft.



Blackened rock with area of friable shale.



Drawing: CNRS.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 26 – Anonymous

General Description

QV 26, which has a single chamber with a low ceiling, is located on a slope on the south side of the wadi, a few meters south of the pathway retaining wall. The shaft entrance has a modern cemented brick surround spanned by a metal grill.

E. Thomas mentions its location just beyond QV 24 and 25 and surmises that the ceiling had collapsed in antiquity, given the rock fill and lack of any visible archaeological material.

Condition

The tomb is primarily cut into fractured, weak shale. Ceiling rock has collapsed in some areas. The ceiling of chamber (C) has been extensively plastered in modern times to stabilize falling rock. Nevertheless, following assessment, the tomb was judged to be structurally sound.

Deterioration Factors

The poor quality of rock is the principal cause of areas of loss. Hydrologic analysis shows that the tomb opening is in a location susceptible to upslope runoff from a relatively large catchment area.

General Recommendations

Installation of a shaft cover over the built surround is recommended to prevent entry of floodwater, debris, and animals.

Archaeological Material

Study material removed from QV 26 by CNRS and SCA in Dec 2010: fragment of a human skull.

References

Thomas 1966, 184-188.



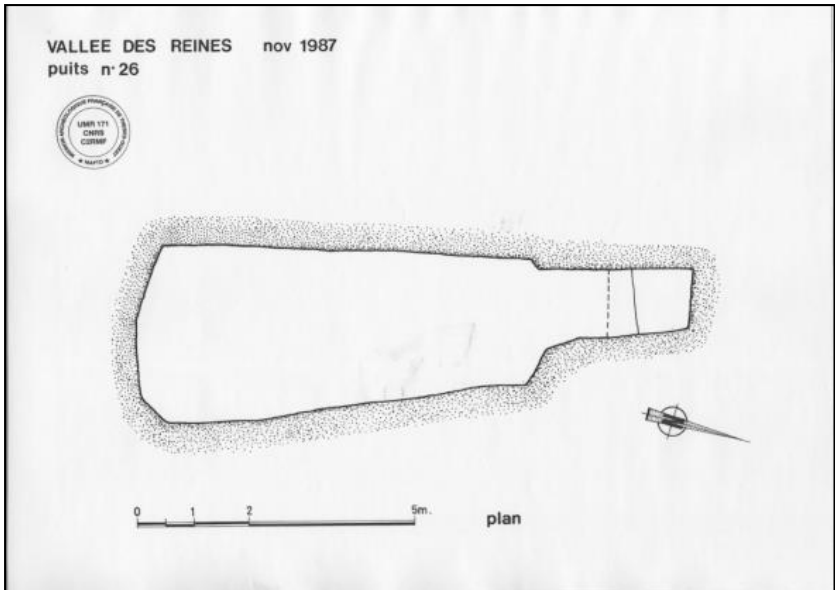
Shaft entrance with constructed surround.



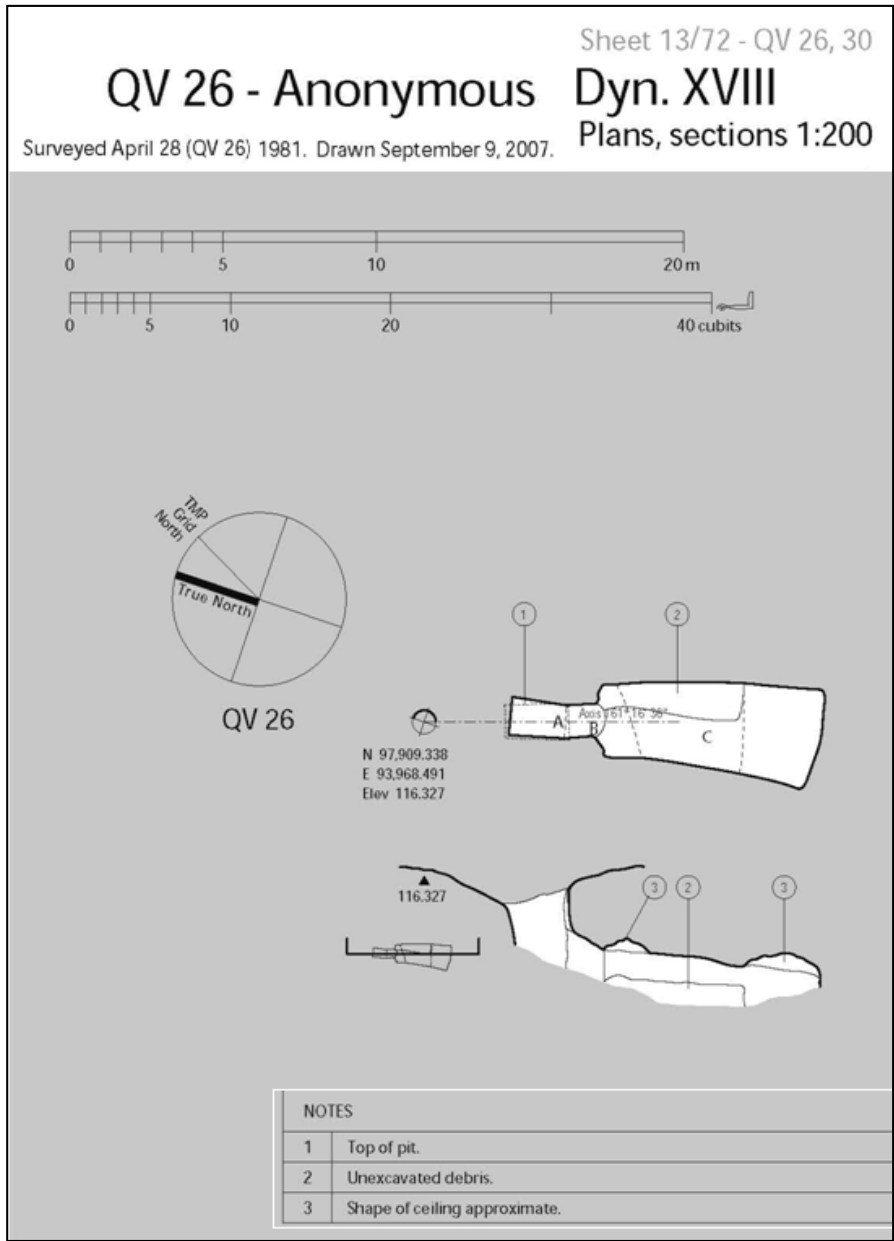
View of Chamber (C) facing tomb opening (at rear), collapsed rock on the right.



Cement mortar applied to ceiling.



Drawing: CNRS.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 27 – Anonymous

General Description

QV 27 is a single-chambered tomb on the south side of the Valley's southwest branch and upslope from the retaining wall. It lies adjacent to the footpath that leads to the mountain. The shaft entrance is a large, eroded hole. The chamber is mostly filled with debris and stones and is inaccessible.

Condition

Although it was impossible to assess the tomb chamber from the interior, the fractured and friable shaft and shallow overburden of the chamber appear to be unstable.

Deterioration Factors

The poor quality of shale into which the tomb is cut is the principal cause of deterioration. The tomb opening is also in a location susceptible to relatively large amounts of upslope runoff, which has likely contributed to filling the chamber with debris and further compromised the rock condition. Furthermore, there was no surround built that might have protected the opening from erosion.

General Recommendations

It is recommended that the tomb be reburied to stabilize the eroding shaft and protect it from flooding. As the chamber is already partially filled, reburial is a practical option and will further contribute to surface stability of the entire area.

Archaeological Material

It is not known if there was any archaeological material within the tomb at the time of extensive collapse in antiquity.

References

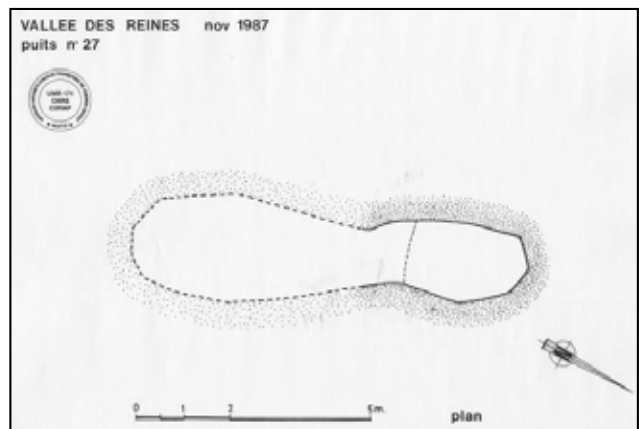
None



Shaft as seen from above.



Entrance to chamber, seen from above shaft.



Drawing: CNRS.

QV 29 – Anonymous

General Description

QV 29 is located on the south side of the wadi, upslope from the paved pathway and retaining wall. The entrance is adjacent to the footpath to the mountain. The tomb has a single chamber accessed by a large open shaft.

Condition

The tomb is cut into friable shale and has a shallow overburden, which includes the footpath. The shaft opening shows signs of erosion and has the appearance of an irregular hole. Fractured rock is present throughout the chamber and small amounts of fallen rock are visible on the ground.

Deterioration Factors

The poor quality of the rock into which the tomb is cut is a principal factor in its deterioration. Susceptibility to upslope runoff and erosion from the footpath has also contributed to shaft erosion and exacerbated rock fracture.

General Recommendations

Given the poor condition of the tomb overall and, in particular, the shaft and its opening, it is recommended that the tomb be reburied to protect it against flooding and also contribute to the general surface stability of the area.

Archaeological Material

None

References

None



Shaft entrance, adjacent to footpath (arrow).



Tomb interior, showing signs of extensive collapse.

QV 30 – Nebiri

General Description

QV 30, which has a single chamber, is located on a slope on the south side of the southwest branch of the main wadi. The shaft has a modern cemented masonry surround without metal grill or mesh.

The tomb was discovered by the Italian mission in 1904. Canopic jars found at the time of discovery identify the tomb as belonging to Nebiri, the Superintendent of the Royal Stables under Thutmosis III (see Tomb profile in Volume 1).

Condition

The tomb is cut into extensively fractured shale, with the rock below the ceiling in chamber (C) ochre and yellowish brown in color with many veins of white salts running through it. A thick layer of cracked, dried mud is on the floor in the front part of chamber (C), indicating that water has infiltrated into the tomb in the past. Following assessment in December 2009, the tomb was judged to be structurally sound.

One bat was observed roosting in the tomb in 2008.

Deterioration Factors

The poor quality of rock is the principal cause of deterioration. The tomb opening is in a location susceptible to upslope runoff.

General Recommendations

Installation of a shaft cover over the built surround is recommended to prevent entry of floodwater, debris, and animals.

Archaeological Material

Recovered by the Italian Mission: two mummies, fragments of pottery vessels and faience objects, many "Aegean" style vessels, one inscribed canopic vase, four additional terracotta canopic vases.

References

- Bruyère 1926, 33
- Dolzani 1982, 18-19.
- Leblanc and Siliotti 2002, 178.
- Schiaparelli 1923-1927, 35-39.



Shaft entrance with masonry surround.



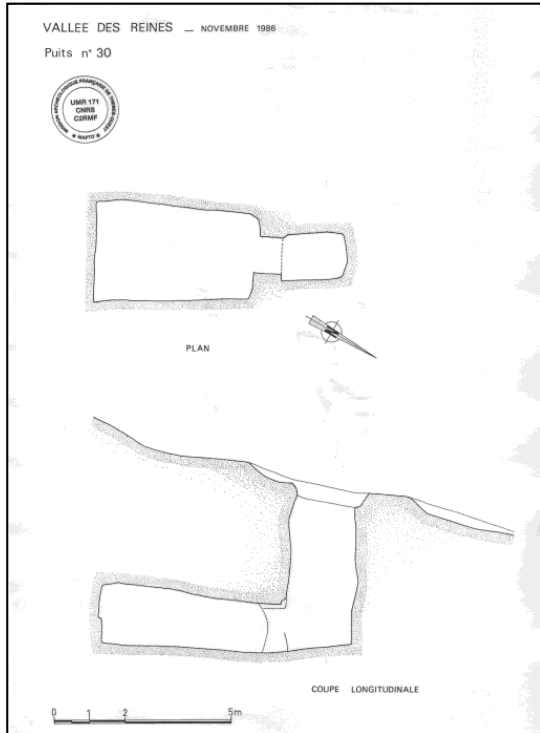
View of chamber (C) facing toward the rear.



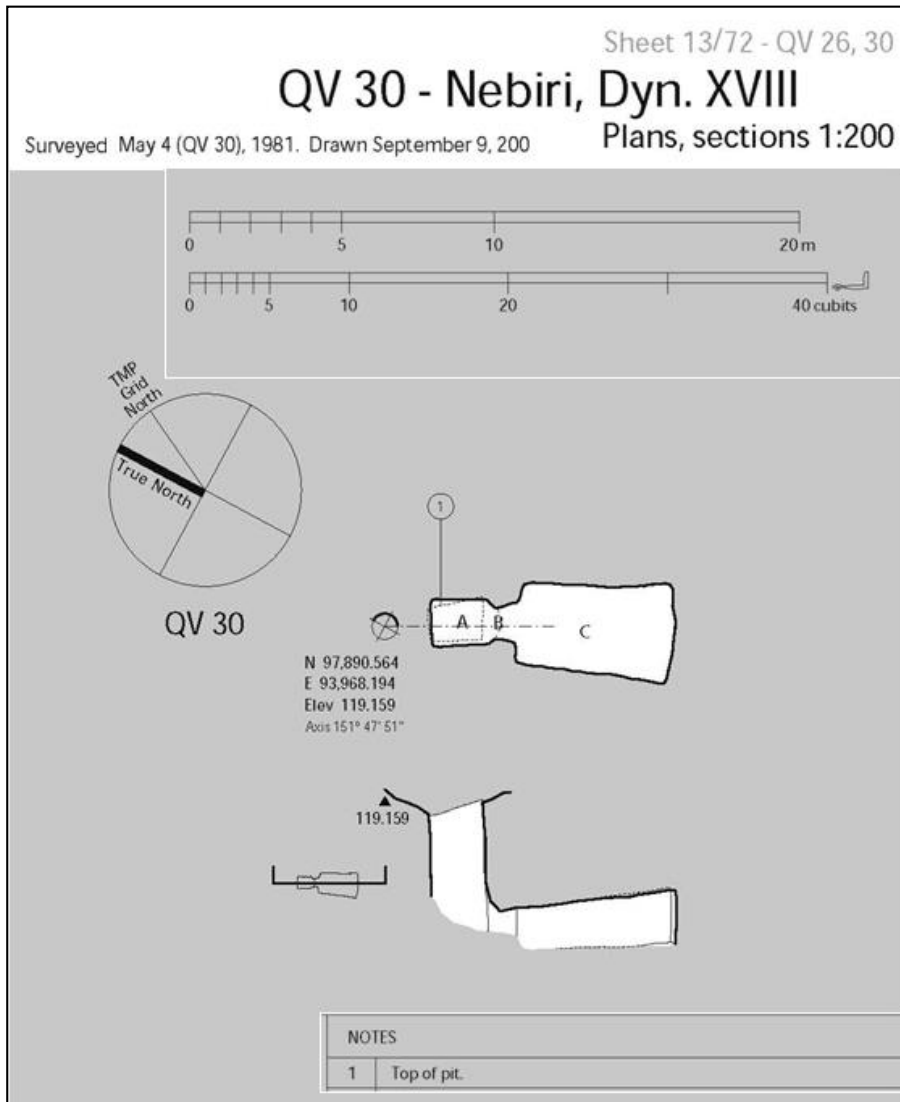
View of the fractured ceiling of chamber (C) facing the tomb opening (background).



Dried mud layer on floor in chamber (C).



Drawing: CNRS.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 32 - Anonymous

General Description

QV 32 has a short shaft leading to a single chamber. The tomb is on the upper portion of the slope on the south side of the main wadi, between chamber tombs QV 31 and 33. The shaft cuts through shale and the chamber is largely cut into marl. The shaft entrance has a modern masonry surround coated in cement plaster spanned by a metal grill.

The earliest modern record of QV 32 is from Brugsch, who numbered the tomb 8. E. Thomas had no access to the tomb but includes it in her work and suggests it may be of great interest given the tombs around it. The Franco-Egyptian team cleared out the tomb in 1985, although they did not find any significant archaeological material.

Condition

The tomb is in stable condition. Fractured marl occurs above the entrance and vertical fractures run down the rear wall of marl. A large amount of debris currently lies in the tomb and the drawings from 1981 show the tomb almost completely full (prior to excavation by CNRS). Mud and wasp nests are present on the rock of the ceiling.

One bat observed in January 2008.

Deterioration Factors

Dried, cracked silt and the relatively large volume of debris within the tomb and mud caked on the ceiling show unquestionable signs of previous flooding. The expansion of the shale when exposed to water has led to further collapse.

General Recommendations

The tomb requires installation of a shaft cover to prevent entry of animals and protect it from flood waters and debris.

Archaeological Material

Study materials cleared from QV 32 by CNRS and SCA in October 2008: small quantity of pottery sherds

References

Brugsch, 1855.

Thomas, 1966, pp. 184-188.



Shaft surround and entrance.



View down shaft with evident marl and shale interface (indicated by arrow).



Mud adhered to the ceiling rock indicates the tomb was once filled with floodwater.



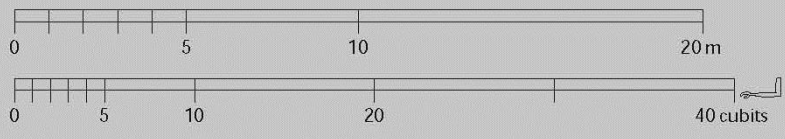
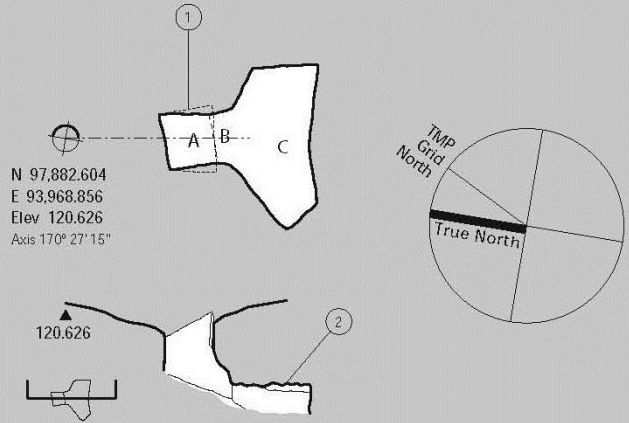
General view of chamber with piles of debris on ground.

QV 32 - Anonymous, Dyn. XVIII

Plan, section 1:200

Surveyed May 21, 1981. Drawn September 9, 2007.

NOTES	
1	Top of pit.
2	Ceilling extremely jagged and uneven.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007

QV 35 – Anonymous

General Description

QV 35 is located on the south side of the Valley in the southwest branch. It adjoins QV 34 through a large opening in the north wall of the shaft. Only the shaft of this tomb was completed; there are no chambers. The fractured marl of the shaft is roughly cut.

Condition

The shaft appears to be in good condition, despite the opening in the north wall to adjacent QV 34 and the large area of ceiling collapse in that tomb.

Deterioration Factors

Signs of flooding through the tomb shaft and into neighboring QV 34 are present. Periodic episodes of flooding have contributed to the fractured nature of the rock and the collapses evident throughout QV 34.

General Recommendations

It is recommended that the shaft be plugged to prevent entry of water, debris, and animals. The implementation of the plugging needs to be closely coordinated with the extensive engineering work proposed for adjacent QV 34.

Archaeological Material

Recovered by CNRS: a modest pottery assemblage.

References

CNRS 1987-1988, 29.

CNRS 1988-1990, 27.



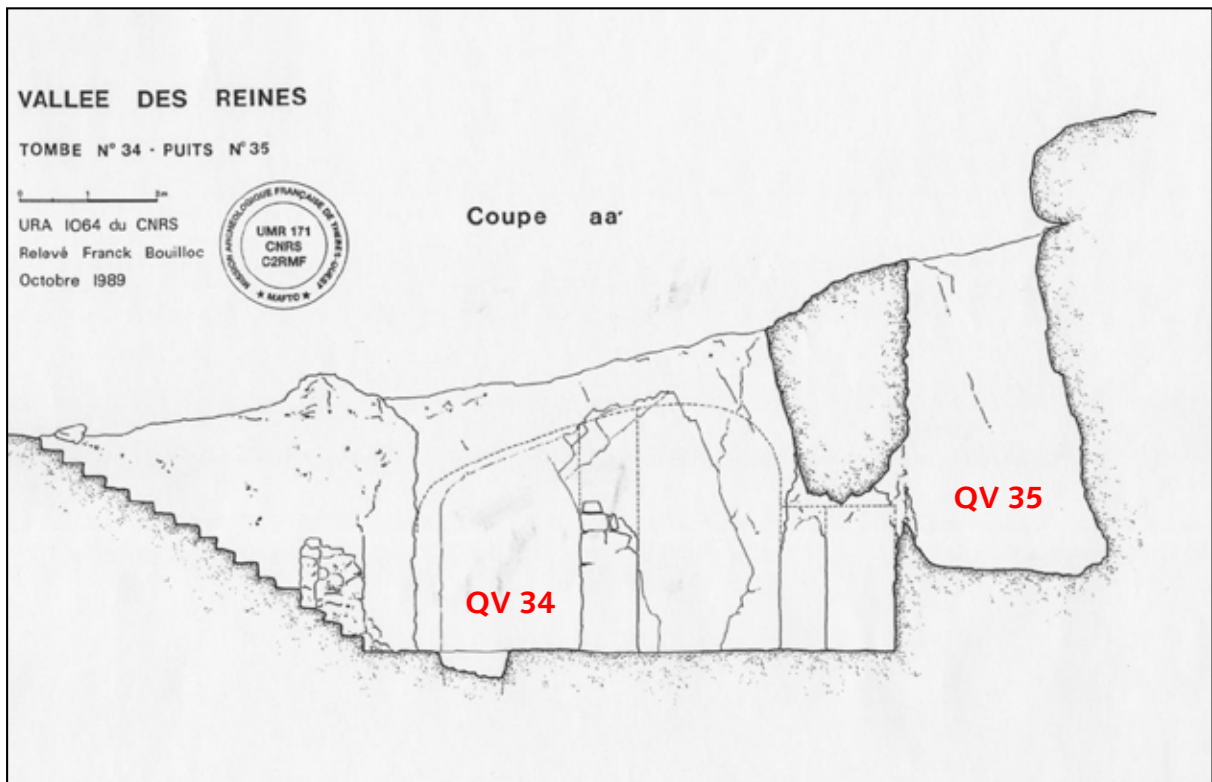
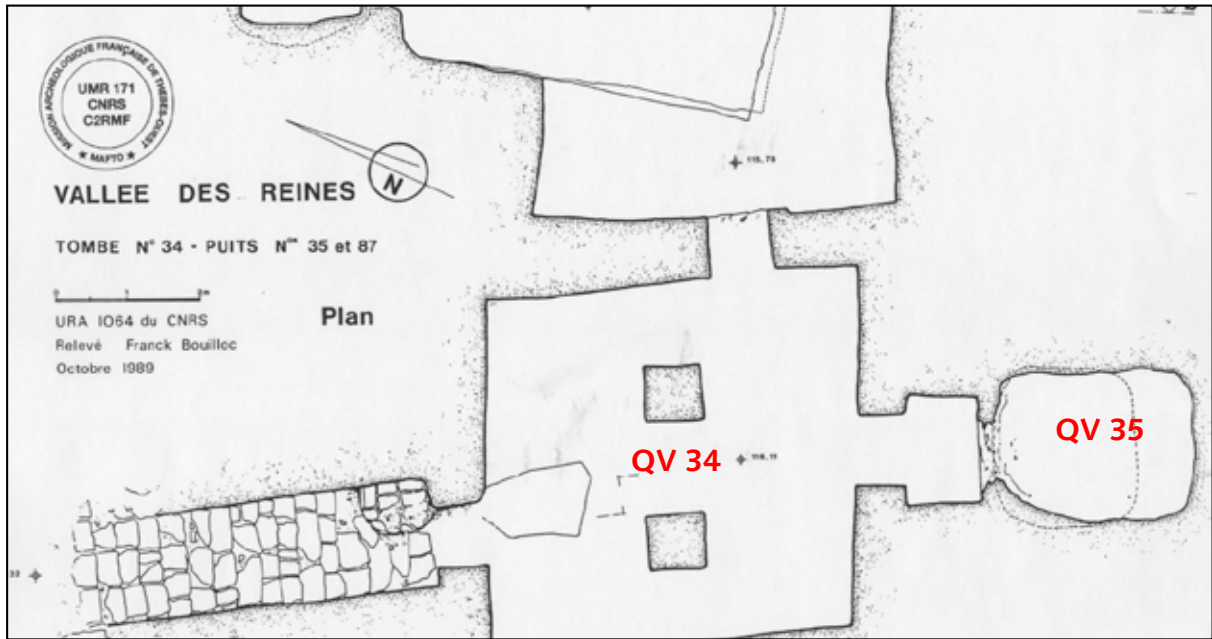
Shaft entrance.



Bottom of tomb shaft.



View of shaft from adjoining QV 34.



Drawings: CNRS.

QV 37 – Anonymous

General Description

Single-chambered QV 37 lies halfway up the slope on the south side of the wadi, between later chamber tombs QV 36 and QV 38. Two breaks in the adjoining wall of QV 36 provide access to the tomb. The shaft entrance has no surround and is adjacent to that of QV 36.

E. Thomas mentions the proximity of the entrance to that of QV 36, and that the two tombs were discovered together by the Italian mission in 1903. She notes that only 28 cm. of rock separate the two entrances and that Ballerini interpreted the larger break in the wall as the work of thieves, having found no original artifacts. The tomb was last cleared by the Franco-Egyptian team in 1985.

Condition

The tomb is in stable condition, despite being surrounded by an area with a relatively high concentration of shale and related deterioration manifested in many nearby tombs. The tomb itself is excavated into marl with regularly spaced vertical joints. The walls of the shaft shows signs of weathering, with areas of friability and loss.

There are localized wasps' nests on the surface of the rock in the chamber.

Dried, cracked mud on the floor of the tomb and adhered dirt and staining at the base of the walls indicate past flooding.

Deterioration Factors

Water infiltration from the open shaft is the greatest concern in this tomb.

General Recommendations

The tomb should be protected from entry of water, debris, and animals with a shaft plug. This would also serve to stabilize the fragile area of rock between the shaft and the main chamber of QV 36.

Archaeological Material

Study materials cleared from QV 37 by CNRS and SCA in October 2008: baskets of pot sherds

References

Thomas 1966, 184-188.



View of shaft and chamber entrance below.



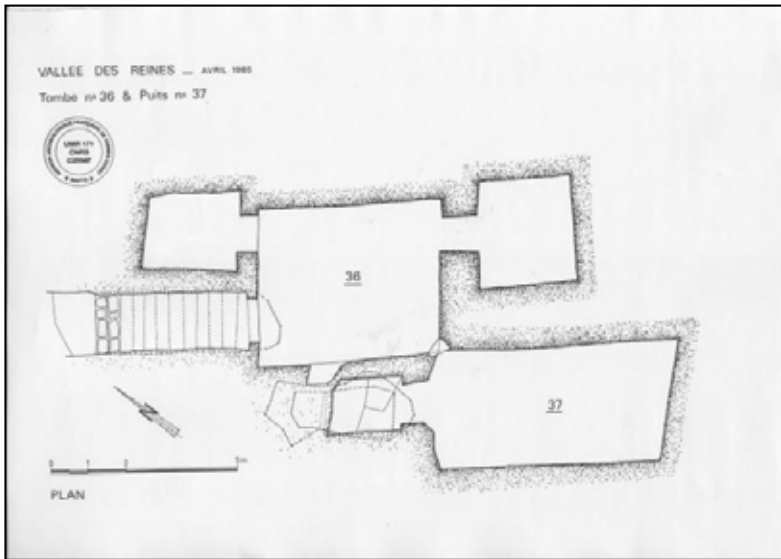
Water staining at base of wall (arrow); a line of chert nodules indicates the orientation of the bedding planes.



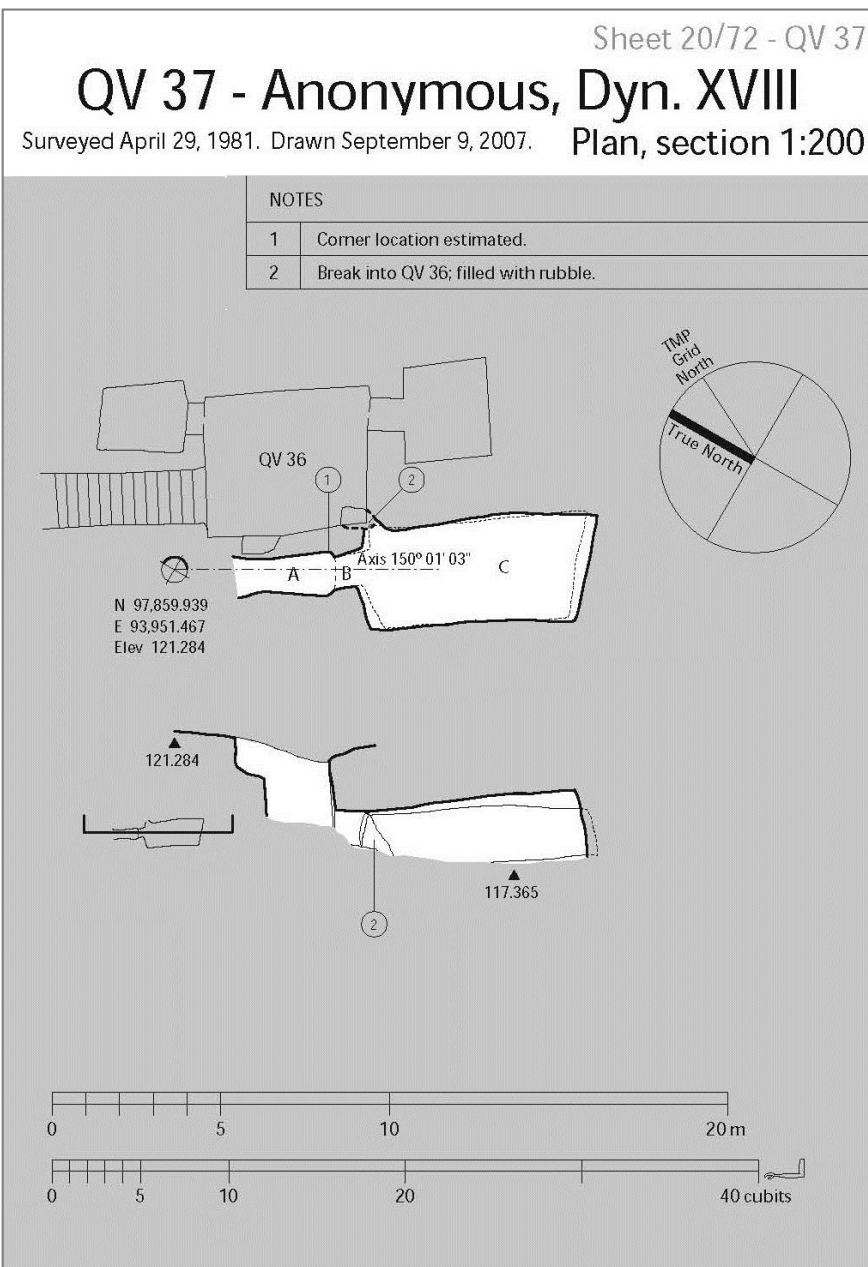
Cracked mud layer on floor with basal staining of wall.



Detail of break in shaft wall leading into QV 36.



Drawing: CNRS.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 39 – Anonymous

General Description

QV 39 is located halfway up the southwest branch of the wadi, adjacent to the main pathway and retaining wall. It is nestled between chamber tombs QV 38 and QV 40. The tomb has a deep shaft and two chambers, both of which are blackened.

Thomas records this tomb as the westernmost shaft tomb and one of the largest with multiple chambers. She found the tomb thoroughly blackened and filled with mummies. She further suggests that this could have been the tomb of Prince Wadjmose or another royal of the time, whose tutor was Imhotep, interred in nearby QV 46. Based on the archaeological material recovered by the Franco-Egyptian team, the tomb was reused during the Roman Period.

Condition

The tomb appears structurally stable and in good condition, having been cut into good quality marl similar to that found in adjacent QV 38 and QV 40. A large number of bats was observed roosting in the tomb in February 2008. Trash littering the shaft was removed in 2007.

Deterioration Factors

The shaft entrance is susceptible to floodwaters and upslope runoff.

General Recommendations

It is recommended that the shaft of the tomb be plugged to effectively prevent entry of water, debris, and animals, as well as to ensure visitor safety. In December 2009, the SCA installed a masonry surround with grill.

Archaeological Material

Removed by CNRS: 31 mummies (attributed to the Roman period), 51 human skulls, fragments of terracotta canopic vessels, fragments of painted wooden sarcophagi.

Study materials cleared from QV 39 by CNRS and SCA in October 2008: 2 piles of mummies, 2 bags and piles of pottery and wood.

References

CNRS 1987-1988, 27.
Macke, Macke-Ribet, Leblanc, and Connan 2002, 28.
Thomas 1966, 184-188.



Shaft entrance, cut through colluvial ground cover into marl.



Construction of a new masonry surround by SCA in progress in December 2009.



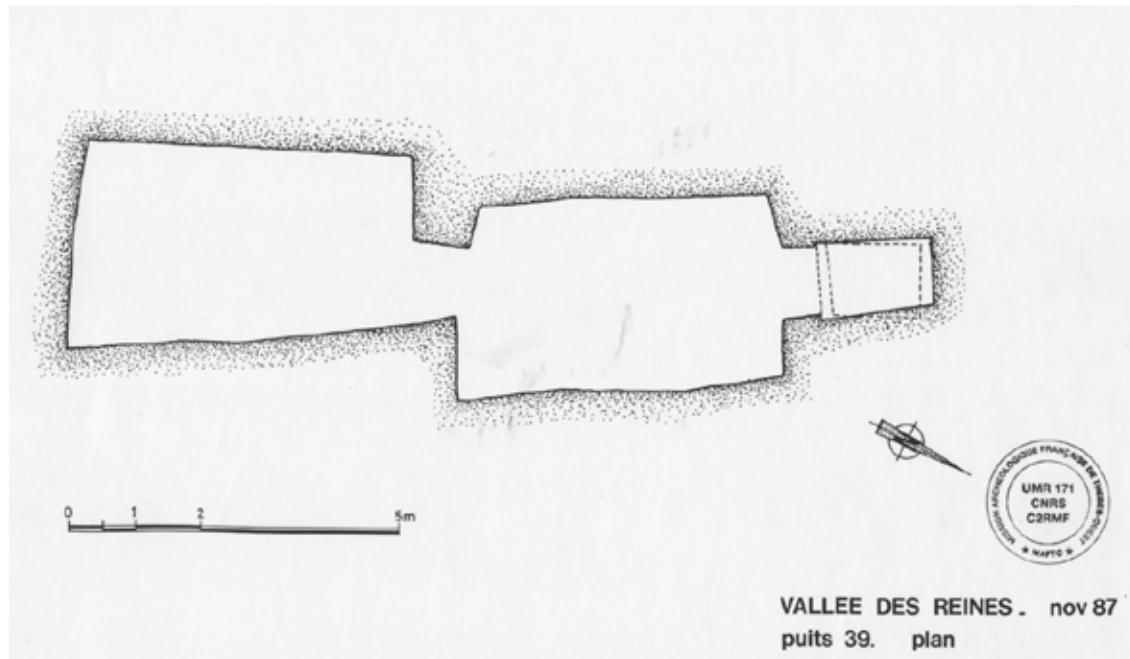
First chamber with doorway to rear chamber.



Rear chamber with severe blackening.



Tomb shaft with accumulated trash, removed in 2007



Drawing: CNRS.

QV 46 - Imhotep

General Description

QV 46 is attributed to Imhotep, the Governor of the City, judge, and vizier during the reign of Thutmosis I. The tomb is on the south side of the road in the southwest branch of the wadi, adjacent to the retaining wall. At the start of the assessment process, the entrance was surrounded by a low dry-laid boulder wall, but a masonry surround has since been constructed by the SCA.

The tomb was discovered by Schiaparelli and, with it, some original artifacts belonging to the vizier Imhotep, namely a canopic jar, a sarcophagus panel, and an oval alabaster plaque. Schiaparelli also noted that tomb robbers probably left the tomb open, allowing it to fill with flood waters carrying debris. The tomb had filled by the time of E. Thomas and she suggested that his burial in the Valley may have been due to his role as tutor to the children of the Pharaoh. The tomb was last cleared by the Franco-Egyptian team in 1984.

Condition

The shaft is cut into highly fractured shale. The single chamber of the tomb was also cut into shale, with heavy salt deposition in the extensively jointed walls. Guano on the chamber floor suggests that bats occasionally roost in the tomb, though none were observed at the time of assessment. Despite the heavily fractured nature of the rock, the tomb was judged to be stable during an assessment in December 2009. No signs of recent rock collapse were apparent, excepting the continued erosion of the tomb shaft.

Deterioration Factors

Given the commentary from Schiaparelli and E. Thomas, QV 46 seems to have a history of flooding, though there is no direct evidence of flooding currently visible. Nevertheless, its location at the bottom of the southern slope confirms the threat of flood waters and debris.

General Recommendations

In 2009 the SCA installed a new masonry surround. Re-grading of surroundings may be necessary to improve drainage away from shaft and minimize erosion.



Shaft entrance and masonry surround, constructed by SCA in December 2009.



The shaft from above. Note friable shale throughout length of shaft.



Extensive salt or gypsum deposition (white) in joints of the ceiling.

Archaeological Material

Recovered by the Schiaparelli Mission: Mummified remains of Imhotep, mummified ducks in boxes, wooden boxes, baskets, alabaster plaques, part of an inscribed canopic vase.

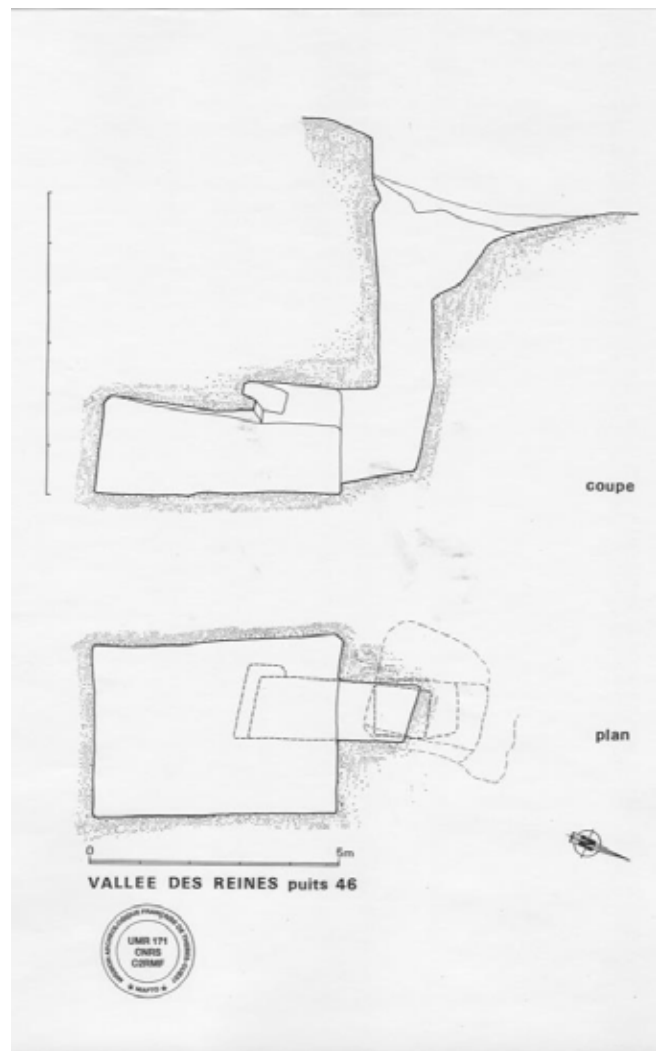
Recovered by CNRS: Feet of mummy (apparently belonging to Imhotep, though the rest of the mummy had already been removed to Turin by Schiaparelli), mummified duck, Ramesside ostraca (found near entrance).

References

- CNRS 1992-1994, 22.
- Dolzani 1982, 17.
- Porter, Moss, and Málek 1964, 755.
- Schiaparelli 1923, 25-34.
- Thomas 1966, 184-188.



Boulders originally used to block entrance, now piled in center of chamber.



Drawing: CNRS.

QV 47–Princess Ahmose

General Description

QV 47 is attributed to Princess Ahmose. It lies towards the bottom of the slope on the south side of the wadi, a few meters from the retaining wall of the path. A deep shaft (approx. 6-7m) leads to a single long chamber oriented north-south. The tomb is cut primarily into shale, recognizable by its color, fissile quality, and salt veins. A modern, cemented brick surround is present at the entrance, spanned with a metal grill.

The tomb was first discovered and excavated in modern times by Schiaparelli, and is thought to be the oldest shaft-style tomb in the Valley. Although pillaged and flooded in antiquity, the tomb retained enough material to reveal an originally rich burial and the name Ahmose, identified as the King's sister and daughter of Seqenenre Tao. Schiaparelli presumed that the mummy of a relatively tall person of advanced age was that of the princess. The lack of canopic jars puzzled Schiaparelli, given the remains of a canopic chest and the fact that these are often recovered in previously pillaged tombs. Thomas noted that Ahmose was probably buried by Thutmosis I, but burial may have taken place under Ahmose or Amenhotep I. The Franco-Egyptian team cleared the tomb in 1984.

Condition

The shale within the shaft is heavily fractured, veined with salts, and friable, falling away at a touch. The tomb appears structurally stable, but is dangerous given the loose and falling surface rock. The modern entrance surround is undercut and the steel support cross-braces are exposed from within the shaft and above ground as well.

Three bats were noted in the tomb in January 2008.

Deterioration Factors

The clay content of the shale is the principal cause of its friability following exposure to water. Accumulations of silt and debris provide evidence for previous flooding events.



Shaft entrance and masonry surround



Shaft from above with shale along its length.



Detail of shale within chamber. Note salt or gypsum veins in rock.



General view of chamber (C).

General Recommendations

A shaft plug should be installed to protect from flood waters. Additionally, the cross-braces associated with the surround should be reburied to ensure the stability of the surround.

Archaeological Material

Removed by Italian Mission: mummy identified as Princess Ahmose, fragments of wooden sarcophagus, fragments of twenty different chapters of the Book of the Dead written on linen, leather sandals.

Removed by CNRS: small cuttings of human hair, inscribed shrouds, wax seal, fragments of dyed leather, decorated wood, fragment of a female figurine, fragment of a mummy.

Material cleared from QV 47 by CNRS and SCA in Oct 2008: 1 piece of mummy.

References

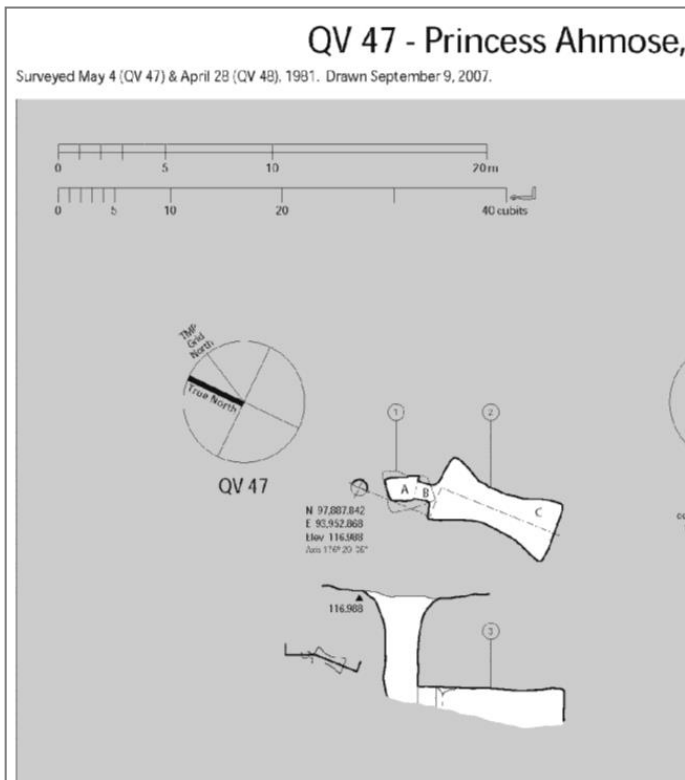
- CNRS 1992-1994, 23.
- Gitton 1984, 18-19.
- Porter, Moss, and Málek 1964, 755.
- Ronsecco 1975, 147-152.
- Schiaparelli 1923, 13.
- Thomas 1966, 184-188.



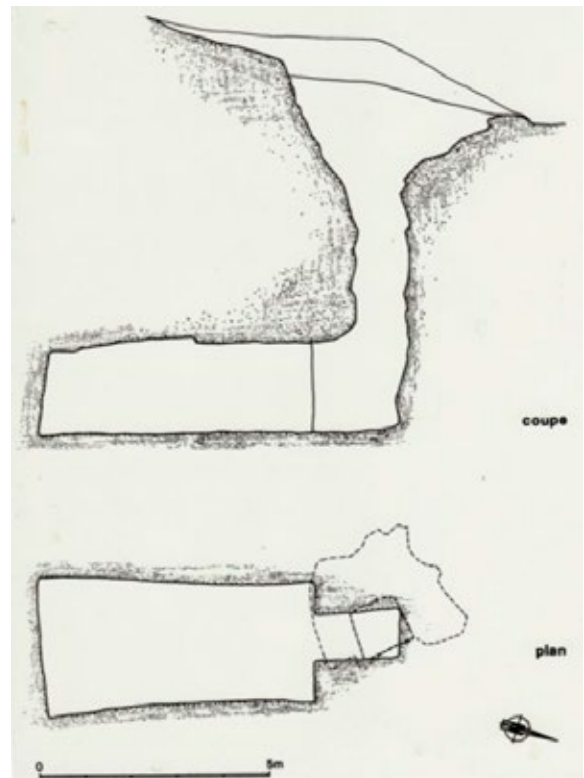
Detail of tomb surround. Arrow points to absence of rock beneath edge of surround.



Detail of exposed, steel cross-braces supporting masonry surround and requiring attention.



Drawing: Surveyed by TMP in 1981 and digital CAD drawing commissioned by GCI in 2007.



Drawing: CNRS.

QV 48 – Anonymous

General Description

QV 48 has a shallow shaft that opens out into a single chamber with a dome-shaped roof. The tomb lies on the south side of the main wadi, between QV 26 and QV 47, a few meters from the retaining wall of the path. It is cut primarily into an area of marl with intercalated beds of shale, as well as cemented breccia. Debris and sediment still partially fill the tomb. The entrance has a cemented brick surround spanned by a metal grill.

E. Thomas records the tomb being almost completely filled and possibly contemporary with QV 30 and QV 47.

Condition

Though both the marl and shale in the tomb are highly fractured and friable, the tomb is in stable condition.

At least 15 bats were seen in January 2008, retreating into an inaccessible crevice on the side of the domed ceiling. Reptilian egg membranes were attached to one area of the rock.

Deterioration Factors

The amount of debris in the tomb and its location on the slope suggest it has undergone a number of flooding events, resulting in the weakening of the rock and fracturing of the intercalated bands of shale and marl. Flooding was recorded in 1994. Furthermore, the tomb has relatively shallow overburden, increasing the risk of ceiling collapse.

General Recommendations

As the tomb is a favorite for bats, and not well preserved or of particular significance, it is recommended that it be left open for bat habitation. The current surround should be raised and a bat-accessible metal grill installed. Due to the shallow overburden, surface drainage and measures to keep visitors from walking on the area above the tomb should be installed.

Archaeological Material

Removed by CNRS: wood fragments

References

Thomas 1966, 184-188.



Shaft entrance with surround (grill has been removed).



Fractured, friable rock above entrance to tomb at bottom of shaft.

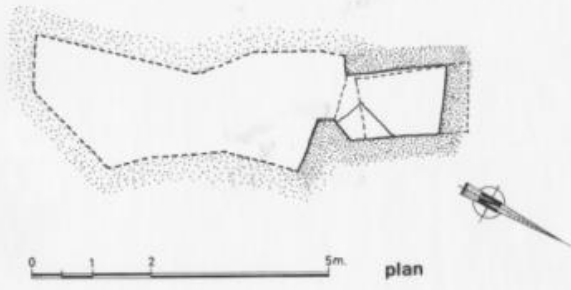


Detail of cemented breccia.



Bats roosting in tomb.

VALLEE DES REINES nov 1987
puits n° 48



Drawing: CNRS.

Sheet 34/72 - QV 47, 48

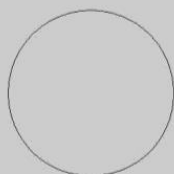
QV 48 - Anonymous, Dyn. XVIII

Plans, sections 1:200

Surveyed April 28 (QV 48), 1981. Drawn September 9, 2007.

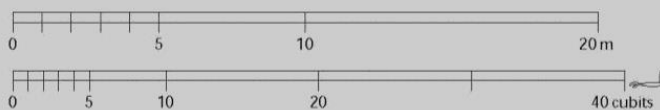
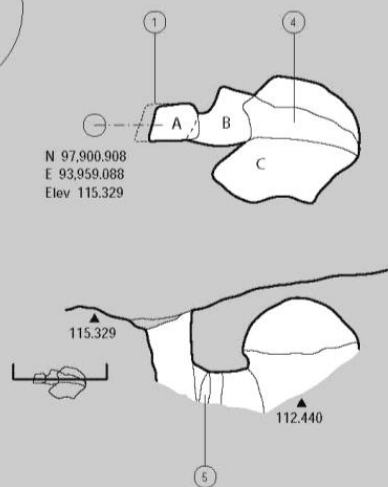
NOTES

1	Top of pit.
2	Shape of walls approximate.
3	Shape of ceiling approximate.
4	Trench cut through unexcavated debris on either side.
5	Shape of door jambs approximate.



QV 48
Tomb orientation
could not be resolved
from survey notes.

N 97,900.908
E 93,959.088
Elev 115.329



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 59 - Anonymous

General Description

QV 59, located on the north side of the wadi between QV 58 and QV 60, has two chambers on different axes. The shaft entrance has a modern cemented masonry surround with a metal grill with mesh.

E. Thomas mentions that the tomb was in pristine condition, cut from good quality rock. The tomb was last cleared by the Franco-Egyptian team in 1986, at which time they noted that they cleared the tomb unusually quickly.

Condition

In general, the tomb seems to be in stable condition. Nonetheless, a number of fractures run through both chambers and the shaft, many of these filled with salts. Substantial salt growth is present, both as encrustations on the rock and fibrous/columnar halite crystals protruding from the rock.

A quantity of bat guano is present on the floors and mud wasps' nests are attached to the ceiling.

Deterioration Factors

Water infiltration and resulting mobilization of salts is the largest concern in this tomb.

General Recommendations

A shaft cover should be installed over the built surround to prevent entry of animals, flood waters and debris. Increasing the height of the masonry surround would also provide greater flood protection.

Archaeological Material

Study material cleared from QV 59 by CNRS and SCA in December 2010: partial mummy and human skull.

References

CNRS 1987-1988, 34.
Thomas 1966, 184-188.



Shaft entrance and masonry surround.



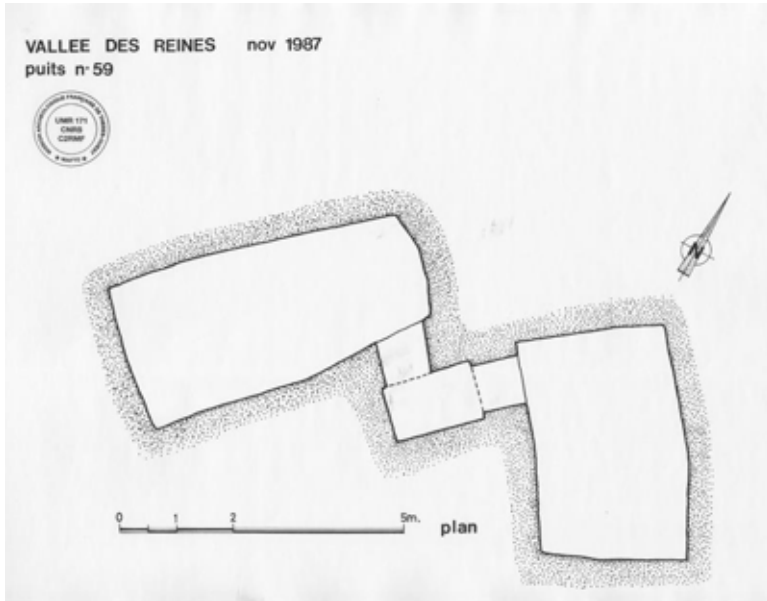
Passage to side chamber from shaft.



Fracture running through ceiling and wall of chamber (E).



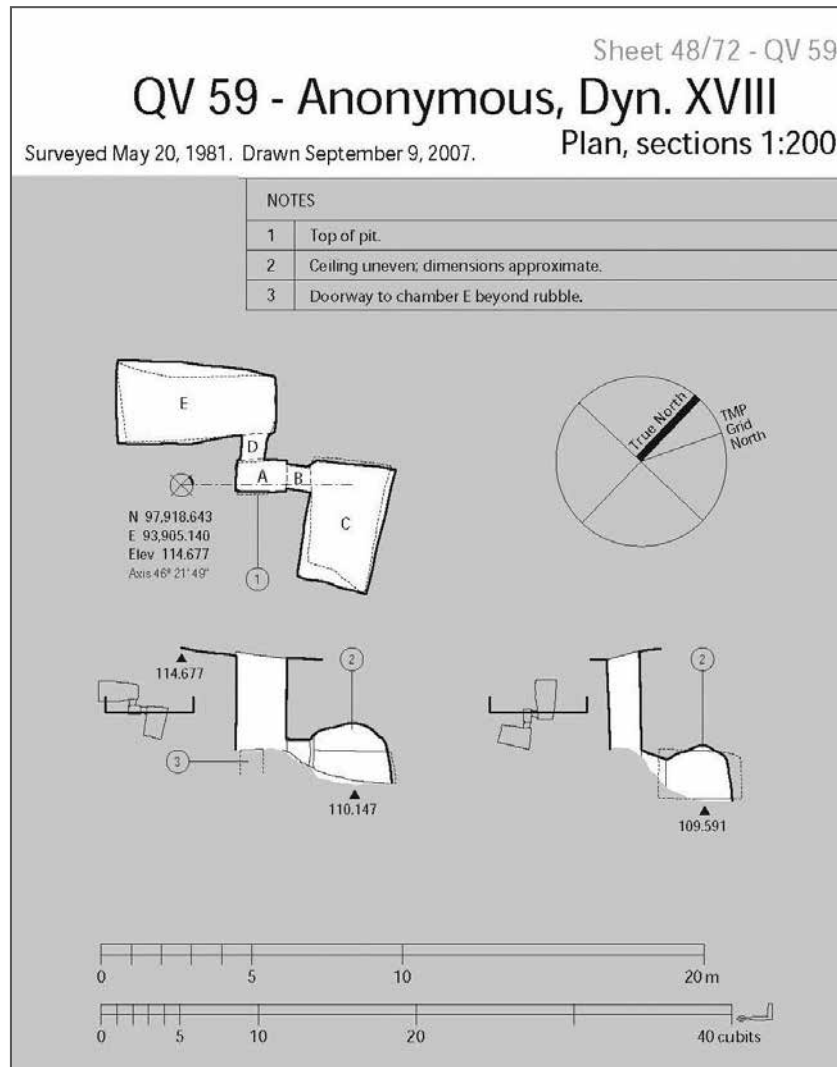
Bat droppings in chamber (C).



Drawing: CNRS.



Above: Salt crystallizing on surface of rock in chamber (C). Below: fibrous salts.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 61 – Anonymous

General Description

QV 61 is a single-chambered shaft tomb on the north side of the wadi. The entrance is adjacent to the entrance ramp of QV 60. The pit entrance has a modern built surround with cement plaster and a metal grill with no mesh.

E. Thomas recorded that at the time of her visit, the tomb was in pristine condition, "well cut in excellent rock with walls and ceiling as fresh as if just completed." The Franco-Egyptian team cleared the tomb rapidly in 1971.

Condition

The assessment in January 2008 revealed a tomb in very different condition from that described by E. Thomas in her 1966 work. Substantial losses were evident in the ceiling and walls of the single chamber (entirely comprised of marl). Open fractures, including one that runs through the shaft, were observed with adjacent areas of rock loss and a large pile of rock fallen from the ceiling in the middle of the chamber.

A thick layer of cracked mud lies on the floor from the 1994 flood, as confirmed by Christian Leblanc. Silt or mud adheres to some ceiling surfaces.

Evidence of biological activity includes staining (possibly due to bats) and insect nests.

Deterioration Factors

The entry of flood waters and seepage into the rock may be the single most important factor of damage in this tomb. The description of E. Thomas suggests that rock fragility and damage have occurred within the past 40 years, further pointing to the 1994 flood as a major cause of the deterioration of the tomb rock. There is additional rock loss evident on top of the cracked mud. However, some of the fallen rock lies embedded in the dried mud, making it unclear if rock fall occurred long before flooding or while the mud was still wet.



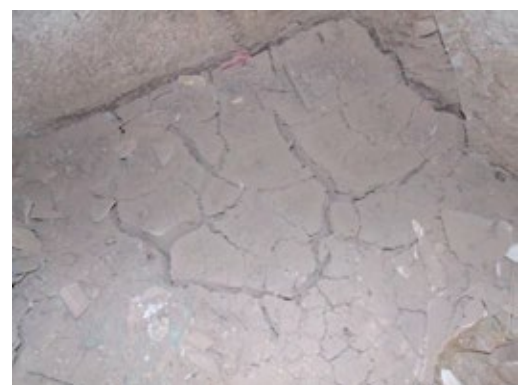
Shaft entrance and masonry surround.



Shaft from below, with visible open fracture.



Evidence of ceiling collapse in center of chamber (C).



Thick layer of cracked mud on floor of tomb.

General Recommendations

A shaft cover should be installed to prevent entry of animals and flood waters. Additional flood mitigation efforts, such as increasing the height of the masonry surround, should be considered.

Archaeological Material

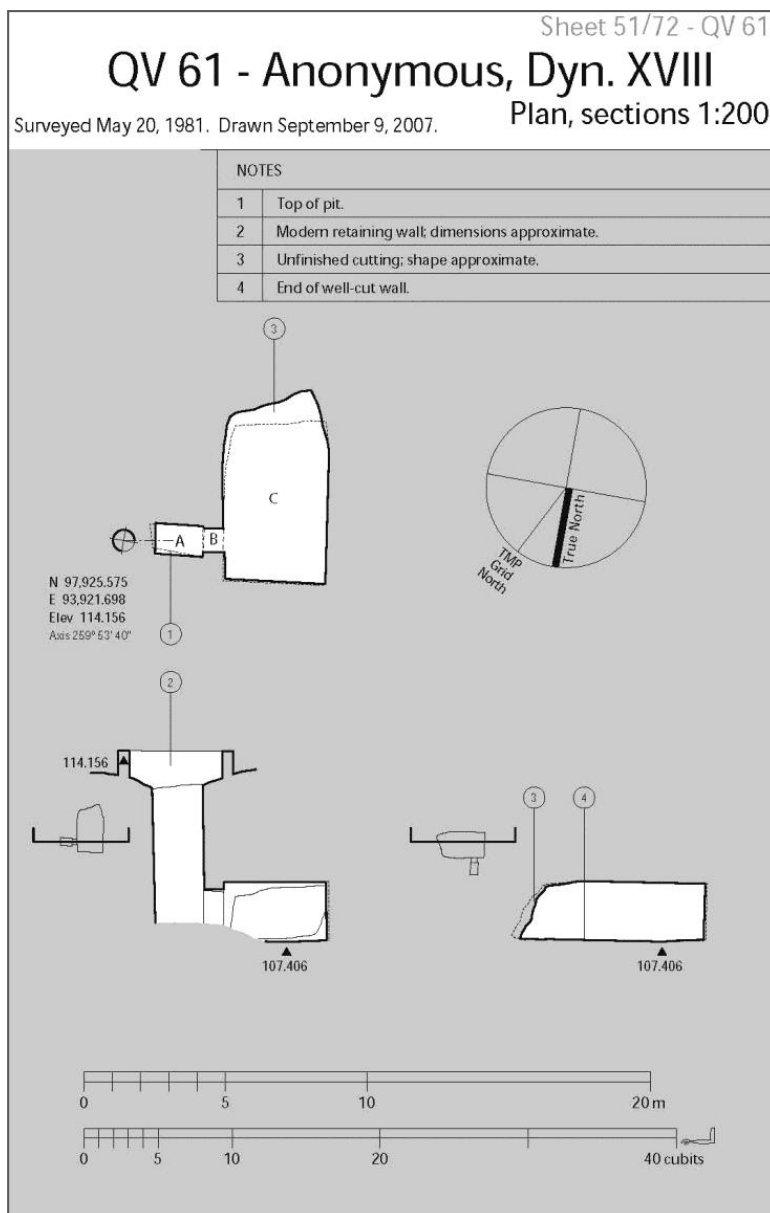
Noted by Thomas: one human mummy, two pottery fragments

References

CNRS 1987-1988, 27.
Thomas 1966, 188.



Silt/mud adhered to the ceiling suggests the tomb had filled with flood water.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 62 - Anonymous

General Description

QV 62 has two chambers, (C) and (E), and is located on the north side of the Valley between QV 61 and 63. The shaft of the tomb is relatively deep (6m) and its entrance has a modern cemented brick surround and a metal grill with torn mesh.

E. Thomas describes this tomb as being well cut in good quality rock and in pristine condition.

Condition

The deep shaft has large open diagonal fractures and partial debris fill. The large chamber (C) is roughly 8m in length and half filled with debris and large stones (not collapsed rock from the tomb), presumably from the original sealing of the chamber entrance and shaft. At the northwest end of the chamber, a large pile of fallen rock is evident on top of the dried mud. Salts are present in abundance, infilling cracks and efflorescing on surfaces.

The entrance to chamber (E) is partially blocked by debris in the shaft, which spills into the chamber. The chamber is generally rough hewn and the ceiling is fractured with localized areas of substantial loss. The floor is covered in dried, cracked mud.

Evidence of biological activity includes mud wasp nests (at chamber entrances), and extensive bat droppings.

Deterioration Factors

Evidence of the 1994 flood is particularly clear in chamber (E), where dried mud carpets the floor, and horizontal "high-tide" stains are visible on the walls. Dirt covering the boulders in chamber (C) and debris in the shaft also indicate flooding. Salt efflorescence is further evidence of moisture infiltration into the rock.

General Recommendations

A shaft cover should be installed to prevent entry of animals, flood waters, and debris. Further flood mitigation efforts, such as raising the height of the masonry surround should be considered.



Shaft entrance and masonry surround.



Shaft walls with open diagonal fractures.



Chamber (C), looking towards the entrance. Debris and large stones fill the chamber.



Rear of chamber (E), with horizontal staining of wall.

Archaeological Material

None

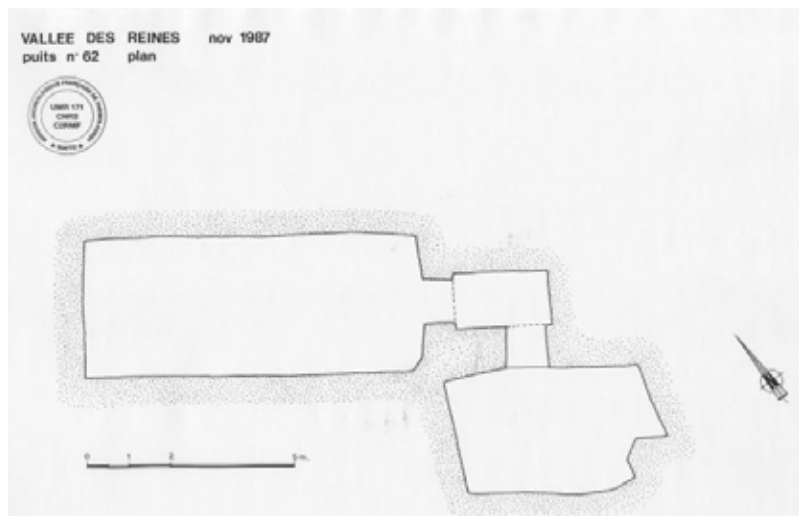
References

CNRS 1987-1988, 34.

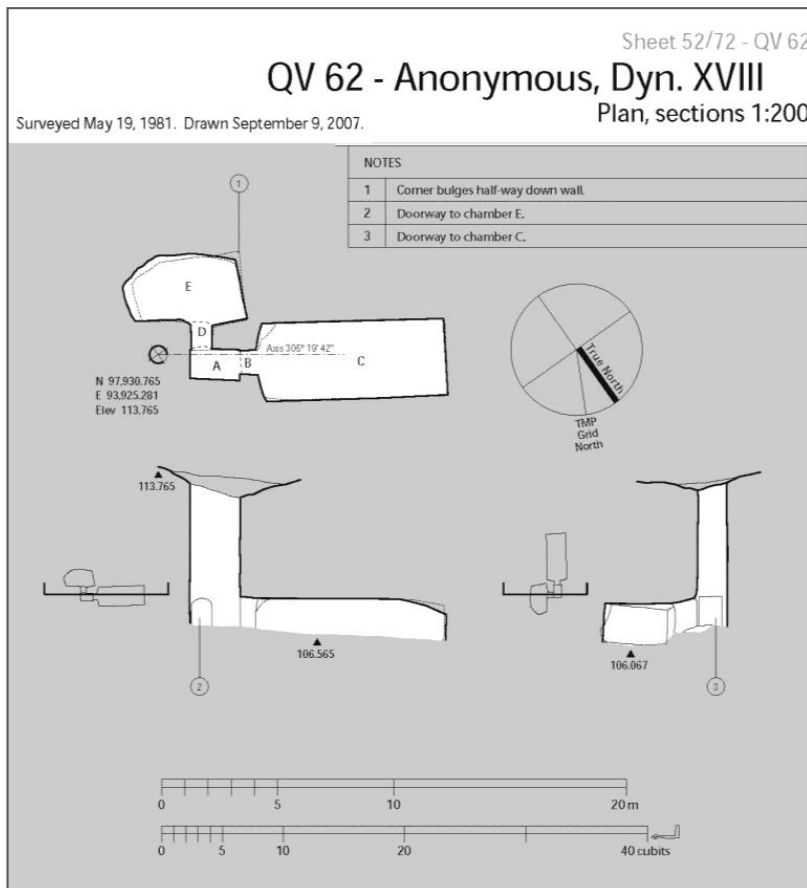
Thomas 1966, 184-188.



Detail of fractured ceiling rock with areas of salt efflorescence.



Drawing: CNRS.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 63 – Anonymous

General Description

QV 63 is on the north side of the wadi, between QV 64 and QV 62. The 7m deep shaft has two doorways opposite each other, leading to three large chambers. The chambers are cut into marl containing chert inclusions. The shaft has a modern cemented brick surround and a metal grill without mesh.

E. Thomas noted that the two chambers visible at the time of her visit (Chambers C and E) were cut at the same time. The tomb was rapidly cleared by the Franco-Egyptian team in 1986, at which time an additional large chamber with small appendage were discovered (see tomb plan on next page).

Condition

The rock into which the tomb is cut, though of inherently good quality, has a number of long vertical and diagonal fractures in the chambers and shaft. All chambers have piles of fallen rock lying atop a thick carpet of cracked mud. Mud also adheres to the ceiling, suggesting that the tomb filled completely with water. Following a geotechnical assessment of this tomb conducted by Hamza Associates in December 2009, it was concluded that portions of this tomb require additional stabilization.

Deterioration Factors

Thick, cracked mud is present throughout the tomb, providing evidence of past flooding, including the 1994 flood. The recent substantial loss appears to be related to the flooding, which may have completely filled some of the chambers.

General Recommendations

The doorway between chambers (A) and (C) should be stabilized with several props installed near the entrance of chamber (C). A shaft cover should then be installed to prevent entry of floodwater, debris, and animals. The masonry surround may also need to be raised for greater flood protection.

Archaeological Material

None.

References

CNRS 1987-1988, 34.
Thomas 1966, 188.



Entrance with masonry surround and metal grill.



Vertical fracture running down south side of shaft as seen from above.



Partial collapse of door jamb between chambers (C) and (E).



Area of substantial ceiling collapse in chamber (C).



Detail of ceiling rock in chamber (C).



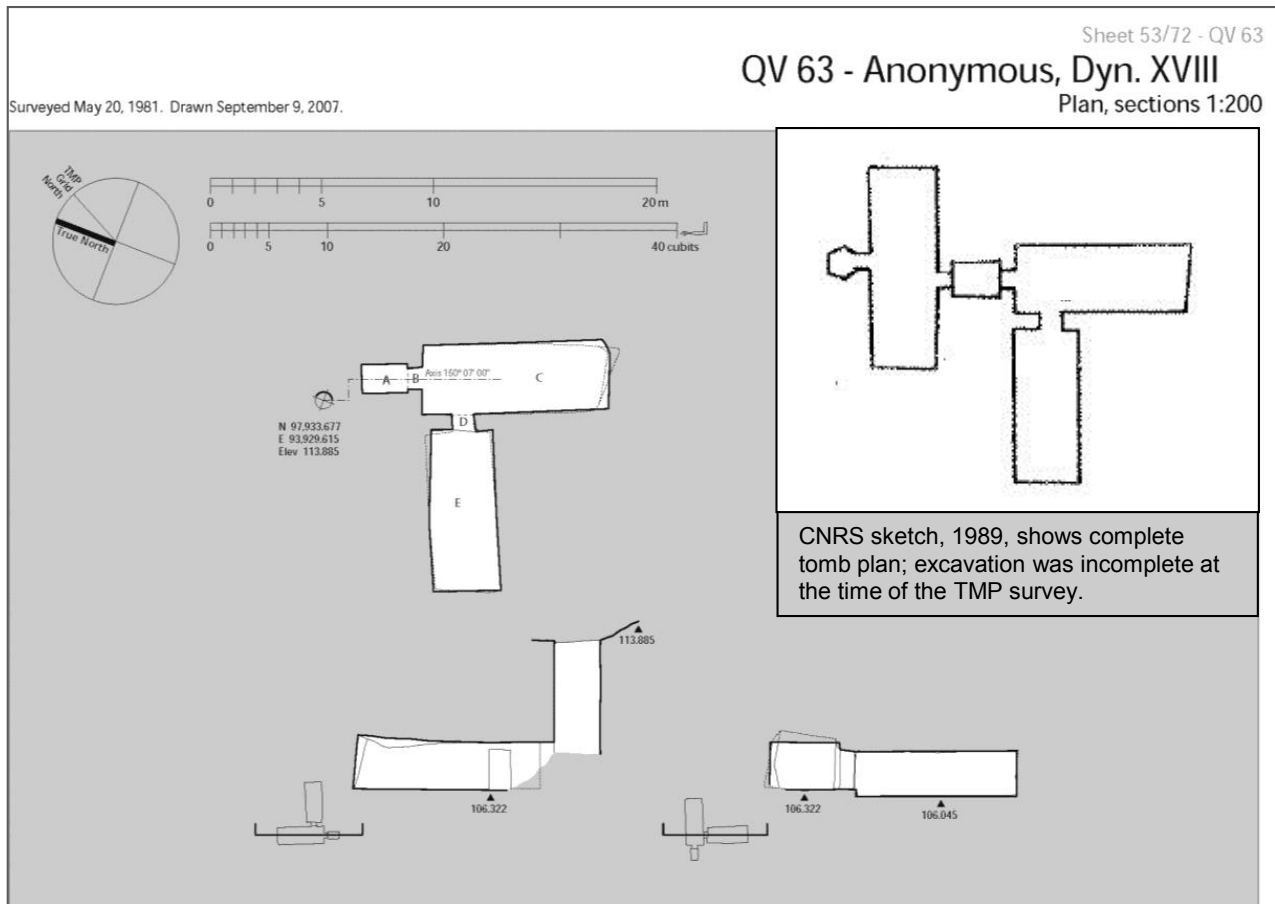
Third chamber (on CNRS sketch below) with localized ceiling rock collapse.



Detail of surface salt efflorescence.



Thick cracked mud on tomb floor.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 64 – Anonymous

General Description

QV 64 is a single-chambered shaft tomb on the north side of the Valley south of QV 66 (Nefertari's tomb). The shaft is deep, at approximately 6.5m, and enters the southwest end of a chamber approximately 9m long. The entrance to the shaft has a modern cemented brick surround, spanned by a metal grill and mesh.

As with the other shaft tombs in this area, E. Thomas noted that this tomb was in pristine condition at the time of her visit. The tomb was last cleared (rapidly) by the Franco-Egyptian team in 1986.

Condition

The rock of QV 64 is fractured and shows localized loss, although not as severe as that of QV 61. Rock loss seems to be occurring along joint planes, leaving clean smooth surfaces after rock fall. Some fallen rock is dispersed about the tomb and lies atop cracked mud. A large area of brown staining is present on the wall in the rear of the tomb and a horizontal brown line is present at the base of the walls, most likely "high tide" marks from previous floods. Cracked mud carpets the floor of the tomb.

Evidence of biological activity includes silverfish, mud wasps' nests, and staining (possibly from bats).

Deterioration Factors

Cracked mud and the basal horizontal stain are signs of flooding which Christian Leblanc witnessed in this tomb in 1994. This flooding led to substantial rock loss, such that the tomb is no longer in the pristine condition observed by Thomas in 1966.

General Recommendations

The entrance of the tomb should be closed with a shaft cover. The entrance surround may need to be raised to prevent the entrance of flood water.

Archaeological Material

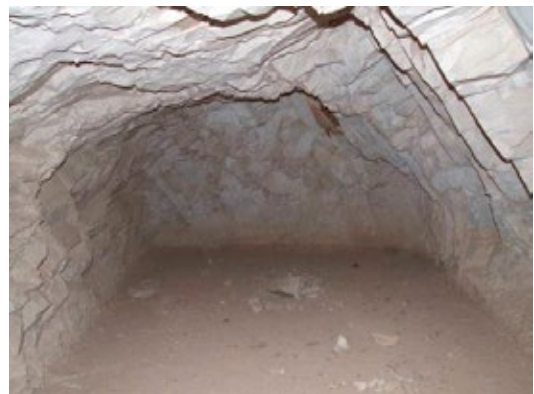
Study materials cleared from QV 64 by CNRS and SCA in December 2010: 1 bundle of linen mummy wrappings, 1 bone fragment, 1 partial human skull.



Shaft entrance with plastered surround.



View of shaft from below, with visible fractures.



General view of chamber, with localized fallen rock, and basal flood line.

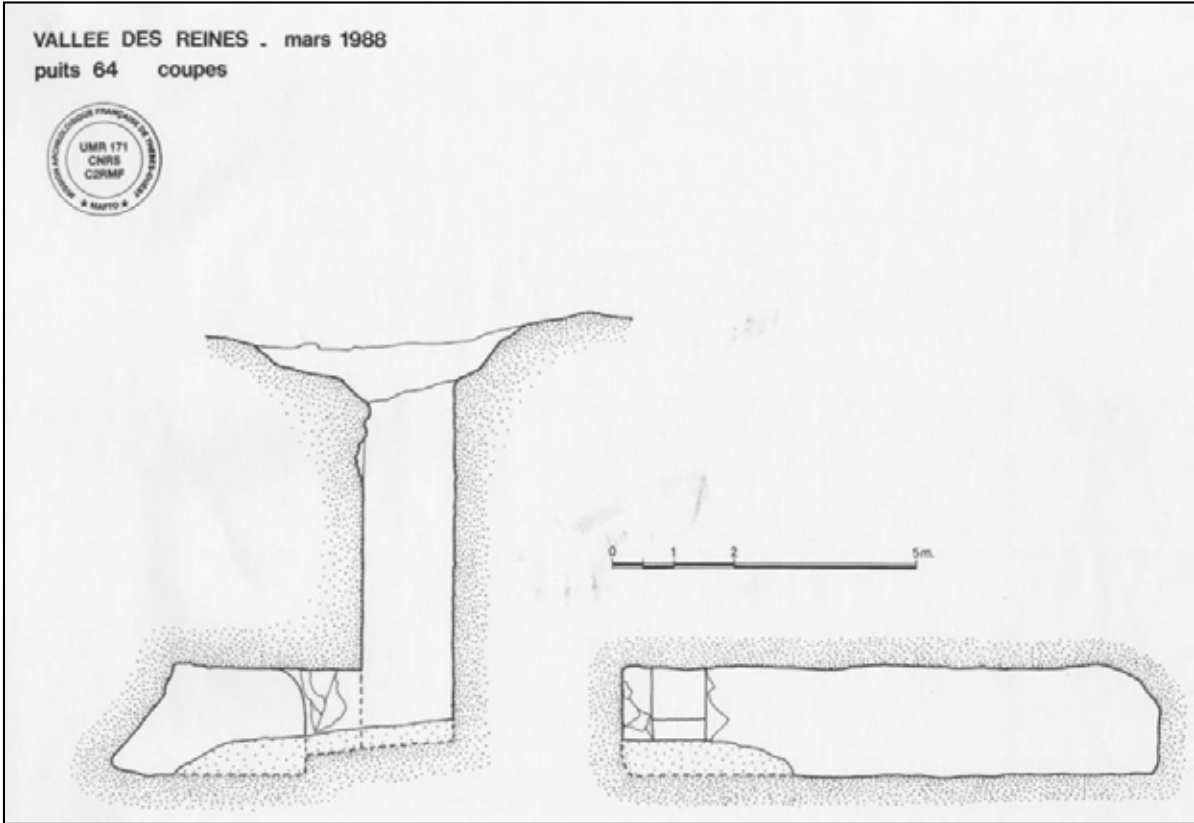
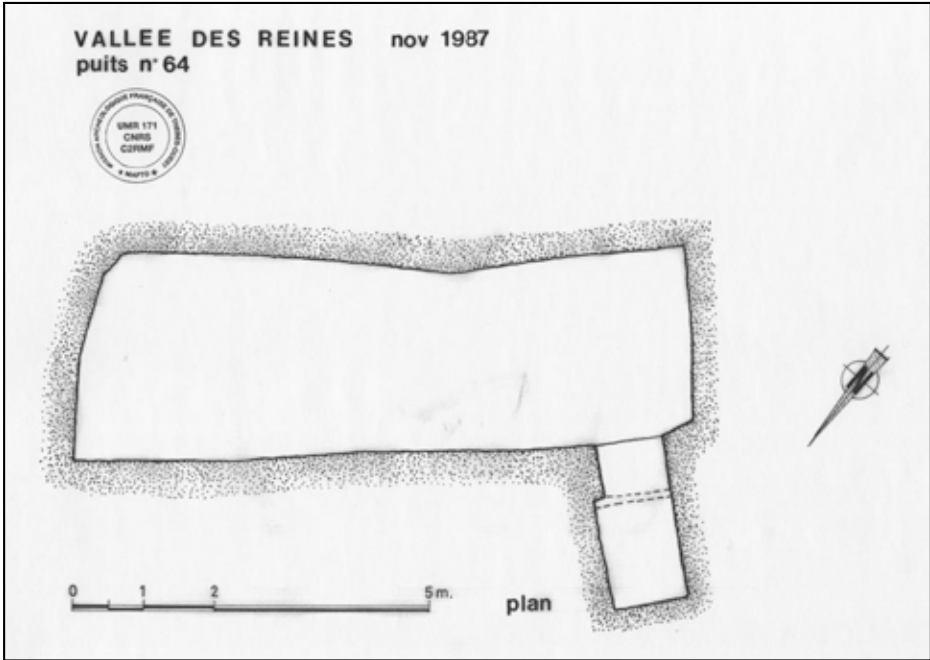


Brown staining on rear wall, perhaps due to bats.

References

CNRS 1987-1988, 34.

Thomas 1966, 188.



Drawings: CNRS.

QV 65 – Anonymous

General Description

The entry of this tomb, located to the north of QV 64, consists of a modern U-shaped concrete retaining wall and a rubble wall at the top of steep stairs cut into weathered marl and leading down to the doorway of the main chamber. The tomb has two chambers, separated by a roughly cut door.

E. Thomas compared the tombs' form with QV 7 and 20 and suggested that the smaller side chamber was intrusive; she also noted that the floor was clear with no evidence of a burial and speculated that perhaps it was never used, possibly because the rock was considered unsafe. (1966, 210). When the Franco-Egyptian team cleared the tomb in 1986, they found that the ceilings of both chambers had substantially collapsed and subsequently removed the debris as part of their archaeological investigation. Thus, debris currently in the tomb is from more recent ceiling collapse.

Condition

While the marl of the tomb appears to be in stable condition, much of the ceiling in both chambers has collapsed in the past. Following this collapse, the rock layer separating the ceiling of the tomb and the surface is now very shallow. Prominent fissures are also visible in both chambers. Dried mud now coats the floor, evidence of the 1994 flood. At that time, the tomb was completely filled with water that the Franco-Egyptian team removed by pump. Three bats were observed roosting in the tomb in November 2007. More than ten bats were observed in the side chamber in December 2009.

Deterioration Factors

Ancient and recent (1994) flooding has contributed to the substantial collapse found in this tomb. The roof is relatively shallow and may be prone to collapse.

General Recommendations

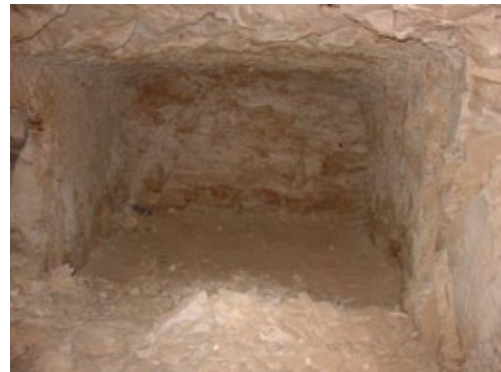
A door should be installed at the entrance of the tomb to prevent people or animals from entering the chambers. A sill wall should be constructed at the top of the ramp to protect the tomb in the event of a flood. The bats currently inhabiting the tomb must be removed.



Shaft entrance with U-shaped surround.



View of worn stairs leading to chamber.



View of main chamber with fallen rock and dried mud covering floor.



Entrance to side chamber housing an active bat colony.

Archaeological Material

Removed by CNRS: 1 human mummy, fragments of Roman-style pottery and amphorae

References

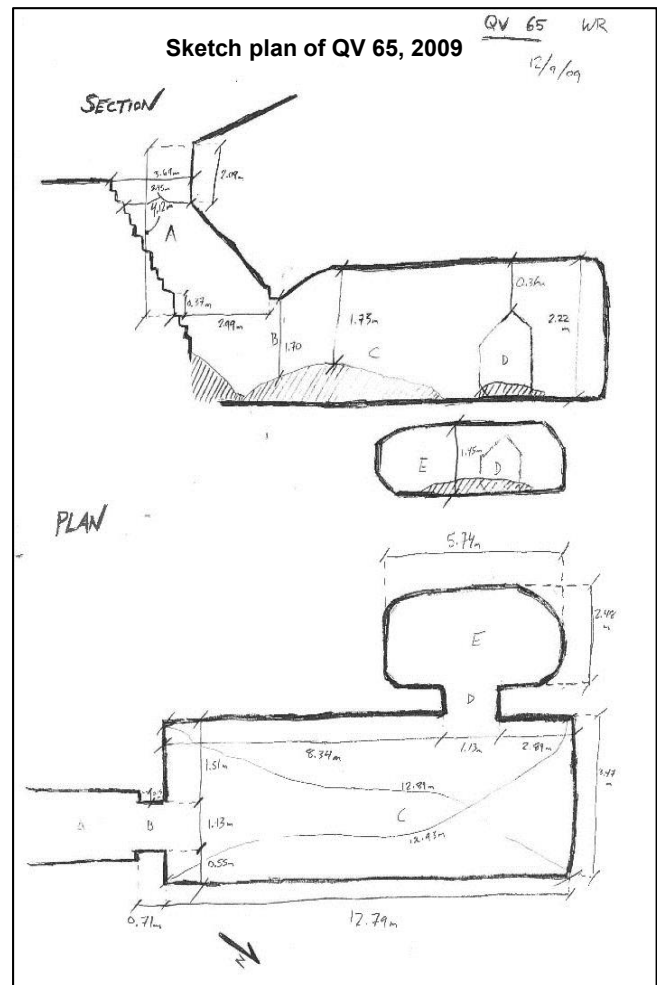
CNRS 1987-1988, 49.
Thomas 1966, 200, 210



Trash accumulated at bottom of shaft was removed in 2007



Confusion regarding the number and correct plan of QV 65 is discussed in Part VII.2. Above, left is a photo and right is a sketch plan of the tomb believed to be QV 65 (drawn by Will Reynolds, December, 2009). Photo is looking toward the entry from the shaft. This identification is confirmed by the sketch plan of the tomb numbered 65 by E. Thomas (1966, fig 20, 200), which she compares in its form to tomb nos 7 and 10 (1966, 210).



QV 67 – Anonymous

General Description

Like most of its neighbors, QV 67 is a roughly-hewn shaft tomb with a single chamber. It lies on the north side of the wadi, adjacent to the entrances of QV 69 and Unknown 1. The tomb is cut into marl containing chert inclusions, which indicate the upturned orientation of the bedding planes. The shaft opening has a modern, cemented brick surround and a metal grill with no mesh.

At the time of her visit, E. Thomas mentions that this tomb was partially filled but still visible. The Franco-Egyptian team cleared the tomb in 1987-88. The associated mission reports confuse QV 67 with QV 69, which can easily be distinguished because it is described as having five chambers (see discussion in Part VII.2, 15ff).

Condition

The single chamber is in relatively good condition, despite the presence of fractures and areas of deteriorated, loose rock. One wall has active rock loss along a joint plane at the base of the wall. The rock above was previously lost along the same plane, either at the time of excavation or subsequently. Some large open fractures have substantial salt or gypsum infill, but no signs of efflorescence on rock surfaces were noted. The roof structure appears relatively shallow and may be prone to collapse.

The presence of mud on walls and part of the ceiling, cracked mud on the floor, and a band of brown stain at the base of the walls are evidence that the tomb has flooded.

Evidence of biological activity includes wasps' nests, large spiders and webs, and bat droppings.

Deterioration Factors

Water infiltration is the primary cause of rock deterioration and loss. However, there seems to be minimal loss since the 1987-88 clearing of the tomb, since no fresh losses were noted.

General Recommendations

A shaft cover is necessary to prevent animal and flood water entry. Further flood mitigation may be necessary, in the form of surface diversion and drainage channels.



Shaft entrance and masonry surround.



View of shaft from below. Note areas of friable rock.



End of chamber with notable staining/discoloration along base of wall.



Cracked mud on the floor of tomb.

Archaeological Material

Due to confusion in the CNRS mission reports, it is not evident what archaeological material was removed from this tomb at the time of clearing.

Materials cleared from QV 67 by CNRS and SCA in October 2008: fragments of wood and 1 bone fragment.

References

CNRS 1987-1988, 27.

Thomas 1966, 184-188.



Entrance from shaft to chamber.



Detail of wall with an area of adhered mud on the lower right, evidence of past flooding.

QV 69 – Anonymous

General Description

QV 69 is a shaft tomb with five chambers on the north side of the wadi, adjacent to QV 67 and U1. All the chambers are cut into good quality marl containing chert inclusions. The shaft entrance has a modern, cemented brick surround and metal grills with mesh. The tomb is currently used as a magazine for archaeological study materials cleared from other tombs in the Valley, sorted by type of material, including human remains, potsherds, mummy wrappings, and animal remains. These materials were stored in the tomb by SCA and SNRS in October 2008 and December 2010 (see Volume 1, Part III:9).

When E. Thomas attempted to visit the tomb, it was reburied to such a degree that she was unable to locate the shaft entrance. The tomb was cleared by the Franco-Egyptian team in 1988, at which time the chambers were filled with debris to a third the total height of their walls. During these efforts, the discovery of a photographic plate from the Italian expedition amongst the debris suggests that QV 69 was probably investigated previously, though it is not mentioned specifically in the Italian reports.

The 1987-88 CNRS mission report incorrectly refers to QV 69 as QV 67.

Condition

The tomb is in very good condition, with only localized fractures in some of the chambers. Large veins of salt or gypsum infill are present in some of the fractures. The large size and excellent condition resulted in its choice as a magazine for study materials.

Deterioration Factors

Some areas of cracked mud were noted on the tomb floor indicating intrusion of water during the 1994 flood. At that time the tomb opening was adjacent to the asphalt parking lot. Removal of the parking lot and deepening of the wadi will have reduced the risk of flooding.

General Recommendations

It is recommended that a shaft cover be installed to prevent entry of floodwaters, debris, and animals. Since it is a storehouse for study materials, the tomb requires that the surround of the shaft cover be raised for extra protection against flooding and secured.



Shaft entrance with surround.



View of shaft from above.



Side chamber before study materials were installed in 2008.



Side chamber with study materials.

Archaeological Material

Recovered at the time of CNRS clearing: terracotta fragments; circular shroud; sherds of faience; vertebral column stuffed with palm frond; partial fragment of a photographic plate from Turin Museum expedition.

Study materials cleared from QV tombs by CNRS and SCA in 2008 and 2010 are stored in QV 69 tomb.

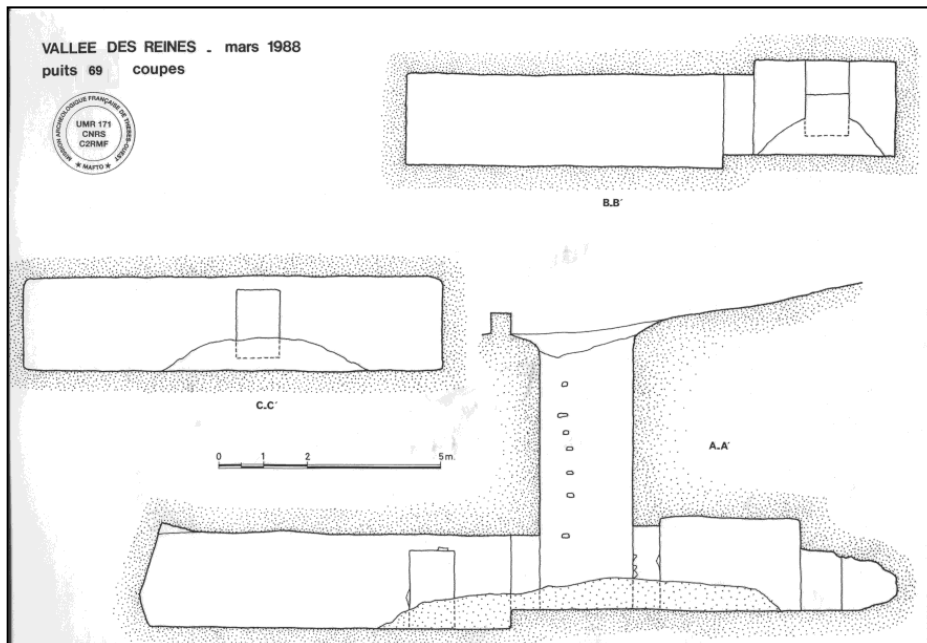
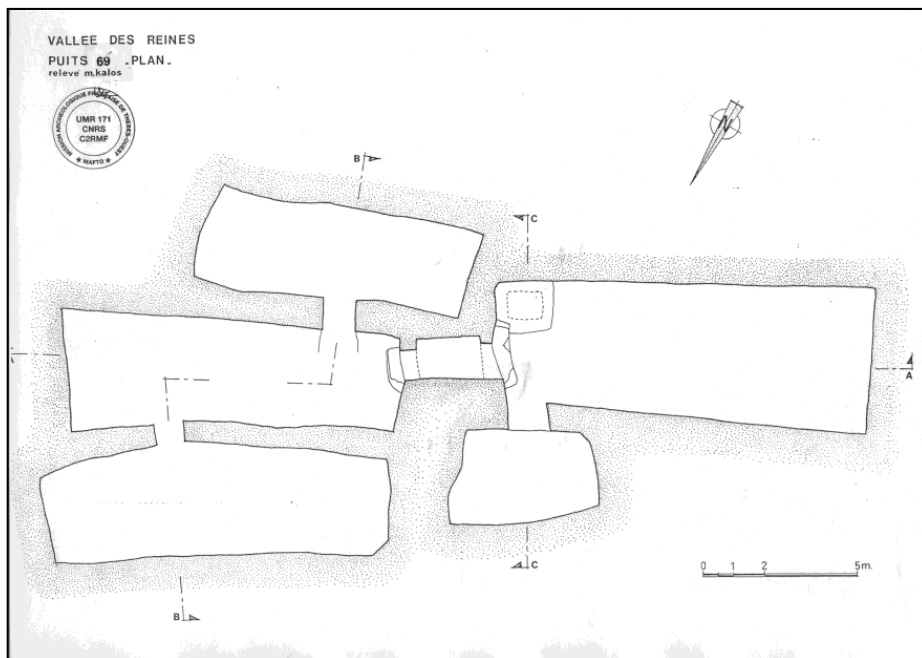
References

CNRS 1987-1988, 27.

Thomas 1966, 188.



Study materials (pottery sherds) stored in QV 69.



Drawings: CNRS

QV 70 – Nehesy

General Description and History

Attributed to the 18th Dynasty dignitary Nehesy, QV 70 is a single-chambered shaft tomb on the north side of the wadi. The tomb is cut into marl with chert inclusions that indicate the tilted bedding plane. The entrance to the tomb lies between QV 71 and the retaining wall. The shaft is relatively shallow at 3m. It has a modern, cemented brick surround, deeper on the upslope side, and a metal grill without mesh.

E. Thomas mentions the tomb was filled at the time of her visit, though still identifiable. The Franco-Egyptian team cleared the tomb in 1984.

Condition

The tomb is in good condition, with stable rock, despite a fault and fractures running through the tomb. Salt infill is present in open fractures and analysis identified individual layers of calcite and anhydrite within one fracture.

The shaft is partially filled with debris (mostly sand) that spills into the chamber. Walls have adhered mud/silt almost to the ceiling, from previous flooding.

A number of mud wasps' nests are present on the ceiling and upper part of walls, as are scattered droppings (probably from bats).

Deterioration Factors

Flooding has resulted in salt infill in rock fractures.

General Recommendations

A shaft cover should be installed over the entrance of this tomb to prevent entry of animals, flood water, and debris.

Archaeological Material

The archaeological material recovered during the clearing of the tomb and permitting the identification of the tomb owner was unclear.

References

Thomas 1966, 184-188.
Leblanc 2001, 275.



Shaft entrance and plastered brick surround.



View of chamber entrance, within shaft.



Detail of salt infill in fracture. Analysis identified the upper, darker layer as calcite and the lower, white material as anhydrite.



Fault visible in corner of tomb, with salt infill.

QV 72 – Prince Baki and Princess Hatneferet

General Description

QV 72 is a single-chambered shaft tomb on the north side of the main wadi, between 19th Dynasty chamber tombs QV 73 and 74. The shaft entrance has a modern cemented brick surround, deeper on the upslope side, and a metal grill without mesh.



Shaft entrance and surround.

First noted by Lepsius, by the time E. Thomas visited, the tomb had been filled to such an extent that the entrance was no longer visible. However, Thomas also suggested that her "B" may represent the tomb of Hatneferet (previously identified by Lepsius), though this tomb was unfinished and is more similar to QV 83. The Franco-Egyptian team cleared the tomb in 1986.



Shaft in relatively good condition.

Condition

The deep (approx. 5m) shaft has vertical fractures and partial debris fill. The chamber appears stable and is roughly hewn from good quality marl with bands of chert. Two stacks of neatly piled rocks are present, presumably from the original sealing of the chamber entrance. The rear wall of the chamber shows damage from salts, visible in the form of extensive fibrous crystal growth. Localized fracturing is visible in ceiling and walls.



Chamber with rough hewn walls and floor.

There is evidence of bat activity and wasps' nests, along with a gecko and silverfish.

Deterioration Factors

The presumed ingress of moisture, perhaps as seepage through the rock from the surface or adjacent tombs has resulted in salt crystal growth and related rock deterioration on the rear wall of the chamber.

General Recommendations

It is proposed that this tomb, adjacent to the visitor path and with a well-formed shaft, be left open for viewing from above. To prevent entry of floodwaters and debris the current masonry surround would need to be raised to a height of approximately 1 meter and a metal grill placed for safety. Lighting could be installed inside the tomb to provide illumination of the shaft.



Fibrous halite crystal growth on rear wall of chamber.

Archaeological Material

Removed by CNRS: 5 bone fragments. The nature of the archaeological material that would have permitted the identification of the tomb owners remains unclear

References

Leblanc 2001, 275.

Lepsius 1897-1913, 225-277, 307.

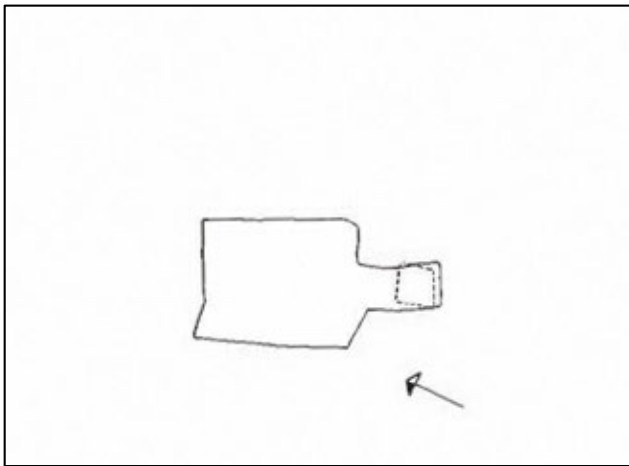
Macke, Macke-Ribet, Leblanc, and Connan 2002, 28.

Porter, Moss, and Málek 1964, 769.

Thomas 1966, 184-188.



Pile of rocks in tomb, possibly used to seal entrance in antiquity.



Drawing: CNRS

QV 76 – Princess Merytra (II)

General Description

QV 76, according to the CNRS drawing, is a single chamber shaft tomb from the 18th Dynasty on the north side of the main wadi, adjacent to the paved path. The entrance to the tomb is filled with large boulders and debris and was not accessible to the assessment team.

E. Thomas stated that little was left to be learned from the tomb, though it is unclear whether she visited, and she does not mention its attribution. The tomb was last cleared by the Franco-Egyptian team in 1987. Archaeological material recovered at that time indicates that the tomb was first used in the 18th Dynasty and then was re-used again during the 21st/22nd Dynasty and the Roman period.

Condition

The tomb was not accessible, therefore no condition information was recorded.

Deterioration Factors

This tomb is close to the main drainage and in the flood path.

General Recommendations

The tomb should be properly reburied and protected from flood waters. This will require partial excavation to ensure that debris has filled the entire tomb.

Archaeological Material

Removed by CNRS: 3 human skulls, 2 bone fragments; sarcophagus fragments that appear to date to the 21st/22nd Dynasty, remains of mummy nets from Roman/Saito-Persian times; sherds of Roman period. It is unclear what archaeological material permitted the identification of the tomb owner.

References

CNRS 1987-1988, 188.

Leblanc 2001, 275.

Macke, Macke-Ribet, Leblanc, and Connan 2002, 28.

Thomas 1966, 184-188.



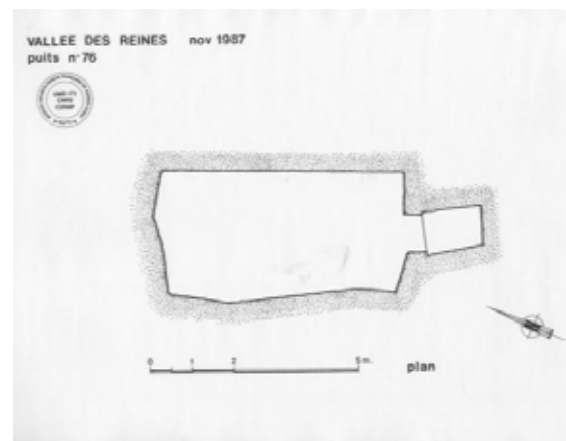
Shaft entrance from east, looking up the wadi.



View of shaft entrance, filled with boulders.



Shaft entrance looking towards mouth of wadi.



Drawing: CNRS

QV 77 – Anonymous

General Description

QV 77 is a single-chambered shaft tomb on the north side of the visitor path in the main wadi, and near the WC trailer. It is cut into good quality marl containing chert inclusions. The shaft entrance has a modern, cemented masonry surround with a metal grill.

Thomas mentioned that little could be learned about this tomb during her early 1960s investigations. It was cleared by the Franco-Egyptian team in 1986. Based on the archaeological material recovered at that time, it appears that, like QV 76, the tomb was first carved out of the rock during the 18th Dynasty, and was then reused during the 21st/22nd Dynasty as well as during the Roman period.

Condition

The tomb appears to be in good condition despite fracturing of the reddish colored ceiling and rear chamber rock., presumably the result of fire. Trash littered the floor of shaft and tomb.

One bat was observed in the chamber in October 2007. Mud wasp nests and a gecko were also observed in the tomb.

Deterioration Factors

The tomb opening is in a location susceptible to flooding, though no evidence of previous flooding was noted.

General Recommendations

It is recommended that a shaft cover be installed to prevent entry of floodwater, debris, and animals, as well as for visitor safety.

Archaeological Material

Removed by CNRS at time of excavation: wooden coffin fragments from 21st/22nd Dynasty; terra cotta plates with cuttings of human hair; carbonized bones; carbonized fragments of wood; terra cotta funerary mask; faience *ushabt*.

Study materials cleared from QV 77 by CNRS in October 2008: piles of bones, skulls, pot sherds.

References

CNRS 1987-1988, 39, 189.
Thomas 1966, 184-188.



View of shaft opening with surround.



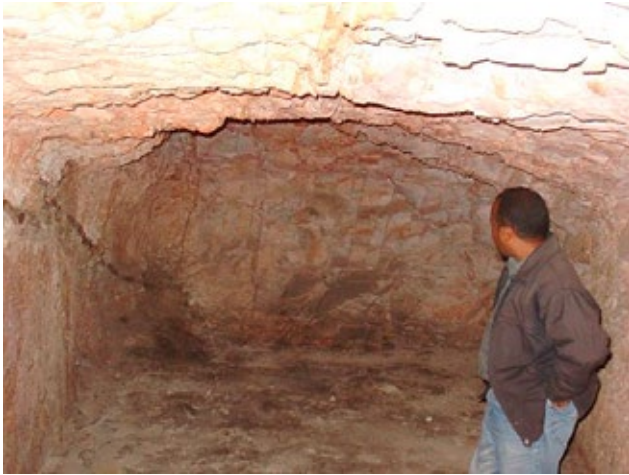
Shaft from above.



From chamber looking towards the shaft. Dark chert seams are evident on the walls.



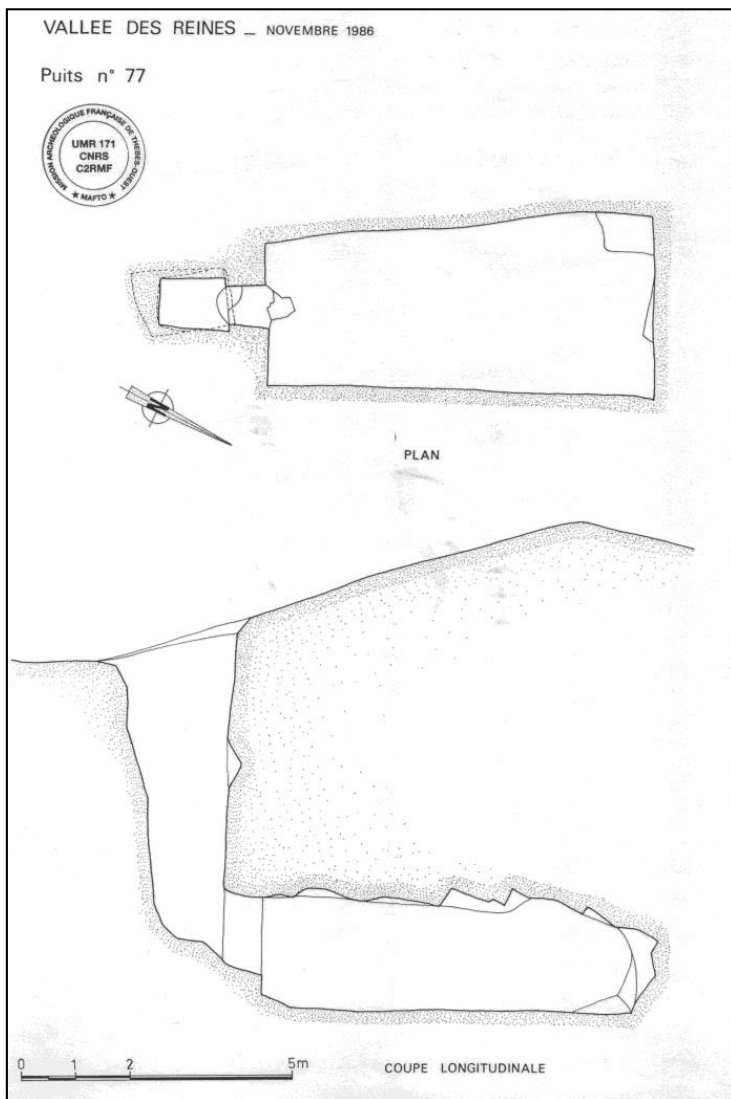
Reddish coloration of heavily jointed ceiling.



Reddish coloration of rock in rear of chamber.



Skulls (removed and relocated in 2008 by CNRS) and trash (removed in 2007) near the entrance.



Drawing: CNRS.

QV 78 – Anonymous

General Description

QV 78 lies on the north side of the main wadi at its eastern end, between QV 77 and 79. It has three chambers at different levels, two of which are accessed via a deep pit in the rear of the upper, main chamber (C). Large boulders are present in the main chamber, presumably used for the original blocking of the shaft or chamber entrance. A shallow excavated pit is present in the main chamber. The shaft entrance has a modern cemented masonry surround with a metal grill.

Lepsius called QV 78 "spacious" and E. Thomas mentioned that the rear pit is "comparable to those in QV 13-16 and is probably again intrusive" (Thomas 1966, 188). The Franco-Egyptian team last cleared the tomb in 1986-87. Based on the archaeological material recovered, they suggest that the tomb was first carved during the 18th Dynasty and was then expanded to include the lower chambers, accommodating a group burial during the Roman period.

Condition

The tomb is in stable condition. Chamber (C) is roughly hewn and the rock of the ceiling and much of the walls shows an orange-brown lustrous appearance similar to the side chamber (G) of QV 42 and chamber K of QV 43, presumably caused by intense fire or heat damage of some sort.

Modern trash littered the floor; removed in 2007. Due to difficulty in access, the lower chambers were not inspected by the GCI assessment team.

The lower shaft and chambers were inhabited by bats during the time of the assessment. At least ten individuals were seen during the assessment in 2007, but many more were heard roosting in the pit.

Deterioration Factors

The rock discoloration is thought to be the product of fire. The floor and lower portions of the walls that are not discolored were presumably protected by debris fill at the time of the fire.



Shaft entrance and masonry surround.



Chamber (C) with large boulders and lower shaft in rear.



Detail of discolored rock ceiling in chamber (C).



Shallow excavated pit in chamber (C).

General Recommendations

The masonry surround needs to be raised to protect the tomb from flooding and a new metal grill suspended over the shaft, preventing visitor access but allowing bats entry and egress from the tomb.

Archaeological Material

Removed by CNRS: one human mummy, cranial fragments, 15 mandibles, 20 skulls from adults and children; Roman period sarcophagus fragments; carbonized bones; carbonized wood fragments; mortar/pestle; approximately 250 terracotta *ushabtis*; funerary cone.

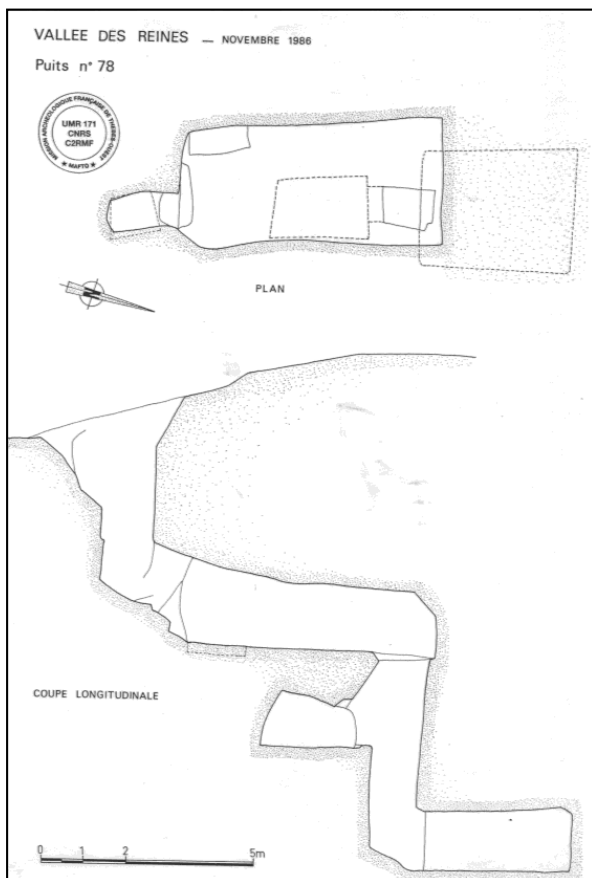
Materials cleared from QV 78 by CNRS and SCA in October 2008: small number of bones.

References

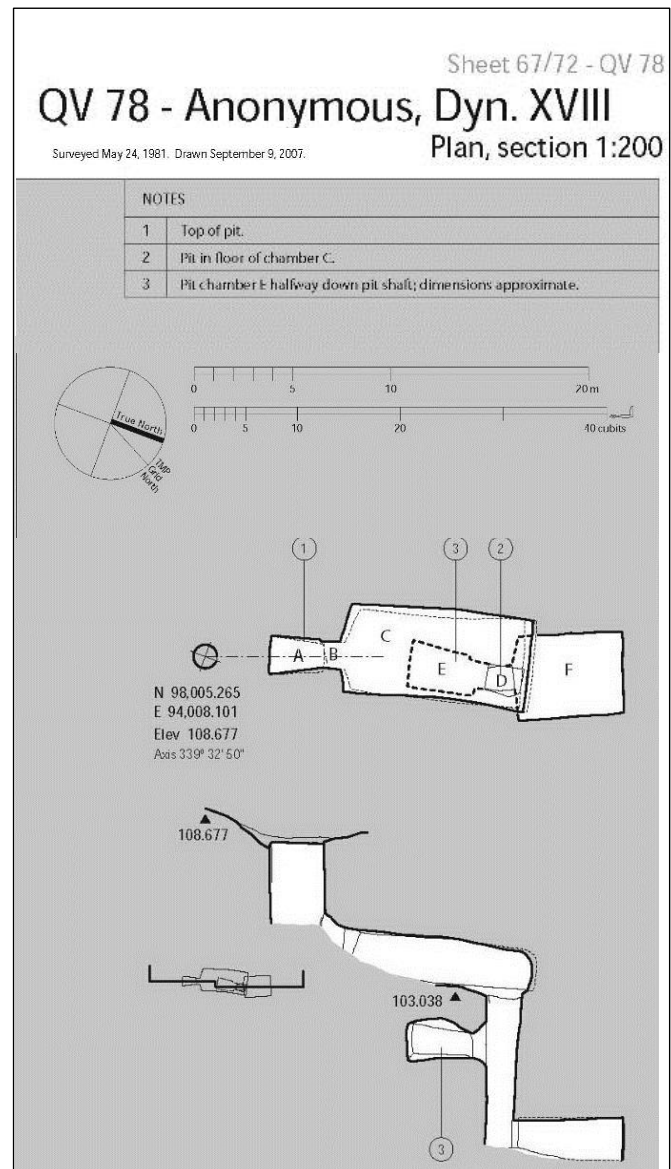
- CNRS 1987-1988, 192.
- Lepsius 1897-1913, 225-277, 307.
- Macke, Macke-Ribet, Leblanc, and Connan 2002, 28.
- Thomas 1966, 184-188.



View down interior, lower shaft from chamber (C).



Drawing: CNRS.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 79 – Anonymous

General Description

QV 79 lies on the north side of the main wadi at its eastern end, near the electricity building and WC trailer. The tomb has a large L-shaped chamber off which lies a smaller side chamber. Both are cut into good quality marl. The shaft entrance has a modern cemented masonry surround spanned by a metal grill.

At the time of E. Thomas' visit, the entrance to the chamber was largely blocked, though her sketches indicate that the shaft was at least partially clear and visible. The most recent clearing of the tomb was undertaken by the Franco-Egyptian team in 1987. They suggest that while initially carved in the 18th Dynasty, the side chamber was added during a later period of reuse.

Condition

The tomb is considered stable. The 5m deep shaft exhibits some fractures and is partially filled with debris. The rock of the chambers has minor fracturing with an area of substantial loss from the ceiling at the entrance. There is a thin layer of cracked mud on the floor of the side chamber, providing evidence of previous flooding. Substantial quantities of salt have effloresced on the north wall of the main chamber.

Bat droppings and localized rock staining are present throughout the tomb and five bats were observed by the GCI assessment team in January 2008. Wasps' nests were also adhered to the walls.

Deterioration Factors

Entry of floodwaters and debris have contributed to salt efflorescence and deterioration on the rear wall of the tomb and have gradually filled the shaft with debris. Hydrological analysis suggests runoff from upslope will flow directly into the tomb.

General Recommendations

The entrance of the tomb should be closed with a shaft cover to prevent entry of animals, flood waters, and debris.



Shaft entrance with masonry surround.



View of entrance and part of main chamber with archaeological study material in situ (relocated by CNRS in October 2008).



Roughly cut entrance to side chamber.



Cracked mud layer on floor of side chamber, with bat droppings.

Archaeological Material

Recovered by CNRS: wooden coffin fragments from 21st/22nd Dynasty; 40 human skulls, fragments of human bone; abundant pottery assemblages with forms dating from the end of the Third Intermediate Period, Roman Period and Coptic Period

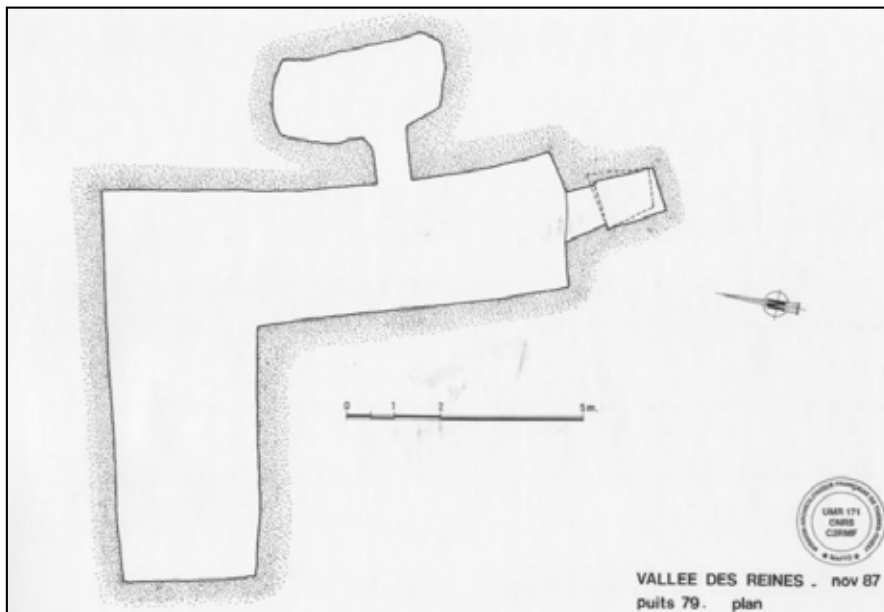
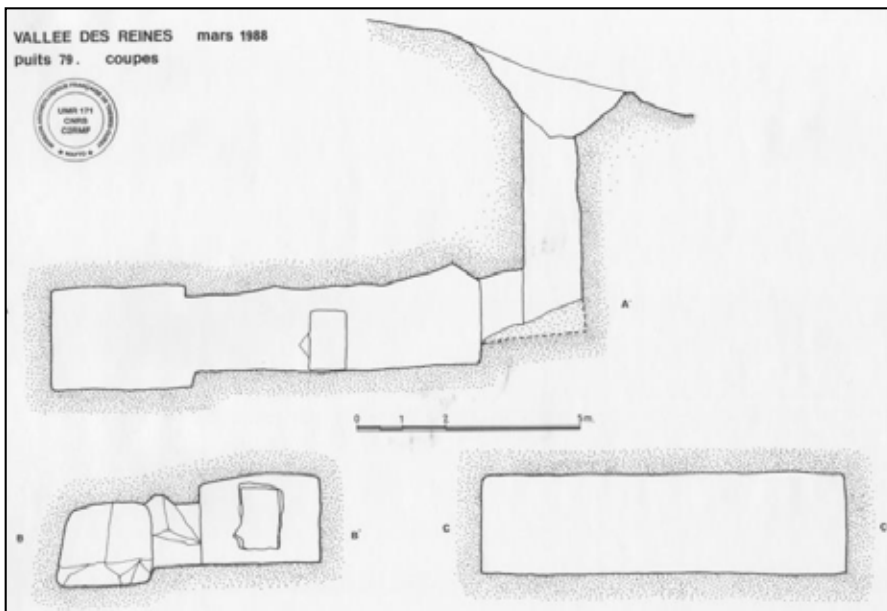
Study materials cleared from QV 79 by CNRS and SCA in October 2008: Piles of bones, skulls, small amount of pottery, wood fragments, 11 bags of mixed materials.

References

CNRS 1987-1988, 197.
Thomas 1966, 184-188.



Salt efflorescence and related deterioration in main chamber.



Drawings: CNRS.

QV 81– Heka...

General Description

QV 81 is located on the south side of the paved visitor path, up slope from QV 3 and 5. It consists of a vertical shaft leading to a poorly formed central chamber, oriented roughly north-south, which is flanked to each side by poorly formed chambers which are roughly oriented east-west. Its three chambers all consist of a marl ceiling slab resting on walls excavated from weak, fractured shale. All of the wall and floor surfaces are poorly defined. The north side of QV 81's eastern chamber is connected to the rear chamber of QV 3. The shaft entrance has a cemented masonry surround spanned by a metal grill. The tomb was cleared by the Franco-Egyptian team in 1985-6.

Condition

The rock throughout the tomb, particularly the shale, is highly fractured. The upper marl ceiling of the three chambers has areas of loss and rock collapse; the weak shale below has largely crumbled. There is evidence of flooding with cracked, dried mud on the floor of the middle and eastern chambers, and to a lesser extent on the floor of the western chamber, which is at a higher level than the others. Given that the QV81 shaft opening is at a relatively high elevation near the top of a hill, past flood waters apparently passed from QV3 to QV 81. Following a geotechnical assessment conducted by Hamza Associates in February 2010, this tomb was deemed to be stable despite the fractured rock.

Bats roost in this tomb; one individual was observed in 2007 and more than five were seen in 2009.

Deterioration Factors

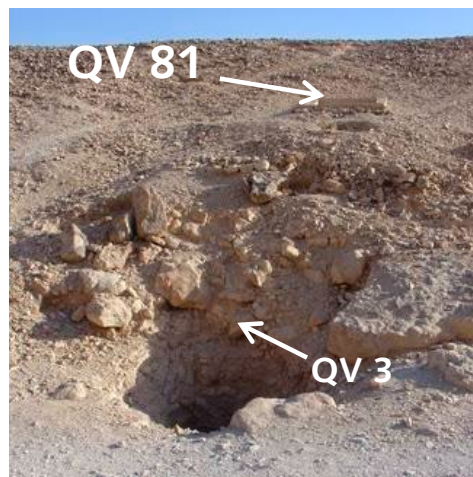
The inherently poor quality of the shale and its subjection to flooding have resulted in widespread fracturing and localized rock collapse. The tomb continues to be at high risk of flooding through QV 3.

General Recommendations

It is recommended that a shaft cover be installed to prevent entry of water, debris, and animals. Interventions require coordination with those for QV 3, as the tombs adjoin.

Archaeological Material

Study materials cleared from QV 82 by CNRS and SCA in December 2010: 3 bags of pottery sherds, 8 bags of animal bones, and 1 bag of wood fragments.



Entrance of QV 81 in relation to QV 3.



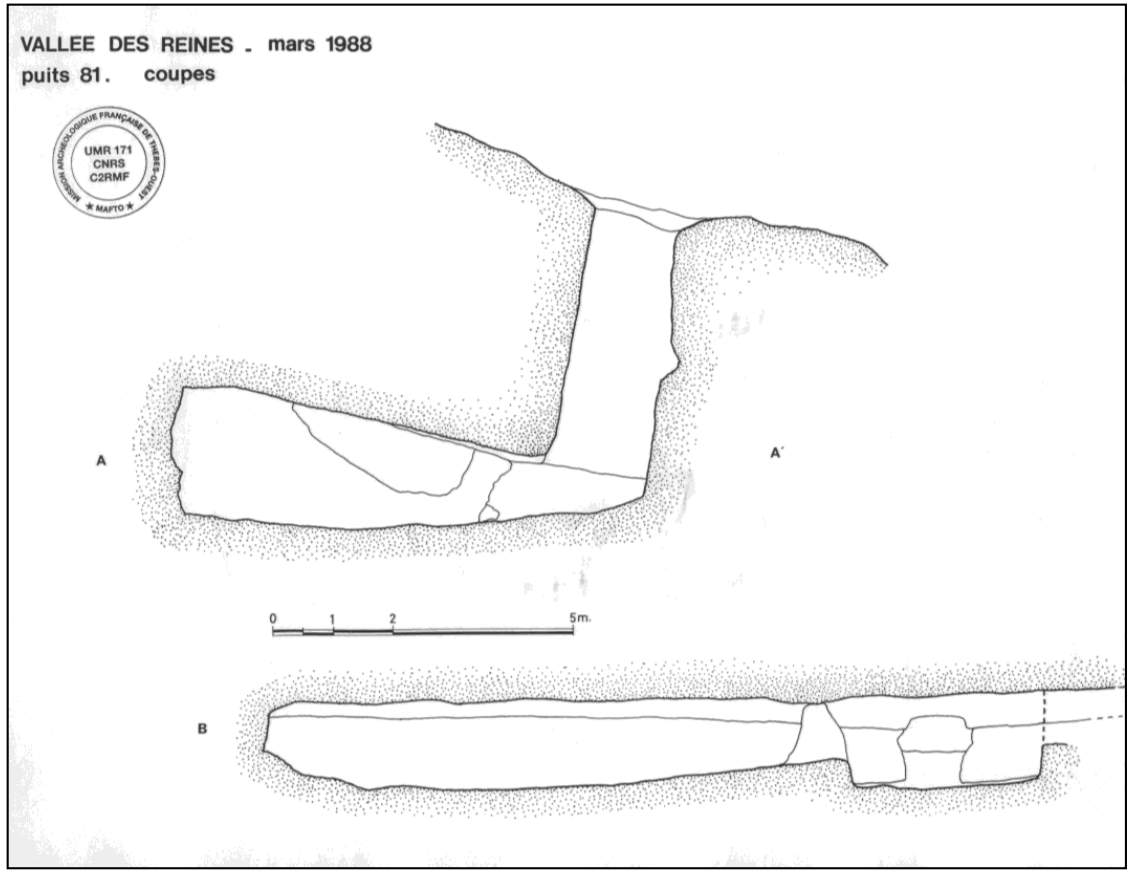
QV 81 entrance with masonry surround.



View from central chamber to shaft and shallow entrance .



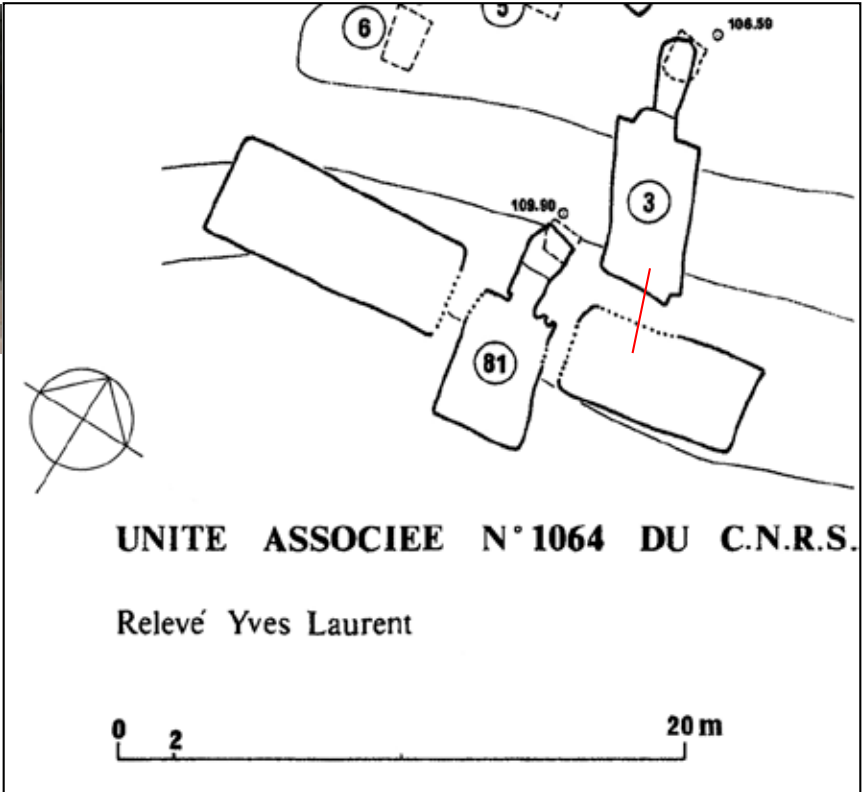
Central chamber facing rear end, with fractured shale.



Drawing: CNRS.



The three chambers of QV 81 are connected to each other roughly between the dotted lines on the plan (right). The eastern chamber connects to QV 3 through a shallow opening in the east chamber (shown by the red line) and seen in the photo above.



Drawing: CNRS.

QV 82 – Prince Minemhat and Amenhotep

General Description

QV 82 is a single chamber tomb on the north side of the wadi, adjacent to the bridge and path to QV 66. It is located between the entrances to chamber tombs QV 74 and QV 75. The tomb is cut entirely into good quality marl. The shaft entrance has a modern, cemented masonry surround with a metal grill over the entrance.

The tomb was cleared by the Franco-Egyptian team in 1986.

Condition

The tomb is in good condition despite past flood events, indicated by a thin layer of dried, cracked mud that covers the chamber floor and is adhered to some wall surfaces. Also, fibrous salt crystals have formed on many surfaces throughout the tomb.

Deterioration Factors

Flood water entering the tomb has contributed to salt efflorescence and partially filled the tomb with debris.

General Recommendations

It is recommended that a shaft cover be installed to prevent the entry of animals, flood water and debris.

Archaeological Material

Removed by CNRS: 1 fragmentary mummy, 10 bone fragments; a ceramic vase with Thutmosid inscriptions and the name of Prince Minemhat.

References

Macke, Macke-Ribet, Leblanc, Connan 2002, 28.



Shaft entrance with plastered masonry surround and metal grill.



Deep shaft, as seen from above.



Main chamber, facing towards shaft.



Fibrous salt crystal growth on rock.

QV 83 - Anonymous

General Description

QV 83 is a small tomb on the north side of the wadi, adjacent to the paved path and just east of the bridge that leads to QV 66. The tomb seems to be incomplete, as the shaft leads to a small, roughly hewn chamber unlike others in the Valley. The shaft entrance has a modern, cemented masonry surround with a metal grill.

Condition

The small chamber and shaft were partially filled with trash at the time of assessment and were difficult to access. Nonetheless, the rock of the small tomb seems stable with no apparent surface deterioration or large fractures.

Deterioration Factors

This tomb lies adjacent to the main flood path, and is susceptible to flooding.

General Recommendations

A shaft cover should be installed to prevent entry of animals, flood waters, or debris.

Archaeological Material

None

References

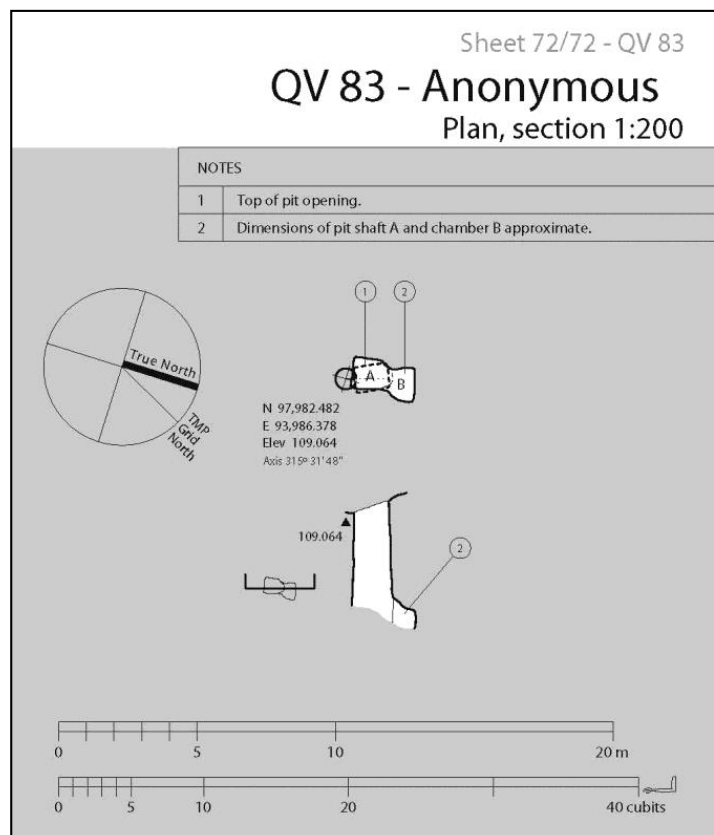
None



Shaft entrance and masonry surround.



View of small chamber, partially filled with trash.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

QV 87 – Anonymous

General Description

QV 87 is located on the south side of the wadi, upslope from the main pathway of the southwest branch. It is adjoined by QV 34 (19th Dynasty), the side chamber of which is cut directly into QV 87. The tomb is cut primarily into relatively weak shale. A cemented masonry surround with a metal grill was installed by the SCA as of December 2009.

The tomb was discovered by the Italian mission and was last cleared by the Franco-Egyptian team. At the time of their work, they speculated that the Ramesside workers excavating QV 34 had forgotten the placement of the earlier QV 87 and accidentally cut through its wall.

Condition

The tomb is structurally compromised with severely fractured and friable rock throughout the chamber. Previous interventions have tried to stabilize the tomb through the application of cement in the rear of the chamber along cracks and at the interface between shale and marl layers.

Deterioration Factors

The poor quality of the rock is the principal factor in the deterioration of the tomb. The collapse of the adjacent rock overburden in the main chamber of QV 34 likely contributed to deterioration as well.

General Recommendations

It is recommended that a shaft plug be installed to prevent entry of water, debris, and animals. The implementation of plugging requires close coordination with the engineering works to stabilize adjoining QV 34.

Archaeological Material

Removed by CNRS: modest pottery assemblage

References

CNRS 1988-1990, 37.



Shaft entrance as seen in February 2007.



Masonry surround installed by the SCA as of December 2009



Tomb interior seen from shaft. White cement interventions are visible in the upper part of the rock wall.



Detail of shale and white cement patches on walls.

QV 94 - Anonymous

General Description

QV 94 is a single chamber tomb on the north side of the wadi, just behind the trailer currently used as the visitor WC. The shaft opening is wide with a low, modern rubble wall surrounding it.

The tomb was cleared by the Franco-Egyptian team in 1987. The archaeological remains that they recovered suggest that the tomb was initially carved during the 18th Dynasty.

Condition

The tomb has been used as a dump for waste from the WC and was therefore not accessed during the site assessment. From above, the shaft entrance shows evidence of erosion, resulting in a wide, unstable and potentially dangerous opening.

Deterioration Factors

The tomb is located within the path of a side drainage that feeds the main flood path. Erosion of the shaft opening suggests that the tomb may have flooded in the past.

General Recommendations

It is recommended that the tomb be filled and reburied to prevent further erosion and damage associated with flooding. SCA staff should determine if it is necessary to remove the accumulated waste before filling the tomb.

Archaeological Material

Removed by CNRS: substantial assemblage of 18th Dynasty pottery (typical of the reign of Amenophis III); bones of several children.

References

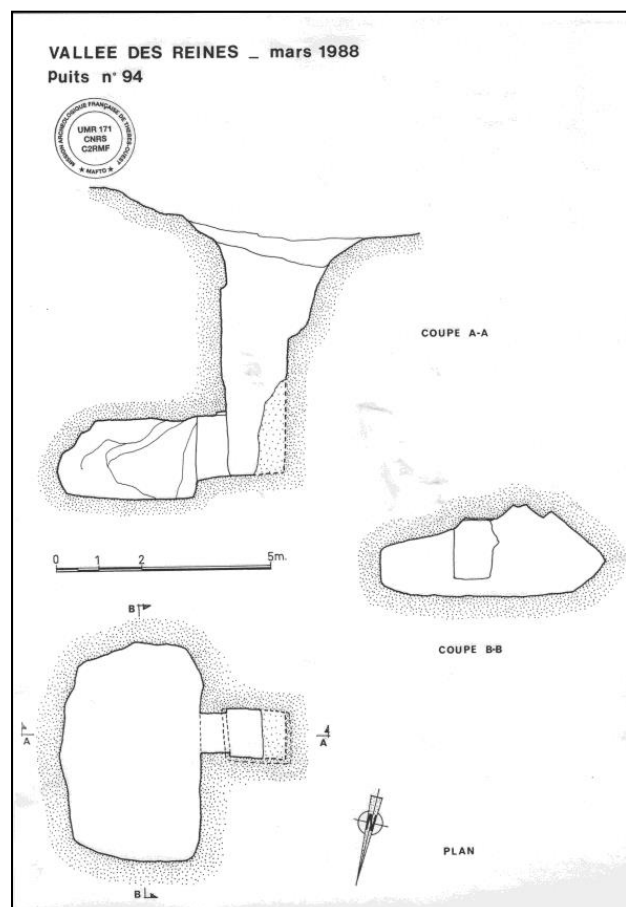
CNRS 1987-1988, 40.
Leblanc and Fekri 1992, 262.



Shaft entrance with rubble surround.



Location of tomb (arrow) behind WC and adjacent to side drainage.



Drawing: CNRS.

QV 96 - Anonymous

General Description

Located on the north side of the wadi between QV 71 and 73, QV 96 consists of a single chamber at the base of a shaft roughly five meters deep. The shaft entrance has a modern cemented masonry surround and metal grill with no mesh.

The tomb was excavated by the Franco-Egyptian team in March-April of 1988. The archaeological material removed at the time suggests that the tomb was used only during the 18th Dynasty. There was no indication of later reuse.

Condition

QV 96 is in generally good condition, carved into marl. Nevertheless, debris that has accumulated in the shaft spills into the chamber, partially blocking the entrance. Salt efflorescence is present on the tomb walls and ceiling, particularly on the wall furthest from the entrance. Silt is caked on the floor of the tomb, indicating the presence of flood waters in the past.

Mud wasps' nests and scattered bat droppings are present in the tomb.

Deterioration Factors

The presence of silt and debris on the tomb floor as well as the relative abundant salt growth suggest that flood waters have contributed to the deterioration of the tomb in the past. Salt crystal growth may also be due to surface water seeping through the rock from above.

General Recommendations

A shaft cover should be installed to prevent entry of animals, flood waters, and debris.

Archaeological Material

Removed by CNRS: partial wooden scepter; decorative faience panels from a piece of furniture; large ivory bead; remnants of funerary offerings

Study material cleared by CNRS and SCA in December 2010: partial human skull; 2 partial pottery vessels; wood fragments.



Shaft entrance with masonry surround.



View of shaft from above.



Accumulation of debris at bottom of shaft.



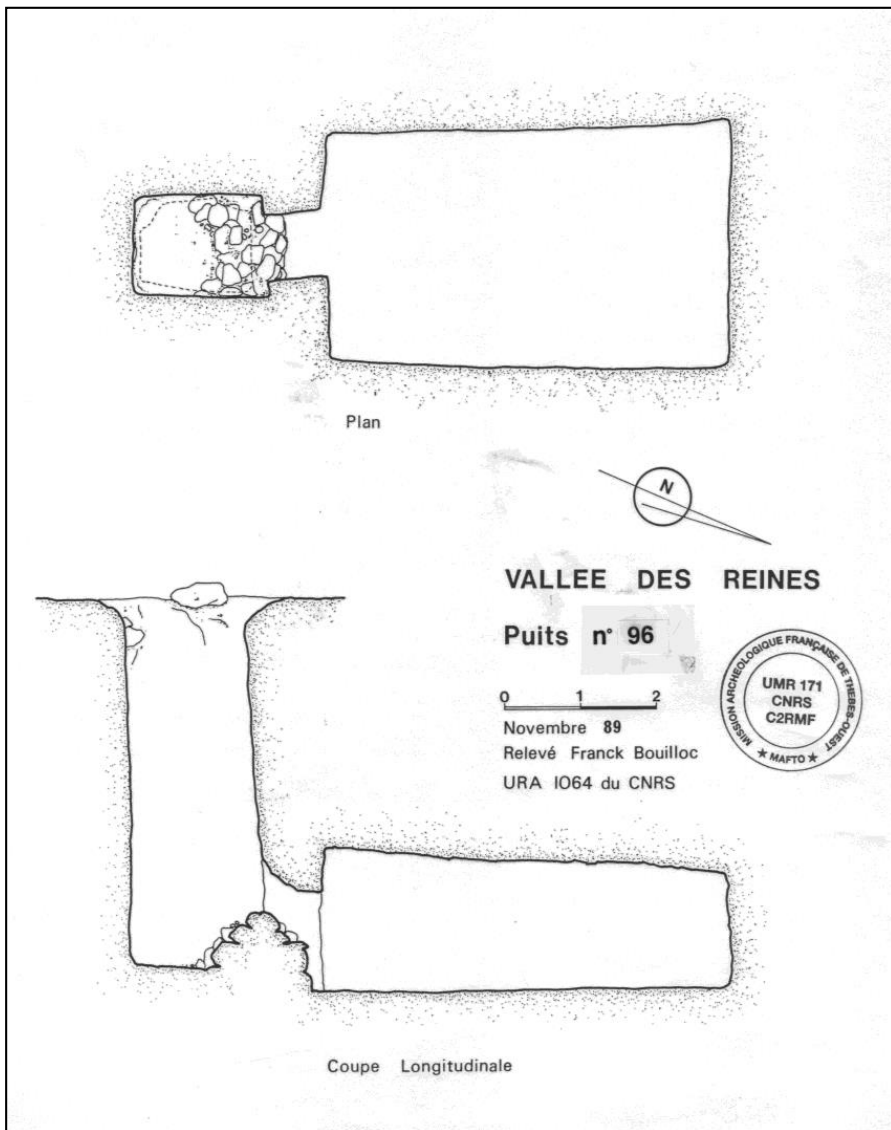
Corner of tomb with fracture running through ceiling and wall.

References

CNRS 1987-1988, 40.



Fibrous halite salt growth in area of ceiling and wall.



Drawing: CNRS.

QV Unknown 1 – Anonymous

General Description

QV Unknown 1 is a single-chambered tomb on the south side of the wadi, sited adjacent to QV 67 and QV 69. The shaft entrance has a modern, cemented masonry surround and a metal grill with torn mesh. This tomb currently is covered by the prototype for the proposed shaft cover. Humidity and temperature are being monitored using a data logger to determine the effects on the environment of the closed shaft cover.

As excavation records were inaccessible to the assessment team and the tomb is not included on any map, its official number is unknown and requires confirmation (see discussion of tomb numbering problems in Part VII.2).

Condition

The tomb is considered stable, although there are signs of rock deterioration. Marl in the shaft exhibits areas of surface fracturing and detachment. Inside the chamber, rows of chert nodules and perpendicular joints reveal drastically upturned bedding planes.

Thick, cracked mud covers the floor and is occasionally caked on the walls, indicating that a relatively large amount of flood water and debris has entered the tomb. This was corroborated by Christian Leblanc, who recalls having to pump water out of the tomb after the 1994 flood. Localized signs of bats are present, as are mud wasp nests.

Deterioration Factors

Floodwaters have contributed to the precipitation of salts in fissures throughout the tomb.

General Recommendations

A shaft cover should be installed so as to prevent entry of floodwater, debris and animals. The current prototype, installed in 2008, will require replacement with a final model of the shaft cover.

Archaeological Material

It is uncertain what was removed from this tomb in the past. At the time of the assessment, no archaeological material was present.



Shaft entrance prior to the installation of the prototype shaft cover in 2008.



Shaft opening after the installation of the prototype shaft cover.



Heavily fractured rock in shaft.



View towards shaft entry from chamber.



Tilted bedding planes visible on the chamber wall.



Detail of cracked mud on the chamber floor.



Wasp nest adhered to wall near entrance.



Chert nodules in marl of chamber wall.

QV Unknown 2 – Anonymous

General Description

QV Unknown 2 is a single-chambered tomb on the north side of the wadi, adjacent to QV 68 and QV 71. The shaft entrance has a modern, cemented masonry surround and a metal grill without mesh. At the base of the shaft, the tomb has roughly cut steps in the floor in front of the chamber entrance. Large stones stacked in the chamber probably were used to seal the entrance in antiquity.

As excavation records were inaccessible to the GCI assessment team and the tomb is not included on any map, its official number is unknown (see discussion of problem with tomb numbering in Part VII.2 and sketch plan of tomb below).

Condition

The tomb is considered stable, although the shaft walls, composed of relatively high-quality marl, are heavily fractured. Rows of chert nodules and perpendicular joints reveal upturned bedding planes, and many of the fractures have been filled with a thick accretion of salt. Arabic graffiti is present on the east and north walls.

Cracked mud covers the floor, indicating previous entry of flood water and debris.

Deterioration Factors

Floodwaters have contributed to the precipitation of salts in fissures throughout the tomb.

General Recommendations

A shaft cover should be installed so as to prevent entry of floodwater, debris and animals.

Archaeological Material

It is uncertain what was removed from this tomb in the past. At the time of the assessment, only a basket with a few bones was present in the corner of the chamber.



Shaft entrance with masonry surround and metal grill.



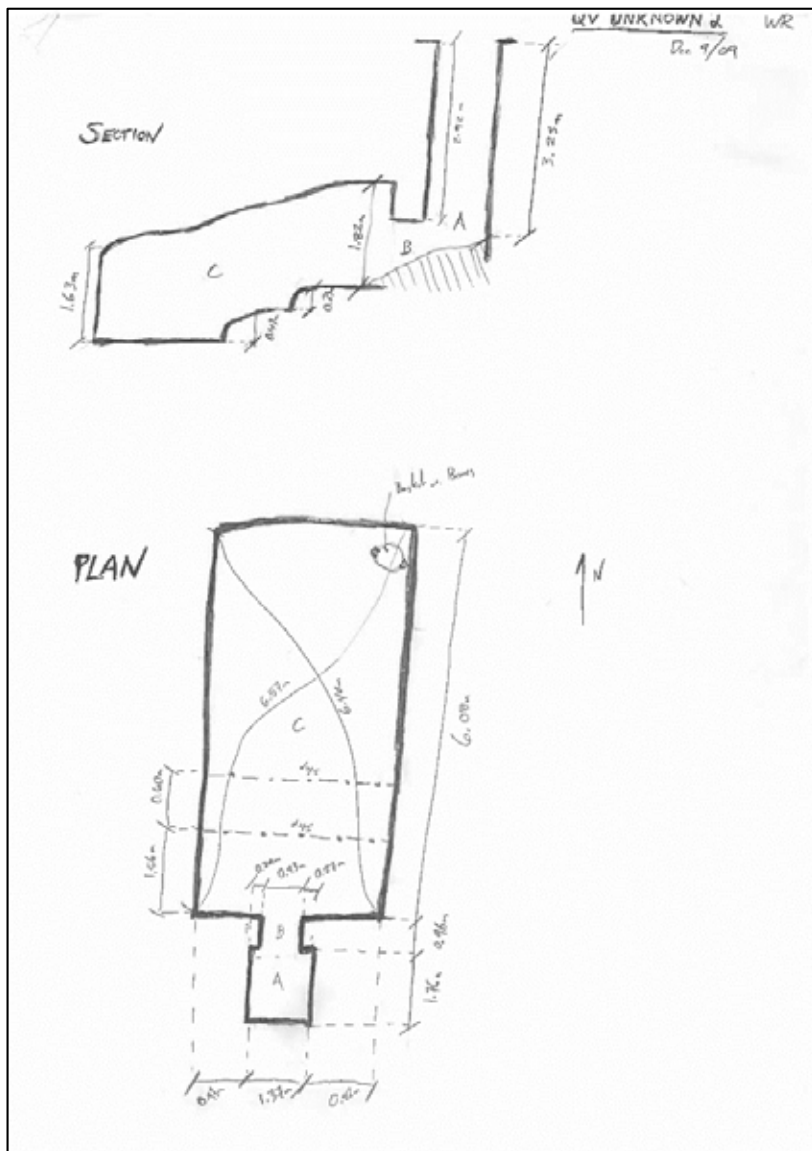
Fractured rock in shaft.



Interior view of chamber; stack of stones on the right probably used to seal the tomb entrance originally.



Arabic graffiti on east wall.



Sketch plan and photo of tomb provisionally labeled Unknown 2 by the GCI team (see Part VII.2 for discussion of numbering problems). Drawing by Will Raynolds, December, 2009.

Part VII.7 Individual tomb assessments - subsidiary valleys



Satellite map shows the Valley of the Queens and subsidiary valleys: Valley of the Rope, Valley of Ahmose, Valley of the Three Pits, and Valley of the Dolmen (Satellite image © 2006 DigitalGlobe).

The small Valley of Prince Ahmose is immediately south of the Valley of the Queens and the main wadi. At the foot of the shallow valley are two shaft tombs (QV 88, where Prince Ahmose was buried, and QV 98) dating back to the beginning of the 18th Dynasty and, on its heights, are traces of several Coptic-era shelters of anchorites and hermits.

The Valley of the Rope, located directly north of the main wadi, was named for a rope that in the past hung from a cliff at the height of the valley and is thought to have been from the Coptic era. Within this valley's upper eastern branch are tombs QV 92, QV 93, and QV 97.

To the northeast of the main wadi is the Valley of the Three Pits. In its lower reaches are eleven tombs, mostly dating to the Thutmosid period, identified by the letters A through L. In the eastern branch of its upper reaches are three shaft tombs (QV 89, QV 90, QV 91) for which the valley was given its name.

There are no tombs in the Valley of the Dolmen to the east of the main wadi. For other site elements associated with these subsidiary valleys see Volume 1, Part II:2 and Part VI.

Valley of the Rope		Valley of the 3 Pits		Valley of Prince Ahmose	
92	97	89	91	88	98
93		90	A-L		

Valley of the Rope

QV 92-93, Anonymous

General Description

QV 92 and 93 are single-chamber shaft tombs located towards the head of the Valley of the Rope, to the north beyond the hill behind Deir er Rumi. They were discovered by the Italian mission and the Franco-Egyptian team speculated that they were carved during the beginning of the New Kingdom, possibly during the 18th Dynasty.

Condition

Given their relatively remote location and comparatively deep shafts, it was not possible to assess the interiors of these two tombs. However, the shafts themselves seem to be in good condition, composed of high quality marl punctuated by occasional bands of chert nodules. Both shafts are partially filled with debris resulting from upslope erosion and trash.

Deterioration Factors

Debris eroding from the slope above both of these tombs will gradually fill their shafts. Water also continues to infiltrate these tombs, particularly QV 92, which is located adjacent to a small, natural drainage path.

General Recommendations

Localized U or V-shaped diversion walls should be installed immediately upslope of the tomb entrances to significantly decrease the rate of erosion and amount of water infiltration into the tombs.

Archaeological Material

None.

References

Černý, Desroches-Noblecourt, and Kurz 1969-1970, 38, pl. XCV-XCVII.

Kurz 1973, plan 48.

Leblanc and Fekri 1992, 259-68.



Entrances of QV 92 and QV 93, looking towards the head of the Valley of the Rope.



Relationship and scale of the two tomb entrances.



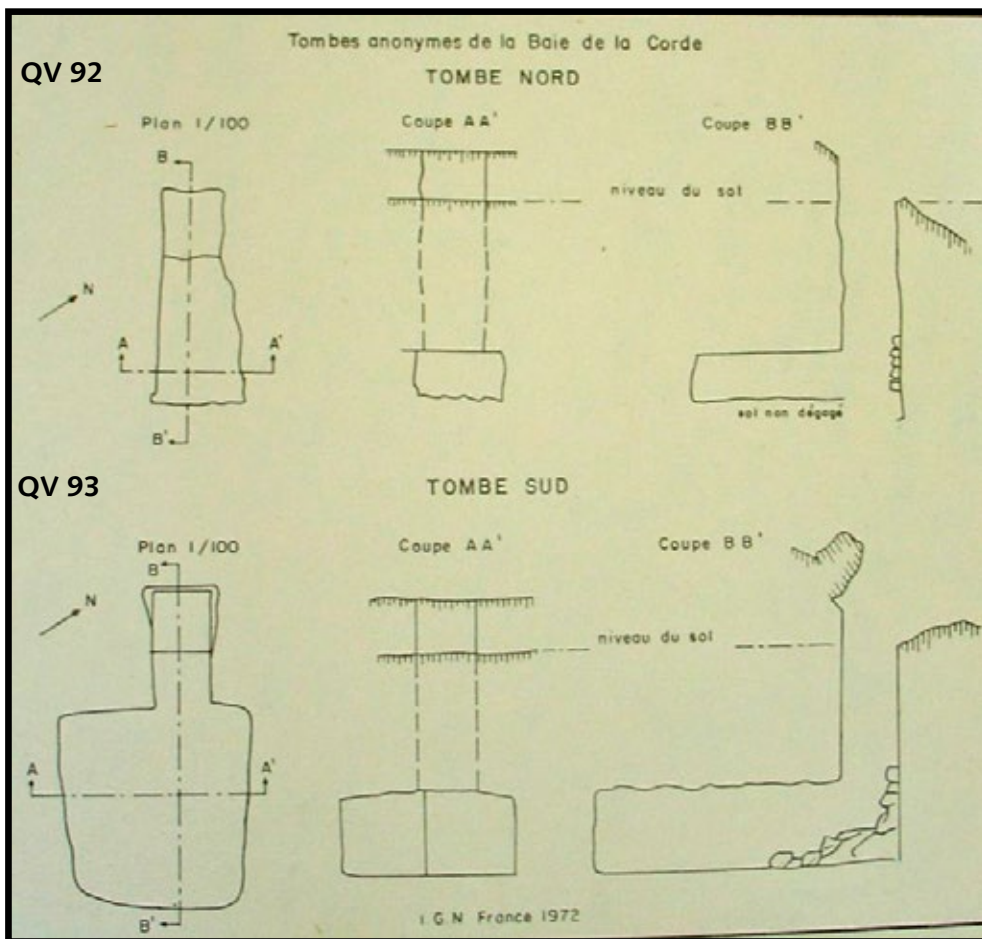
Entrance to tomb 92 showing surface erosion into shaft.



Shaft of QV 92 as seen from above.



Shaft of QV 93 as seen from above.



Drawings: CNRS (from Kurz, 1973; tomb numbers added).

Valley of the Rope

QV 97- Anonymous

General Description

Located at the base of a cliff at the head of the Valley of the Rope, QV 97 consists of an entry ramp leading to a long horizontal corridor cut into the bedrock, opening onto a single chamber at the rear. Originally discovered in 1903 by the Schiaparelli expedition, the tomb entrance had been filled with debris by 1959, at the time of E. Thomas' survey. The entrance was then rediscovered by the Franco-Egyptian mission in 1995 during the course of a ground-penetrating radar survey (Côte, Derobert, Leblanc, and Sesana, 1996).

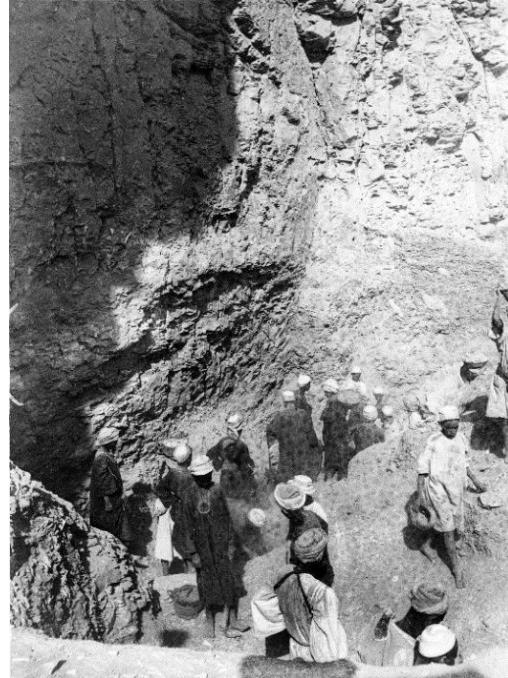
At the time of the initial discovery, the ceiling of the chamber was unstable. Schiaparelli recorded that there had once been a pillar that had since collapsed. Given the instability, excavation within the tomb was called off before completion. Likewise, at the time of its rediscovery, the tomb was not excavated due to structural concerns.

Since relatively little archaeological material was recovered, Schiaparelli and Ballerini disagreed as to whether or not the tomb had been finished or indeed, ever used. Yet based on the form of the tomb, they proposed that it was carved during the 17th or 18th Dynasty. The Franco-Egyptian team proposed that it was carved during the 18th Dynasty based on analogues from Deir el-Medina.

As noted in Part VII.2, the map of the Queens Valley published in *Ta Set Neferou I* includes a tomb labeled "QV 97," but later publications used this number for a tomb in the Valley of the Rope.

Condition

The key to the steel door blocking access to the tomb was not available at the SCA Inspectorate, therefore this tomb was not assessed from the interior. The shale surrounding the entrance is friable and continues to erode. The door remains in good condition, and a rubble wall has been constructed in front of the door.



Excavation of tomb entrance in 1903 (Image: Schiaparelli 1923).



Entrance to QV 97 at the base of a cliff at the head of the Valley of the Rope.



Roughly hewn ramp leading to modern rubble wall blocking entrance of QV 97.

Given what is visible from the doorway, it appears that the corridor is also in good condition, having been cut into relatively high quality marl. The chamber itself, however, is likely to be as unstable as it was when it was first discovered.

Deterioration Factors

Erosion of the friable shale surrounding the entrance ramp threatens to obscure or rebury the entrance once again. Both the Italian and the Franco-Egyptian expedition were concerned about the stability of the ceiling of the tomb's chamber, though the rate of deterioration remains uncertain.

General Recommendations

The friable shale on either side of the entry ramp should be stabilized with masonry walls to ensure that the entrance remains accessible. Further erosion should be mitigated by clearing debris surrounding the entrance. The key to the tomb should be located or a new lock installed. Given the long-standing structural concerns regarding the main chamber, a geotechnical assessment should be conducted at the time of any intervention.

Archaeological Material

Recovered by the Italian Mission: one fragment of an alabaster vase

References

Côte, Derobert, Leblanc, and Sesana, 1996, 141-56, pl. XL-XLIV.
 CNRS 1995-1996, 29.
 Thomas 1966.



View of QV 97 corridor from the steel door.

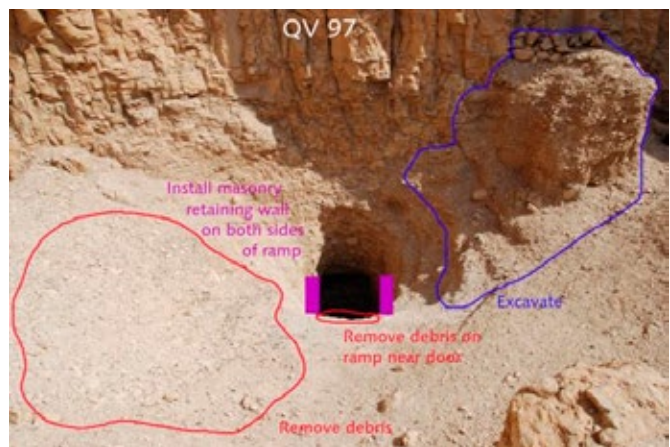
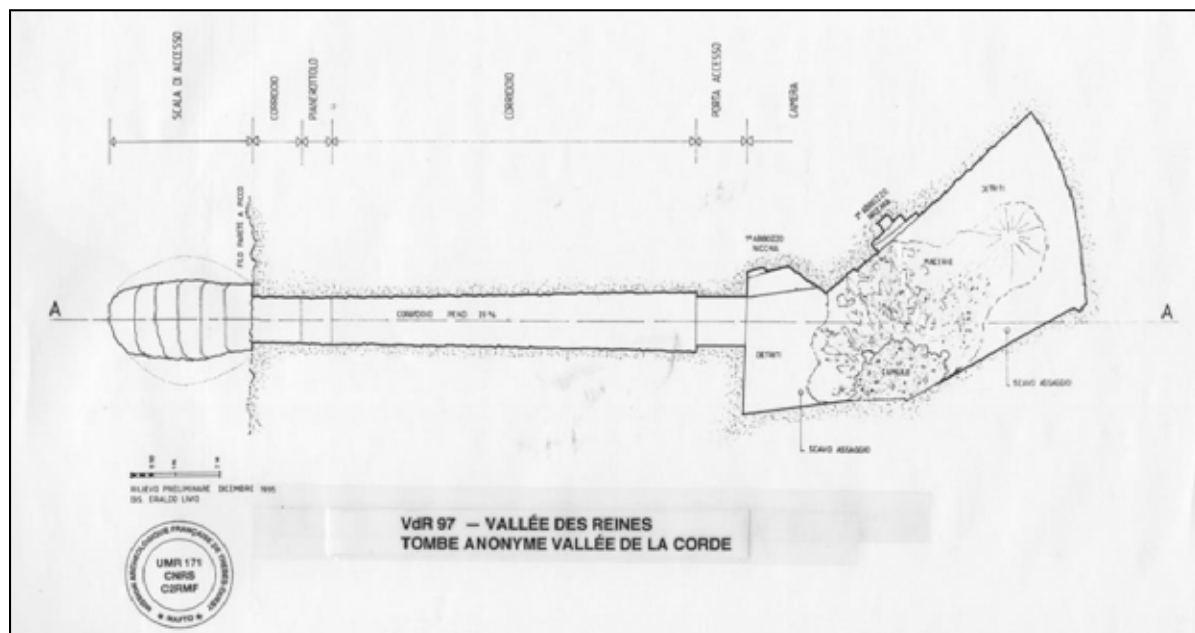


Diagram of recommended interventions to stabilize the entrance.



Drawing: CNRS

Valley of Prince Ahmose

QV 88 – Prince Ahmose

QV 98 – Anonymous

General Description

Both tombs lie in the Valley of Prince Ahmose, a small wadi immediately adjacent to and south of the Valley of the Queens. The Italian mission excavated QV 88 and 98 in 1903 (see Tomb Profile for QV 88 in Volume 1, 88). Both tombs are cut into shale and the zone immediately adjacent to their entrances has eroded considerably. QV 98 was last cleared in 1988 by the Franco-Egyptian team.

Condition

Since both tombs are mostly filled with debris, neither was assessed by the GCI team from the interior. Trash has been thrown into QV 98.

Deterioration Factors

These tombs are susceptible to continuing erosion from surface water draining through the Valley of Prince Ahmose. While the volume of such water is relatively small compared to that of the main wadi, the susceptibility of the surrounding shale to water accelerates the rate of decay, as does the lack of a protective surround at the shaft entrances.

General Recommendations

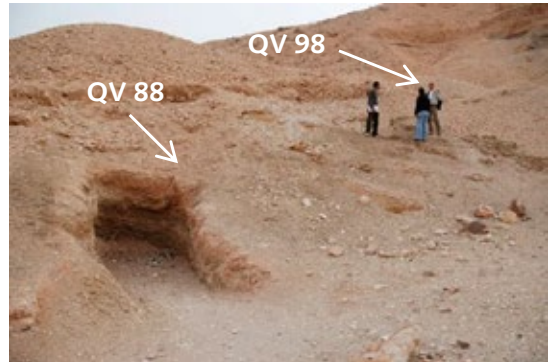
Since substantial debris has accumulated in the shafts of both tombs, they should be entirely reburied and marked for future identification.

Archaeological Material

Removed by Italian Mission from QV 88: a fragmentary copy of the Book of the Dead, mummy wrappings, alabaster and glass jars, *ushabti*, two fragmentary canopic vessels inscribed with the name of Prince Ahmose, mummified human fetus in wooden box.

References

Ballerini 1903, 32-33.
Franco 1988, 71-82.
Leblanc and Fekri 1992, 259-68.
Leblanc and Siliotti 2002, 187.
Schiaparelli 1923-1927, 22-24



Entrances of QV 88 and QV 98.



QV 88, looking south.



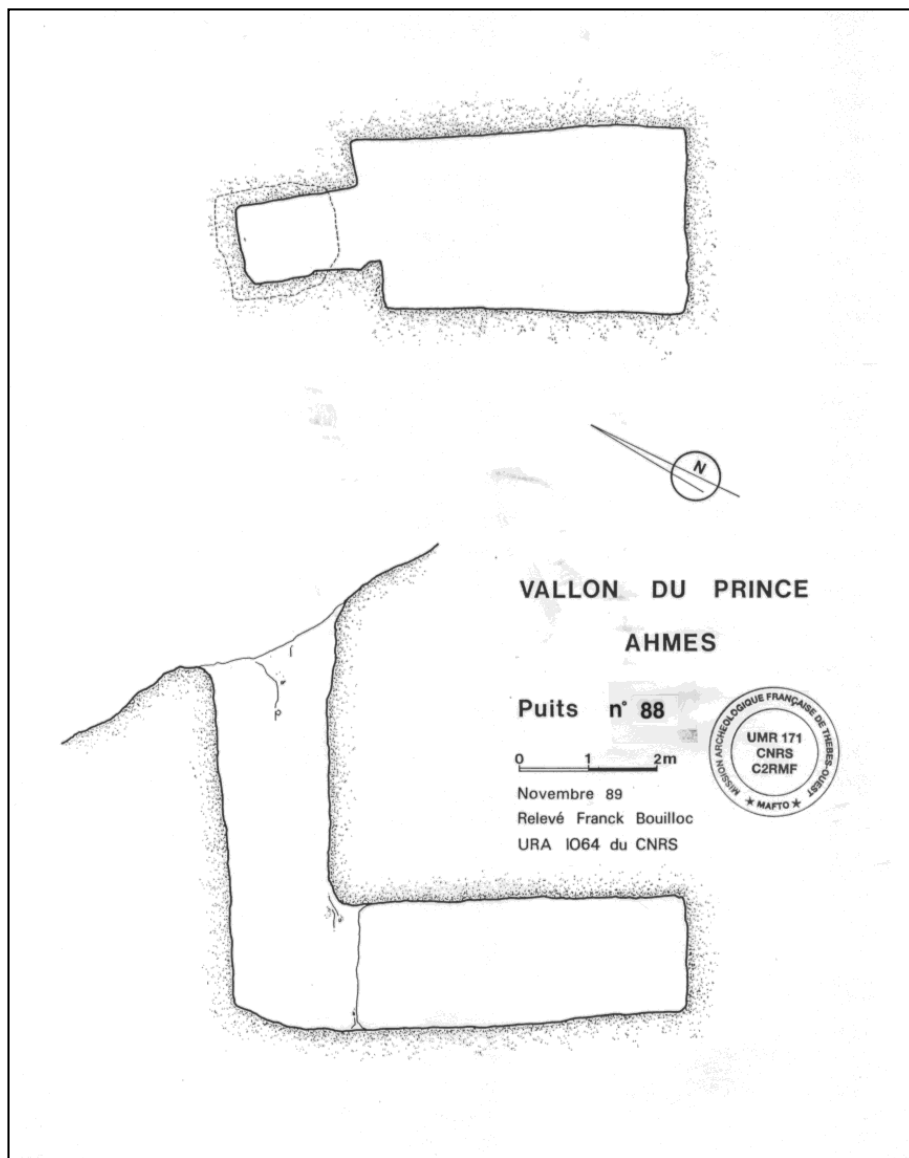
Detail of entrance to QV 88, almost entirely filled with debris.



Entrance to QV 98, with eroded surface surrounding shaft.



Detail of entrance of QV 98. Note trash at bottom of shaft.



Drawing: CNRS.

Valley of the Three Pits

QV 89, 90, 91, Anonymous

General Description

Located further north than tombs QV A-L in the Valley of the Three Pits, QV 89, 90 and 91 may have been first explored by Daressy in 1901, at which point they were already open. While his description of the tomb locations is imprecise, it is clear that he entered at least one shaft tomb at the head of the Valley of the Three Pits and discovered archaeological material dating stylistically to the 25th or 26th Dynasty. The Italian mission later described all three tombs.

Condition

Due to the remote location of these tombs and the depth of their shafts, the team did not assess these three tombs from the interior. The shafts appear to be in good condition and are carved into marl, though substantial amounts of debris have accumulated at their base due to erosion.

Deterioration Factors

The area surrounding the entry of these tombs, particularly QV 90 and QV 91, continues to erode due to upslope runoff.

General Recommendations

Substantial erosion into the shafts of these tombs requires mitigation. Localized deflection walls should be constructed upslope to divert rain and flood waters and prevent erosion of the shaft entrances.

Archaeological Material

Removed from a tomb at the head of the Valley of the Three Pits by Daressy (precise tomb uncertain): fragments of terra cotta canopic jars.

References

Daressy 1901,133-36.
Černý et al. 1969-70, pl. LXXXVI-LXXXVIII
Schiaparelli 1923-1927, 44-47.



Entrance of QV 89.



Eroded shaft of QV 90.



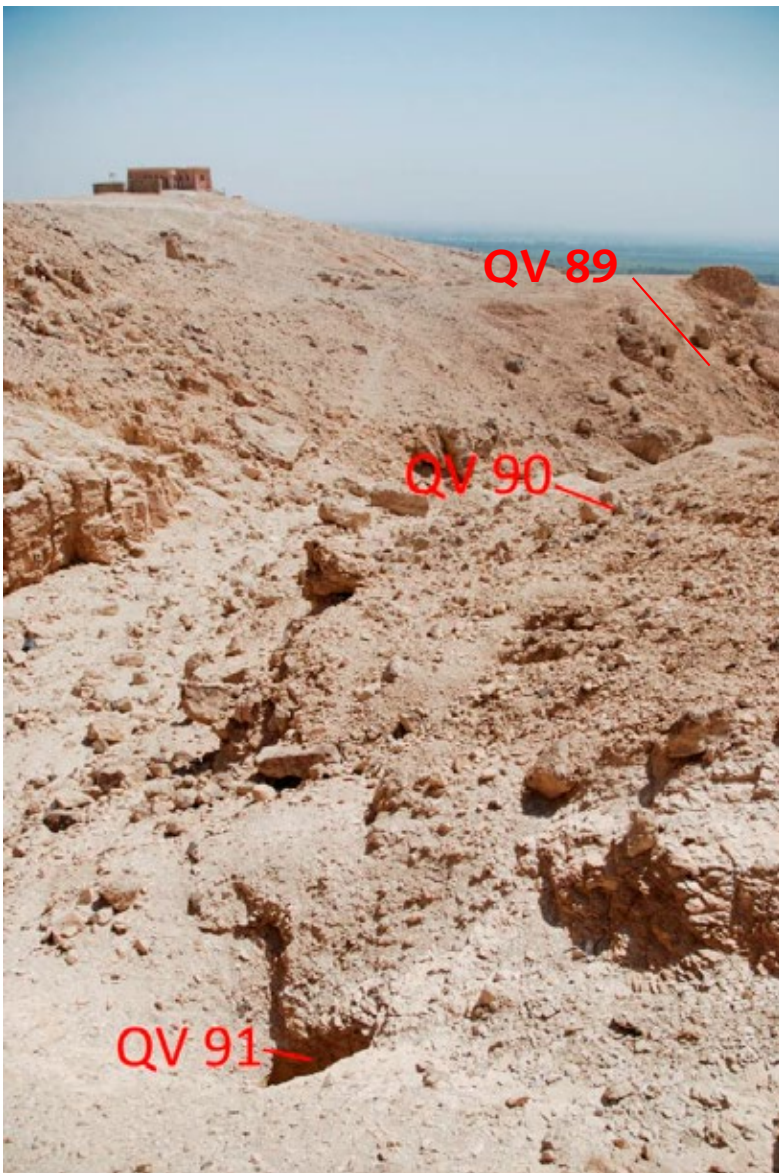
Shaft of QV 90.



Shaft of QV 91 with trash at bottom.



Location of QV 90 and QV 91.



Relative locations of QV 89, 90, and 91, as seen from the head of the Valley of the Three Pits; security building on the high point upper left of photo.

Valley of the Three Pits

QV "A-L"

General Description

Located at the mouth of the Valley of the Three Pits, certain of the tombs QV A – L were described during the early prospecting of Schiaparelli and Daressy. They were last documented and cleared by the Franco-Egyptian team in 1989-1990. During the course of those works, several of the tombs were discovered for the first time.

In general, these twelve shaft tombs are similar to the 18th Dynasty tombs in the main Valley of the Queens, but they are smaller and have been carved more crudely. They have been attributed to elite individuals interred during the reign of Thutmosis III. In particular, Tomb A has been attributed to an individual named Min... and Tomb G has been attributed to an individual named Kari. Those that were investigated by the Franco-Egyptian team had single chambers carved into friable shale.

Condition

Concerns about structural stability prevented the assessment of the interior of these tombs. The area immediately adjacent to their entrances is often severely eroded, and most of the shafts have been partially filled with debris. In some cases, particularly Tombs D, F, and H, erosion has created deep runnels that have isolated large blocks of shale, making them more prone to collapse. In Tombs J, K, and L, a red powder was cemented to the tomb floor at the time of the Franco-Egyptian investigations, attesting to previous water infiltration. The ceiling of Tomb J had also collapsed. At the time of the assessment conducted by the GCI, the entrance to Tomb L could not be located and it appears to have been naturally reburied since the time of the Franco-Egyptian excavations.



Entrance of QV "A."



Eroded shaft of QV "B."



Entrance of QV "C."



Entrance of QV "D."

Deterioration Factors

Erosion of the surrounding slope is the primary mechanism of decay. Water infiltration has also contributed to deterioration since the tombs were carved into a friable shale.

General Recommendations

It is recommended that these tombs be treated as a group, with one or several diversion walls constructed upslope to divert rain and flood waters and prevent erosion of the shaft entrances. It may be most appropriate to rebury several of the tombs such as QV "D" and QV "H," which have already been largely filled with debris.

Archaeological Material

Removed by CNRS:

QV "A+G": inscribed ceramics

QV "K+L": scattered funerary goods, wooden sarcophagus fragments; leather sandals; canopic vases; fragments of jewelry.

QV "J": fragmentary clay balls with blue and black glaze; fragmentary human skulls.

References

CNRS 1991-1992, 80-81.

CNRS 1992-1994, 26-28.

Daressy 1901, 133-36.

Leblanc and Fekri 1992, 259-68.

Loyrette 1997, 177-195.

Schiaparelli 1923, 44-47.



Entrance of QV "E."



Entrance of QV "F."



Entrance of QV "G."



Entrance of QV "H"



Entrance of QV "J"



Entrance of QV "I."



Entrance of QV "K."

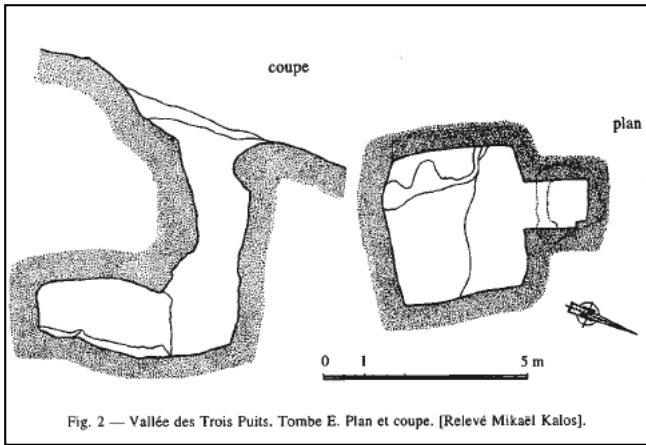


Fig. 2 — Vallée des Trois Puits. Tombe E. Plan et coupe. [Relevé Mikael Kalos].

Tomb E. Drawing: CNRS.

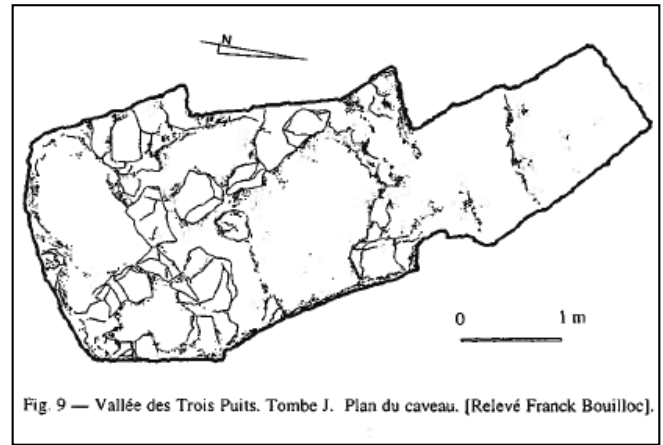
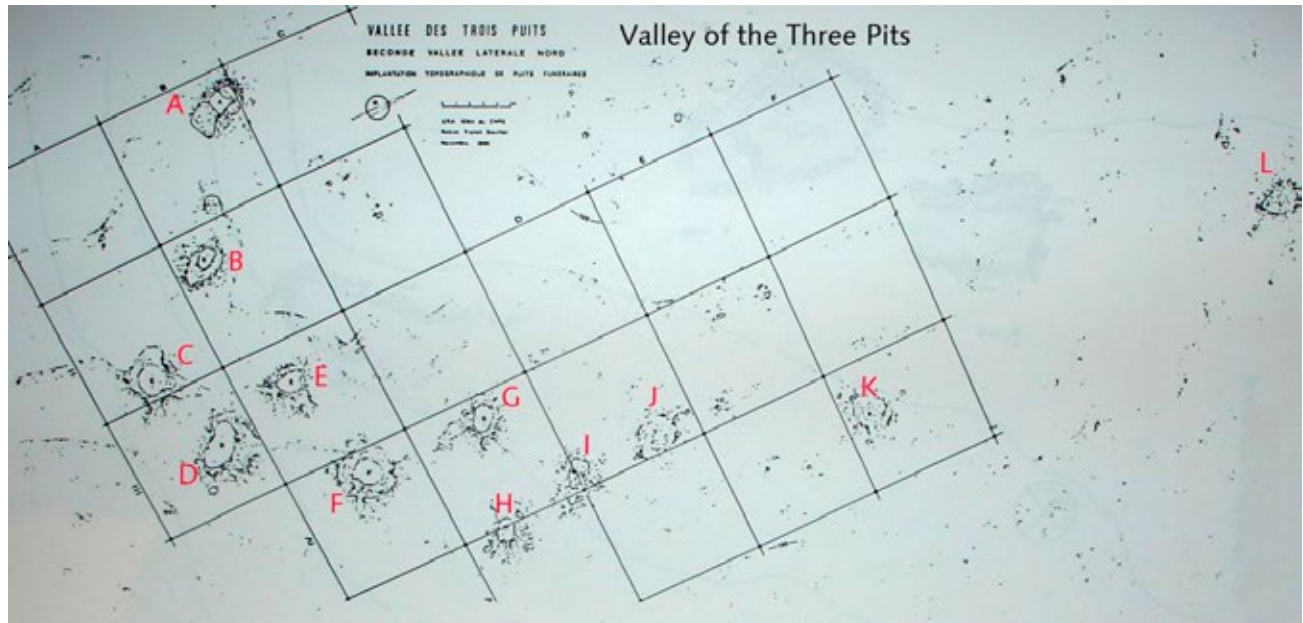


Fig. 9 — Vallée des Trois Puits. Tombe J. Plan du caveau. [Relevé Franck Bouilloc].

Tomb J. Drawing: CNRS.



Drawing: CNRS. Plan of tombs A to L (tomb letters added).



Individual tombs and their entrances. The entrance to QV "L" could not be located and appears to have been naturally reburied (see below).



New holes excavated since the CNRS map produced indicated in red; blue circle indicates approximate location of QV "L," which appears to have been naturally reburied.

VIII. 19th - 20th Dynasty tombs

- 1. 19th and 20th Dynasty tomb architecture**
- 2. Wall painting techniques**
- 3. Geologic and hydrologic context**
- 4. Condition assessment of the 19th – 20th Dynasty tombs**
- 5. Summary table of 19th – 20th Dynasty tomb conditions**
- 6. Individual assessments of 19th – 20th Dynasty tombs**

Part VIII.1. 19th and 20th Dynasty tomb architecture

Introduction

A total of thirty-four 19th and 20th Dynasty tombs have been identified in the Valley of the Queens created primarily during the reigns of Rameses I, Seti I, Rameses II, and Rameses III (11 of these were unfinished or abandoned). The 19th Dynasty (1295-1188 BC) tombs were devoted exclusively to royal queens and daughters, while the use of the site under Rameses III (1186-1054 BC) in the 20th Dynasty was altered to entomb his sons, though he also interred one of his queens there. For an historical overview of the Valley in the 19th and 20th Dynasties and biographical and iconographical profiles of selected occupants and tombs, see Volume 1 of this report, 30-77. For location and distribution of the tombs in the Valley see map on following pages.

Rameses I and Seti I ruled for a total of sixteen years, during which six tombs were built in the Valley. The tomb of Queen Satra (QV 38) is the first queen's tomb prepared. Seti I prepared several other tombs (QV 31, 33, 34, 36 and 40) before assigning a specific person to be buried in them. Cartouches on decorated walls were left blank and later inscribed with the names of the deceased (Leblanc 2001, 281).

Rameses II reigned for sixty-seven years and built a further eight tombs in the Valley (Leblanc 2001, 274-5). Rameses II chose the northern slope of the main wadi for his mother (wife of Seti I), Queen Tuy (QV 80), his wife Nefertari (QV 66) and some of his daughters who became his queens (QV 60, 68, 71, 73, 75). One tomb, QV 74, was prepared but not used for burial under Rameses II (it was used for Duatentipet, Great Royal Wife of Rameses IV in the 20th Dynasty). Three 19th dynasty tombs were not completed or abandoned. Table 1 shows the 19th Dynasty tombs built at QV and their occupants and titles. QV 58 belongs to this period but was undecorated

In the 20th Dynasty, seven tombs are attributed to Rameses III, who reigned thirty-one years (see Table 2). These may include two of the Great Wives of the King (QV 51 and 52) and five princes (QV 42, 43, 44, 53 and 55).

Rameses III ordered construction of at least two more tombs (QV 41 and 45) but these were left unfinished or were abandoned (Leblanc 2001, 274-5). Only one tomb can be attributed to the six-year reign of Rameses IV (1154-1148). This is QV 74, which was constructed during the reign of Rameses II, but not used at that time, and later adapted for burial by Queen Duatentipet, wife of Rameses IV.

Nine other tombs were probably constructed during the 20th Dynasty but they are unfinished and cannot be attributed to a specific reign; these are: QV 24, 41, 45, 50, 54, 84, 85, 86, and 95. The Turin Papyrus records that six tombs were prepared for Rameses VI, but no evidence has been found, except that QV 51 may have been finished during his reign as Rameses VI's mother, Isis-ta-Hemdjeret, was buried here.

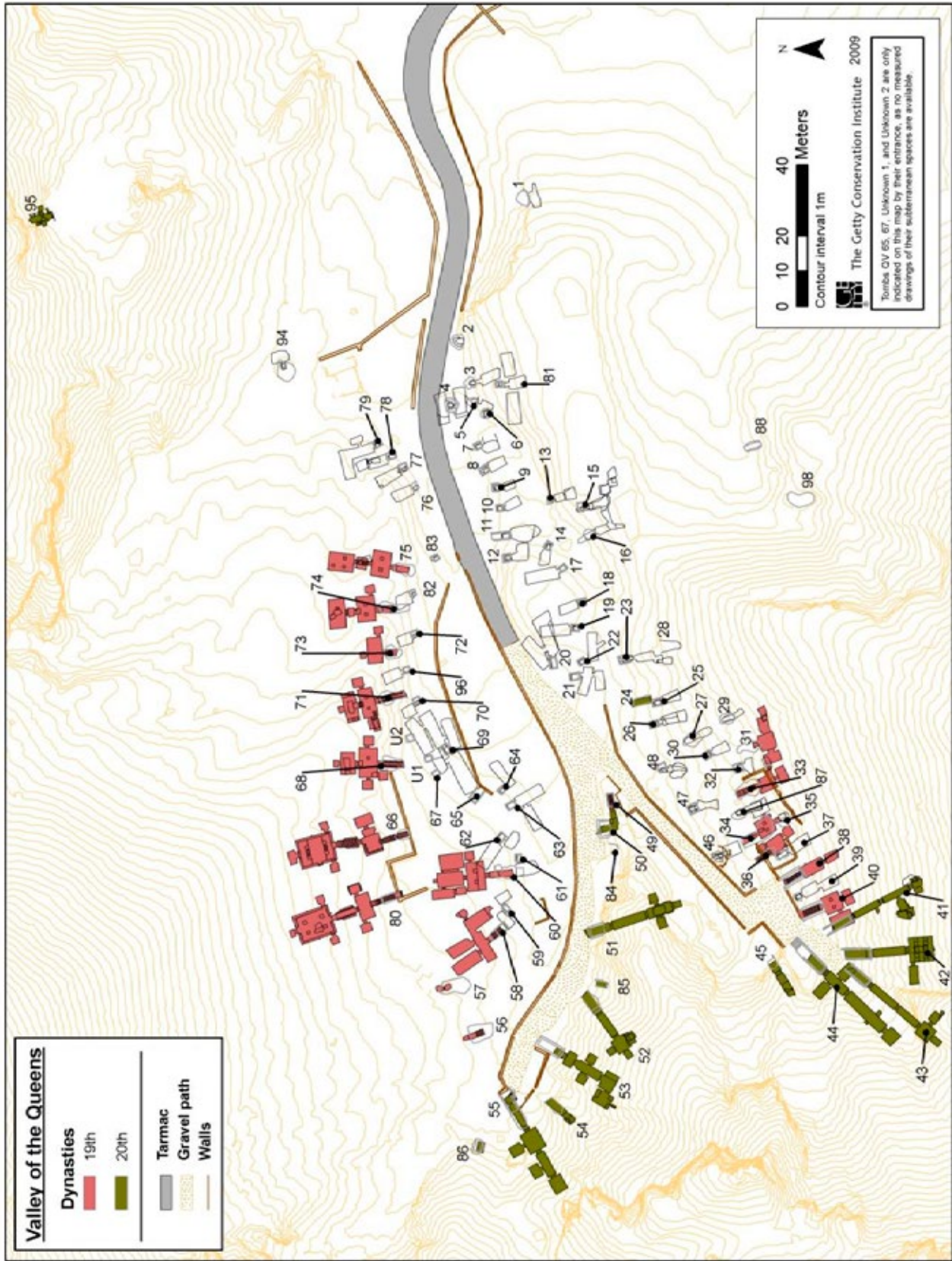
Of the 34 tombs from the 19th and 20th Dynasties, 23 are subterranean multi-chambered 'apartments' with extant plaster or decoration. Techniques of construction and decoration are described in Part VIII.2.

Table 1. 19th Dynasty tombs, their occupants and titles (tomb profiles exist for bolded entries in Volume 1)

Royal status	Tomb	Name	Reign	Notes
Princess-Queen	QV 31	Anonymous	Seti I	Great Royal wife of Rameses I and mother of Seti I
Princess-Queen	QV 33	Tanedjemy	Seti I	King's wife and King's daughter
Princess-Queen	QV 34	Anonymous	Seti I	King's wife and King's daughter
Princess	QV 36	Anonymous	Seti I	King's daughter
Queen	QV 38	Satra	Rameses I/ Seti I	Great Royal wife; mother of Seti I
Princess-Queen	QV 40	Anonymous	Seti I	Great Royal wife and King's daughter
Queen	QV 58	Anonymous	Rameses II	Wife of Rameses II (?)
Princess-Queen	QV 60	Nebettauy	Rameses II	Wife and King's daughter
Queen	QV 66	Nefertari	Rameses II	Great Royal wife
Princess-Queen	QV 68	Merytamen	Rameses II	Wife and King's daughter
Princess-Queen	QV 71	Bentanat	Rameses II	Wife and King's daughter
Princess-Queen	QV 73	Henuttauy	Rameses II	Wife and King's daughter
Princess-Queen	QV 74	Anonymous	Rameses II	Tomb prepared; not used until Rameses IV
Princess-Queen	QV 75	Henutmira	Rameses II	Wife and King's daughter
Queen	QV 80	Tuy	Seti I/ Rameses II	Mother of Rameses II; wife of Seti I
Unknown	QV 49, 56, 57	Unknown		Unfinished tombs

Table 2. 20th Dynasty tombs, their occupants and titles (tomb profiles exist for bolded entries in Volume 1)

Royal status	Tomb	Name	Reign	Notes
Prince	QV 42	Pareherunemef	Rameses III	Possibly also occupied by Minefer, wife of Rameses III
Prince	QV 43	Sethherkhepshef	Rameses III	
Prince	QV 44	Khaemwaset	Rameses III	Buried in reign of Rameses IV
Queen	QV 51	Isis	Rameses III	Wife of Rameses III and mother of Rameses VI
Queen	QV 52	Tyti	Rameses III	Relationship of Tyti is disputed (see Family tree)
Prince	QV 53	Rameses Meryamen	Rameses III	
Prince	QV 55	Amenherkhepshef	Rameses III	
Queen	QV 74 (see also 19 th Dynasty)	Duatentipet (see also 19 th Dynasty)	Rameses IV	Wife of Rameses IV (Originally constructed, but not used, in Rameses II reign)
Unknown	QV 24, 41, 45, 50, 54, 84, 85, 86, 95	Unknown	Rameses III	Tomb construction never completed



Distribution of 19th and 20th Dynasty tombs in the Valley of the Queens.

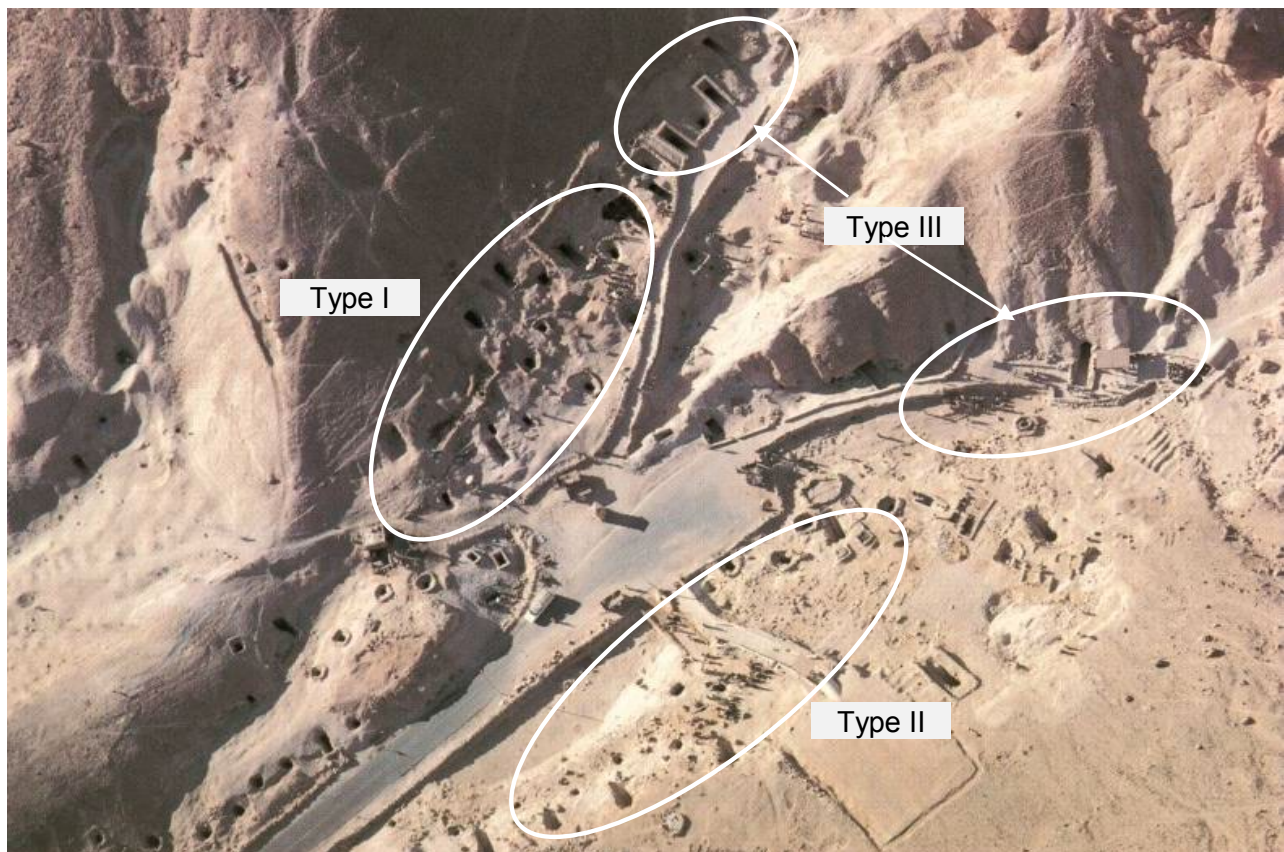
Tomb Architecture and Development

It was during the early 19th Dynasty (Rameses I and Seti I) that more elaborate tombs were constructed in the Valley of the Queens. Six new tombs were constructed during this period, located on the southerly slope of the southwest branch of the Valley (see Table 1 in Section 1). These tombs have a similar plan, with a steep and narrow stepped ramp leading to a main chamber connected to one or more side chambers. According to the typology established by Leblanc (1989; Leblanc and Siliotti 2002,179), these plans conform to 'Type I.' QV 40 has a similar plan but the burial chamber was located in the rear, making the pillared chamber the antechamber, unlike the other contemporary tombs whose burial chamber is located immediately after the tomb entrance. QV 73, of similar plan but later construction, was for Henuttauy, daughter-wife of Rameses II.

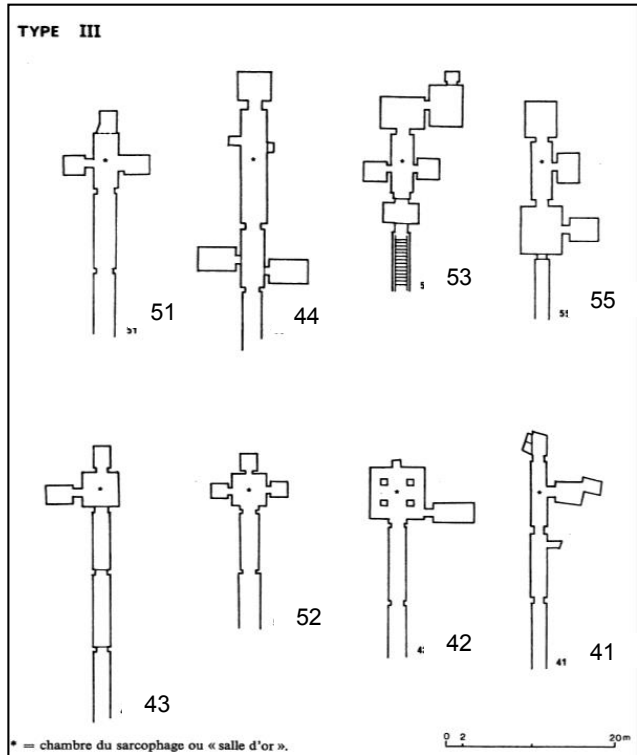
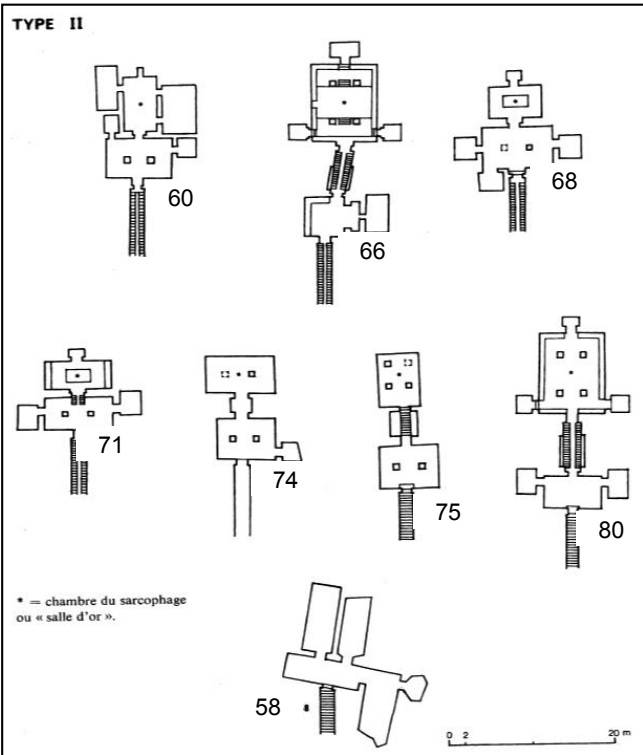
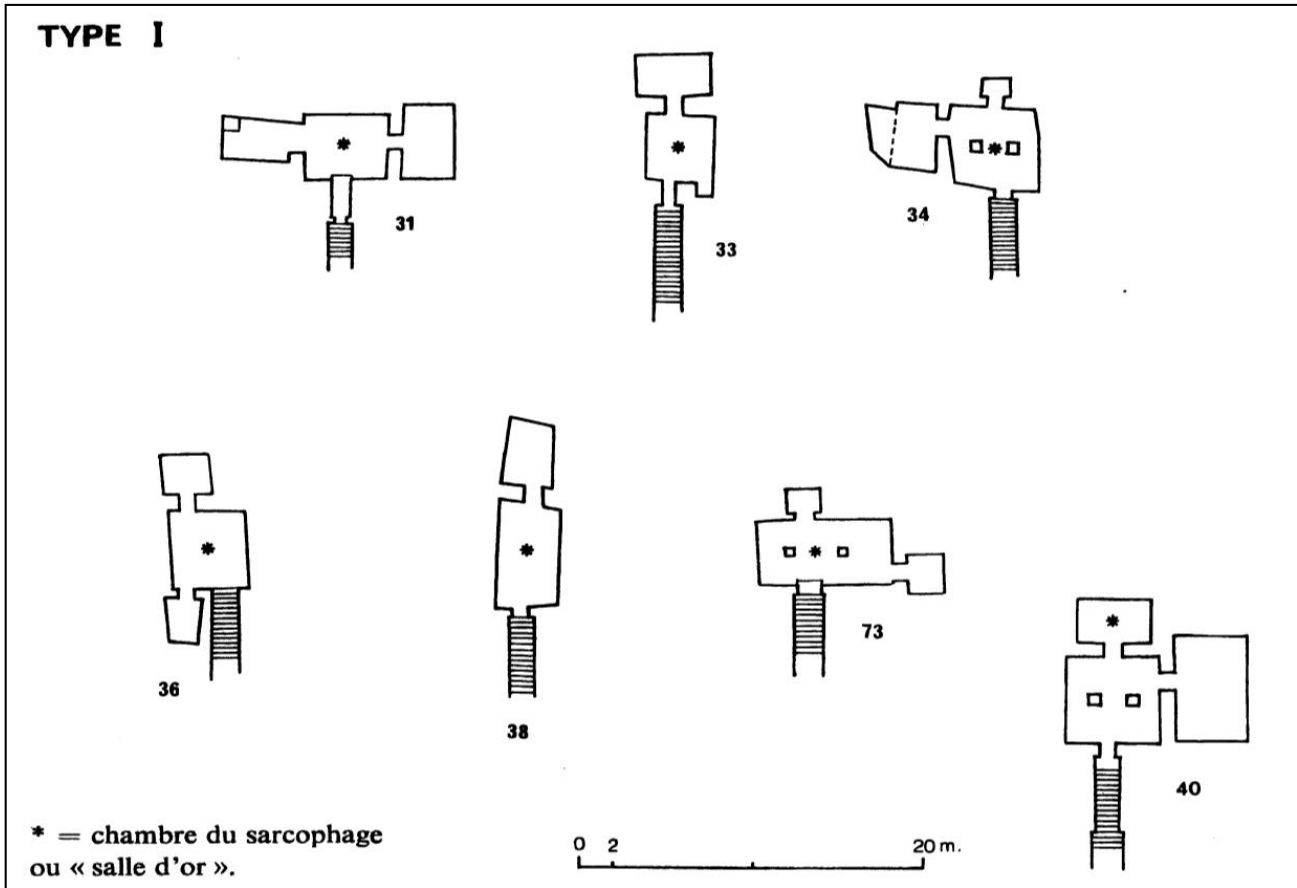
Nine tombs were constructed during the reign of Rameses II (see Table 1). A new style of staircase was introduced in these tombs making the corridors much wider and passage into the tomb simpler. The new stepped entryway with a flat ramp down the center was used in some of the 'Type II' tombs at QV, which also have larger pillared chambers while generally maintaining a steeper descent. As noted above, QV 73 of this period is more similar to Type I. These tombs are located on the north slope of the main wadi. They represent the height of sophistication of tomb construction and decoration in the Valley.

The final phase of tomb construction, belonging to 'Type III,' occurred in the 20th Dynasty when the tomb structure was entirely linear with narrow, long corridors, a straight axis and a very modest downward slope. Seven tombs belong to this typology. Only QV 42 retains the pillared chamber that dominated Type II tombs. These tombs are located at the western end of the SW side wadi and the south side of the main wadi, at its western end.

The locations of tomb groupings are shown in the photograph below and the tomb typologies follow on the next page.



General location of Type I, II, and III tombs (Image: CNRS)



Typology of QV tombs of the 19th and 20th Dynasty, after Leblanc 1989 (Drawings: CNRS).

Part VIII.2. Wall painting techniques

Introduction

The techniques of tomb construction and decoration among the 23 QV chamber tombs from the 19th and 20th Dynasties with extant plaster and painting are defined by broad similarities and marked differences, with respect to their rock cutting, plastering, relief carving and painting. (see map on following page showing tombs with extant plaster or decoration).

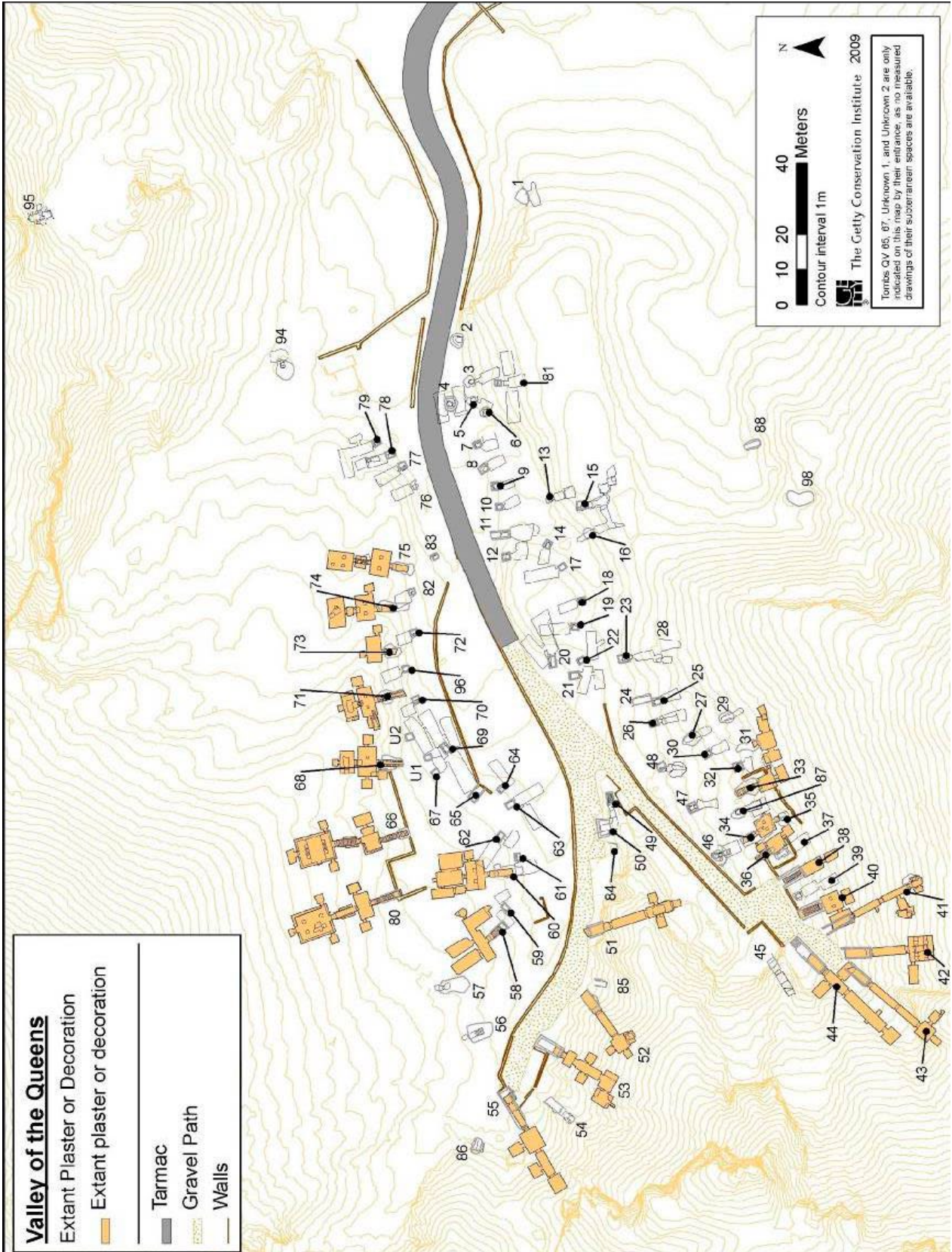
In the general context of Egyptian painting technology, a certain degree of continuity and uniformity is expected, for example in relation to the standard range of pigments used during the New Kingdom. However, differences are also present as a result of a number of circumstances: technical changes occurred over time, sometimes in association with stylistic developments and modifications in tomb plans; human and technical resources varied throughout the almost 500- year span of the 19th and 20th Dynasties, leading to differing standards of tomb construction and decoration; the influence of workshop practice and the inconsistencies introduced by multiple teams working at the same time led also to varied outcomes. But perhaps the most significant influence on technological differences in the QV tombs is the impact of local geology: the demands and restrictions of decorating rock-cut interiors of exceedingly poor quality limestone produced a diverse range of construction and plastering solutions (see Part VIII.3 for discussion of geology).

Approaches to rock cutting and tomb construction

Tomb construction in Queens Valley was heavily influenced by the aim of how best to achieve relief decoration. Although tomb relief decoration during the New Kingdom was rooted in the preferred technology of rock carving, this was only possible where the quality of the rock—and other resources—permitted it. It is found, for example, throughout Seti I's tomb (KV 17), and in important parts of other KV tombs, such as their entrance corridors (e.g. KV 8, 15). This approach was not therefore often possible, but it remained an important ideal.

There is some evidence that carving into the rock would have been adopted in QV tombs had the local geology allowed it. Relief decoration in rock is uniquely found at the entrance of QV 52, which is cut into better quality limestone on the western side of QV. In general, however, the highly fractured rock required plastering to create a suitable surface for relief decoration. Among the few other QV tombs where the rock was of reasonable quality, though not good enough to allow for direct carving, considerable effort was made to finish rock surfaces as regularly as possible. This can be seen in the entrance corridor of QV 53, where the rock walls were levelled and tooled very finely prior to plastering.

In tombs of poor rock quality, cutting and excavation of the fractured limestone often achieved only rudimentary levelling. Indeed, the relative absence of chiseling marks in most QV tombs suggests that rock was mainly eased out along fractures or bedding planes rather than being closely chiseled. On the ceiling of the main chamber of QV 36, for example, it is clear from the few visible chiseling marks that most of the rock sheared away with relatively little cutting; chiseling was probably mainly reserved for protruding areas of stone.



19th and 20th Dynasty tombs in the Valley of the Queens with surviving plaster or decoration.



The rock into which the tombs were cut and then decorated was highly fractured as can be seen in this example from chamber (C) of QV 31. The diagonal fissures and fractured nature of the rock required substantial plaster to stabilize the underlying rock and prepare the surface for painting.



The rock in parts of QV 53 was of high enough quality to allow for fine carving. Traces of hieroglyphs that were carved into the rock can be seen here.

Insights into tomb excavation practice are provided by painted registration marks, in red and black, which were intended to guide cutting levels. These are common in QV tombs. In QV 36, for example, red daubs mark the ceiling in apparently random places. In this case, they probably indicated the desired level to which portions of protruding rock were to be removed. In other tombs, more regularly spaced painted marks and dots are sometimes evident, suggesting a greater overall design purpose. Marks painted in precise grids, such as exist in a number of KV tombs, where they were used to guide very refined surface cutting, have not been found in QV. Since such grids were largely eradicated during surface chiseling, they may have been present in some of the QV tombs cut into better quality rock (e.g. QV 43, 44, 51, 52, 53, 55). They may also survive concealed beneath layers of plaster.

Rock repairs and fills

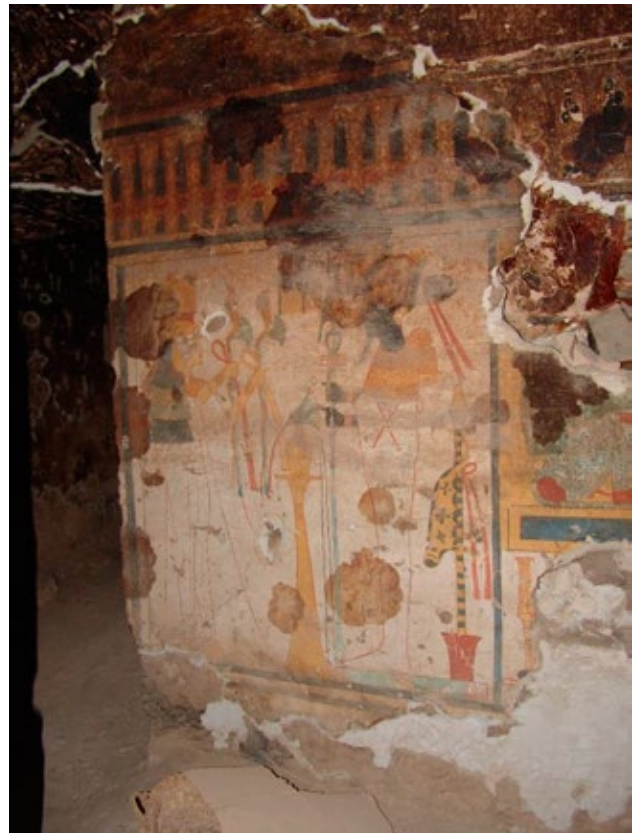
The original excavation of the fractured rock in the majority of QV tombs left gaping holes in walls and ceilings that required filling or repair before plastering could proceed. The size of these holes varies, from small pockets to whole sections of walls; some of the larger holes were probably the result of inadvertent rock collapses.

Ancient repair approaches vary considerably, depending on the size and location of the holes, and the degree of structural support or reconstruction required. At their smallest and simplest, holes were filled by hand with plaster packed with stone chippings, which were probably salvaged from the excavation process. Types of plaster vary, reflecting the numerous *hiba*-, earth- and gypsum-containing variants encountered in QV tombs. In some cases it seems clear that plaster choices were expedient, probably based on what was already prepared and close at hand at the time (e.g. ceiling fills in the front chamber of QV 60). In other cases, fill plasters are markedly different from subsequent plaster layers, suggesting that they were specifically formulated to improve aspects of their workability and performance, such as countering shrinkage and improving adhesion and setting (e.g. ceiling fills in QV 51).

For larger areas of rock loss, and particularly those where some structural support was required, stones were carefully selected and layered. In QV 73 and 75, for example, corners of missing walls and doorjambs were reconstructed with large stones laid length-wise in courses interspersed with smaller stones. Other large holes were similarly blocked with flat stones laid in overlapping courses (e.g. QV 42, 73, 74, 80). Nevertheless, such fills were often poorly constructed and bonded, and tended to fall out, a problem now evident in many tombs (e.g. QV 42, 51, 71, 73, 74, 75, 80). A more successful approach is demonstrated in QV 42, where in one area of extremely large rock loss, a mud-brick wall was constructed to block the opening and provide a substitute support for the painting.



Large repairs, required to fill voids in the rock, have had a tendency to fall out or have lost their upper areas of painting, as in this example from chamber (E) of tomb QV 42.



In some cases, because of poor rock quality, entire walls had to be recreated. In this example, from chamber (E) of QV 42, a wall was built of mudbrick and then decorated with painting.

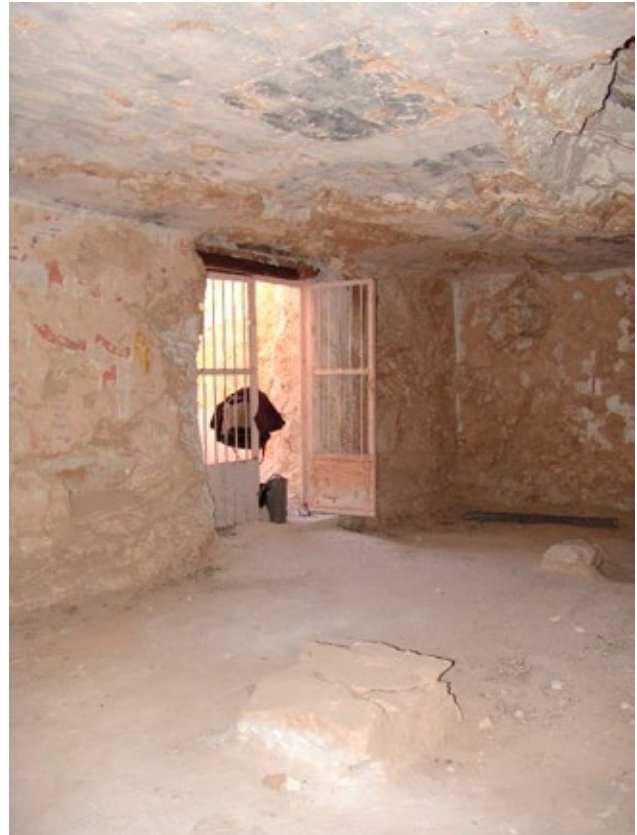
Other construction features

In addition to the construction techniques used to block holes and build up walls, a few QV tombs also had their columns partly or wholly constructed. These survive in QV 74 and 75, and are lost from QV 40, 68 and 73. In QV 40 and 73, the evidence indicates that the lost pillars were constructed up to a ceiling that was already plastered, perhaps suggesting some mishap in the sequencing of construction and plastering, and demonstrating also that the columns did not always serve a structural function.



Surviving pillar in chamber G of tomb QV 74.

The pillar in chamber (C) of tomb QV 73 has been lost. The painting on the ceiling indicates that the pillar was constructed after the ceiling was initially painted and therefore most likely did not play a structural role.



Plasters and plastering

Plasters in QV tombs vary enormously, both in the number of layers applied, and the types and mixtures of materials used. Significant variations occur both within and between tombs.

The predominant plaster type in QV is that known as *hiba* (Arabic: حبيبة, *hiba*), derived from the clay-containing calcitic soils of the Theban area, which also contain varying amounts of anhydrite and gypsum. Since the nature of this source material varies from one location to another—and other earth materials and aggregates could be added to plaster mixes in varying proportions—a wide range of hib-type plasters can be detected in the QV tombs, varying in color from light brown to pink. Earthen plasters derived from Nile alluvium are also present, typically as lower layers, usually mixed with straw and other fibrous additives. These plasters also differ in their color and soil texture, indicating their varying source materials and aggregate mixtures. A third category of plasters exists which relies on gypsum as the primary binder, though these were not as commonly used in QV.

With such diversity, few generalizations can be made about plastering practice in QV tombs. Typically, however, thin plasters are mainly confined to the entrance areas of tombs, while deteriorating rock conditions deeper underground forced the use of thicker and multiple plaster layers to conceal and level the bedrock. Use of a thin, single layer of *hib*-type plaster is found in parts of QV 52, 60 and 66; other examples of thin plastering, though applied in two layers, are found in QV 43, 51 and 53.

Use of two or more plaster layers is the norm. Earthen plasters, often showing evidence of application by hand, are usually found as levelling layers, though *hiba* plasters also perform this function, as for example in many parts of QV 60. In this tomb, too, compositional variations between the layers suggest that different mixtures were prepared to address different needs. Some layers have a distinctly greyer appearance, probably indicating their higher gypsum content, which was added to modify setting reactions. Generally, a *hiba*-type plaster provides the surface on which subsequent preparatory layers and painting are executed (e.g. QV 33, 38, 42, 44, 51, 68, 71, 73, 74, 75 and 80).

Individual tombs demonstrate particular approaches to plastering. In QV 31 and 36, *hiba* plasters are used on the walls in their main chambers, although an earthen plaster is applied as the first layer on their ceilings. This suggests a deliberate choice, based on considerations of better workability and performance. An advantage of plastering overhead with an earthen plaster would be its greater flexibility on drying, lessening risks of collapse. A further feature of these plasters in QV 31 and 36 is their high fiber content, helping to reduce weight. In QV 73 also, an earthen levelling plaster on the ceiling is similarly rich in fibers, whereas the earthen plasters used on the walls are mainly fiberless. These examples demonstrate that the ancient plasterers had a keen understanding of materials properties, and an ability to select and manipulate different plaster mixtures to suit different circumstances.



Sample of *hiba*, a clay-containing calcitic soil, from a deposit in Queens Valley. Many of the tomb plasters were found to be primarily *hiba*-containing.



Example of *hiba* plaster used on the ceiling of chamber C of tomb QV 36. The lower plaster is an earthen plaster with a high fiber content.

The extremely fractured rock conditions in some tombs meant that plastering needed to be very thick. In some cases, a single levelling earthen plaster can be up to 10 cm thick, sometimes more (QV 33, QV 34). In QV 71, individual earthen layers occasionally reach a similar combined thickness, with as many as three layers applied to level the walls beneath a *hiba* plaster skim. Thick earthen plasters are also present in QV 68, 74, 75 and 80; it is notable that these tombs are all cut into highly fractured rock on the north side of the valley. To minimize shrinkage and provide bulk, flat limestone shards were pushed faced down into these thick plasters. In some parts of QV 68, the quantity of incorporated stones appears to have been excessive, leading to later plaster collapse.



The ceiling of chamber E in tomb QV 51 was plastered and rock shards pushed into the plaster to minimize shrinkage.

A thick earthen plaster was used in QV 71 to level the walls in preparation for the painted decoration. A final thin skim of *hiba* plaster is applied onto the earthen plaster.

While plaster layering usually follows consistent patterns or is determined by logistical requirements, in a number of instances it appears to be quite random. In one part of QV 60, for example, four plaster layers are present: the lowest and thickest, a *hiba* plaster packed with small stones; the next layer, an earthen plaster; and the next two layers, *hiba* plasters again. In other parts of QV 60, a levelling layer of earth plaster makes an unexpected appearance. Such inconsistencies are perhaps not surprising given the highly variable and difficult rock conditions that had to be accommodated. Aspects of labor organization must have also influenced these outcomes.

Coping with the difficult rock conditions of QV produced some expedient solutions. In the ceilings of QV 36, 60 and 73, dollops of animal dung were pushed into the plaster as fillers. In QV 31, this precautionary measure was adopted too late. Following a ceiling collapse that probably occurred during or soon after the tomb's construction, the loss was repaired with a plaster incorporating dung. The new plastering also has a distinctive grey color; analysis has shown that it was additionally gauged with a higher proportion of gypsum to promote faster setting.



Detail of ceiling plaster in chamber C of tomb QV 31 showing the addition of animal dung.

An earthen plaster is used as a leveling layer in QV 60. It lies below two upper plasters layers that both look to be *hiba*-containing. The painting is executed on the uppermost thin layer of fine plaster.

The plastering of ceilings was evidently quite often problematic. Rather than trying to regularize uneven rock surfaces and create a flat ceiling, plastering was instead sometimes applied over protrusions and hollows. Although this was an expedient approach, it probably ensured against collapse in many cases. In QV 43, plastering on the ceiling of the burial chamber was carried into a particularly large concavity, which had presumably resulted from a rock collapse during excavation.

Preparatory layers, grounds and sealants

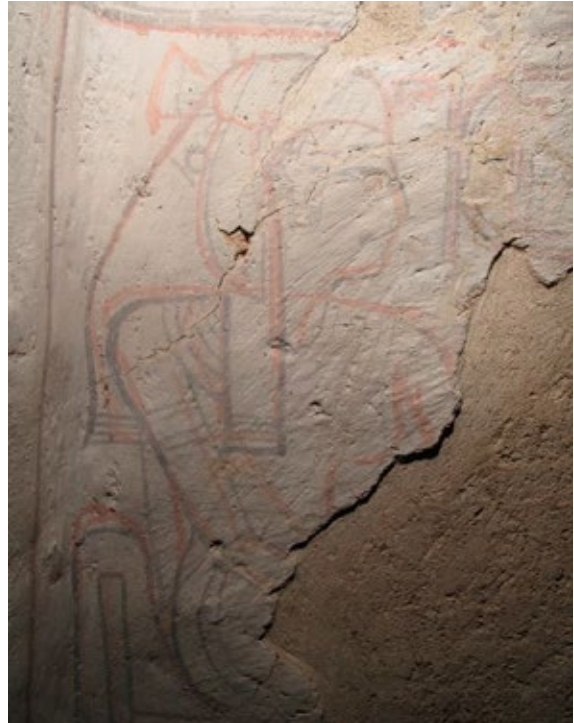
Before their decoration, it was usual practice to apply plastered walls and ceilings with preparatory washes, which probably acted as sealants and provided uniform surfaces for painting. These are often similar in color to the *hib* plasters, and it can be reasonably assumed that they were also derived from *hib* sources, although other materials, such as gypsum, were probably also employed. Preparatory washes appear to have been applied both before plaster carving, to provide a surface for preliminary painting, and been replenished after carving, in order to receive the final painting. The best evidence for these practices is found in QV 36. An unfinished chamber on the north side preserves an uncarved plastered wall roughly brushed over with a thin *hib*-like wash, on which some cursory preliminary painting survives. In another unfinished chamber on the south side, however, carved plasterwork is also clearly brushed over with a similar layer.

Elsewhere, *hib*-like washes show through abraded painting on the walls of QV 55, and appear to show through unfinished ceiling painting in QV 36, 55, 60 and 73. In these cases, these washes probably functioned also as ground layers for subsequent painting. Generally, however, it seems that a layer of white paint fulfilled this role. These white layers may also have been brushed over with a sealant to limit unwanted paint absorption; alternatively, sealants may have been incorporated into them before their application. Detecting these sealant materials with certainty is difficult.



A thin plaster wash was used in chamber (G) of QV 36 applied over carved plasterwork to prepare the surface for painting.

Red painted setting out lines with black detailing were used in chamber (C) of QV 38 to correctly lay out and proportion the figures.



Setting-out and preliminary techniques

After the preparation of plaster surfaces, a number of setting-out and preliminary painting techniques were used to establish the main compositional features. Since relief carving has eradicated most evidence, information is relatively scant and comes mainly from unfinished areas of tombs. Nevertheless, different approaches are evident. In all cases where such techniques are visible, use of squared grids do not feature and less formal methods are the norm.

In the unfinished tomb of QV 38, the uncarved plastered walls still preserve extensive preliminary painting. Very cursory sketching in red was carried out first, which was then substantially corrected and modified with further detail in black outline. Painted red crosses were used to position figures, a horizontal line to define shoulder levels, a vertical line to center faces. Corrections and even complete changes in black are especially noticeable in the text columns. Both the red and black painting was done freehand, even the vertical divisions for the text columns. However, red snapped lines were used to set out the *kheqer* frieze. Rather different preliminary techniques were used on the ceiling of this tomb. Instead of outline painting, rough incisions in the plaster were used to guide compositional features. These were then blocked out with solid color and outlined in red.

How frequently incisions were used as a preliminary technique is hard to determine, but it does not seem that common. Various forms of preliminary painting were more prevalent. In QV 51, for example, unfinished figures are also set out with red crosses, though preliminary painting is not confined to outlines, and forms are also blocked in with red and yellow paint. In QV 60, unfinished hieroglyphic texts on the ceiling of the antechamber are painted in red and corrected in black, even though this preliminary painting was not intended to be carved into relief form. In other tombs in which subsequent relief carving constituted an irreversible step in the decorative process, the use of red underpainting which was then corrected in black was probably usual practice, as a quality control measure. Snapped lines are commonly used for setting out ceiling stars, though methods vary. In QV 66, the stars are set out between rows of parallel snapped lines, whereas in QV 52 an additional set of perpendicular snapped lines forms a grid for positioning the stars more precisely.

Relief carving

This takes two forms in the QV tombs: raised relief, where carved features stand proud of the plaster surface (QV 31, 34, 36, 40, 53, 60, 66, 68, 71, 73, 74, 75, 80); and sunken relief, when the carving has an indented effect below the plaster surface (QV 42, 43, 44, 51, 52, 55). Raised relief is found in 19th dynasty tombs, sunken relief in 20th Dynasty tombs.



Detail of the raised relief carved hands of a figure in QV 71. Raised relief was used in the decoration of 19th Dynasty tombs.



Detail of carved hands but in sunken relief technique from QV 51. Sunken relief was used in the decoration of 20th Dynasty tombs.

Painting

Painting in the QV tombs complies with the well-known canon of permissible symbolic colors used in the New Kingdom, and there is no reason to assume that the pigments, media and paint application techniques employed differ from those found through analysis and investigation of other Egyptian tomb paintings from this period.

Much can be discerned about the sequential nature of painting practice, and its division between different teams of painters of increasing skill. Unfinished areas of painting in QV 40 and 66 reveal how blocks of color were initially painted in very lightly and freely, and then built up in successive layers to achieve greater tonal depth. Colors that accidentally extended beyond compositional borders were covered over and corrected during later stages of painting, when final outlines and details were also added. Final painting often diverges considerably from the edges of the relief-work. Such features are consistently found in the QV tombs regardless of their date.

Deliberate contrasts of matte and glossy painting are also a common feature of most QV decorated tombs. The effects of differing pigment-binder combinations probably account for some of these contrasts, but the application of selective glossy coatings is also likely. These appear to have been very discreetly applied, for example as banding on the clothing of figures in QV 44 and 51. The precise nature of the binders and coating materials used in QV tombs has not been fully determined. The most widely recognized type of Egyptian paint binder is acacia gum, though additional binders—including other plant gums and nectars, animal glue and resins—are identified on a range of ancient Egyptian objects. Identified coating materials include beeswax, egg white, animal glue and mastic resin. The binders and coating materials used in QV could therefore potentially be quite diverse.



Tombs in Queens Valley were left in varying stages of completion. This image of QV 55 is taken from painted chamber G looking toward the undecorated burial chamber (K).

Selective varnish application can be seen in the alternating matte and glossy stripes of the decorative banding on the clothing in chamber C of QV 51.

Unfinished decoration

Seemingly all the decorated QV tombs were left in varying stages of completion. Different reasons account for this. For some tombs, geological problems probably prevented their completion (e.g. QV 31, 33, 80). More generally, however, patterns of workshop practice help to explain incomplete decoration. In some tombs, for example, small side chambers were left unfinished (e.g. QV 36, 40, 42, 51), suggesting that the allocation of plastering and painting resources was hierarchically organized. Conversely, it seems that the entrance corridors of tombs were targeted for completion before other areas, including burial chambers. This most notably occurs in QV 43, where fully painted decoration at the entrance to the tomb gives way to bare relief carving further inside. In QV 55, the burial chamber is similarly left undecorated in contrast to the rest of the tomb.

On another level of prioritization, it is clear that ceiling painting was typically allocated as one of the last tasks to do, and that time for completion ran out in most tombs (e.g. QV 31, 36, 42, 51, 52, 55, 60, 68, 73). In QV 31, and parts of QV 68, the ceiling plaster was not painted at all. In QV 44, ceilings were left in various states, though none of them seem to be finished. In QV 55, ceilings were roughly painted in black, but no stars were painted. Similar measures are found in QV 36 and 73. In QV 60, roughly painted backgrounds were nevertheless painted with stars, probably as a matter of expediency.

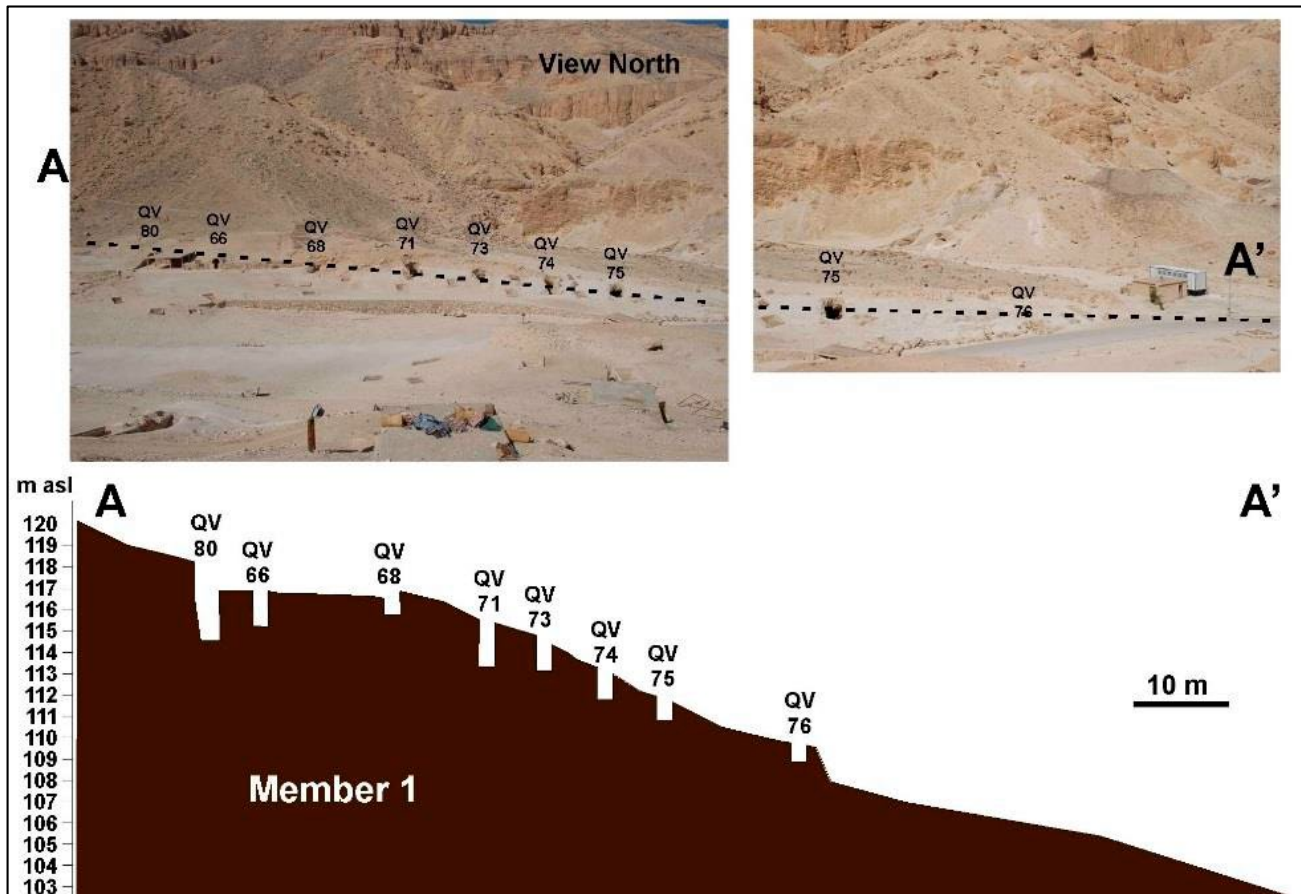
Conclusions

Consistencies in the technology of the 23 QV chamber tombs with surviving decoration belie significant differences, with important implications for their technical study and conservation. Variations of materials used and their application methods can be attributed to a number of factors: the evolution of techniques during the New Kingdom period; the fluctuating resources that were made available for each tomb's creation; and the organizational constraints associated with workshop practice and division of labor, which hugely influenced wall painting outcomes.

But the challenges of constructing and decorating tombs in the poor quality limestone of Queens Valley was the most influential factor on their technology. These circumstances resulted in a wide range of plastering solutions, often resourceful and ingenious, adapted to resolve difficult geological problems. This aspect of QV wall painting technology is both of considerable interest and largely understudied, and therefore merits particular conservation efforts.

Part VIII.3. Geologic and hydrologic context

As discussed in greater detail for the 18th Dynasty tombs (see Part VII.3), the geology of the north and south sides of the Valley are markedly different. The tombs on the north side of Valley, belonging to the queens and daughters of Rameses II, including Nefertari's tomb QV 66, were cut into higher quality marl rock of Member 1 and while less susceptible to expansion and contraction of bedrock exposed to flooding, they are at risk of salts.



The tombs constructed under Rameses II are located on the north side of the Valley, From QV 80 on the west through QV 75; QV 76 belongs to the 18th Dynasty (Wüst 2009).

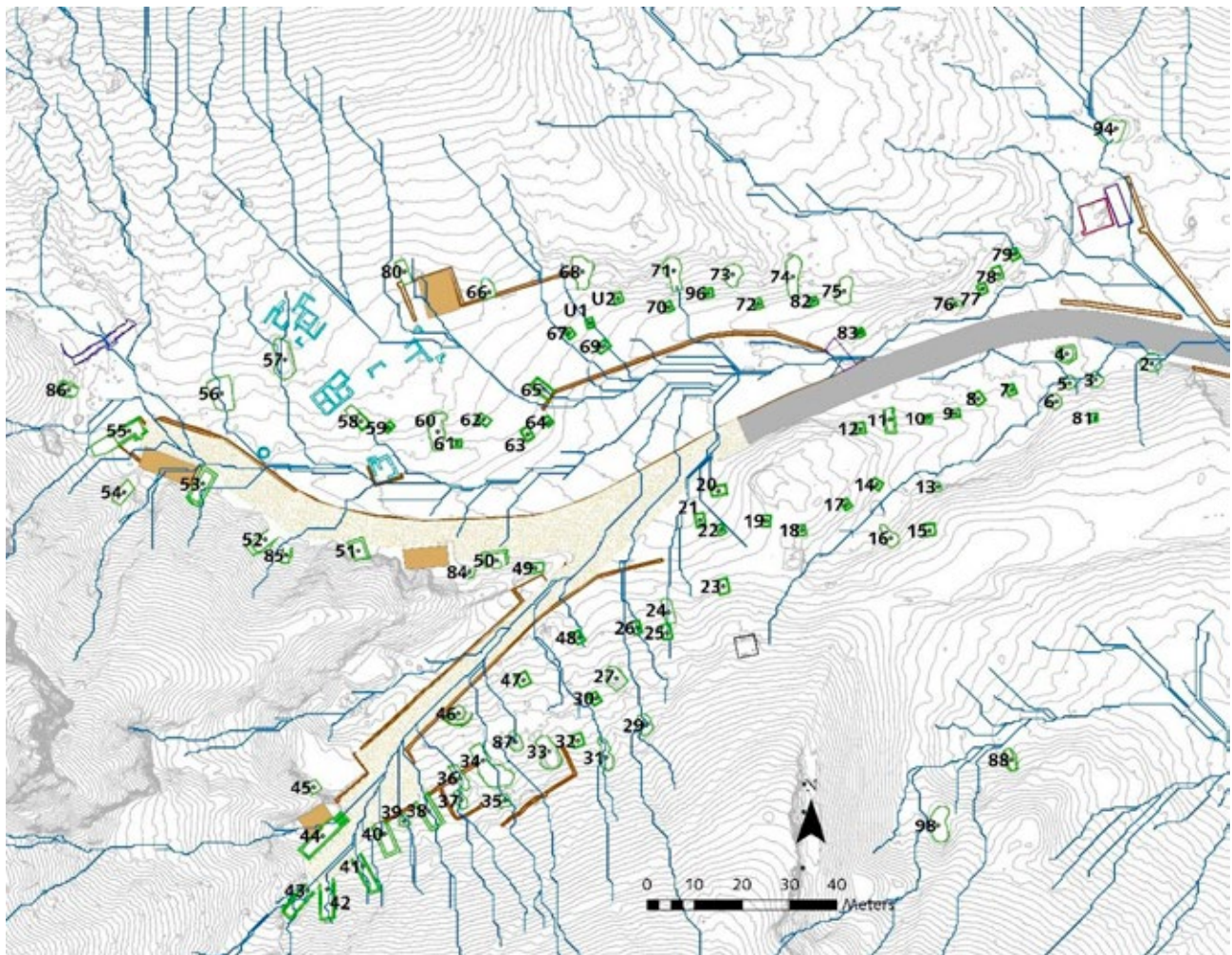
The tombs of the first part of the 19th Dynasty are located on the southerly slope of the southwest branch of the Valley, and were constructed between already existing tombs dating to the 18th Dynasty. Wüst states that this slope is part of a large rotated block (Block 1) that contains strata from Theban Member 1 overlying Esna shale. His assessment indicates that a geologic fault runs through the area of QV 31, QV 33 (where it dips toward the south/southeast), and in front of the entrance to QV 34. Wüst notes that these tombs were constructed into the lowermost part of Member I, with some of them dug into the top of Esna shale (e.g., QV 33). Both the presence of and proximity to Esna shale have been factors subjecting tombs in this area to rock deterioration.

These tombs also are in a risk zone due to their tendency to have relatively shallow roof structures, with thin rock overlying them that is often fractured, highly weathered, and therefore susceptible to collapse. As a case in point, the rock above QV 34 has collapsed almost entirely leaving a gaping hole in the hill slope.

Wüst notes regarding this area of the Valley that "because of the shallow bedrock ... [leading to rock weathering] and the close proximity to the Esna Shale ... , the marl and shale bedrocks [in this area tend to exhibit] heavy jointing, and therefore this part of the valley has poor rock properties and has led to extremely dangerous conditions in which entire walls can collapse. This is particularly true for the marls just overlying the Esna Shale bedrock as well as the marls within close proximity to the fault zone" (Wüst 2008, 50).

In terms of flood risk, these tombs are generally in locations less susceptible to large volumes of rain runoff due to their relatively small catchment areas, as the upper reach of the slope into which these tombs were constructed is relatively low. However, given the presence of Esna shale in these tombs, any flooding will have severely detrimental effects and flood protection should be a high priority.

Although no significant evidence of recent flooding has been noticed in these tombs, some of them exhibit signs of possible historic flood damage, such as uniform deterioration of the lower parts of walls (e.g., QV 33, QV 38). Flow lines produced through GIS hydrologic analysis show that storm water runoff is channeled down slope directly toward the entrances of QV 31, QV 34, QV 36, and QV 38.



Location of tomb openings (all dynasties) in relation to topography and drainage lines produced through 2007 field mapping (contour interval are 50cm; elevations shown are meters above mean sea level; drainage lines produced using ArcHydro 3.2).

Part VIII.4. Condition assessment of 19th - 20th Dynasty tombs

The assessment of the 19th and 20th Dynasty tombs looked at all threats, which ranged from flooding, bat colonization, inappropriate uses, and visitation. These are described in general terms in Volume 1 of the report. Threats to specific tombs are noted in the condition assessments of individual tombs. The 19th and 20th Dynasty tombs were subject to both wall paintings and structural (geotechnical) assessment, as applicable.

Geotechnical assessment

The condition and geotechnical survey determined that about one-quarter of the tombs show significant loss and deterioration of rock which threatens continued loss of wall plaster and paintings, original rock cut surfaces (wall, ceiling and floor faces), and elements (internal walls, pillars and doorways), as well as tomb rock overburden in some cases.

Three different levels of loss and deterioration were assigned a risk of High, Medium or Low. These are defined accordingly:

- High risk represents the threat of large-scale rock loss or collapse and ongoing loss.
- Medium risk represents the threat of moderate rock loss with minimal and localized active loss.
- Low risk indicates that little or no potential rock loss is discernible. Many of the tombs in this category have undergone repair in recent decades and rock condition is unclear as it is covered with repair plaster. Monitoring is necessary in these cases to determine if there is any threat of rock loss or instability.

The risk levels of rock loss are shown on the plan that follows and also noted in the table of conditions in Section 6 and in the individual condition assessments.

Wall paintings assessment

The 23 chamber tombs from the 19th and 20th Dynasties with extant plaster or decoration hold significant historical and aesthetic value for the site. At present only three of these tombs are open to general visitation (QV 44, 52 and 55), and QV 66 (Nefertari) is open to restricted visitation. One of the tombs, QV 58 is undecorated except for an inscription, and has been used by the SCA for storage of archaeological materials since the 1980s. The remaining 18 decorated tombs are generally unvisited (QV 43 has been opened occasionally) and have been largely neglected or inappropriately treated in the recent past.

Assessment of risk to wall paintings

A condition and risk assessment of the decorated tombs was undertaken over a three-year period (2007-2009), carried out by the QV wall painting team, which includes seven SCA conservators and GCI staff and consultants. Substantial training of SCA personnel has also been incorporated in the assessment process, the main elements of which have included:

- documentary research: collection and assessment of archival material (historic photographs, conservation reports, etc.) to establish the physical and conservation histories of the tombs and their decoration;
- physical examination and recording: on-site examination and recording of principal risk conditions in each of the 22 tombs with painted decoration; recording included completion of baseline photographic documentation by CEDAE; and

- risk assessment: evaluation of recorded risks in relation to collected documentary information, and assessment of rates of change over time.

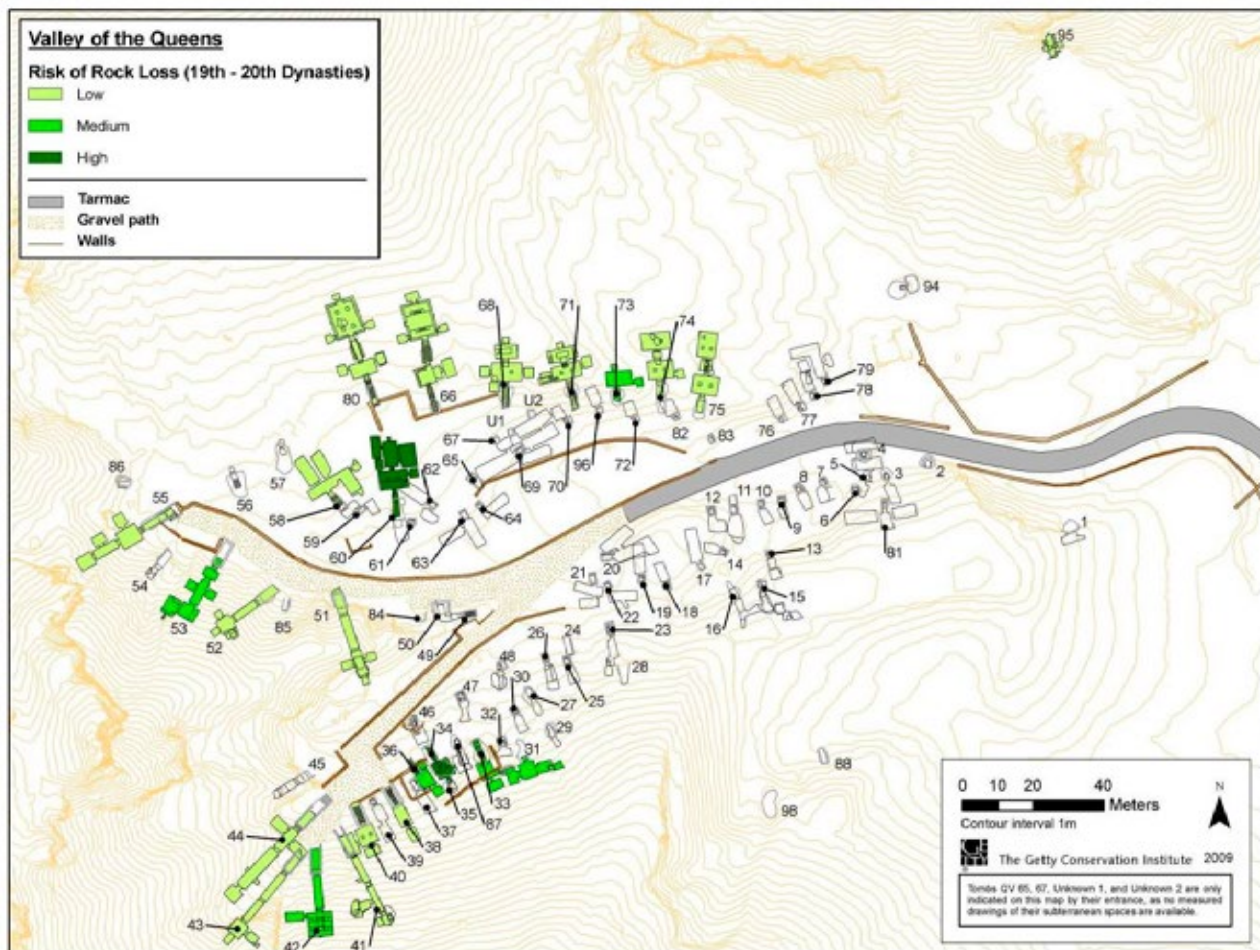
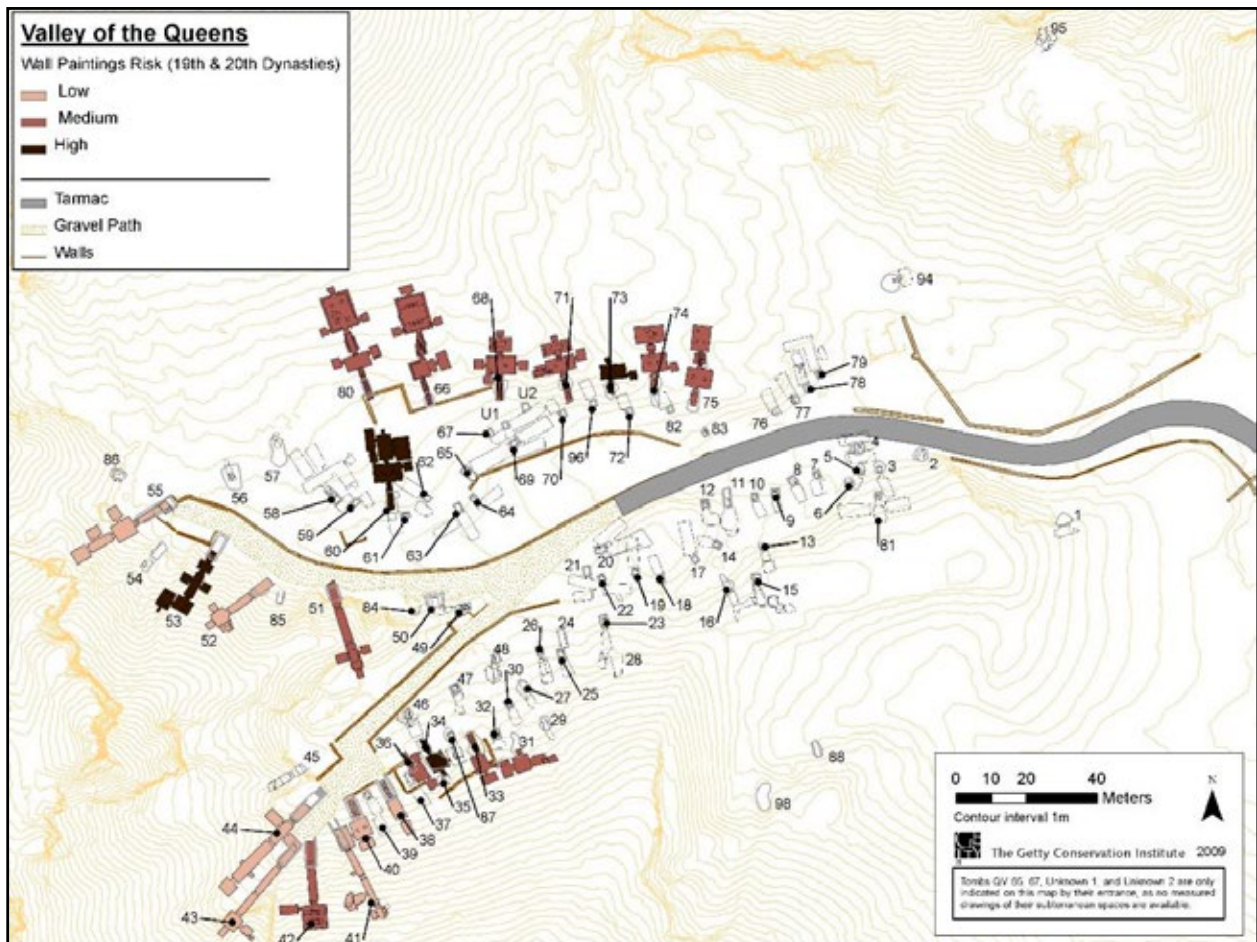
The principal objective of the condition assessment has been to determine and prioritize ongoing risks to the safety of the plasters and paintings. Not all the tombs are exposed to the same level of risk. For some, threats to the survival of the plasters and paintings are severe and imminent; for others, deterioration and damage may have occurred mostly in the past. A risk level rating of high, medium or low was assigned to each tomb. For the majority of tombs, the structural and wall paintings risk levels are similarly ranked, as seen in the plans mapping risk levels that follow, since the one (structural) is intimately connected with the other (wall paintings).

- High risk: Tombs in this category show substantial recent loss of painting through flooding, rain events and/or rock collapse. Risk of further loss is considered high.
- Medium risk: Tombs in this category exhibit moderate recent loss of painting from both damage and deterioration and/or are at risk of further loss.
- Low risk: Tombs in this category exhibit little recent loss of painting, if any, and are at low risk of further loss. Generally includes tombs currently open to visitation and other tombs with extensive previous treatment.



QV 60, shown here, exemplifies some of the severe rock related problems of tombs affecting their structural stability and wall paintings.





Mapping of structural and wall paintings risk levels.

Part VIII.5. Summary table of 19th - 20th Dynasty tomb conditions

Tomb	Name/Titles	Dynasty/ reign	Bats	Flood Evidence	Structural risk	Wall paintings risk	Inventory Form	Page
QV 24	Unknown Unfinished tomb	20th	---	---	---	---	No Form	167
QV 31	Anonymous Princess-Queen	Rameses I/ Seti I	Observed	Evidence	Medium	Medium	Form	168
QV 33	Tanedjemy Princess-Queen	Seti I	Observed	---	Medium	Medium	Form	180
QV 34	Anonymous Princess-Queen	Seti I	---	Evidence	High	High	Form	192
QV 36	Anonymous Princess	Seti I	Observed	Evidence	Medium	Medium	Form	203
QV 38	Satra Queen	Rameses I	Observed	Evidence	Low	Low	Form	217
QV 40	Anonymous Princess-Queen	Seti I	Evidence	---	Low	Low	Form	230
QV 41	Unknown	Rameses III	Observed	Evidence & 1994	Low	Low	Form	242
QV 42	Pareherunemef Prince and Minefer Queen	Rameses III	Evidence	Evidence & 1994	Medium	Medium	Form	252
QV 43	Sethherkhepshef Prince	Rameses III	---	Evidence & 1994	Low	Low	Form	269
QV 44	Khaemwaset Prince	Rameses III	Evidence	1994	Low	Low	Form	284
QV 45	Unknown Unfinished tomb	Rameses III	---	---	---	---	Form	301
QV 49	Unknown Unfinished tomb	19 th	---	---	---	---	No Form	305
QV 50		20 th	---	---	---		Combined assessment	
QV 51	Isis-ta-Hemdjeret Queen	Rameses III	Evidence	Evidence	Low	Medium	Form	307
QV 52	Tyti Queen	Rameses III	Evidence	Evidence	Low	Low	Form	323
QV 53	Ramses Meryamen Prince	Rameses III	Evidence	1994	Medium	High	Form	336

Tomb	Name/Titles	Dynasty/ reign	Bats	Flood evidence	Structural risk	Wall paintings risk	Inventory Form	Page
QV 54	Unknown Unfinished tomb	20 th	---	---	---	---	No form	352
QV 55	Amenherkhepshef Prince	Rameses III	Evidence	Evidence	Low	Low	Form	354
QV 56	Unfinished	19 th	---	---	---	---	No Form	368
QV 57	Unfinished		---	---	---	---	Combined assessment	
QV 58	Anonymous	19 th	Evidence	Evidence	Low	---	Form	370
QV 60	Nebettauy Princess, Queen	19 th	Evidence	Evidence & 1994	High	High	Form	378
QV 66	Nefertari Queen	19 th	---	Evidence (Schiaparelli)	Low	Medium	Form	393
QV 68	Merytamen Princess, Queen	19 th	Past activity	1994 & ancient	Low	Medium	Form	409
QV 71	Bentanat Princess, Queen	19 th	Observed	1994 (?)	Low	Medium	Form	423
QV 73	Henuttauy Princess, Queen	19 th	Evidence	1994 (?)	Med	High	Form	438
QV 74	Duatentipet Queen	19 th & 20 th Rameses II and Rameses IV	Evidence	Evidence	Low	Medium	Form	451
QV 75	Henutmira Princess, Queen	19 th	Observed	---	Low	Medium	Form	464
QV 80	Tuy Queen	19 th	Observed	Evidence	Low	Medium	Form	478
QV 84	Unfinished	20 th	---	---	---	---	No Form	491
QV 85	Unfinished		---	---	---	---	Combined assessment	
QV 86	Unfinished		---	---	---	---		
QV 95	Unfinished	20 th	---	---	Low	---	Form	492

QV 24 – Unfinished

General Description

QV 24 is located on the south slope of the main wadi, immediately adjacent to QV 25. The side walls and descending ramp are partially finished, with a shallow trench at the end of the ramp. In the southwest corner of the wall at the base of the ramp, a small opening leads to the shaft of QV 25.

Presumably, the location of QV 25 had been forgotten by the time of the original excavation of QV 24. When tomb excavators ran into the shaft of QV 25, work on QV 24 was abandoned.

It was last cleared by the Franco-Egyptian mission in 1986. When E. Thomas visited in the late 1950s, she noted that the ramp was largely filled with debris. Based on the nature of the ramp, the Franco-Egyptian mission suggested that it was created during the 20th Dynasty (Leblanc 1989, 239).

Condition

The marl rock is heavily weathered and fractured along bedding and joint planes.

It was formerly used as a toilet by site personnel and trash accumulated in the shallow trench at the end of ramp. Since this refuse was removed in 2007 and 2008 by GCI-SCA, site personnel began using this space to store miscellaneous items.

Deterioration Factors

Exposure to the environment and inappropriate use of the tomb as a toilet and dump has contributed to its poor condition.

General Recommendations

It is recommended to partially rebury tomb to prevent continued use. Alternative toilet and trash receptacles for site personnel are needed on site.



QV 24 with an arrow indicating the small opening to the shaft of QV 25. Prior to cleaning in 2007-2008, trash and human waste had accumulated in a shallow pit at the end of ramp.



As of 2009, site personnel were using the space for storage.

TOMB INVENTORY

QV 31

General Tomb Information		
Tomb number	QV 31	Location Main wadi, south side, on slope
Other naming systems	Wilkinson – 21(?); Champollion – 9; Lepsius – 15; Brugsch - 10	
Owner/ Attribution	Anonymous	
Owner Status	Princess - Queen	
Dynasty/ Reign	Early 19 th Dynasty / Rameses I or Seti I (based on location and architectural plan)	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
Description		
General Description	Short ramp (A) with remains of mud brick walls on either side of ramp. This multi-chambered tomb is entered through entrance (B) to main chamber (C) and side chambers (E, G) on east and west of chamber (C). Shaft (H) at the east corner of the chamber (G) leads to lower chamber (I). Mudbrick walls in ramp are a later addition; wall remnants have beginnings of curvature suggesting vaulted ceiling in ramp. Shaft (H) and chamber (I) may also be later additions. The tomb was accessible in the late 20 th Dynasty and reused in the Third Intermediate Period and Roman period.	
Decoration	Small areas of extant painted plaster with shallow relief in chamber (C). Ceiling of main chamber has large areas of unpainted plaster. Majority of surviving paint is a <i>kheger</i> frieze.	
Iconography	N/A	
Objects and Current Contents		
Objects recovered	8 mummies from within inner shaft (reused as tomb), one of which was particularly well mummified (Macke and Macke-Ribet 1989) date to Roman period; a door jamb with relief decoration of Rameses III period found in tomb, possibly recycled from Medinet Habu (Pers. comm. C. Leblanc)	
Removal or clearance of contents	Study materials cleared or recorded from QV 31 by CNRS and SCA in October 2008: potsherds, stack of mudbricks and a dressed stone (approximately 90 x 38cm), the stone door jamb noted above.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction	
Ramesside period	Reuse and construction of mudbrick structures above tomb, along ramp, and within tomb (latter for protection of walls, which may have already been losing rock). Ceiling fills may have been applied at this time	CNRS mission reports 1991-92, 40
Late 20 th Dyn.	Tomb was accessible as hieratic graffiti in tomb records visits after robbery in the late 20 th Dynasty	Thomas 1966, 211
Third Intermediate Period	Possible reuse	Aston 2003
Roman period	Reuse as tomb – rough excavation of side chamber and inner shaft, 8 mummies found	CNRS mission reports 1991-92, 40; Macke and Macke-Ribet

1828	Research and documentation by Wilkinson, who is thought to have recorded this tomb as number 21.	Leblanc 1989a, 25-38
1829	Research and documentation by Champollion and Rosellini	Leblanc 1989a, 25-38
1844	Research and documentation by Lepsius	Leblanc 1989a, 25-38
1854	Research and documentation by Brugsch	Leblanc 1989a, 25-38
1964	Brief history and description by Porter and Moss	Leblanc 1989a, 25-38
1966	Research and documentation by Thomas	Thomas 1966, 208-209, 211-213, 224-225
1981	Survey by TMP	TMP
1986-7	Archaeological clearing by CNRS	CNRS
1986-9	Structural stabilization and plastering by EAO	CNRS
1990 Nov	Photographic documentation by CEDAE	CEDAE
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct	Removal of study materials by CNRS and SCA	GCI
2009 Jan	Digital photographic documentation by CEDAE	GCI; CEDAE
Feb-Mar 2010	Tomb cleaning and wall painting stabilization by GCI-SCA	GCI
Documentation and References		
Historic Photographs	-CEDAE – 28977-28997 (Nov.1990); -CNRS/CEDAE – Plates: LV-B, LVI, LVII, LVIII A-B, LVIX-A in Leblanc 1989a.	
References	-Aston 2003; -Brugsch 1855 318; -Champollion, Maspero and Champollion Figeac 1844-1889 vol. I, 397; -CNRS mission report 1991-92 -Leblanc 1989a, 24-55;	-Lepsius 1897-1913, text vol. III, 236; -Macke and Macke-Ribet 1989; -Porter and Moss 1964, 749 and 750; -Rosellini – MSS. 284, H. 33 [a]; -Siliotti and Leblanc 2002; -Thomas 1966, 208-9, 211-213, 224-225.

QV 31

Anonymous Princess/ Queen

General Description

Tomb QV 31 is entered through ramp (A) leading into the main chamber (C). To the east and west of the main chamber are side chambers (G) and (E) respectively. Later rough-hewn side chamber (G) has a shaft (H) at its southeast corner that leads to lower chamber (I). A low stone masonry element is located at the base of the rear wall of main chamber (C) and remains of mudbrick walls line the entryway, possibly to support a vaulted ceiling.

The tomb is excavated out of the lower part of Member I, based on the geological mapping of the site by Wüst. The interbedding of marl and shale is typical of the stratigraphy within this part of the Valley and is visible in the tomb, with the main level of the tomb excavated into marl, and the lower chamber (I) lying entirely within shale. Common to marls overlying beds of shale is heavy jointing, as seen in main chamber (C).

Only the main chamber (C) is decorated with raised relief painted plaster on its wall and unpainted plaster on the ceiling. There is packing out of walls and ceiling with infill material (rock shards, plaster) necessary to create uniform surfaces for plastering. E. Thomas noted the use of thick plaster and suggested it was necessary in this part of the Valley, where the rock is of poor quality. Extant ceiling plaster in this chamber has large brown aggregate matter, thought to be animal dung. Traces of overplastering of the paintings are present.

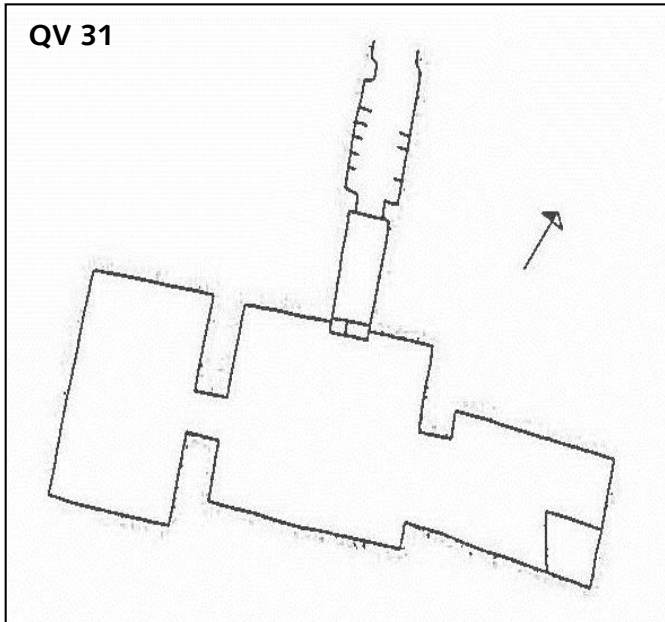
The tomb was most recently cleared by the Franco-Egyptian mission in 1986-87 but has been accessible since at least the time of Wilkinson (1828). The mudbrick structures lining the entryway are thought to date from subsequent Ramesside use of the tomb. The tomb was reused in the Third Intermediate Period.



Approach to tomb and entrance ramp in 1986-87 (Image: CNRS).

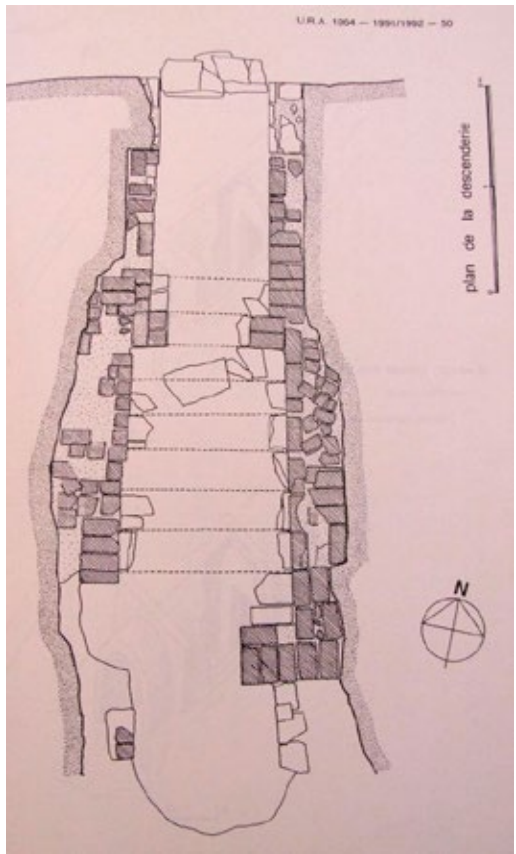


Ramp and Entryway in 2007. Fractured and falling rock along ramp and outside entryway; mudbrick walls lining the ramp; dry rubble wall in foreground placed in recent times as a barrier.



QV 31

Tomb plan (above) and later mudbrick structure in ramp (right). (Drawings: CNRS)



U.R.A. 1964 - 1991/1992 - 30

plan de la descenderie

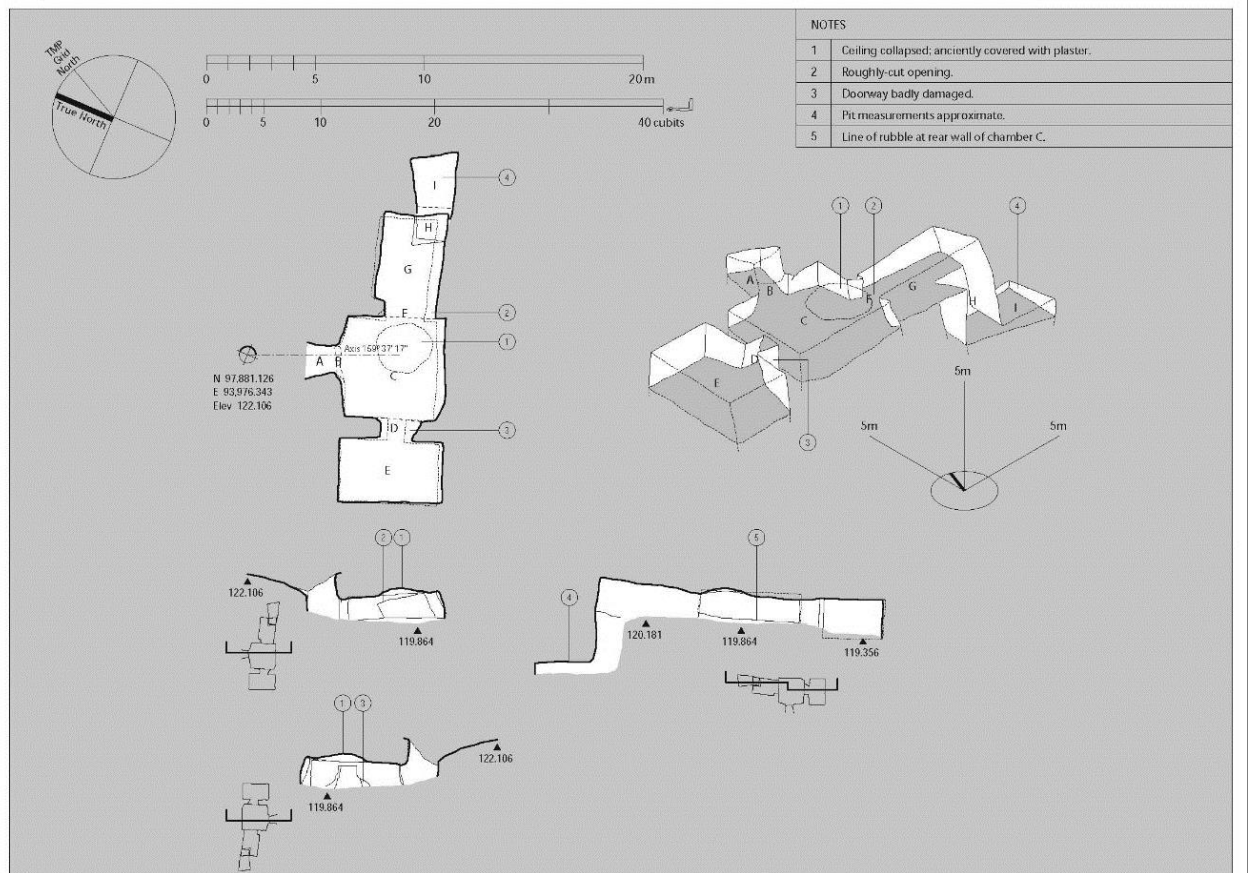


Sheet 14/72 - QV 31

QV 31 - Anonymous Princess-Queen, Dyn. XIX

Plan, sections, axonometric 1:200

Surveyed May 21, 1981. Drawn October 22, 2007.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

The tomb is not open to visitation, and has no means of closure; a partially collapsed rubble wall was built in the ramp, presumably to prevent entry. One bat was seen in lower chamber (I) and the tomb is open to other threats, including flood entry and inappropriate use by humans, evidence of which may be seen in chambers (C), (E), and (G).

Condition

Severe and widespread loss of rock is found throughout the tomb, especially above the entrance and in the lower two-thirds of chamber walls in main chamber (C). Comparison with CEDAE photographs from 1990 confirms that most of the loss occurred prior to that date and that more recent losses are localized. There is evidence of recent collapse along the rear wall of the main chamber where parallel fractures (joints) run perpendicular to the bedding planes; a dark horizontal stain runs along the walls of this chamber. Further evidence of rock loss is present in the entrance ramp and in the ceiling of the main chamber. Fractures also run along the west wall on either side of the doorway in the main chamber. There are recent localized losses of mudbrick and rock, primarily in the main chamber and ramp as evidenced by the photographic documentation. Previous documentation in side chambers was not available for comparison but recent loss of ceiling rock is evident from small piles of fallen rock in west side chamber (E).

The surviving decoration is fragmentary and is found only at the tops of walls (*kheger* frieze) and on the ceiling. Of the few remaining areas of painting the plaster is fragile with cracking and detachment. Losses of painted plaster can be seen in comparison with the 1990 CEDAE photographs. Recent losses were also noted on the west wall of main chamber (C) between an inspection in February 2007 and a year later in 2008. Two hieratic inscriptions exist in areas close to these losses and are an additional cause for concern. More gradual surface deterioration is also present; pigments such as greens are pale in appearance due to the exposure of paintings to natural weathering over time and decohesion and loss of the paint layer. The decoration is considered at medium risk of further deterioration and loss.

Small-scale treatment has been undertaken in this tomb, visible in the 1990 CEDAE photographs. Localized efforts to stabilize falling ceiling rock are present in the form of possible white cement and/or gypsum plastering and mortaring in areas of severely jointed rock. There are also fills and edging repairs to secure areas of painted plaster. The rock stabilization interventions are generally in good condition.

In 2007 the tomb had scattered trash, particularly in main chamber (C), and human waste. Surface blackening of rock is present in lower chamber (I).

Deterioration Factors

Given the excavation of the tomb into a shallow layer of marl lying atop a shale bed, much of the loss may be attributed to the tendency of shale to swell in the presence of moisture and exert stress on the marl lying above. The inherent poor quality of the rock is further evidenced by the amount of infill material needed to pack the walls in preparation for decoration. This substrate infilling has also put the painting at greater risk of collapse due to the additional weight and the potential loss of adhesion in these areas. Loss of rock and decoration at the lower two-thirds of walls and around doors, and the horizontal staining and debris on the walls of the main chamber suggest that the tomb has been subjected to flooding in the past; such events may have significantly contributed to losses that have occurred over time.

The repair plasters used around areas of painting, which are stronger than the original plaster, may have contributed to cracking and eventual detachment and loss of adjacent areas of painted plaster.

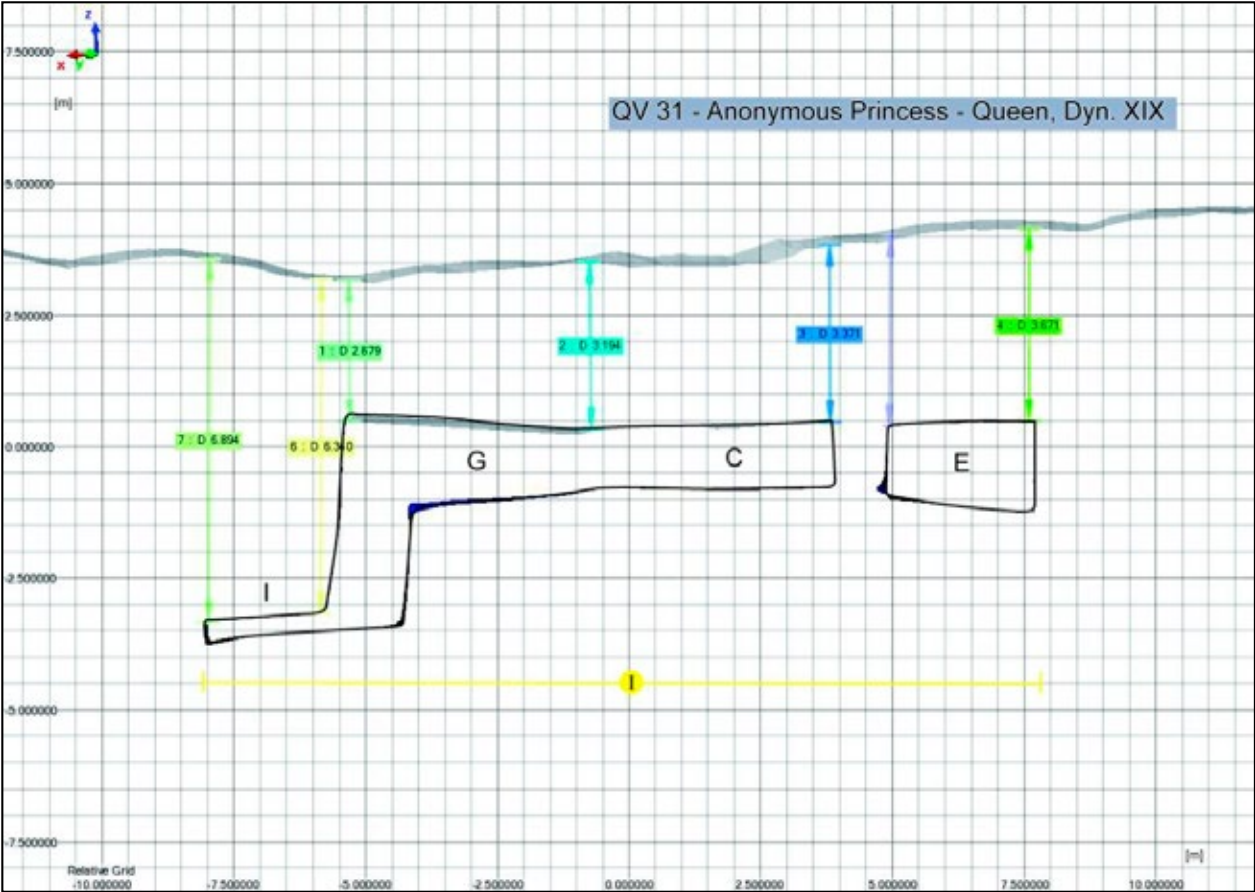
As this tomb entrance is open, the paintings are also at risk of being damaged by activities of bats, birds and humans, particularly the use of the tomb as a toilet. Hydrologic analysis also shows a drainage line from a relatively small upslope catchment area leading directly to the tomb entrance.

General Recommendations

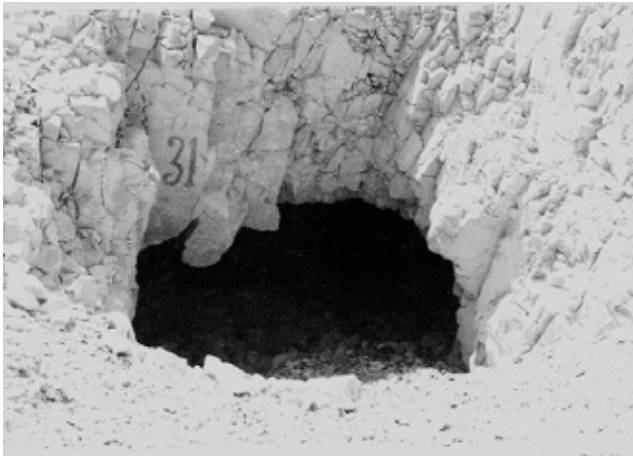
Access to this tomb should be controlled and the entrance securely closed off so as to prevent its use as a toilet and the entry of animals, as well as prevent water ingress. Reburial of the ramp may be considered to seal the tomb and protect the mudbrick structures. Removal of any resident bats or other animals should be carried out prior to closing the tomb. Additionally, clearing of fallen rock and other debris will be necessary, being careful to document and appropriately store any fallen painting for future consideration.

Stabilization of falling and heavily jointed rock is necessary to prevent loss of rock and associated plaster decoration. The mudbrick walls lining the entrance ramp also require stabilization. Thorough assessment of earlier interventions is required and any removal or replacement may be determined necessary.

Stabilization of fragile areas of painted plaster is also required to prevent further loss. Treatment required is generally localized and limited in scale.



Overburden analysis of tomb reveals no less than 1m of rock thickness between chamber ceilings and exterior rock surface.



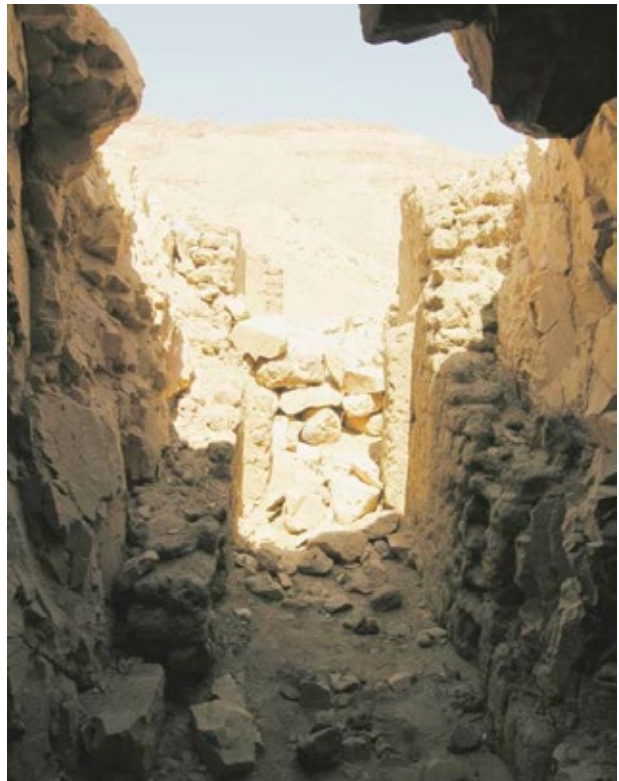
Entrance (B) showing fractured rock, before clearing of ramp in 1986-87 (Image: CNRS).



Chamber (I). A bat hangs from the wall of the chamber in an area of surface blackening.



Photo of ramp in 1990 (Image: CEDAE).



Localized loss of stone and mudbrick on each side of entry ramp (A), noted since 1990 photo.



Left: Door jamb, re-used in tomb, as found during excavations in 1987 (Image: CNRS);

Right, door jamb as found in 2007 lying upside-down amid trash and fallen debris; removed in 2008





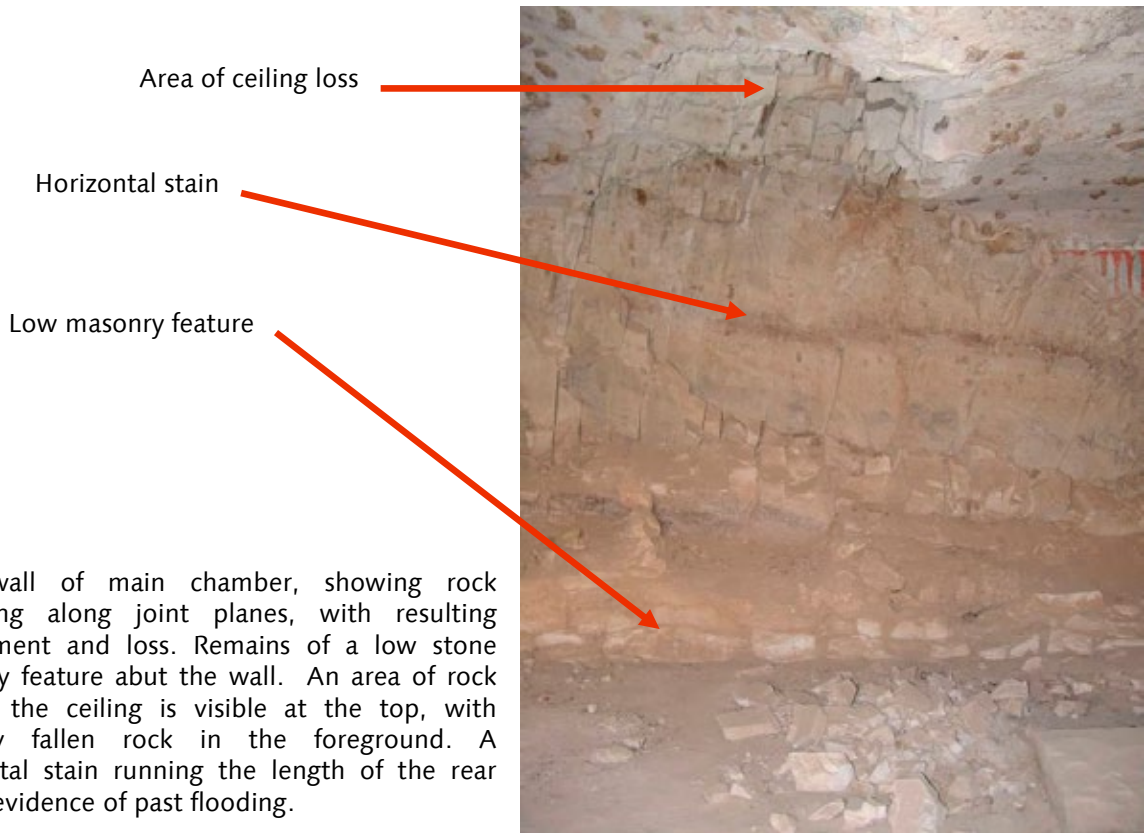
Chamber (C) before clearing by CNRS in 1986-1987. Debris was accumulated in the chamber about one-third of wall height. (Image: CNRS)



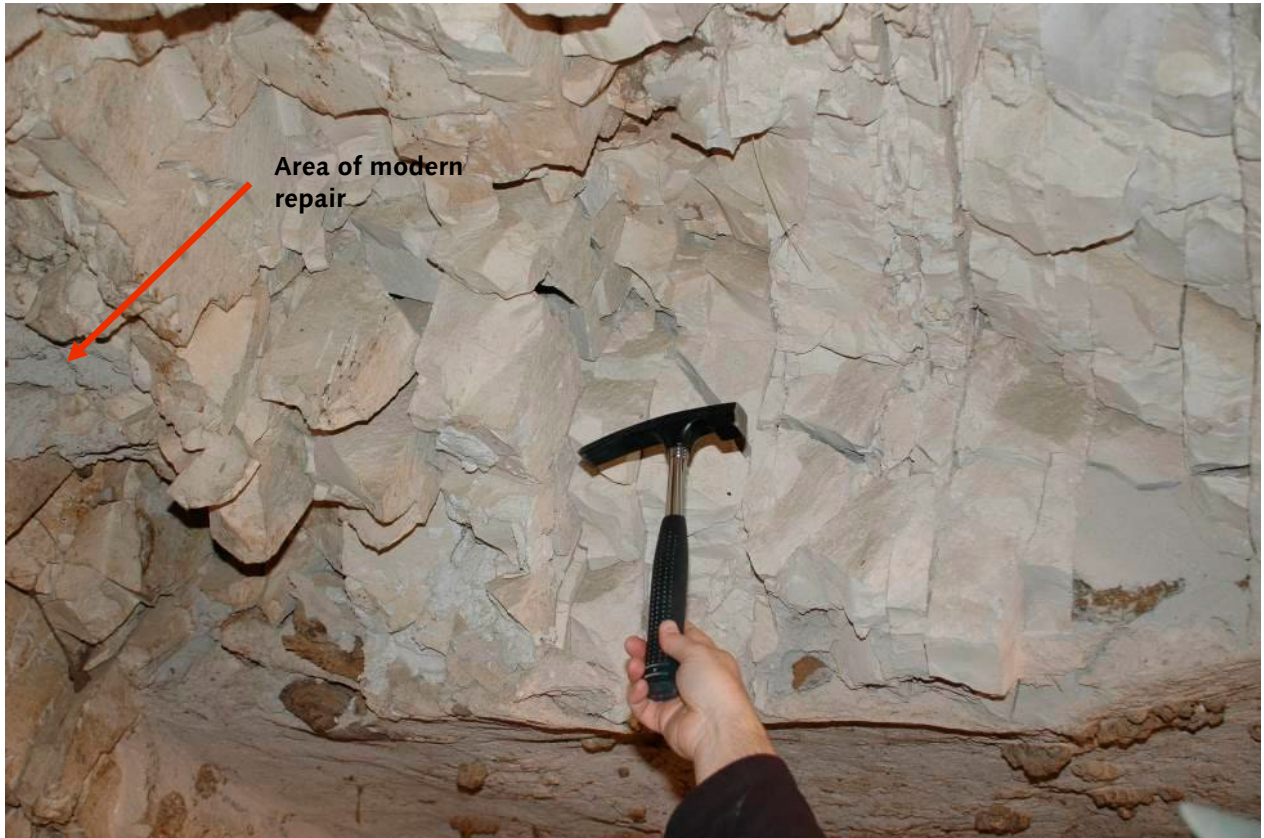
Chamber (C) after removal of fallen rock debris in 2010.



Main chamber (C), view towards doorway (D). Fractures with resulting loss along rear wall of tomb; painting only survives in this chamber along upper portion of wall; a large area of ceiling plaster is also extant (photo 2007).



Rear wall of main chamber, showing rock fracturing along joint planes, with resulting detachment and loss. Remains of a low stone masonry feature about the wall. An area of rock loss in the ceiling is visible at the top, with recently fallen rock in the foreground. A horizontal stain running the length of the rear wall is evidence of past flooding.



Main chamber ceiling with ongoing rock loss in 2008. Localized efforts to stabilize falling rock are evident to the left of the photo. The original ceiling level lies behind the pictured hand and has extant plaster with possible dung inclusions.



Lower chamber (I) is excavated into a shale bed, characterized by the rock color, its many salt veins, and fractured nature.



(Image: CEDAE, 1990)

The doorway (D) from the main chamber into the western chamber (E) has suffered severe rock loss in both jambs, resulting in a trapezoidal shape. Rock fracturing and deformation are particularly notable within the south jamb (on the left). The south jamb of doorway (D) has parallel fractures running through the rock that have weakened it and resulted in deformation and cracking. Localized progressive cracking was observed here in comparison with photos from 1990.



(2007)



A skull fragment used as fill material was found on the east wall of the main chamber (C).

Area of loss on west wall of main chamber (C) provides a good opportunity to see the stratigraphy of the painted plaster.



Ceiling of main chamber (C):

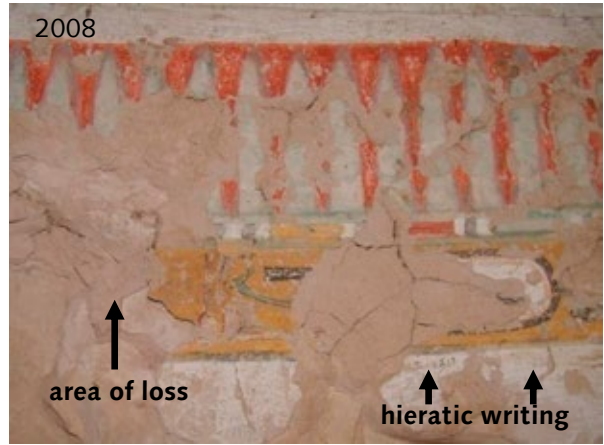
1. Most of the undecorated ceiling plaster in chamber (C) is intact, but there is a large area of loss above the rear south wall.
2. Animal dung inclusions and remains of wasp nests are present on plaster.
3. Area of loss on ceiling of main chamber (C) provides a good opportunity to see the stratigraphy of the painted plaster.



Evidence of later overplastering on original painted plaster on door jamb (F) of main chamber (C) . Traces of wasp nests are also visible here.



2007
Detail of an area of painting on the west wall of main chamber (C) taken in 2007. Note the cracking in the plaster layer.



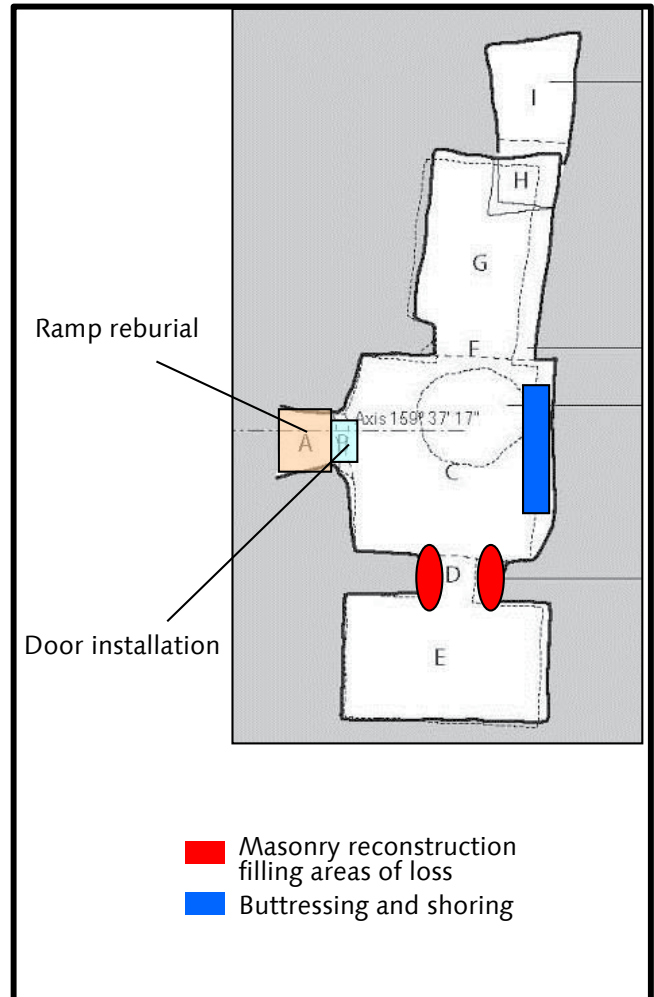
2008
Photograph of the same area taken one year later in 2008. Note the loss of painting. Hieratic writing is visible in this area (lower right).



Image of the top band of decoration in main chamber (C) showing the fragile nature of the surviving painting. Note general losses in the paint layer and the cracked and unstable edges of the painted plaster around area of loss.



Detail showing fading and loss of the green paint due to weathering and exposure of the paintings over time.



Sketch plan of recommended interventions

<u>General Tomb Information</u>		
Tomb number	QV 33	Location Main wadi, south side, on slope
Other naming systems	Wilkinson – 20; Lepsius – 14; Brugsch – 9; Porter and Moss 1 st edition (1927) – 37	
Owner/ Attribution	Tanedjemy	
Owner Status	Princess – Queen (King's Daughter - King's wife)	
Dynasty/ Reign	19 th Dynasty / Seti I	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
<u>Description</u>		
General Description	Access by steep ramp to entrance (B). The ramp originally had steps though only a few remnants of tread have survived. This multi-chambered tomb has chamber (C) and rear chamber (E) on the axis. At the east corner of chamber (C), is side niche (F) with shaft (G) leading to a lower chamber (H). There is also a small pit at south-west corner of chamber (C).	
Decoration	Small areas of extant painted plaster with raised relief, mainly limited to areas of upper border, primarily in chamber (C).	
Iconography	Fragmentary painting of the queen seated on a chair, probably in front of an offering table, and her cartouche survive. See Tomb Profile in Volume 1.	
<u>Objects and Current Contents</u>		
Objects recovered	Protective figures, winged scarabs, fragments of painted wooden sarcophagi from 26 th Dynasty; 108 Roman period mummy remains; a glass bottle (Lecuyot 1999, 43); 9 Roman painted cartonnages from coffins.	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction	
20 th Dyn.	Tomb pillaged	Leblanc 1985
26 th Dyn.	Reused by low rank Theban temple officials/workers	Leblanc 1985; Aston 2003
Roman Period	Reused and enlarged as tomb	Leblanc 1985; Leblanc 1993a, 27; Amorós 2002, 276
Unknown	Ancient stabilization efforts	Leblanc pers.comm.
1828	Research and documentation by Wilkinson	Leblanc 1989a, 25-38
1844 13 th Nov	Research and documentation by Lepsius (recorded inscriptions on walls including queen's cartouche)	L.D. text III, 236; Leblanc 19892, 25-38
1854	Research and documentation by Brugsch	Leblanc 1989a, 25-38
1927 and 1964	Brief history and description by Porter and Moss	Porter and Moss 1927; 1964, 750-751
1966	Research and documentation by Thomas	Thomas 1967
1978	Photographic documentation by CEDAE Treatment of portrait of queen, chamber (C)	1978 CEDAE photo shows treatment
1978-80	Clearing out by Franco-Egyptian mission	Leblanc 1989a, 54

1981	Survey of tomb by TMP	TMP
1988	Mapping and survey by Laurent (CNRS)	CNRS
1990	Photographic documentation by CEDAE	CEDAE
Unknown	Reattachment/stabilization in localized area of wall painting and rock	GCI in situ inspection
Unknown	Two areas of wooden shoring installed	GCI in situ inspection
Unknown	Reconstruction of entrance door jambs and door installation	GCI in situ inspection
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008	Hydrological and geological assessment by GCI and consultants Hamza Assoc. and R. Wüst	GCI; Wüst 2008, 34-36; Hamza Assoc. 2009
2009 Jan	Digital photographic documentation by CEDAE	GCI
2010 Feb-Mar	Tomb cleaning and wall painting stabilization by GCI-SCA	GCI
Documentation and References		
Historic Photographs	-CEDAE – 25590-25640 (April 1978); 28998-29001 (Nov.1990); -CNRS/CEDAE - Plates LX, LXI, LXII in Leblanc 1989a.	
References	-Amorós 2002; -Aston 2003; -Brugsch 1855, 318; -Leblanc 1980, 32-49; 1985 ; 1989a; 1993a; 1999; 2001, 281; -Leblanc and Hassanein 1985, 27-28; -Lecuyot 1999;	-Lepsius 1897-1913 text vol. III, 236; -Macke 1990, 34; -Porter and Moss 1964, 751; -Siliotti and Leblanc 2002; -Thomas 1966, 201, 208-9, 211-3, 218, 224-5; 1967, 161-163; -Troy 1986; -Wüst 2008, 34-36.

QV 33 – Princess/ Queen Tanedjemy

General Description

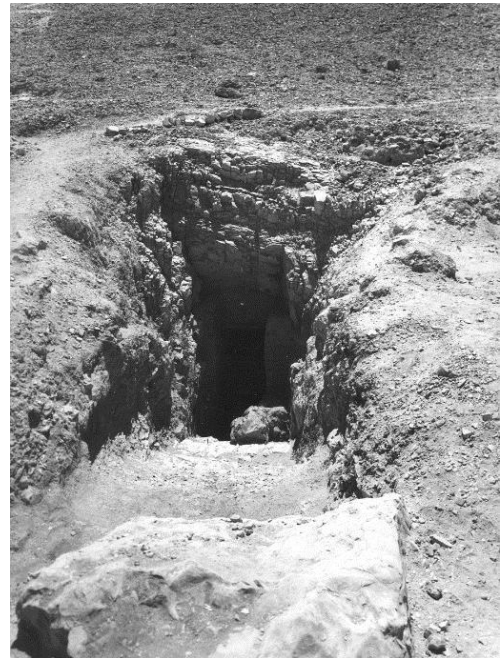
This tomb is entered through a stepped ramp (A) leading into main chamber (C). The tomb has two chambers on axis with the entrance ramp and a side niche (F) with shaft (G) to lower chamber (H) on the east side of chamber (C).

The tomb was excavated into the lowermost part of Member I and, in areas, the uppermost region of the Esna Shale, as identified by geologists. Shales are evident at the base of entrance ramp (A), the floor and base of walls in burial chamber (E), as well as in lower chamber (H). The shales present in chambers (E) and (H) reveal the contact between the two geological units (Member I and Esna Shale), while those in ramp (A) may represent a displacement within the Esna Shale. A fault plane is present within ramp (A), revealing internal displacement near the Member I/Esna shale contact of approximately 5-10m. According to R. Wüst, this fault plane and the Member I/Esna Shale contact within the tomb are crucial to understanding the geology and structural complexity of the entire Valley, pointing to the fault plane on which the entire rotated block of the Valley slipped and fluidized the shale beneath it. Heavy jointing of the marl is present throughout the tomb, as a result of the different lithologies and cycle of overpressure and pressure relief related to wetting and drying of the shale.

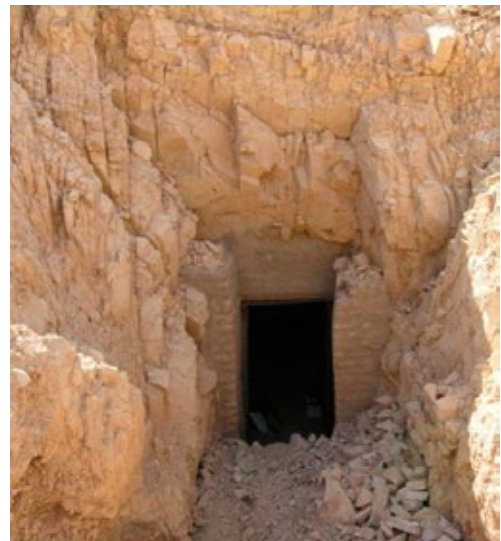
Only very small and fragmentary areas of raised relief painting survive at the tops of the walls and ceiling of main chamber (C). The plaster was thickly applied with rock shards mixed in to pack out the wall and create a flat surface for the paintings. The paintings are blackened from fire and show evidence of other heat-related damages.

The tomb was most recently cleared by the Franco-Egyptian team in 1978-1980, but has been accessible since at least the time of R. Wilkinson (1828). It was full of bats at the time of E. Thomas' visit in the 1960s, and she attributed the blackening in the tomb to their presence and smoke from ancient reuse. The entrance and much of chamber (C) were largely filled with debris at that time. The tomb was reused in the 26th Dynasty and Roman period for mass burial.

The tomb is currently not open to visitation. A modern fired brick doorway with metal door without mesh prevents visitor access. Bats were noted inside in February 2006, 2007, and 2008. A bird nest is also present on the west side of doorway (D).



Approach to tomb and ramp (A) and entryway (B) (Image: CEDAE, 1978).

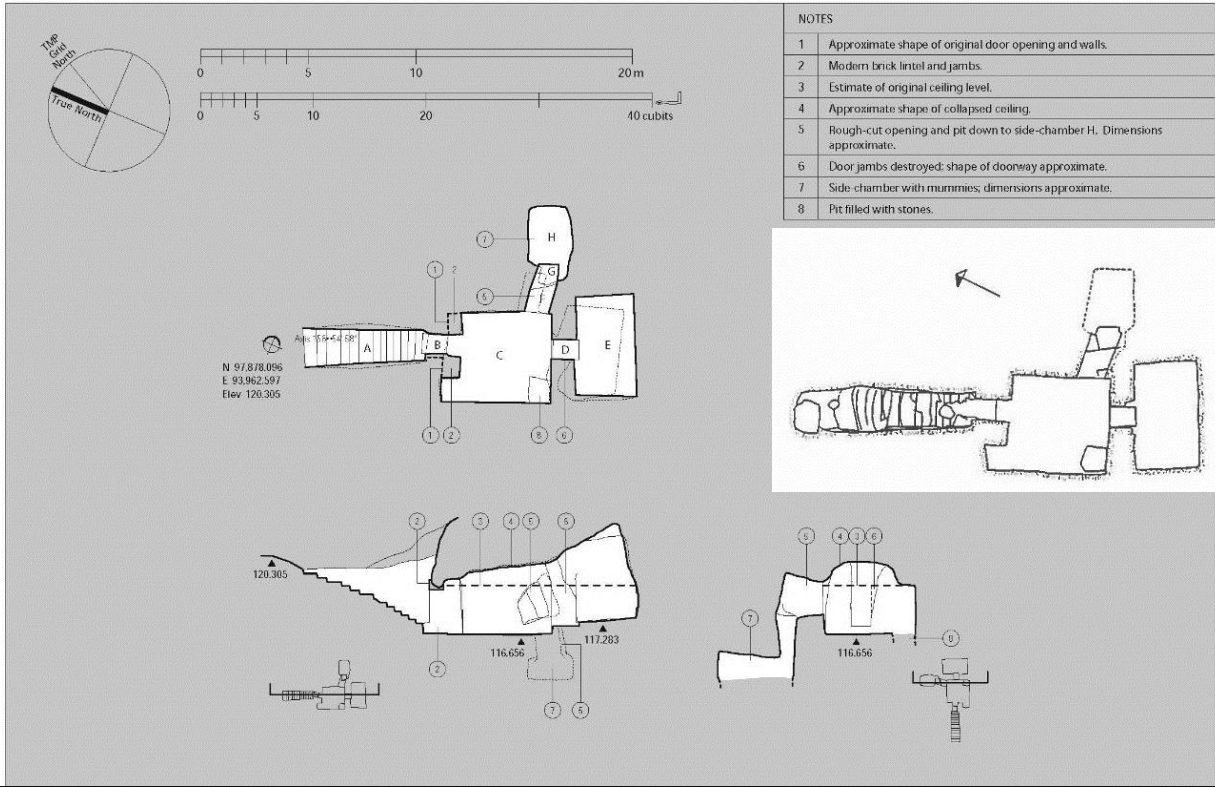


Ramp and entryway in 2007. Severely fractured rock lies above reconstructed entrance. Debris from fallen rock lines the ramp.

QV 33 - Tanedjemy, Dyn. XIX

Plan, sections 1:200

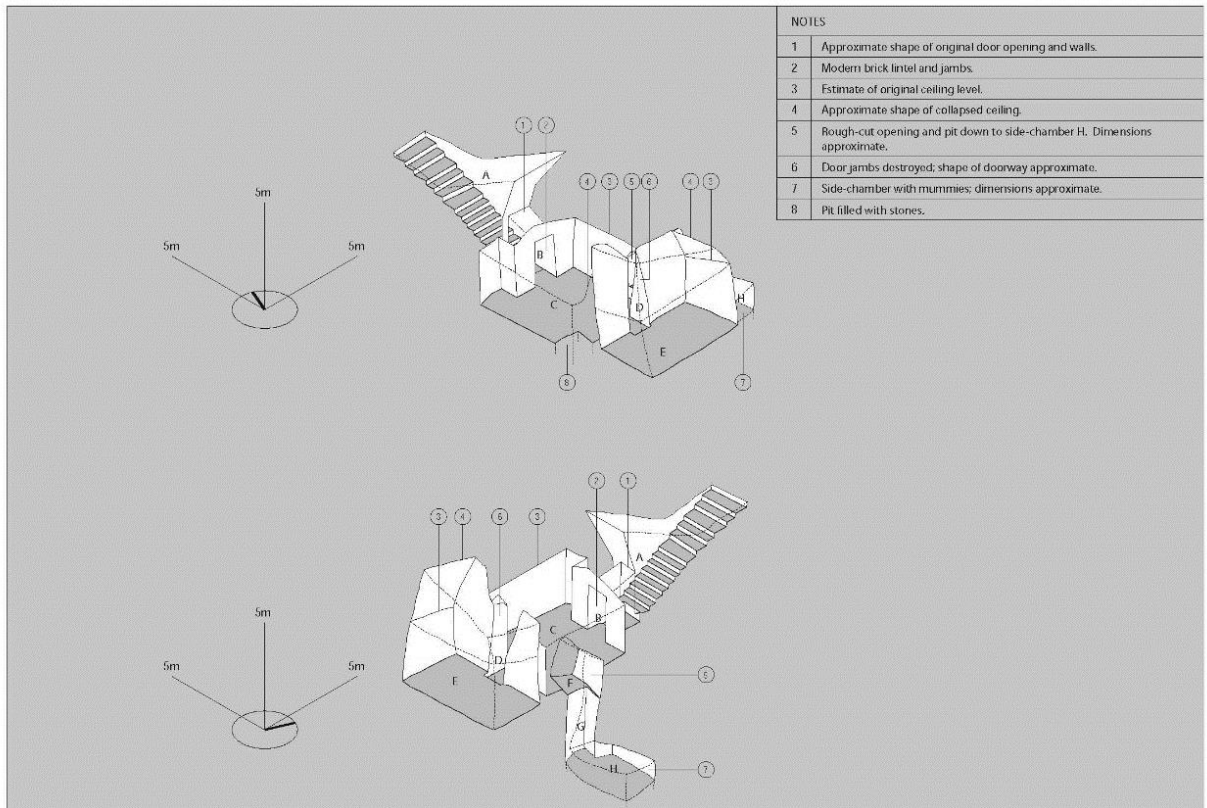
Surveyed May 28, 1981. Drawn September 9, 2007.



QV 33 - Tanedjemy, Dyn. XIX

Axonometrics 1:200

Surveyed May 28, 1981. Drawn October 14, 2007.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007. Inset drawing of plan: CNRS.

Condition

The rock into which the tomb is cut is highly fractured and exhibits ongoing loss. Comparison with 1978 CEDAE photographs shows recent loss along the sides of the entrance ramp (A) and above the entryway (B). This area of rock remains at risk of further collapse. Localized areas of recent loss are also present in chamber (C), along the west wall, and especially in the center of the ceiling where post-fire loss is apparent. Substantial rock loss has occurred in doorway (D) and in the ceiling of chamber (E), resulting in a high, vault-shaped ceiling. Some of this loss occurred after blackening of rock surfaces. The rear and front walls of chamber (E) have steeply dipping joints along which rock fragments have broken off, resulting in fragile remains of the front wall.

Recent interventions include wooden shoring and extensive application of gypsum/cement plaster to rock surfaces in order to prevent further loss. One long horizontal wooden brace runs north-south on the west side of chamber (C), supporting the remains of the south wall, which is also the shared front wall of burial chamber (E). Another shorter horizontal brace lies inside niche (F), which supports its south wall. Gypsum/cement plaster has been applied to the rock throughout the tomb, especially on the ceiling of chamber (E). There is no evidence of loss since the plaster was applied. Leblanc indicated evidence of ancient efforts to stabilize parts of the tomb, though the nature of these is unclear (pers. comm.). Two phases of modern treatment are apparent, as evidenced by two different colored plaster materials, grey and white. It should be noted that the application of the plaster was sloppy and somewhat haphazard; although the use of the plaster may have stabilized the rock, the method of application has hidden the rock surface, and marred the tomb's appearance due to the strong contrast of the blackened rock and the white plaster.

There are many losses that have occurred in the wall paintings including both pre-fire and post-fire losses. Surviving areas of painted plaster are fragile and vulnerable, often occurring in areas of rock instability or where substantial plaster infill material has been lost. Paintings are blackened from fire, covered with a thick, brown matte deposit, mainly on the upper parts of walls; lower areas of the walls are not blackened and may have been protected by debris or have since suffered substantial losses in these areas. The paintings may have also suffered heat-related damage, which has left the plaster cracked and friable.

Treatment of the wall paintings is evident in only one area focused on the portrait of the queen on the south wall, east side of main chamber (C). The treatment included plastering around surviving areas of painting and is visible in the 1978 CEDAE photographs. Cleaning of the blackening may have also been attempted on the upper border decoration at this time and drip marks visible on the surface indicate some sort of consolidation work.

Deterioration Factors

The excavation of the tomb into an area of geological faulting and contact between marl and shale is the principal factor in the inherent poor quality of the rock and its heavy fracturing along bedding and joint planes and subsequent extensive loss both inside the tomb and above the entrance. Rare rain events are likely to be a contributing factor to the fracturing of the rock, especially above the entrance where the rock is most exposed.

Although no evidence of flooding was noted, the effects of the rare rain events and possible flooding in the past have contributed to the swelling of the underlying shale and the severe fracturing of the bedrock that has led to the loss of most of the painted plaster in this tomb.

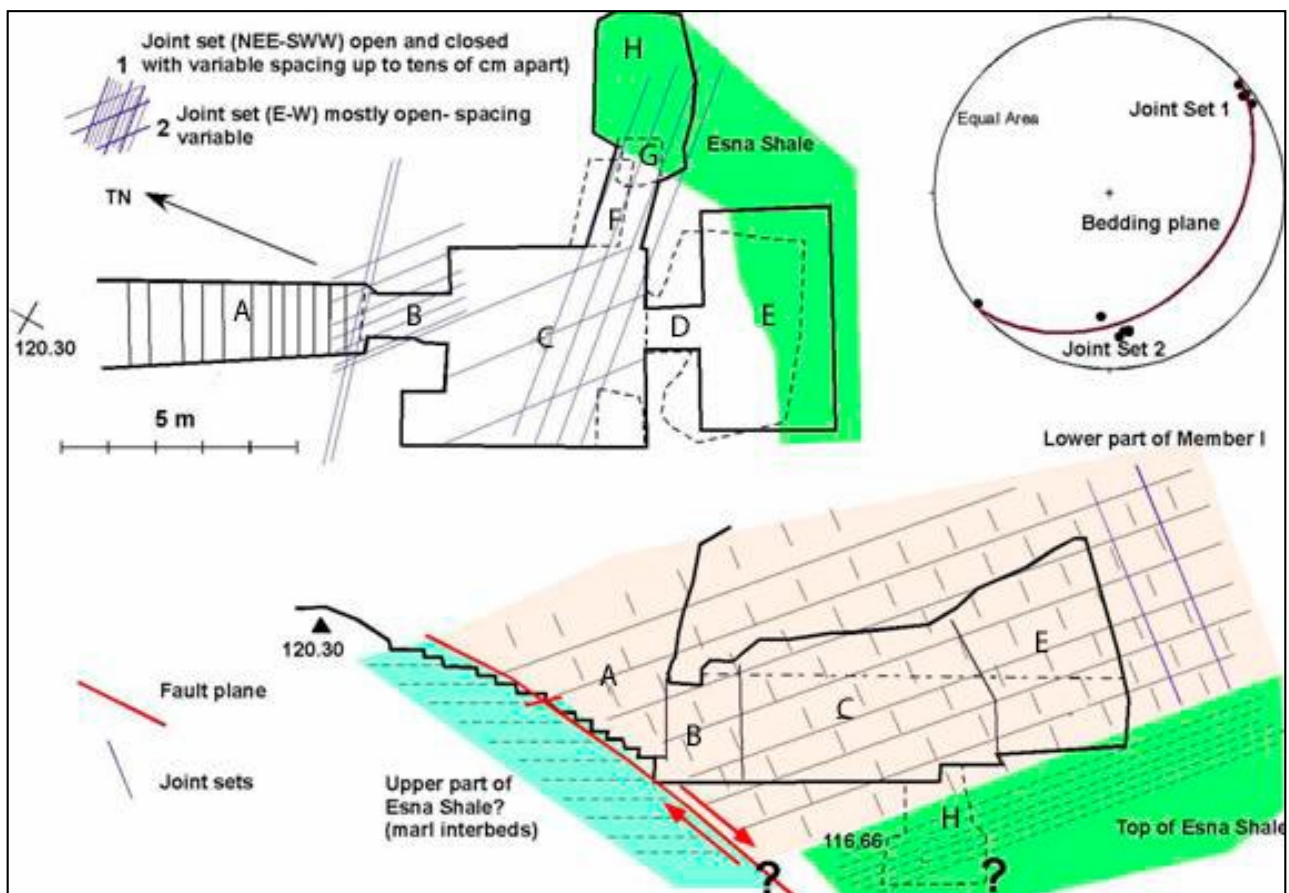
Fire may have contributed to the vulnerability of the surviving areas of painting. Heat-related damages such as fracturing of the upper paint and plaster has led to losses. Collapse of rock and detachment of the thick packing material has further contributed to the extensive loss of decoration. The wooden shoring at the west side of chamber (C) is positioned on top of an area of painting and appears to be putting this area at risk.

General Recommendations

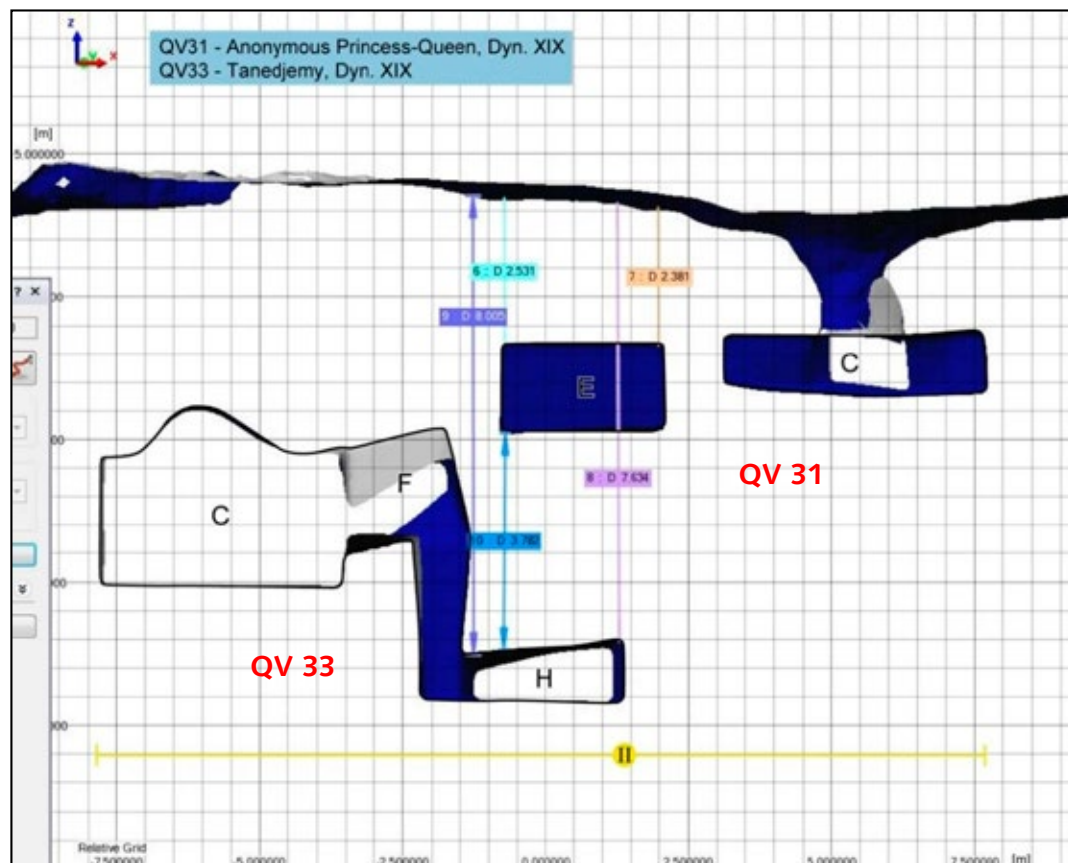
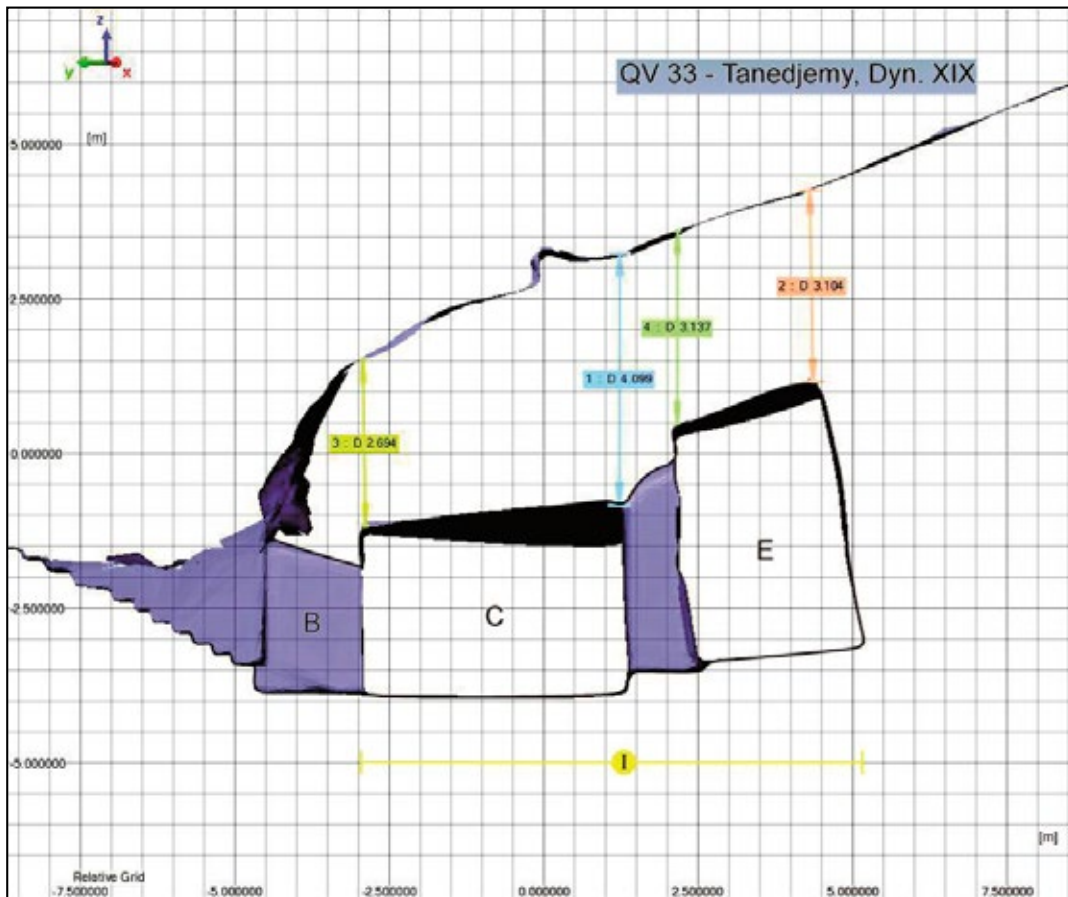
Stabilization of the rock overhang above the exterior entrance is necessary, as severe widening of joints threatens its further detachment and collapse. Consideration of an arched cover for the ramp is also necessary, taking into consideration the fragile quality of the rock.

An assessment of the shoring and the intervention of rock surface plastering inside the tomb is necessary to determine if these methods are adequate to stabilize the tomb and prevent further rock loss.

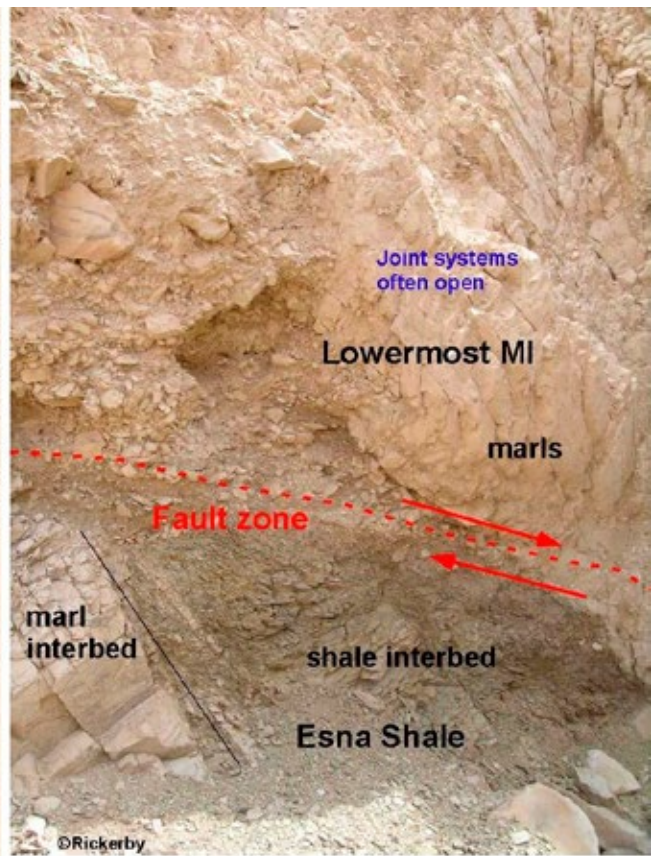
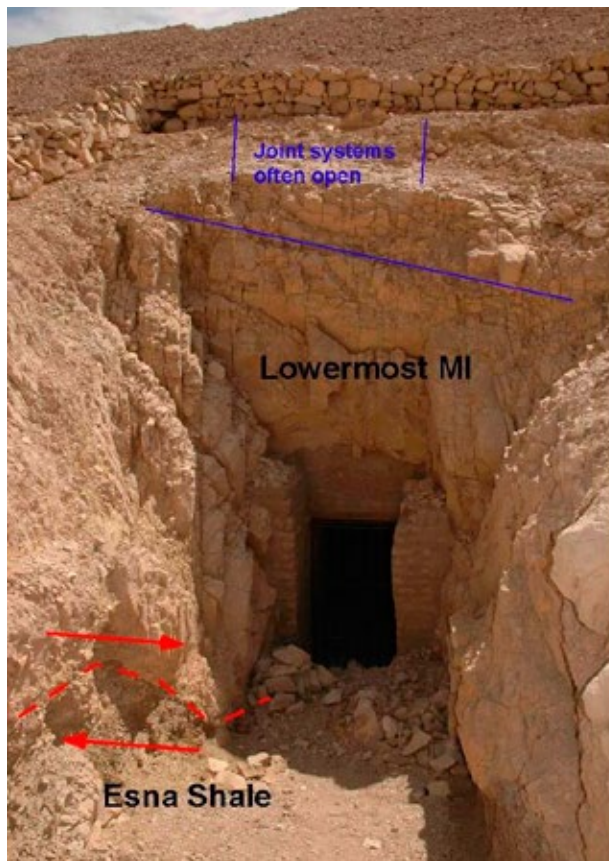
Much of the previous treatment of the wall paintings has focused on the surviving area of painting that features the portrait of the queen. Stabilization of fragile areas of painted plaster in other areas of chamber (C) not previously treated is also required to prevent further loss. Currently some decoration is located behind shoring; particular attention should be paid to these fragile areas during structural stabilization work. Treatment required is generally localized and limited in scale.



Geological and structural analysis of tomb QV33. Note presence of shale and orientation of bedding (Mapping: Wüst 2008).



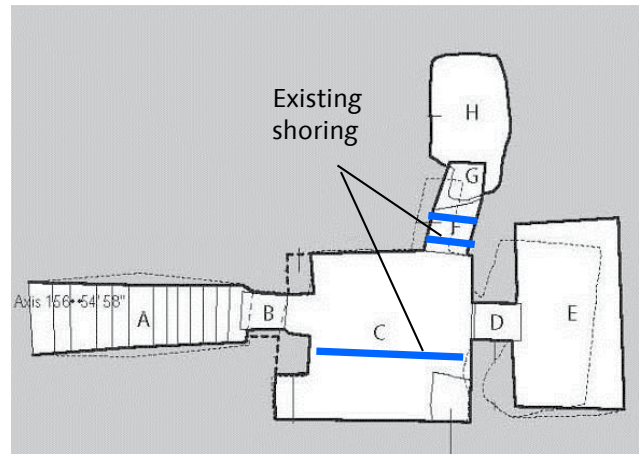
Overburden analysis of QV 33. Most of the tomb lies below approximately 3m of bedrock. Of interest is the fact that chamber (E) in QV 31 overlies lower chamber (H) of QV 33, but without any discernible impact on either tomb.



Entrance ramp (A) of QV33 showing the heavily jointed bedrock and the fault plane within the Esna Shale at the base of the upper part of Ramp (A). Marl interbeds lie within the bedrock. The rotation of the block in the Valley of the Queens occurred within the upper and middle parts of the Esna Formation as the shales present an ideal sliding plane. However, during rotational movements, the block experienced multiple small-scale fracturing to accommodate for changes in stress fields.



Open joints and related rock detachment above entrance.



Existing wooden shoring in QV 33.



View into burial chamber (E) from main chamber (C). Wooden shoring on the right supports fragile internal wall; white plaster was spread liberally over ceiling rock in an attempt to prevent rock fall.



Reconstructed entryway (B) and extensive plastering on ceiling to prevent rock loss in chamber (C)



Shoring in niche (F) of east wall of Chamber (C) with plaster repairs of fractured and blackened rock of upper part of wall and ceiling above. In upper left part of wall, post-fire loss of ceiling rock is visible.



View down shaft into chamber (H). The lower part of the shaft and lower chamber are cut into shale.



Shoring supporting fragile remains of heavily fractured rock of wall between chambers (C) and (E), west of doorway (D).



Steep joint planes in rear south wall of chamber (E) with recent rock plastering to prevent loss in upper part of the wall.



Plastering on upper part of east wall in chamber (E)



Bat in chamber (E)



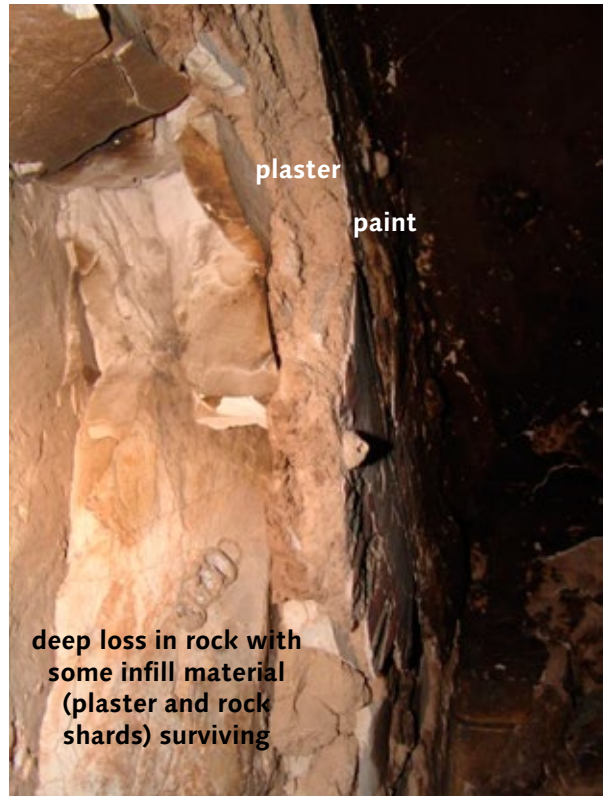
Bird nest on rock in doorway (D)



deep loss in rock

Deep losses in the rock required substantial infill material (plaster and rock shards) to pack out the wall to provide a flat surface for the paintings.

The image at right shows the stratigraphy of the painted plaster: the deep loss in the rock (once filled with infill material), followed by a thick layer of plaster and then paint.



deep loss in rock with some infill material (plaster and rock shards) surviving



Area of queen on south wall of main chamber (C) showing pre-treatment (image left: CNRS, date unknown) and post-treatment (image right: CEDAE 1978) photographs. This is the only area of wall painting treated in this tomb.



Ceiling of main chamber (C). Note significant amount of post-fire loss. White and gray modern repair plasters are possibly gypsum and cement based.



North wall of main chamber (C). Painting survives only at the very top of the wall.



East wall of main chamber (C). Painting survives only at the very top of the wall.



West wall of main chamber (C). Painting survives only at the very top of the wall.



South wall of main chamber (C). Current wooden shoring is covering areas of painted plaster. Substantial amount of original fill plaster also survives on this wall.



Detail of shoring that is covering areas of painted plaster.

TOMB INVENTORY

QV 34

General Tomb Information		
Tomb number	QV 34	Location South side of main wadi, south of QV 46 and between QV 87 and QV 36
Other naming systems	None	
Owner/ Attribution	Anonymous	
Owner Status	Princess - Queen (King's Daughter - King's Wife)	
Dynasty/ Reign	19 th Dynasty / Seti I	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
Description		
General Description	Stepped ramp with original stairs provides access to the main chamber (C). Remnants of a mud brick wall survive at the entrance (B). This multi-chambered tomb has a pillared chamber (C), a substantial side chamber (E) to the east that cuts into shaft tomb QV 87, and a niche (G) to the south that communicates with shaft QV 35. The tomb is completely open and can be viewed from above due to ancient collapse of the roof.	
Decoration	Small areas of extant raised and incised relief and painted plaster on pillars and upper part of walls of chamber (C) and within southern niche.	
Iconography	Fragmentary depictions of protector deities (Ptah, Osiris, Isis, Nephthys) in chamber (C) and niche (G)	
Objects recovered and current contents		
Objects recovered	New Kingdom fragments of blue glass-frit which once decorated sarcophagus; fragments of inscribed canopic jars; stone vessels; 13 cups containing blue, red, yellow black and white pigments that were used to decorate the tomb; Third Intermediate Period wooden sarcophagi and other funerary objects; 126 mummies (16 of them are of children), painted plastron fragments of Fayum style dated to Roman period; jewelry; wooden statue of goddess (Fekri and Loyrette 1998; Lecuyot 1999, 43)	
Removal or clearance of contents	Study materials cleared from QV 34 by CNRS and SCA in October 2008: pile of wood fragments, mummy wrappings, some potsherds.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction	
21 st , 22 nd and 26 th Dyn.	Reuse for burial	Aston 2003; Fekri and Loyrette 1998
Roman period	Intensive Roman reuse as a mass burial space. Over 100 mummies found, with painted plastron fragments	Lecuyot, 1999
Unknown, before 1960s	Tomb entrance is recorded on Survey map in 1926 but at the time of Thomas's visit in 1960s, the entrance was not discernible. Until the time when the tomb was cleared by CNRS-CEDAE in 1987-88, it was mostly filled.	Thomas 1966, 212
1966	Survey and documentation (drawings and text) by Thomas	Thomas 1966, 209, 212, 225

1987-88	Archaeological clearing by CNRS and CEDAE	Leblanc 1989a
Unknown 1987-88?	Wooden shoring installation	Leblanc, pers. comm.
1989	Photographic documentation and measured drawing by CEDAE & CNRS	CEDAE
1990s	Steel shoring replaced wood shoring	Leblanc, pers. comm.
2006-2009	GCI-SCA survey and condition assessment	GCI
2008	Hydrologic and geologic assessment by GCI and consultants Hamza Assoc. and R. Wüst	GCI; Wüst 2008, 29-32; Hamza Assoc. 2009
2008 Oct	Removal of study materials by CNRS and SCA	GCI
2009 Jan	Digital photographic documentation by CEDAE	GCI; CEDAE
2010 Feb-Mar	Tomb cleaning and wall painting stabilization by GCI-SCA	GCI
Documentation and References		
Historic Photographs	-CEDAE – 28747-28778 (Oct. 1989); -CNRS/CEDAE – Plates LXIII – LXVI in Leblanc 1989a.	
References	-Aston 2003; -Leblanc 1989a; -Lecuyot 1999, 33-61;	-Loyrette and Fekri, 1998, 121-138; -Thomas 1966, 201, 209, 212, 225; -Wüst 2008.

QV 34 – Anonymous Princess/Queen

General Description

The tomb is accessed through a stepped ramp (A) with low remnants of mudbrick walls flanking the entrance to pillared main chamber (C). A large chamber (E) is located to the east of chamber (C), and a small niche (G) to the south is on axis with the stepped entry ramp (A). The tomb intersects the earlier excavated shaft tombs of QV 87 on the east, and QV 35 on the south. Two partially preserved rubble masonry pillars stand in the middle of main chamber (C). The rock roof of the main chamber collapsed in antiquity according to archaeologists' findings, leaving the tomb exposed and open to the environment. The original ceiling vault is evident from its remains on the north side of the east wall. Large steel and wooden shoring is present in chambers (C) and (E).



Stepped ramp and entryway. Mudbrick walls remain at the entrance to the main chamber.

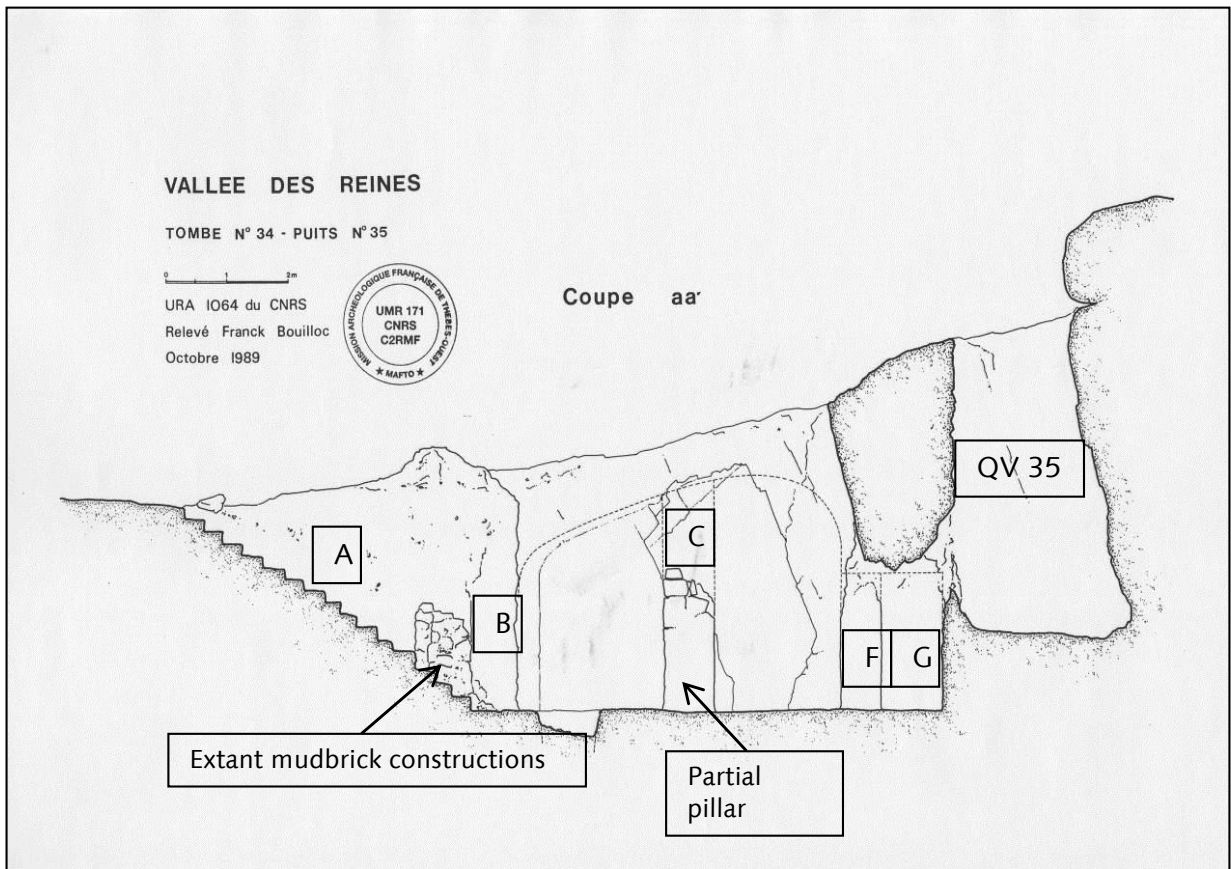
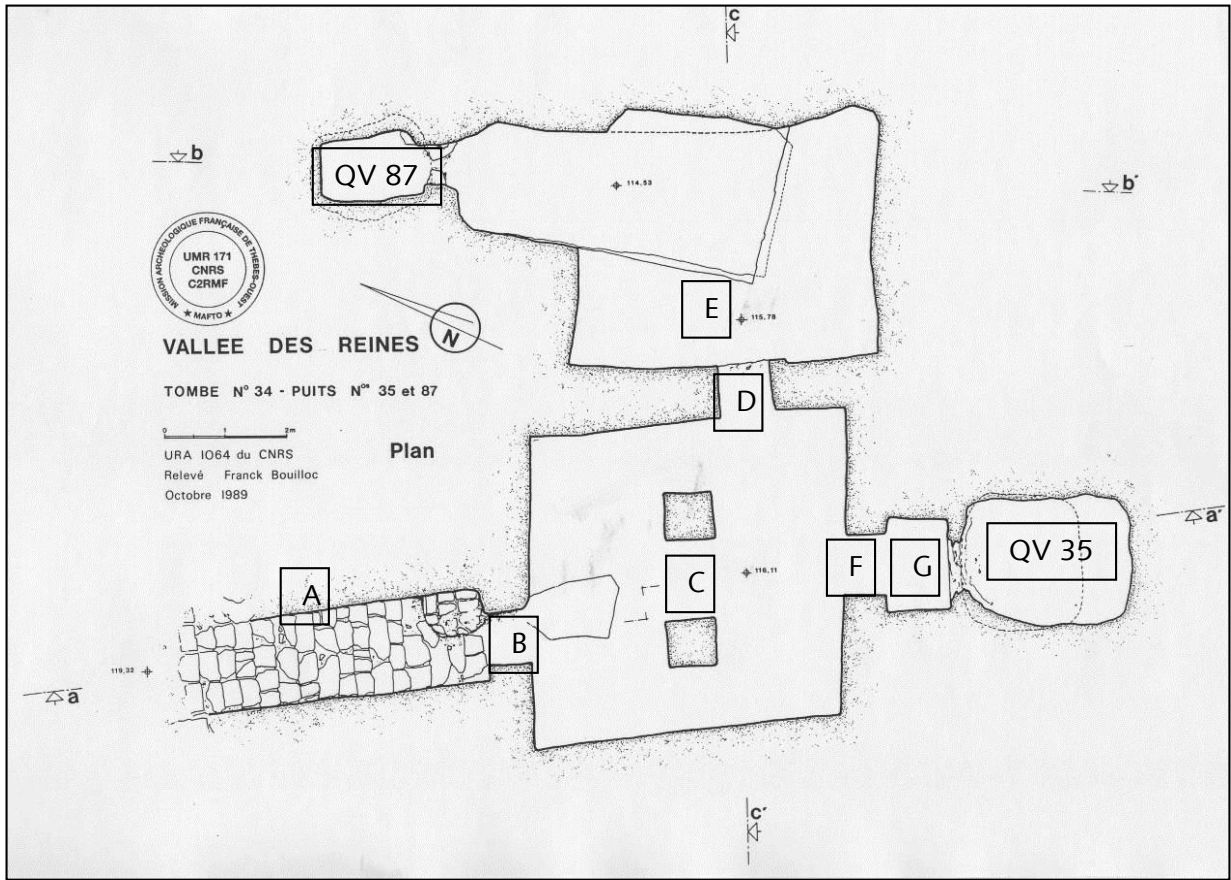
As with its neighbors, QV 33 and QV 36, this tomb is cut into the lowermost part of Theban Member I, which contains marl bedrock above a bed of shale that is possibly the upper portion of the Esna formation. The shale is evident in side chamber (E), along with a fault plane that lies between the two rock types. The marl bedrock is tilted and heavily jointed as a result of its proximity to the shale. The joint planes immediately below the overlying colluvium show marked curvature, indicating prior movement due to downhill soil creep long before the original excavation of the tombs. A thin layer of colluvium covers the bedrock at the surface.

Two steel raking shores have been installed to support the upper portion of the south wall of the main chamber, where a large open vertical E-W oriented fracture exists behind the face of the wall, while wooden post and beam shoring supports the undercut south wall of side chamber (E). A dry rubble wall has been erected in doorway (D) to prevent access to the side chamber, and two wooden horizontal braces support the rock of the internal partition wall.

Remnant decoration in this tomb includes both incised plaster and raised relief painting. All wall faces, except in the side chamber, contain very thick layers of infill material of earth-based plaster and rock shards to create flat surfaces for the decoration due to the poor quality of the rock. Traces of plaster still survive on walls and pillars, but little surface decoration remains. Extensive losses have occurred since 1989, as seen in the CEDAE photographs.

The tomb was cleared by the French-Egyptian team in 1987-88 and no records of prior excavation or visitation have been uncovered. E. Thomas noted that QV 34 was not discernible at the time of her visit (1960s), but she records the presence of debris fill and an irregular saddle-shaped ceiling in her description of QV 35, which most likely refers to the collapsed ceiling of QV 34. She suggests that this tomb may relate to a Schiaparelli discovery that was then backfilled out of safety concerns.

Although officially closed to visitation, the tomb lacks any means of physical closure or barrier to the entrance, though a low rubble wall at the top of the ramp is meant to deter entry. An additional rubble wall has been constructed between the main chamber (C) and side chamber (E). The tomb is used as a toilet by the guards and evidence of this was present throughout.



Plan and cross-section created by Franco-Egyptian archaeological team in 1989 (Drawing: CNRS).

Condition

The most striking feature of the tomb is the loss of its roof and overburden, the only example of such collapse in the Valley. This is thought to have occurred in antiquity and was likely due to the highly jointed rock, the thin overburden of the main chamber, and the proximity to the shale below. Severe fracturing is present throughout the rock of the tomb, primarily along the open joints of the tilted rock which curve down towards the north just beneath the surface. The upper part of the south and north walls of the main chamber present significant open fractures running east-west, likely formed when the ceiling collapsed. These walls also contain many perpendicular micro-fractures which make the rock friable and susceptible to small-scale loss. The walls of the entrance ramp are similarly in very poor condition and it is difficult to distinguish between debris fill material and the poor quality bedrock.

The thin ceiling of the east chamber (0.5-1 m) presents risk of collapse, especially if exposed to rainwater. The remains of the two pillars, constructed using stone and earthen mortar, exhibit signs of water erosion.

Efforts to stabilize the tomb structure in the 1990's took the form of two steel raking shores in the main chamber, which replaced earlier wooden shoring put in place during the Franco-Egyptian excavation, and wooden supports in side chamber (E). The horizontal plates of the shoring against the top of the south wall have slipped and no longer provide adequate contact or support, and the footings are not anchored at the base of the north wall. Mortar repairs, probably using a gypsum and white cement mixture, have been carried out liberally to fill rock fractures and to prevent further rock loss, particularly in the side chamber. The mortar has been applied in a fracture between the layer of shale and the marl above, but the current presence of a wide crack between the mortar and the marl above is evidence of movement since the repair.

The wall plaster and painting remains in QV 34 are considered at high risk due to their poor condition and exposure. Extensive losses have occurred since the 1989 CEDAE photographs. This tomb shows the greatest amount of loss in the shortest period of any of the decorated tombs in the Valley. There are only small areas of surviving painted decoration and incised plaster which are unprotected and vulnerable. Mud drips due to past rain events obscure many of these areas making it difficult to establish the extent of surviving decoration.

Edging repairs and plaster fills were previously undertaken around areas of surviving painting in an attempt to stabilize the paintings. However, following rain events, in some cases all of the decorative plaster has been lost, leaving only the plaster repairs behind.

Deterioration Factors

The inherent poor quality of the marl and the presence of more clay-rich shale in this area of the Valley, together with the thinness of the bedrock overburden as first excavated undoubtedly contributed to the collapse of this tomb's main chamber ceiling. Rain events and resulting direct flooding may have contributed to the swelling of the shale and related fracturing of the adjacent marl. Hydrologic analysis shows that drainage lines from a relatively small upslope catchment area flow directly to the tomb opening.

The widespread use of earthen infill material behind the wall plasters to compensate for rock loss during the original excavation makes these paintings extremely susceptible to water-related deterioration, and has also contributed to the amount of decoration loss.

Clearing of the tomb in 1987-88 exposed the fragile paintings to rain events (particularly in 1994) which have caused erosion of the surface decoration with consequent losses. Because the tomb is open to the environment and unprotected, all areas of decoration visible in the CEDAE photographs have suffered substantial losses. In niche (G), based on visual evidence, it appears that flood waters, from the 1994 as well as ancient floods, entered shaft tomb QV 35 and poured into the south chamber of QV 34 through a hole, causing complete loss of decoration in that area.

General Recommendations

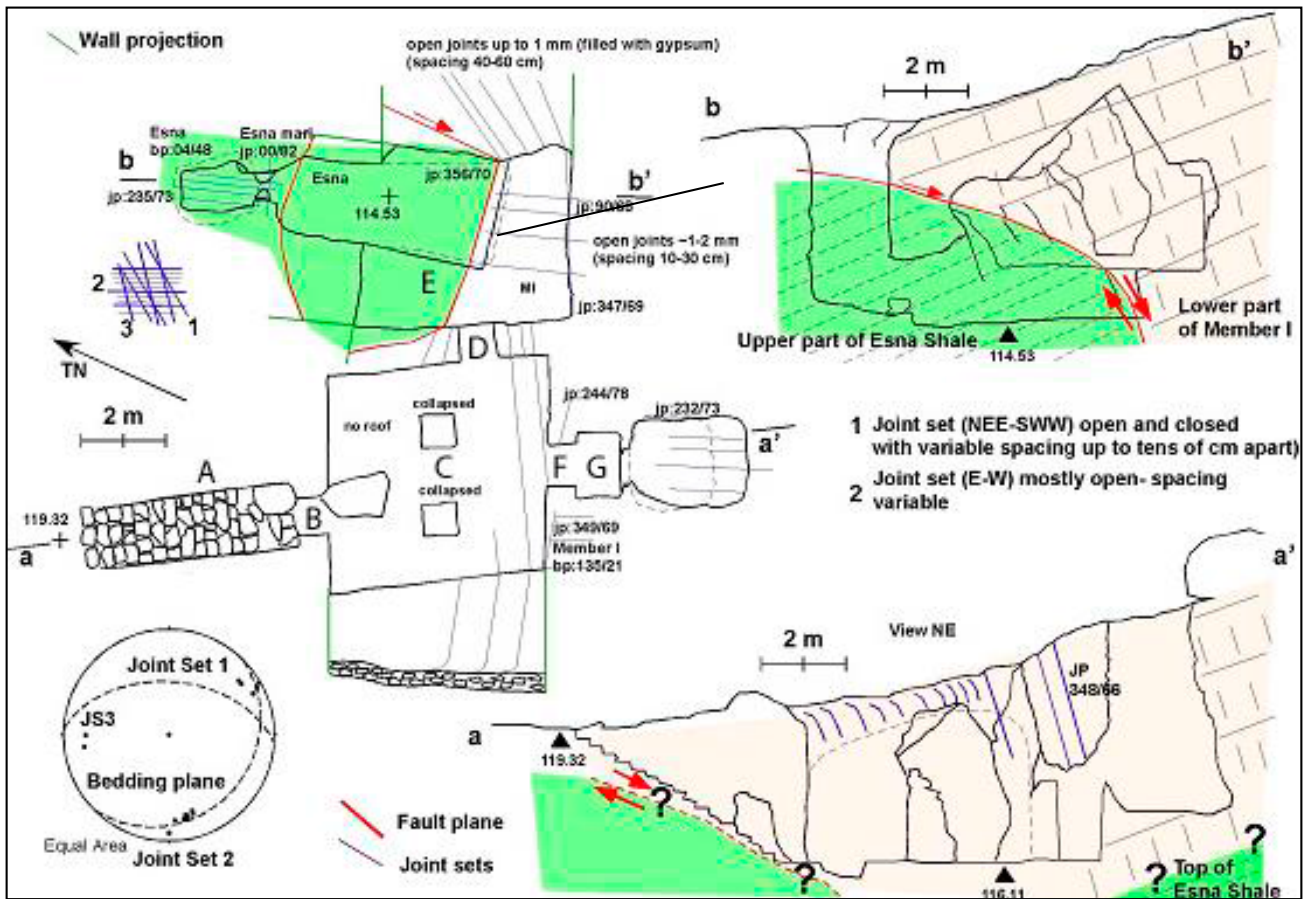
QV 34 presents major stability problems for both the localized remaining wall plaster and painting, and for the supporting rock, in particular the roof of the side chamber. Both localized areas of treatment and major structural stabilization interventions are needed, as well as protection measures such as sheltering and reburial.

A roof over the main chamber is required in order to protect the fragile wall plaster remains and wall faces from water erosion and detachment in the event of rain. The existing shoring in both chambers should be modified, and new shoring should be installed in the side chamber to support the thin overburden. The fault zone in the side chamber and rock fractures in both chambers should be monitored for movement and stabilized as needed, and the fragile shale surfaces in the side chamber should be stabilized by plastering over the surface.

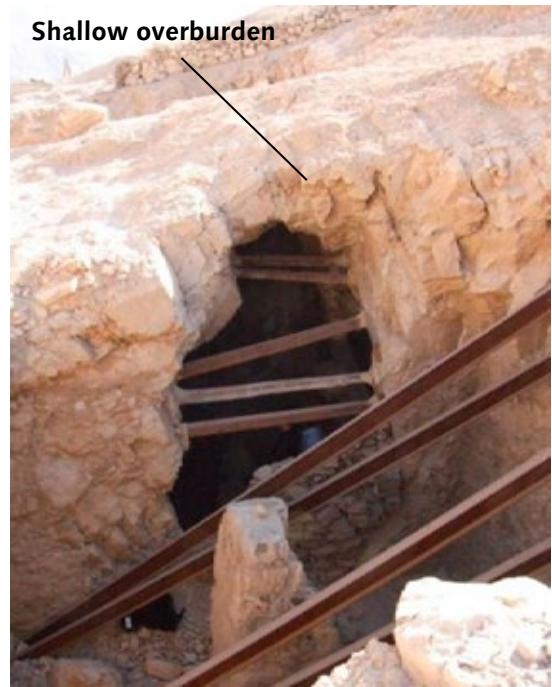
The surviving areas of wall plaster and painting require substantial stabilization to prevent further loss. This treatment may also include removal of previous repair plasters and cleaning of the mud drips that obscure large areas of the decoration. The tomb should be protected from direct and indirect flooding by reburying the entrance ramp, plugging the shafts of QV 87 and QV 35, and constructing a low masonry deflection wall upslope. In addition, to protect the rock overburden of the side chamber, an impermeable membrane should be installed over it. Due to the risk of collapse of the side chamber overburden and of edges of the tomb openings, a barrier should be constructed to the west of the tomb to prevent public access to this area.



Excavations around QV 34 in 1987. QV 34 is in foreground with shoring visible and very shallow overburden that has collapsed over much of the tomb (Image: CNRS).



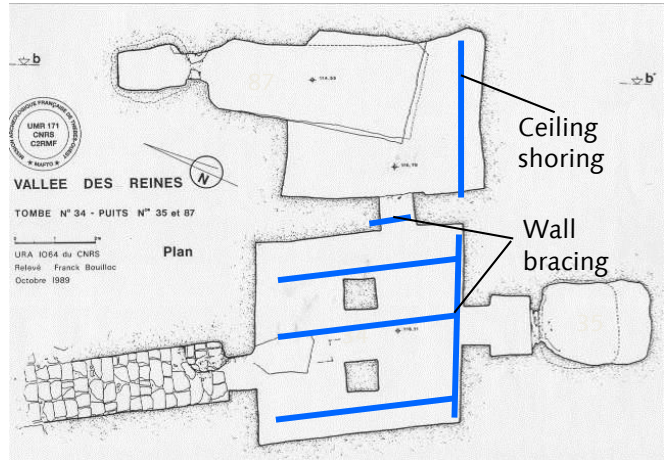
Geologic and structural analysis of tomb QV 34, showing major joint sets, fault plane, and location of shale (Mapping: Wüst 2008).



Overview of main chamber collapse, with view of shoring in side chamber. Open fractures at ground surface behind the area of collapse is evident.



Side chamber with existing wooden and metal shoring and dry masonry wall between chambers to prevent access to the side chamber.



Floor plan of QV 34 with existing shoring, including adjoining QV 87 and QV 35.



Substantial infill material used to pack out walls. Note large amount of rock and pottery shards mixed with plaster.



Evidence of ceiling vault on east side of main chamber.



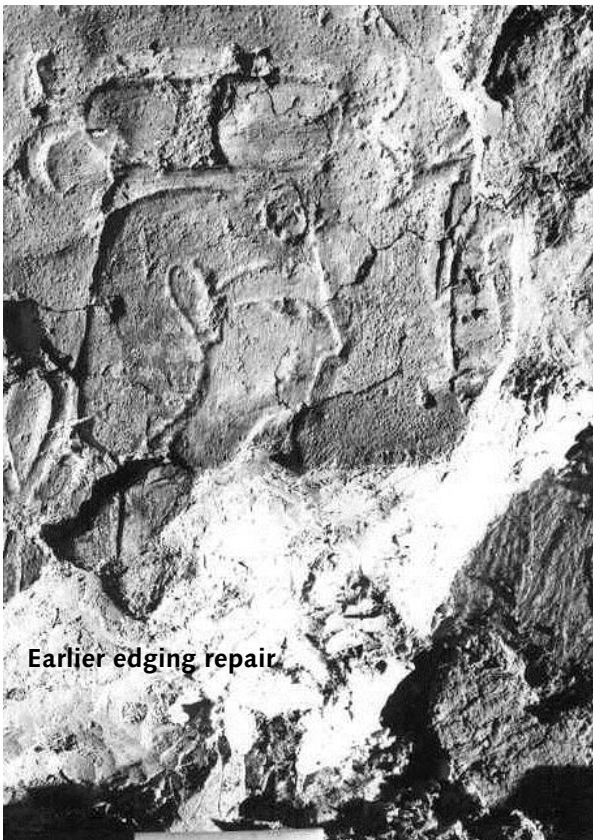
Existing shoring in side chamber (E).



Detail of fractured rock in exposed wall.



Surviving area of raised relief painting on the south wall of chamber (C). Note substantial losses that have occurred since this 1989 photograph (Image: CEDAE).



Earlier edging repair



Modern plaster repair

Detail of area of painting on the south wall of chamber (C). Note the large modern plaster repair (above, right) visible since the 1989 CEDAE photograph (above, left) which replaced the earlier edging repair visible in the CEDAE photograph. The loss of painted plaster and the vertical mud streaks are both clearly visible.



Water poured into small niche (G) from the hole visible in the photograph above left. This eroded away part of the incised plaster decoration on the west wall and left plaster drip marks on the surface of the area that survived. The painting in this area is now in fragile condition.



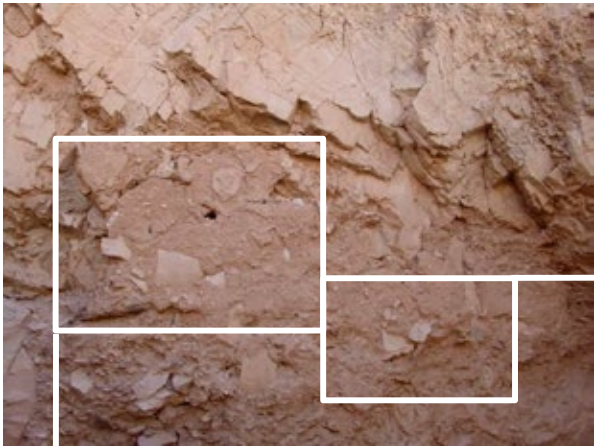
Detail of west wall of niche (G) in 1989 CEDAE photograph (above, left) compared with losses noted during 2007-8 inspection (above, right).



Detail of south wall of niche (G) in 1989 CEDAE photograph (above, left) compared with losses noted during 2007-8 inspection (above, right).



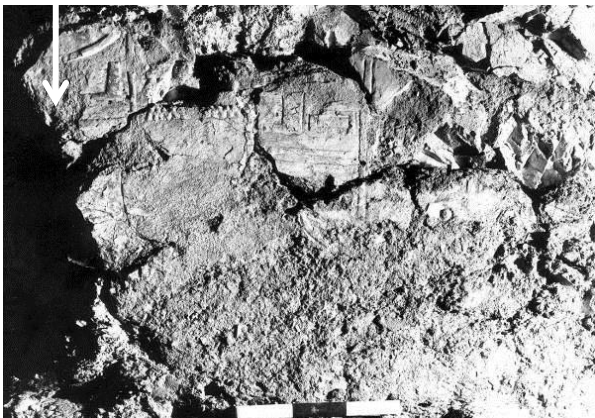
Area of painted plaster survives below steel, raking shoring on south wall of main chamber (C). This area of painting is in fragile condition as the rock support is highly fractured and susceptible to loss.



Area on the west wall of chamber (C). Substantial losses have occurred in this area



Traces of an edging repair still survive though the painting it once supported has now been lost.



Detail of area on the west wall of chamber (C). Substantial losses have occurred in this area which has lost almost all traces of the raised relief decoration visible in the 1989 photograph, left (Image: CEDAE).

<u>General Tomb Information</u>		
Tomb number	QV 36	Location Main wadi on the south side, between QV34 and QV37
Other naming system	None (Schiaparelli referred to QV 36 as the 'Tomba di Regina Innominata')	
Owner/ Attribution	Anonymous	
Owner Status	Princess (King's Daughter)	
Dynasty/ Reign	19 th Dynasty / Seti I or Rameses I	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
<u>Description</u>		
General Description	Ramp (A) with reconstructed steps to tomb entrance (B). Multi-chambered tomb accessed through entrance (B) to main chamber (C) and two side chambers (G, E) on the axis (north-south) to the north and south of chamber (C). West wall of the main chamber (C) has two manmade openings allowing access into an adjacent tomb QV 37.	
Decoration	Small area of painting with raised relief survives on the upper half of the south wall in the main chamber. Chamber (G) has a substantial amount of carved, unpainted relief.	
Iconography	Scenes of the Book of the Dead. See Tomb Profile, Volume 1.	
<u>Objects and Current Contents</u>		
Removal or clearance of contents	Study materials cleared from QV 36 by CNRS and SCA in October 2008: pottery and stone fragments.	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction in Seti I reign or possibly earlier in Rameses I reign.	Loyrette and Mohammed Sayed 1993, 12
Unknown	Reuse or robbery opened access to QV 37. Thomas notes a hieratic graffito that records a visit, but not currently located.	Thomas 1966, 213
1903-5	Discovery and investigation by Schiaparelli	Schiaparelli 1923, 1927
1964	Research and documentation by Porter and Moss	Porter and Moss 1964, 751, 750 (plan)
1966	Research and documentation by Thomas	Thomas 1966, 212
1981	Survey by TMP	TMP
1984	Photographic documentation by CEDAE	CEDAE
1985	Archaeological clearing by Franco-Egyptian mission	CNRS
1988	Survey and mapping by Laurent (CNRS)	CNRS
After 1984	Ceiling rock stabilization and extensive wall painting treatment	CEDAE 1984 photos show no interventions
2006-2009	GCI-SCA survey and condition assessment	GCI

2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Feb	Schiaparelli's plaque is no longer at the entrance	GCI on site observation
2008 Oct	Removal of study materials by CNRS and SCA	
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
Documentation and References		
Historic Photographs	-Schiaparelli 1923, fig 86-87; -CEDAE photos: 27879-27910 (Oct 1984); -CNRS/CEDAE – Plates: LIX-B in Leblanc, 1989a.	
References	-Ballerini 1903, 9-11; -Leblanc 1983, 29-53; 1985, 51-68; -Loyrette and Mohammed Sayed 1993; -Porter and Moss 1964;	-Schiaparelli 1923, 1927, 110-111; -Siliotti and Leblanc 2002; -Thomas 1966, 187-188, 208-209, 211-213, 224-225.

QV 36 - Anonymous Princess

General Description

The tomb is entered through ramp (A) leading into the main chamber (C). Two side chambers, (G) and (E), on axis with each other, lie to the north and south of chamber (C), on the eastern side. The west wall has two prominent openings allowing access to adjacent QV 37.

The tomb, like its neighbors, is cut into an area of tilted rock with adjacent beds of marl and shale in the lowermost part of Member I. This tilt is particularly evident in QV 36 because of a layer of chert running diagonally throughout chamber (C). Jointing is visible perpendicular to this chert band. Shale is also present at the base of the north wall of side chamber (E). Similar to QV 34, joint distortion due to prior soil creep is visible along west wall of entryway (B). A major fracture running laterally (E-W) through the main chamber is similar to that found in adjacent QV 34.

Only small areas of raised relief painting survive in main chamber (C), concentrated mainly on the upper half of the south wall. There is almost no painting surviving on the east and west walls and only fragmentary areas around doorway (D) on the north wall. There is partial survival of areas of the ceiling which was originally plastered and finished with a black wash. Rear chamber (G) has substantial amounts of carved but unpainted plaster; the ceiling in this chamber was never plastered.

Walls in main chamber (C) were generally well cut, as the marl is relatively compact and has good carving properties, despite the diagonal fissuring in it, and red masons' marks are still visible on the stone in areas. However, there were other areas that required significant amounts of infill material in order to create a flat surface for the final decoration, due to the localized more friable nature of the rock.

The tomb was discovered and excavated by the Italian mission led by Schiaparelli in 1903-4 and most recently cleared by the Franco-Egyptian team in 1985. Elizabeth Thomas likens the tomb's layout to those of 33, 38 and 40 and notes that the plan was probably altered once adjacent QV 37 was discovered. Thomas additionally notes that the condition of QV 36 is far better than that of neighbors QV 31 and QV 33 and that the ceiling was washed in black.



Ramp and entrance, with partial rubble wall to prevent visitors entering.

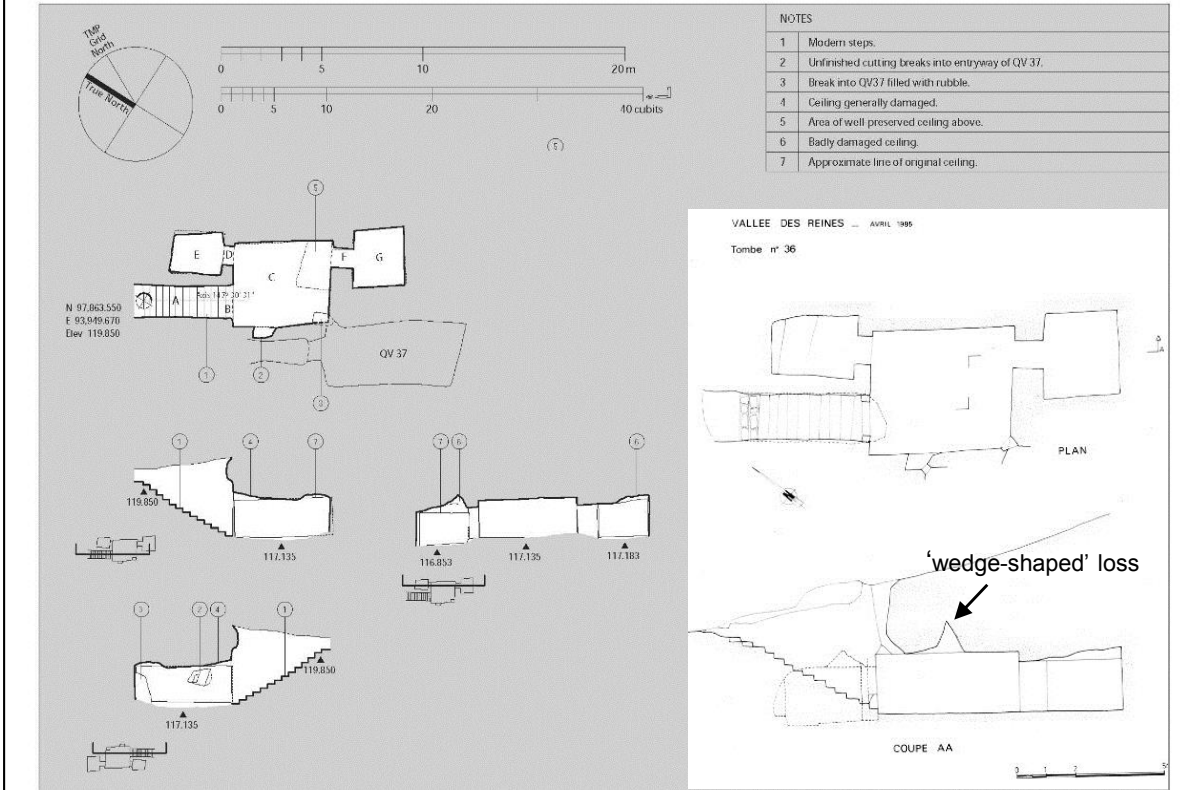


The Schiaparelli plaque, seen in 2005 photo above, is no longer in situ.

QV 36 - Anonymous Princess-Queen, Dyn. XIX

Plan, sections 1:200

Surveyed April 30, May 2 & May 4, 1981. Drawn September 9, 2007.

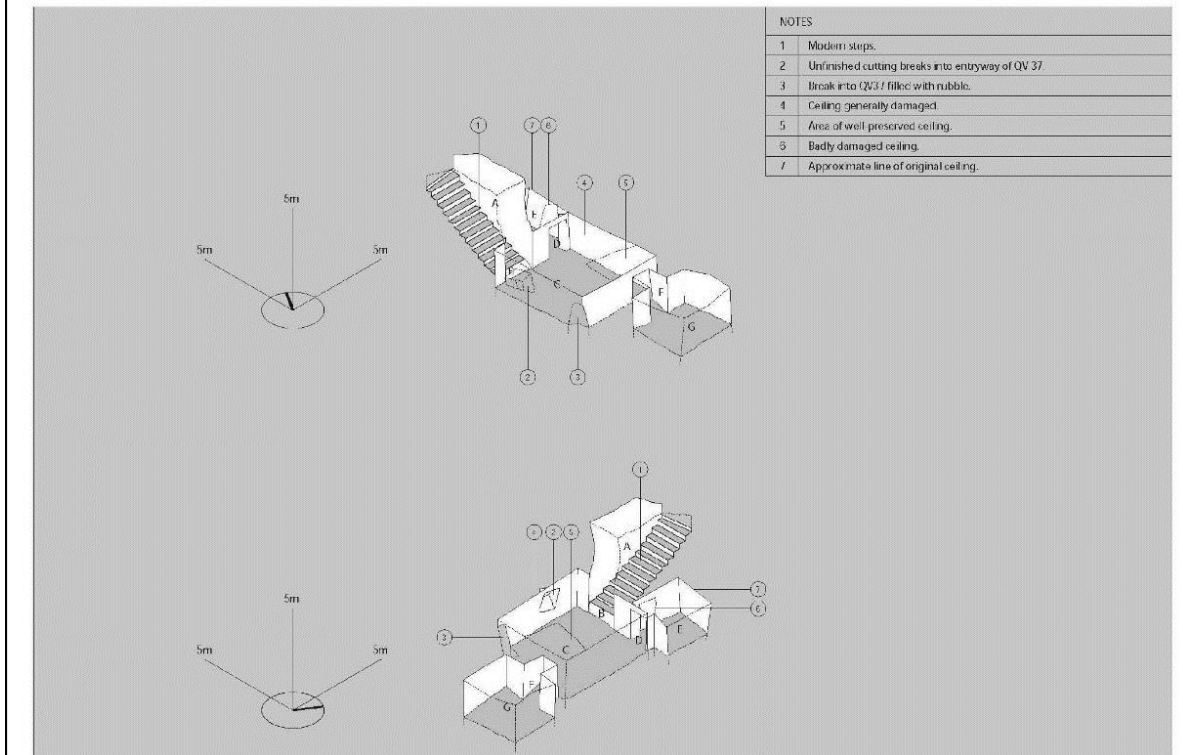


Note that large wedge-shaped loss in ceiling of chamber (C) is not shown in the 1981 TMP sections, but it is seen in the CEDAE photographs of 1984 and the 1985 CNRS plan (inset: CNRS).

QV 36 - Anonymous Princess-Queen, Dyn. XIX

Axonometrics 1:200

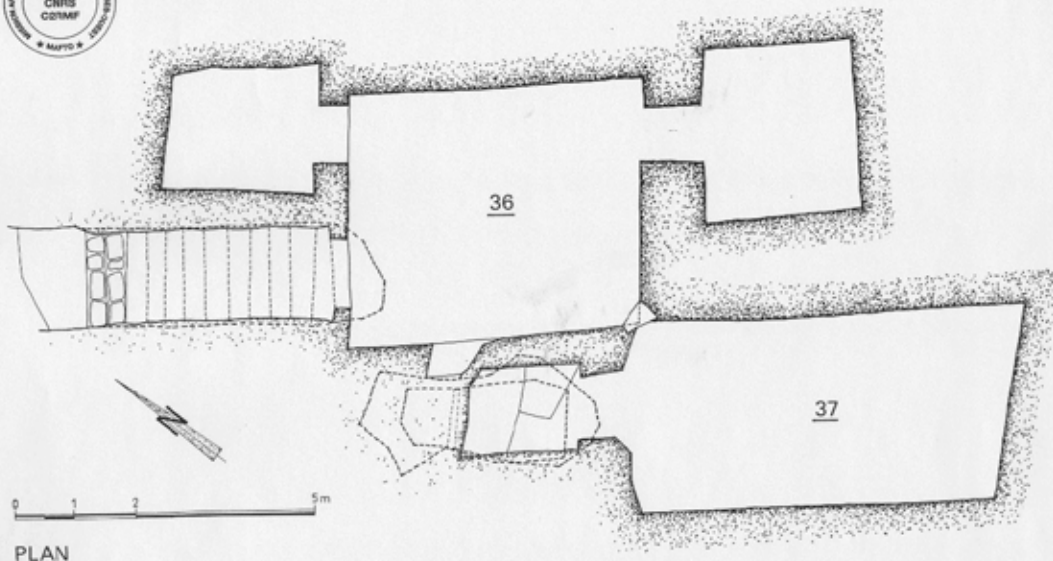
Surveyed April 30, May 2 & May 4, 1981. Drawn October 14, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

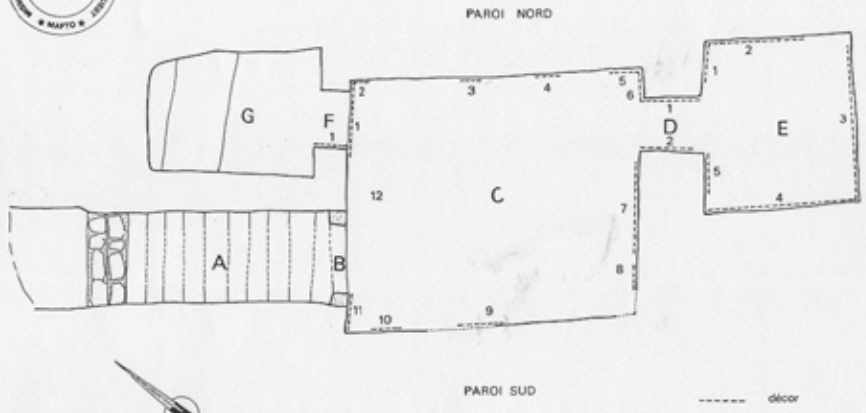
VALLEE DES REINES — AVRIL 1985

Tombe n° 36 & Puits n° 37



PLAN

TOMBE N° 36



PLAN_CLE

Drawings: CNRS.

Currently the tomb has no means of being closed and is not officially open to visitation. A low rubble wall in the entrance (B) is used as a deterrent to visitors. Access is also possible for animals through QV 37. Bats were noted in 2007 and 2008.

Condition

The tomb exhibits structural compromise due to fracturing in the ceilings and walls, and substantial ceiling loss in all chambers. Large areas of the main chamber (C) ceiling and east wall have been lost, and fallen rock fragments on the ground are evidence of recent loss. Many small fragments of fractured rock are loose and at risk of falling off. Of particular concern is a large wedge-shaped loss along a major fracture in the ceiling of chamber (C) that extends over a meter up into the rock. This and other ceiling losses are related to heavy jointing in the ceiling. Comparison with 1984 CEDAE photographs of the tomb reveals a number of localized losses since that time. Similar rock fracture and loss are evident in side chamber (E) and have resulted in a small break in the west wall to the exterior. The floor of the tomb is very irregular in places, probably due to localized surface loss of the rock. However, in other areas of the walls and ceiling there has not been much stone loss, as mason marks and traces of original plaster are still present.

The proximity of QV 37, and the break in the rock wall between them near the entrance has resulted in lack of stability in the rock above the entrance and forming the west wall of QV 36. This is exacerbated by inherent rock jointing and presence of substantial fibrous salt bands, identified as calcite.

Applications of gypsum plaster to rock surfaces have been undertaken in the ceiling area to prevent ongoing rock loss since the 1984 CEDAE photographs. These have prevented rock loss, but are cracked in areas, perhaps due to continued localized rock detachment.

In chamber (C), very little raised relief painting survives on the east and west walls and only small fragments of painting around doorway (F) on the north wall. The south wall has the largest area of surviving painting but there have been substantial losses since the 1903-4 Schiaparelli images visible in the 1984 CEDAE photographs. More recent losses can also be seen since the 1984 CEDAE photographs.

The surviving paintings are fragile. There are cracks in the plaster, flaking of the paint and upper plaster layers, and general abrasion of surfaces. The white background of the paintings is almost completely lost and there is substantial paint loss revealing the plaster below. Surviving areas of painting on the ceiling near the major fracture are also vulnerable.

The condition of the raised relief plaster decoration in the rear chamber (G) is far better, having been extensively treated with major plaster repairs. CEDAE photographs from 1984 show the area before treatment, indicating the large amount of infill material required to rebuild the walls. These repairs may conceal structural problems now manifested as cracking in the painting seen on the east side of doorway (F).

There is surface pitting of the plaster at the base of the wall in rear chamber (G). This is already visible in the 1984 CEDAE photographs and the condition does not appear to have changed. The cause may be salt-related and connected with previous moisture problems.

For the most part the paintings in main chamber (C) have not been treated except around doorway (F) and a few localized edging repairs.

Deterioration Factors

The condition of the tomb is largely related to the inherent quality of the rock, which is fractured and weak due to its proximity to Esna shale and its susceptibility to shrinking-swelling stresses. The presence of salt veins and, perpendicular to them, bands of chert, make the rock susceptible to separation along those features. The extent of loss of paintings on the west wall of chamber (C) is probably due to the presence of a substantial salt vein, identified through analysis.

Hydrologic analysis shows drainage lines from a relatively small upslope catchment area leading directing to the entrances of QV 36 and 37. This tomb shows some sign of flooding, though extant plaster at the base of the west wall in main chamber (C) suggests this was a localized phenomenon. Adjacent tomb QV 37 has clear evidence of recent flooding in the form of cracked mud deposit on the floor, which indicates that this tomb is susceptible as well. The extent of loss of painted plaster on the south wall of chamber (C) since the 1903-4 Schiaparelli images also suggests rapid rate of loss due to flooding.

Recommendations

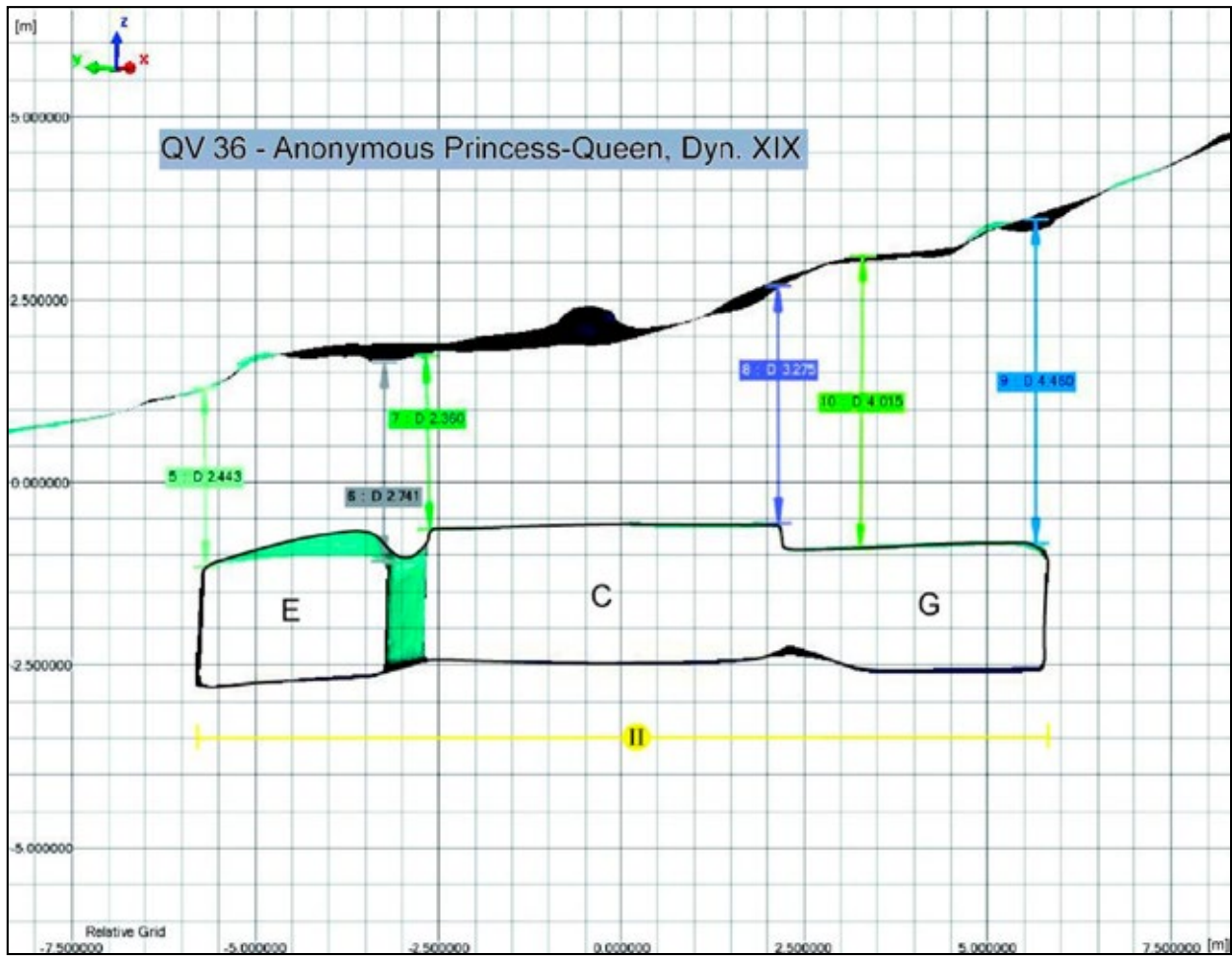
Stabilization of the fractured ceiling and the area of rock above the entrance to the tomb and between QV 36 and 37 is required, and public access to this area prevented. The fracture at the apex of the wedge-shaped ceiling loss should be sealed, and a surface survey above the fracture be carried out to determine if it is present also there, and if so, sealed from above.

Stabilization of fragile areas of painted plaster is required to prevent further loss on walls in the main chamber. Ceiling plaster also requires stabilization as cracks and areas of detachment were noted. Limited and localized fixing of the paint layer to prevent further losses is also recommended as well as monitoring of changes in large, deep modern repairs in doorway (F) and rear chamber (G) that might indicate an underlying problem. Treatment required is generally localized and limited in scale.

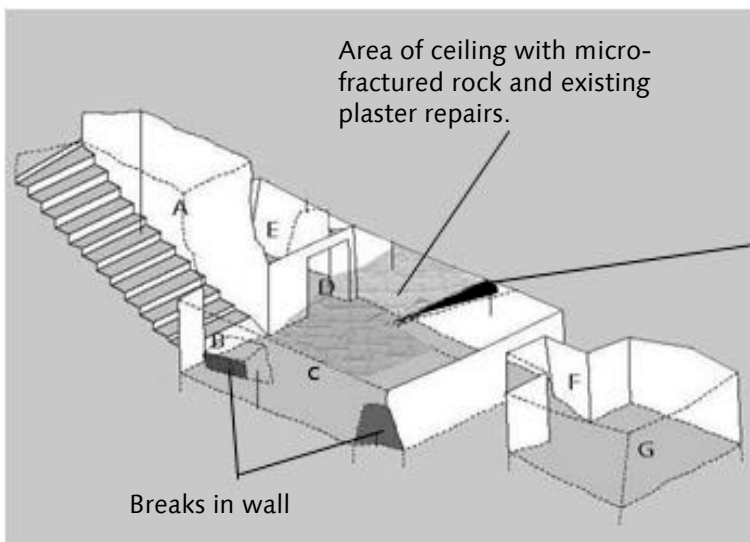
The tomb entrance requires retaining walls and an arched cover for protection from water ingress and that would also serve to stabilize the rock. All interventions in this area must be considered in conjunction with adjacent QV 37, ensuring that closure to both tombs is adequate and prevents entry of animals and floodwater. The openings between the two tombs may be filled, if deemed necessary for structural stabilization.



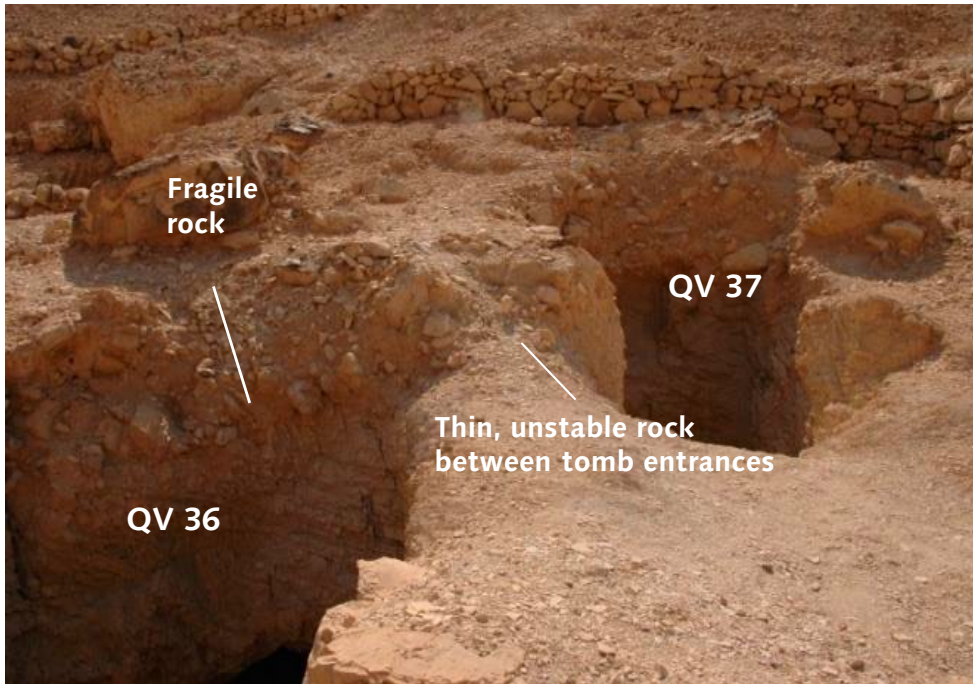
Main chamber (C) with loose rubble and trash in 2007 (left) and after cleaning by GCI-SCA in 2010 (right).



Overburden analysis showing cross-section through tomb. Note that this schematic does not include the large open fracture with substantial wedge-shaped rock loss in the ceiling of chamber (C), which is only about one meter from the surface.



Large fracture at apex of wedge-shaped area of rock loss in ceiling of main chamber (C) shown on isometric plan and in photo, above Note dark diagonal band of chert across area of loss (arrow).



Fractured and friable rock above entrance.



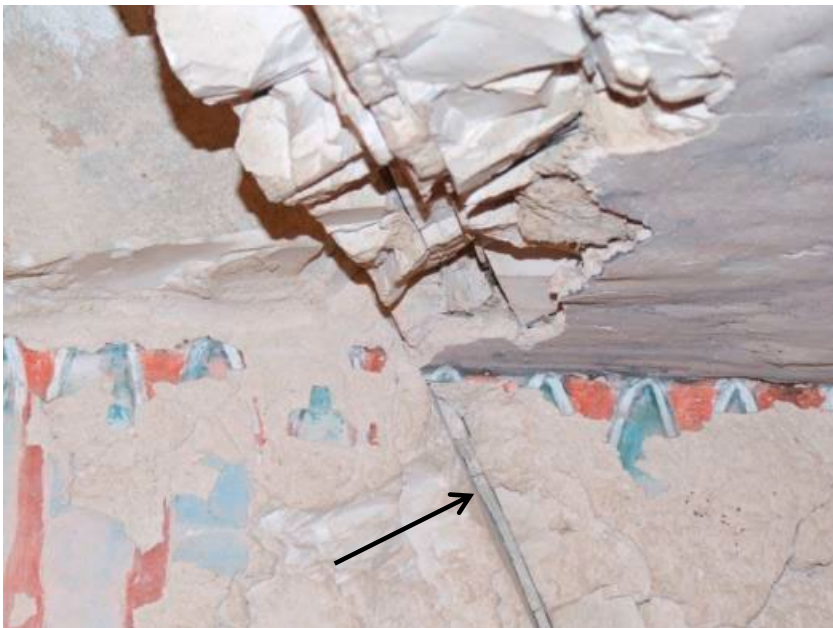
View of rock between QV 36 and 37, as seen within entrance to QV 36.



Overviews of main chamber (C) in 1984 (above left, CNRS) and in 2006 (above right). The doorway to the rear chamber (left) has been reconstructed, and the opening to QV 37 (right) has been cleared.



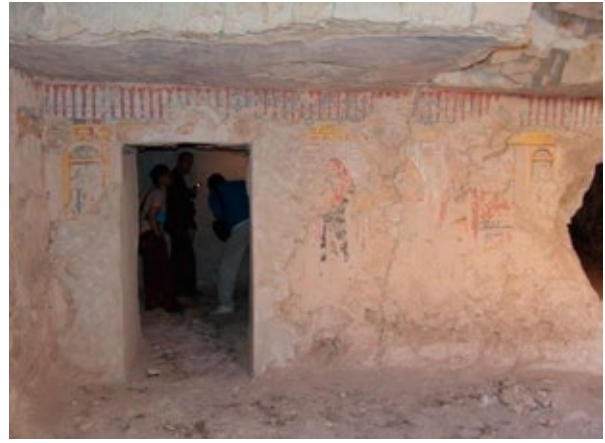
Break in west wall of chamber (C) (right) requiring infill for stability of rock above. Note diagonal band of chert and surface repair plastering of the ceiling rock to prevent further detachment and loss.



Detail of east wall of chamber (C) with diagonal salt vein which continues into ceiling, along which the large wedge-shaped loss is located. Note the substantial losses of painted plaster in this area.



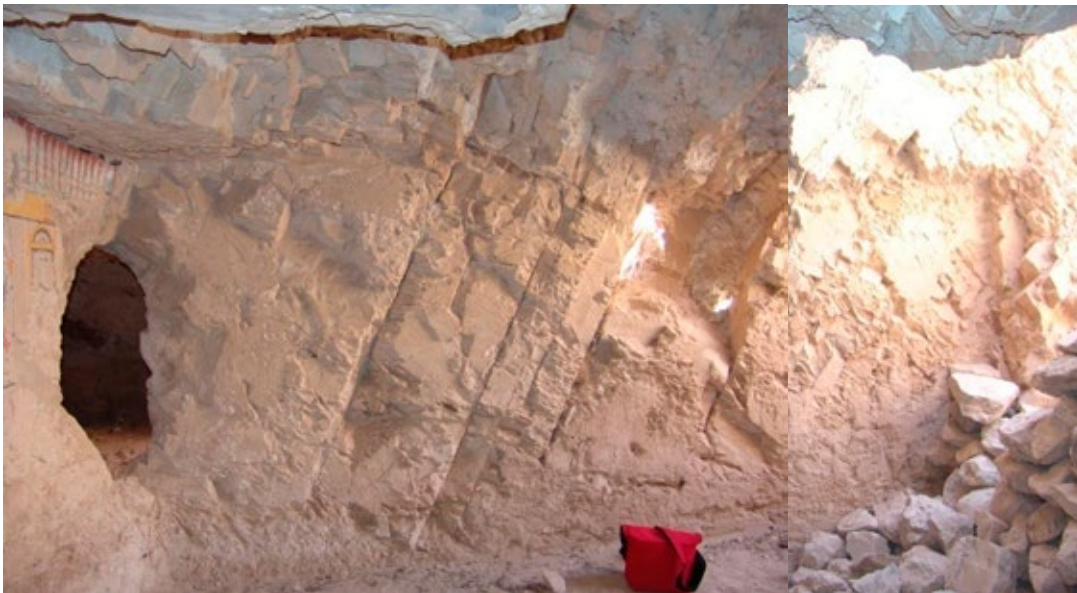
Only small areas of painting survive around doorway (D) on the north wall of chamber (C).



The south wall of main chamber (C) shows the greatest survival of painting in this tomb.



Only traces of surviving painting remain at the top of east wall of main chamber (C).



Almost no painting survives on the west wall of main chamber (C).



Ceiling of main chamber (C). Two layers of plaster are clearly visible on the ceiling; the final plaster layer having a black wash on it. Also visible is a red mason's mark on the stone (arrow).



Detail of ceiling of chamber (C) showing traces of infill plaster that might indicate that the ceiling in this area was either never flat or that large amounts of infill material previously filled this space. It also indicates that some of the rock collapse had occurred in antiquity before the tomb was decorated.



The same plaster layer stratigraphy is seen in rear chamber: lower layer of earthen plaster with an upper *hiba* plaster.



Flaking of the paint layer has led to substantial losses that expose the underlying plaster layer.



Detail of the flaking paint.



1903-4



1984



2008

Area on south wall of main chamber (C). Comparison between 1903-4 photo (Image: Schiaparelli 1923) and 1984 photo (Image: CEDAE) shows significant losses.



1903-4



2008

Left: Area of painting on the south wall of chamber C showing the condition in 1903-4 (Image: Schiaparelli 1923) (far left) and in 2008 (near right). There has been extensive loss in this area.

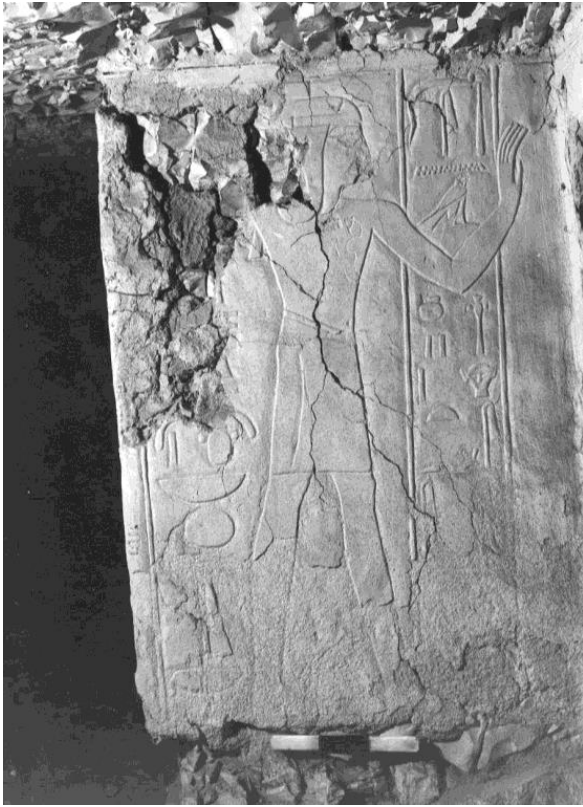
Below: white circle shows recent area of loss (below right) compared with 1984 photograph (below left). (Image: CEDAE).



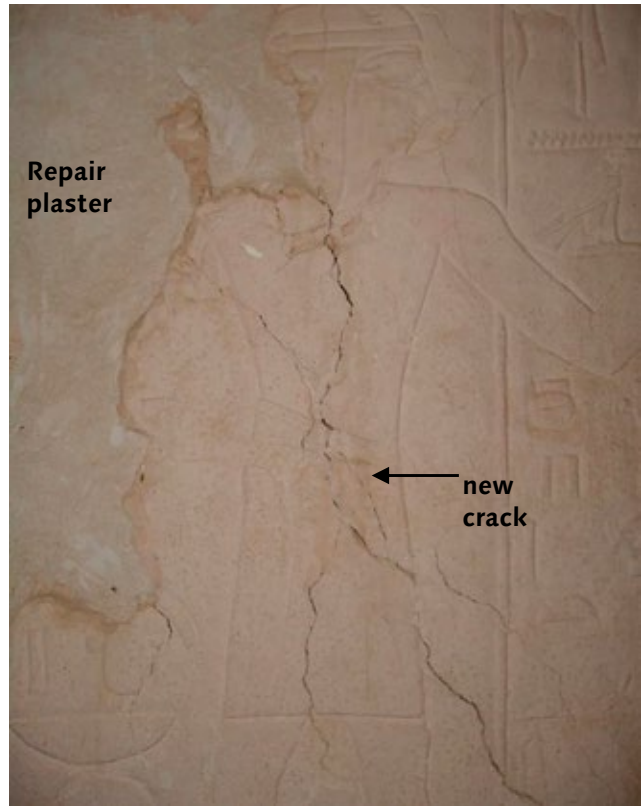
1984



2008



1984 CEDAE image of the north wall of rear chamber (G) shows area before treatment. Cracks and losses of the carved plaster can be seen as well as pitting of the surface on the lower half of the wall, possibly indicating salt and moisture-related deterioration in this area.



The repairs may conceal structural problems now being manifested as cracking in the painting. Photograph taken in February 2008 shows what looks like a new crack in the original plaster since the repair plaster was put in.



1984 CEDAE photograph (left) shows a large and deep area of loss. The 2008 photograph (right) shows same area with large repair plasters and areas of the ceiling rock secured with plaster.

General Tomb Information		
Tomb number	QV 38	Location South side of main wadi
Other naming systems	Wilkinson – 19; Champollion – 7; Lepsius – 13; Brugsch - 7	
Owner/ Attribution	Satra	
Owner Status	Queen (Great Royal wife [of Rameses], King's Mother [of Set I])	
Dynasty/ Reign	Early 19 th Dynasty / Rameses I and Seti I	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
Description		
General Description	Multi-chambered tomb. Steep rock-cut ramp (A) with original steps leads to main chamber (C) and rear chamber (E) on the axis of the entrance. Chamber C is burial chamber and has small magical niches in each wall.	
Decoration	Unfinished painted plaster, showing preparatory painting technique with a rough draft sketched in red paint and detailed and corrective drawing outline in black. The ceiling is roughly and incompletely painted with a wash of grey/black paint and a figure of Nut boldly painted in yellow followed with red outlines. No relief work on wall decoration.	
Iconography	Book of the Dead (Chapter 17). See Tomb Profile, Volume 1.	
Objects and Current Contents		
Removal or clearance of contents	Study materials cleared from QV 38 by CNRS and SCA in October 2008: crate of potsherds, carved stone fragments, wood fragments with note indicating from Ramesseum (tomb no. I (Salle I'' b)- March 1973); piles of pottery, wood and stone fragments, linen, plaster with relief, and sarcophagus fragments. Remaining in the tomb are fragments of statues, wall paintings, granite and carved limestone, which were already in the tomb when the Franco-Egyptian mission started work, and are assumed to be from Schiaparelli's time (Leblanc 2010, pers.comm.). The plaque made by Schiaparelli mission also remains inside the tomb (as of 2009).	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
Early 19 th Dyn.	Tomb construction	
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
1828-1829	Recording by Rosellini	Leblanc 1989a, 25-38
1829	Recording and research by Champollion	Leblanc 1989a, 25-38
1844	Recording and research by Lepsius	Leblanc 1989a, 25-38
1854	Recording and research by Brugsch. The tomb entrance was covered by debris some time after Brugsch's visit.	Leblanc 1989a, 25-38
1903-4	Tomb was re-opened by Schiaparelli and Ballerini in the 1903-1904 campaigns; included in current tomb numbering system and marble plaque (reading 'Tomba della regina Sitra, moglie di Seti I') placed at entrance.	Carter 1903, 175; Ballerini 1903; Schiaparelli 1923-27; Porter and Moss, 751; Leblanc and Siliotti 2002, 67
1927, 1964	Brief description, history, and plans by Porter and Moss	Porter and Moss 1927, 39 and 38 (plan); 1964, 751 and 750 (plan)
1966	Description, history and plans by Thomas	Thomas 1966, 209, 211, 213, 224-5; 201 (plan); 71B (plate)
1973	Study materials from Ramesseum stored in tomb	CNRS; On-site inspection

1981	Survey by TMP	TMP
1985	Conservation work by EAO	Leblanc, pers. comm.
Before 1988	Entrance reconstruction	CEDAE photography
Before 1988-89	Ramp walls constructed	CEDAE photography
1988 Mar	Photographic documentation by CEDAE	CEDAE
1988	Mapping and survey by Laurent (CNRS)	CNRS
1989 Nov	Photographic documentation by CEDAE	CEDAE
1988-90	Cleaning and plaster infills	CNRS mission report 1988-90, 51
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct	Removal of study materials by CNRS and SCA	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE/GCI
Documentation and References		
Historic Photographs	-Schiaparelli 1923-27, fig 83; -CEDAE – 28283 – 28316 (March 1988); 28730 - 28746 (Nov. 1989); -CNRS/ CEDAE – Plates LXVII – LXXII, in Leblanc 1989a.	
References	-Ballerini 1903, 9-11; -Brugsch 1855; -Champollion, Maspero and Champollion Figeac 1844-1889, 397-9; -Carter 1903; -CNRS mission report 1988-90, 51 -Hay of Linplum MSS 29821,14;	-Leblanc 1983, 29-53; 1989a; -Lepsius 1897-1913, text vol. iii, 228-9; -Porter and Moss 1964, 751; -Rosellini MSS 284 H 22; -Schiaparelli 1923-27, 110-111; -Siliotti and Leblanc 1993; -Loyrette and Mohamed Sayed 1993.

QV 38 – Queen Satra

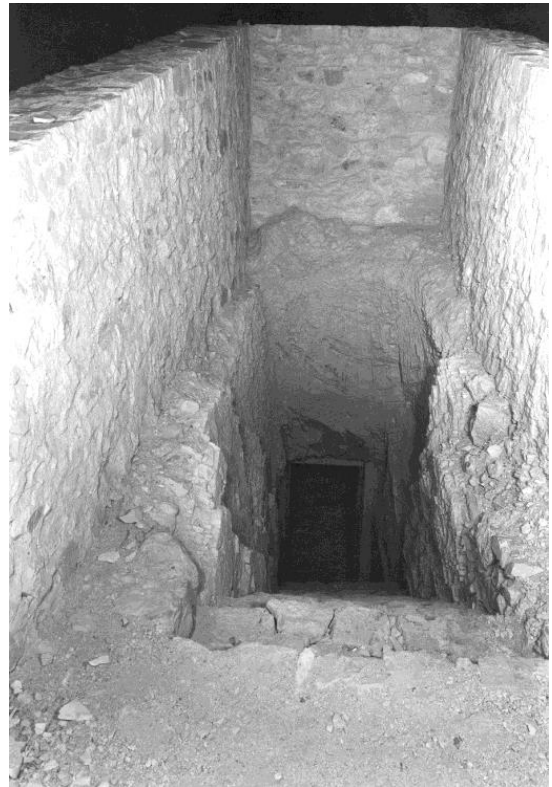
General Description

The tomb has a simple floor plan with only two chambers roughly on a north-south axis with tomb entrance. The tomb is entered through a steep, stepped ramp (A) and doorway (B) leading to a plastered but unfinished main chamber (C) and a roughly hewn, unplastered rear chamber (E). The ramp has rough stone steps. Each wall in chamber (C) has a magical niche.

Entrance ramp (A) passes through the heavily jointed and fractured marl stratum similar to other tombs on the south side of the Valley. However, in rear chamber (E), the south wall, and the rear parts of the side walls, ceiling and floor are cut out of a shale stratum, which present recent localized areas of loss. Tomb floor is rough cut and appears partly unfinished.

Extensive unfinished painted plaster survives on the walls and parts of the ceiling in main chamber (C) but the decoration on the lower third of walls has been lost. The surface of surviving areas of painted plaster is irregular most likely due to the uneven nature of the underlying rock substrate. There are two plaster layers identifiable on the walls of chamber (C), including a lower leveling layer of an earth and straw containing plaster and an upper plaster whitish-gray in color. The upper plaster layer has a rough surface texture with brush strokes visible. No ground layer was subsequently applied and no relief carving was undertaken.

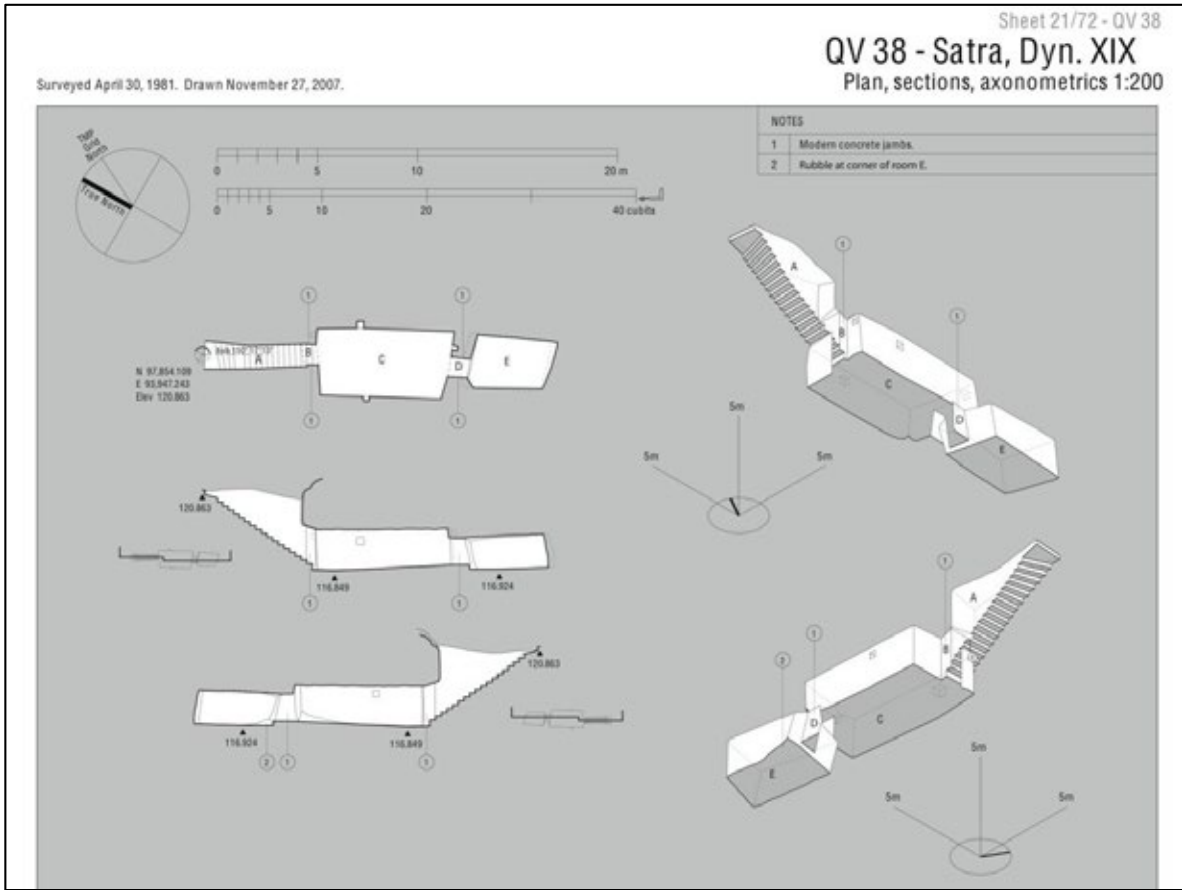
As the final painting was never completed this tomb provides insight to preliminary painting practice. Preparatory techniques such as red snapped lines and underdrawing in black and red are visible on the walls. The paintings were initially sketched out with fluid, cursory, thick red outlining often showing mistakes and corrections; followed by more detailed and corrected black outlining. The ceiling is decorated with a rough wash of blue-black paint with a large figure of the goddess Nut boldly blocked out in yellow with red outlines. It does not appear as if the rear chamber (E) was plastered or painted.



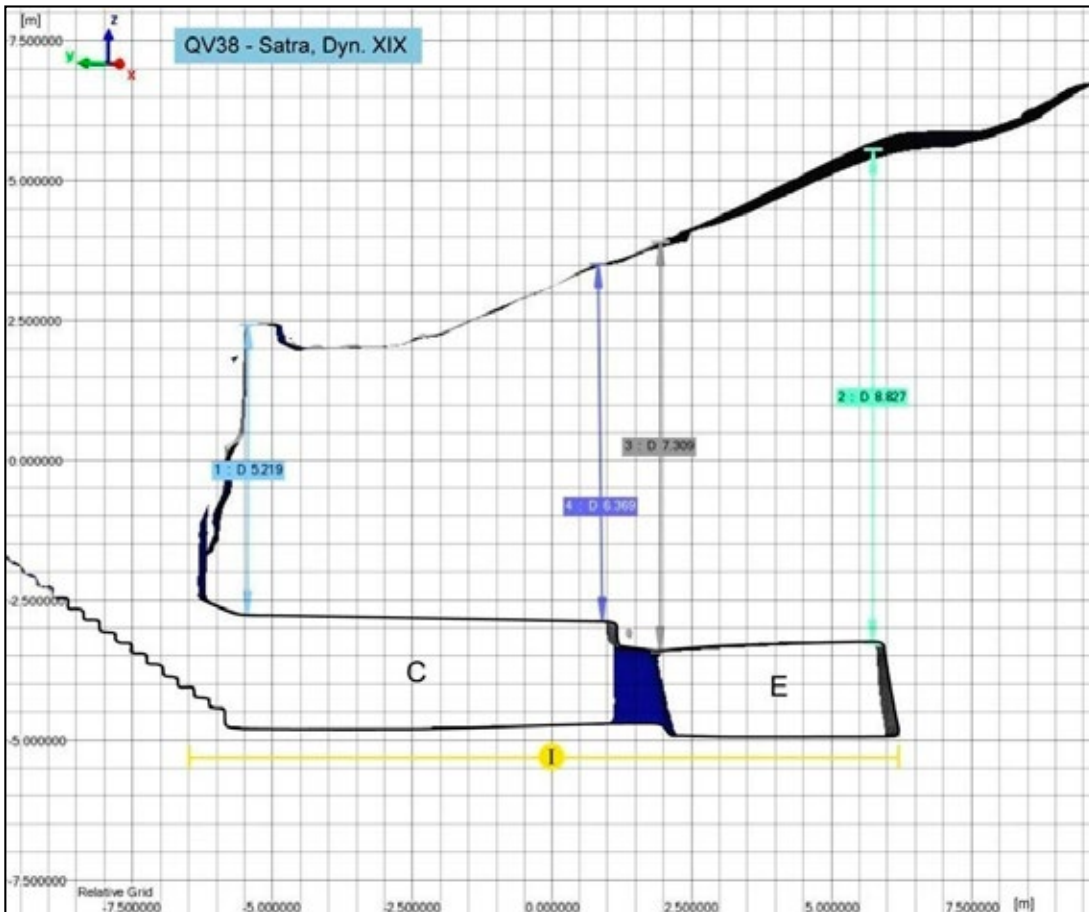
Entrance ramp (A) of tomb in 1989
CEDAE photo showing modern masonry
walls built above historic rock-cut walls.



Entrance ramp (A) is steep with stone
steps leading to doorway (B).



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Section showing the tomb (QV 38) overburden ranging between 5.2m to 9m thick.

QV 38 is the oldest 19th Dynasty decorated tomb in QV and the oldest "corridor" type tomb whose owner is identified, according to E. Thomas and C. Leblanc. Thomas suggests that the epithet "Great Royal Mother" indicates that the decoration, if not the tomb as a whole, was the responsibility of her son, Seti I. Similarly, its incomplete construction and decoration may indicate that she did not long survive her husband, Rameses I, whose tomb (KV 16) was also unfinished (Thomas 1966, 213). Unusually, chamber (C) served as the burial chamber, as evidenced by the presence of magical brick niches, and the fact that the burial chamber was never fully excavated.

The tomb has been accessible since the time of J. G. Wilkinson (1828) and was subsequently recorded by J. F. Champollion (1829), K. R. Lepsius (1844), and H. K. Brugsch (1854). The tomb was later cleared by the Italian mission in 1903-05.

Currently the tomb is not open to visitation. The doorway is reconstructed of fired brick and cement plaster, with a metal grill door with mesh installed within a wooden frame. The mesh has a large hole in it. Fragments of painted plaster from an unknown location (not from this tomb), other archaeological material, as well as the Italian mission plaque, which was once mounted on the walls of the entrance ramp, are now stored in chamber (E). Evidence of bat activity includes bat droppings and urine on the rear wall and ceiling of rear chamber (E).

Condition

The shale present in the rear parts of walls, ceiling and floor of chamber (E) is heavily jointed, and recent rock loss is evidenced by fallen rock fragments on the ground. Areas of the rear wall are affected by wide detachment of surface rock layers which threaten to fall. The marl in the front part of the chamber is also heavily jointed and fractured, and visible detachment of a surface area of the ceiling is present. Along the side walls vertical and diagonal open fractures are present in the marl, following the orientation of the shale layer below. Vertical salt veins are also present in the side walls.

The east side of doorway (D) in this chamber has been partially rebuilt with masonry and the adjacent rock is severely fractured by vertical cracks. Chamber (C) does not exhibit any major structural conditions though the extensive modern plaster repairs obscure much of the condition of the underlying rock. There are no historic photographs, apart from a few Schiaparelli images from 1903-05, that show the condition of the tomb prior to the plaster repairs. 1988 and 1989 CEDAE photographs show the tomb with plaster repairs already made. Part of the east wall of ramp (A) has been stabilized with infilling of small stones and mortar.

Large areas of painted plaster are lost at the base of all walls and on upper areas of the north and south walls and on the south end of the ceiling of chamber (C). The condition of the surviving areas of decoration is generally good, though again, the extensive plaster repairs may hide any underlying problems.

The only area of concern is a large horizontal crack in the painted plaster above doorway (D) on the south wall of chamber (C) which extends eastward into a network of cracks. The cracks adversely affect the figure on the east side of the south wall, likely to be a portrait of Satra, and is therefore of great significance. Although this major crack is already visible in the 1988-89 CEDAE photographs new cracks and losses that have occurred since may indicate rock instability. As the cracks also extend through repair plaster this could be an indication of continued movement in the underlying rock. The majority of these cracks were then smeared over (unknown date) with a very fine and light-colored plaster. In most cases the cracking here has not reopened.

A fine network of cracks is also visible on the east and west walls of the main chamber concentrated toward the south end of the tomb. There is also cracking on the ceiling, in particular cracks that run across the face of the figure Nut; though there has been no loss in this area. In general, cracking appears to be concentrated toward the rear, south side of the tomb. There are areas of delaminated plaster throughout, but none appear to be substantially endangering, though some deformation of the plaster is present on the east wall of the main chamber (center, upper).

The black painted lines appear stronger on the east wall than on areas of the west wall where the red and black lines are fainter and less visible and in some areas are completely gone.

Black resin-looking material is found on the surface of the painting in areas. This is likely to be historic material and should therefore not be removed.

Extensive treatments have been carried out in the main chamber. An Egyptian team undertook conservation work in 1985 according to Leblanc. The 1988-89 CEDAE photographs show the presence of large plaster fills. In large areas of loss the repair plaster used is very coarse, possibly cement-based and containing pebbles. These repairs are brownish in color, slightly recessed, of varied thickness, which appear to overlap previous edging repairs. In smaller areas of loss within areas of painting, a finer plaster is used. These repairs are slightly recessed below the level of the painted plaster, often carelessly applied, and overlap original plaster. It appears as if there were two different periods of repair, as evidenced by additional small white fills and edging repairs.

A French mission report (1988-90, 51) records that wall paintings were cleaned and that fills were made to address lack of adhesion between the support and plaster. It mentions that the existing plaster fills were too hard and proposed replacement of the fills with a more flexible plaster, and acrylic injections. However, only partial consolidation was carried out including lime caseinate injections along cracks.

Drilled injection holes and drips and residues on the original plaster are also apparent which may be related to treatment by the French or another period of treatment.

Deterioration Factors

The recent loss and visible detachment of shale rock in the rear of chamber (E) is due to the clay-rich nature of the rock, which has also impacted the less clay-rich marl found adjacent to it, which is also heavily fractured and jointed, and only slightly less fragile and prone to future detachment and loss.

The presence of shale and the collapse of areas of infill material may account for some of the loss of the painted plaster. Loss at the base of walls may be due to past flooding. Dried mud on the floor of chamber (C) to the west of the entrance indicates past water infiltration in the front part of the tomb, which may have caused the loss of repair plaster along the base of the wall to the east of doorway (B). The present plaster repairs do not otherwise indicate moisture problems. Hydrologic analysis shows that the tomb entrance is in a location susceptible to upslope runoff.

General Recommendations

The entrance ramp requires an arched masonry cover and existing ramp retaining walls may be used as a reconstruction foundation, to prevent future ingress of runoff during rain. Areas of loose rock on the west side of the ramp are recommended to be stabilized.

The rock in the rear part of chamber (E) should be monitored for continued loss, and consideration given to filling in areas of loss at the bases of the rear and east walls to prevent further rock collapse.

The paintings in chamber (C) have already been previously treated and therefore little work is necessary. The large crack above and to the left of doorway (D) is the only area that requires stabilization. The cracks in this area as well as on the ceiling on the figure of Nut should also be monitored as further deterioration may be an indication of an ongoing problem of the underlying rock support.

Replacement of mesh on the door and gap-filling between the door and the reconstructed doorway are recommended. The Italian-mission plaque should be reinstated in its original location in entrance ramp (A).

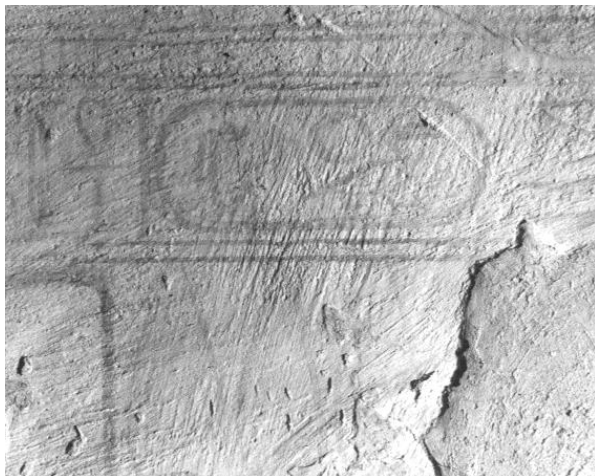
This tomb is being proposed for opening to special tours. If open, consideration will be given to whether additional conservation work is required.



General view of burial chamber (C) and doorway (D), looking south toward rear chamber (E). There are large plaster losses throughout the main chamber that have been repaired with plaster fills.



The Italian mission plaque is stored in rear chamber (E).



The unfinished painted plaster has a rough surface with brush strokes visible.



Numerous scratches and graffiti exist throughout the tomb.



The rear part of chamber (E) is cut out of a shale stratum that is heavily jointed. Fallen fragments on the floor are evidence of recent rock loss from the walls and ceiling.



East wall of rear chamber (E) has vertical and diagonal open fractures in the marl which follow the orientation of the shale layer below.



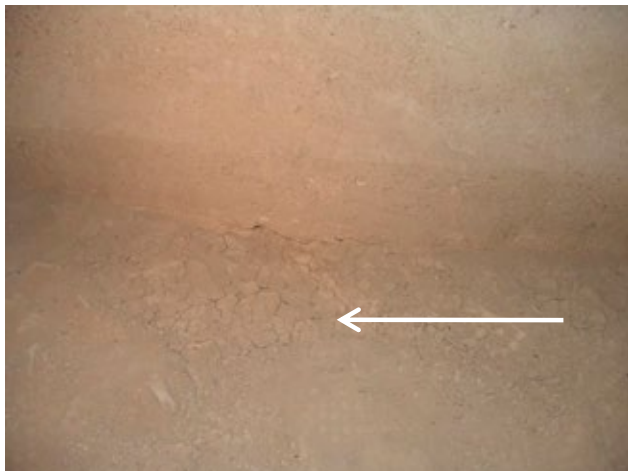
Detail of wide detachment of surface rock layer in rear wall of chamber (E). Areas of surface rock layers threaten to fall.



Above right: Image showing rock infill needed to rebuild door jamb of doorway (D) taken from chamber (E) looking north toward entrance (above left). Adjacent rock presents severe open vertical fractures.



Ceiling of rear chamber (E) is heavily jointed and fractured with areas of detachment.



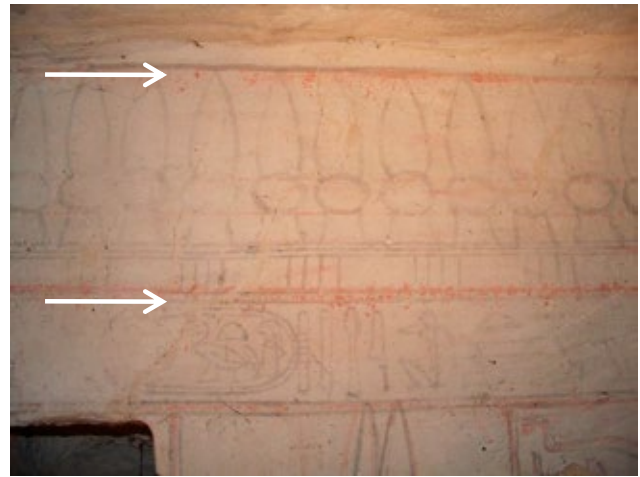
Dried mud on floor of chamber (C) to the west of the entrance indicates past flooding.



Staining (0.15m high from the ground) at the base of the wall in chamber (C) on repair plaster most likely from the 1994 flood.



Red centering cross provided setting out lines for figures with a horizontal line at level of the shoulders, and a dissecting vertical line down the middle of the body.



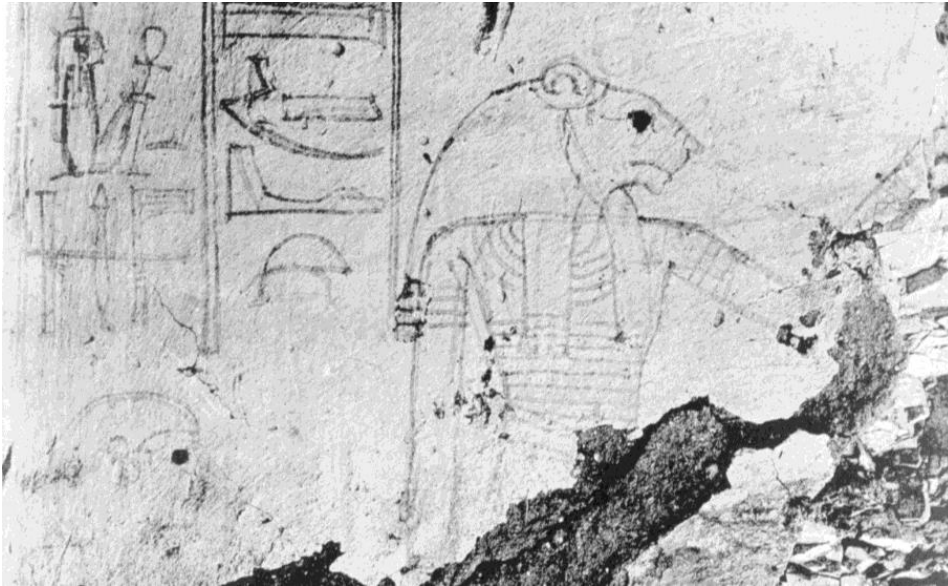
Six horizontal red snapped lines designate the upper frieze decoration.



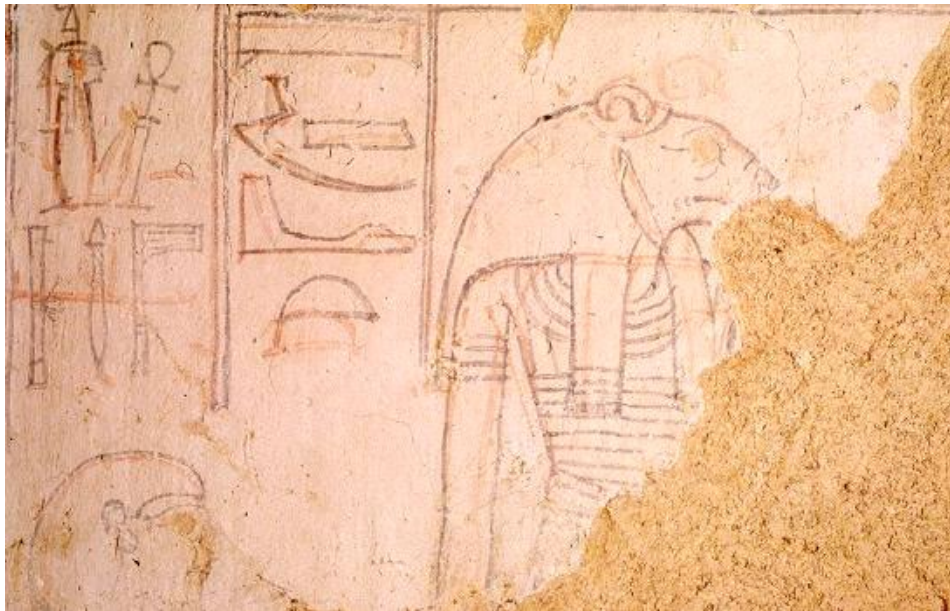
Red and black lines show setting out of cartouche and changes made by the original artists.



Red snapped lines set out the upper border decoration. The northeast corner of chamber (C) shows the upper frieze border being sketched out and an initial false start painted in red but then corrected and finished in black once the design was established.



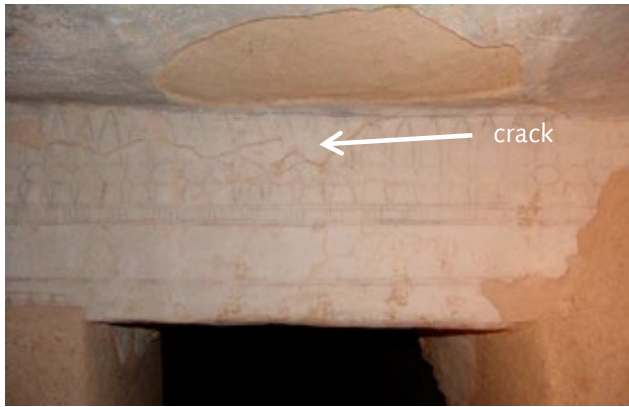
Area on the north wall, west side of chamber (C) taken by in 1903-1905 (Image: Schiaparelli 1923).



Same area on the north wall, west side of chamber (C) taken by CNRS (unknown date) showing repairs and loss of painting.



Same area on the north wall, west side of chamber (C) taken in 2006 indicating that the repaired areas have remained stable.



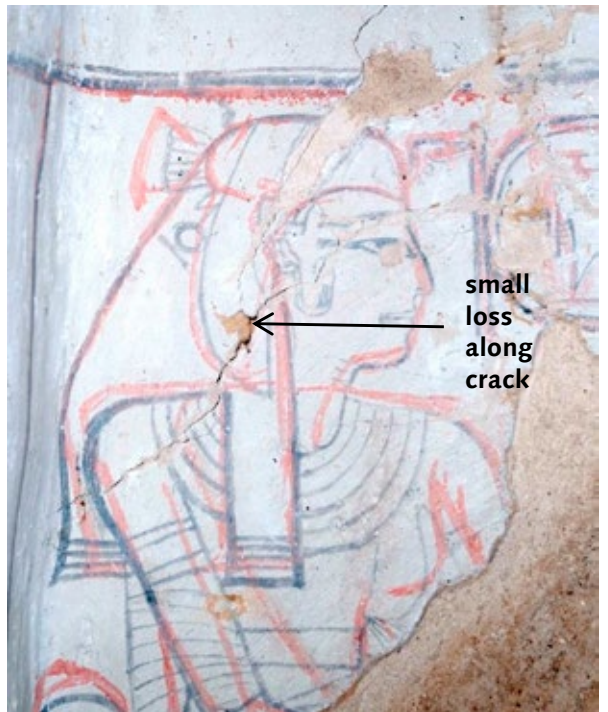
Horizontal crack above doorway (D) on south wall of chamber (C), requires monitoring to assess whether there is fracturing and movement of the underlying rock. Some stabilization work is also necessary here.



1988-89 CEDAE photograph shows crack already present.



Crack extends eastward through figure of queen.



Detail of queen showing cracking and small losses.



Other small loss along crack.



Crack has reopened where a previous plaster repair existed.



Figure of Nut on the main chamber (C) ceiling is boldly blocked out in yellow with red outlines.



Cracks run across the face of Nut. Though no losses have yet occurred, this area should be monitored to see if cracking is ongoing.



Detail of the feet of Nut on ceiling.

TOMB INVENTORY

QV 40

General Tomb Information		
Tomb number	QV 40	Location Main wadi, west end of the south branch on south side
Other naming systems	Hay of Linplum – 4 west; Wilkinson – 18; Champollion – 6; Lepsius – 12; Brugsch - 6	
Owner/ Attribution	Anonymous	
Owner Status	Princess - Queen (King's Daughter - Great Royal Wife)	
Dynasty/ reign	Early 19 th Dynasty / Seti I	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
Description		
General Description	Ramp (A) provides access to a rebuilt entrance (B). The stepped ramp originally cut into the limestone but currently covered with cement. A multi-chambered tomb with rough-hewn stone floor. The chamber (C) originally had two constructed central pillars, of which only one is extant. A side chamber (G) lies to the west and a smaller burial chamber (E) with barrel vault ceiling lies to the south.	
Decoration	Painted plaster with raised relief technique. Fair amount of high quality paintings with vibrant colors survive.	
Iconography	Scenes from several chapters of the Book of the Dead. See Tomb Profile, Volume 1.	
Objects and current contents		
Objects recovered	None recovered	
Removal or clearance of contents	Materials removed from QV 38 by CNRS and SCA in December 2010: wood fragments (?)	
History of Use, Events, Research and Interventions		
19 th Dyn.	Tomb construction	
20 th Dyn.	Tomb was presumably accessible at a certain point in antiquity as two hieratic graffiti left by a high official during Rameses III reign in chamber (C) exist.	Leblanc 1989a Pl. LXXVII
1826	Research and documentation by Hay of Linplum	Leblanc 1989a, 25-38
1828	Research and documentation by Wilkinson	Leblanc 1989a, 25-38
1829	Research and documentation by Champollion	Leblanc 1989a, 25-38
1844	Research and documentation by Lepsius	Leblanc 1989a, 25-38
1854	Research and documentation by Brugsch	Leblanc 1989a, 25-38
1903-04	Clearance by Schiaparelli	Leblanc 1989a, 39
1964	Brief history and description by Porter and Moss	Porter and Moss 1964, 751-752
1966	Research and documentation Thomas	Thomas 1966, 208-209, 211, 213-214, 218-219, 222, 224-225
1970, 71, 73	Photographic documentation by CEDAE	CEDAE
c. 1973	Ramp retaining walls constructed	CEDAE 1973 photo
1981	Survey by TMP	TMP
1988	Survey and mapping by Laurent (CNRS)	CNRS
1990	Photographic documentation by CEDAE	CEDAE

1993 -1995	Consolidation of cracks and plaster layer, and possibly cleaning of paintings in tomb by SCA in preparation for opening the tomb to visitors.	SCA conservator notes
After 1995	Opened to visitation by SCA	SCA staff, pers. comm.
2000	Closed to visitation by SCA	Sultan Eid, West Bank director at the time, pers. comm., Jan. 2005
2006-2009	GCI-SCA survey and condition assessment	
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2009 Jan	Digital photographic documentation by CEDAE	GCI
Documentation and References		
Historic Photographs	-Schiaparelli 1923-27, fig 84-85; -CEDAE -21061-21127 (Feb. 1970); 21129-21188 (Feb. 1971); 23216 (Feb.1973); 29002(Nov. 1990); -CNRS/CEDAE – Plates LXXIII - LXXXII in Leblanc 1989a.	
References	-Champollion, Maspero and Champollion Figeac 1844-1889, 391-4; -Hay of Linplum MSS 29821, 139-40; -Leblanc 1989a;1999b, 834; -Lepsius 1897-1913, text vol. iii 235; -Porter and Moss 1964, 750-752;	-Thomas 1966, 208-209, 211, 213-214, 218-219, 222, 224-225; -Schiaparelli 1923-27, 108-9; -Siliotti and Leblanc 2002; -Wild MSS.

QV 40 – Anonymous Queen

General Description

The tomb is entered through stepped ramp (A) leading into pillared chamber (C) with a vaulted burial chamber (E) and side chamber (G) to the west. The two pillars were originally constructed of stone masonry after the ceiling was already plastered and painted. Only the easternmost pillar still survives.

As with the other tombs on the south side of the Valley, the marl stratum into which this tomb is cut is part of a large tilted geologic block. Extensive modern repairs throughout the tomb do not allow for direct observation of the rock.

Extensive raised relief painted plaster survives on the walls and ceilings in all chambers of the tomb though there are many areas of loss. The paintings have been extensively treated and all areas of loss filled with modern plaster repairs. The paintings in side chamber (G) are painted on a larger scale and in a cruder style with a more limited palette (red, black, yellow and white) compared with other areas of the tomb and may therefore be unfinished. Small traces of original infill material and upper plaster also survive on the walls of entrance ramp (A).

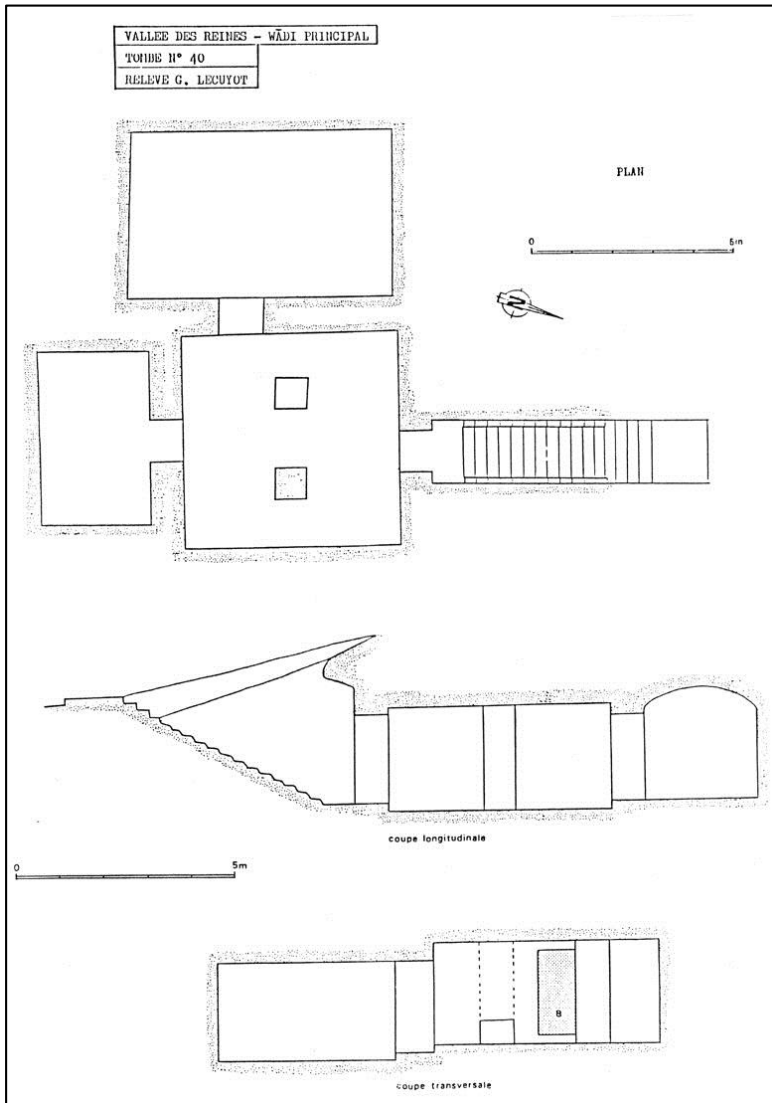
This tomb has been accessible since the time of R. Hay of Linplum (1826), who described the tomb and a single pillar in his notes, the remains of the second pillar presumably buried in debris. E. Schiaparelli cleared the tomb during the Italian mission work at the site (1903-05). E. Thomas noted that the ceiling vault is the first example of this type in QV and the two pillars are the only 19th Dynasty pillars on the south side of the wadi, and that the layout of this tomb is distinct from that of its predecessors. K. R. Lepsius recorded the presence of a hieratic graffito in chamber (C), dated to the Rameses III reign.



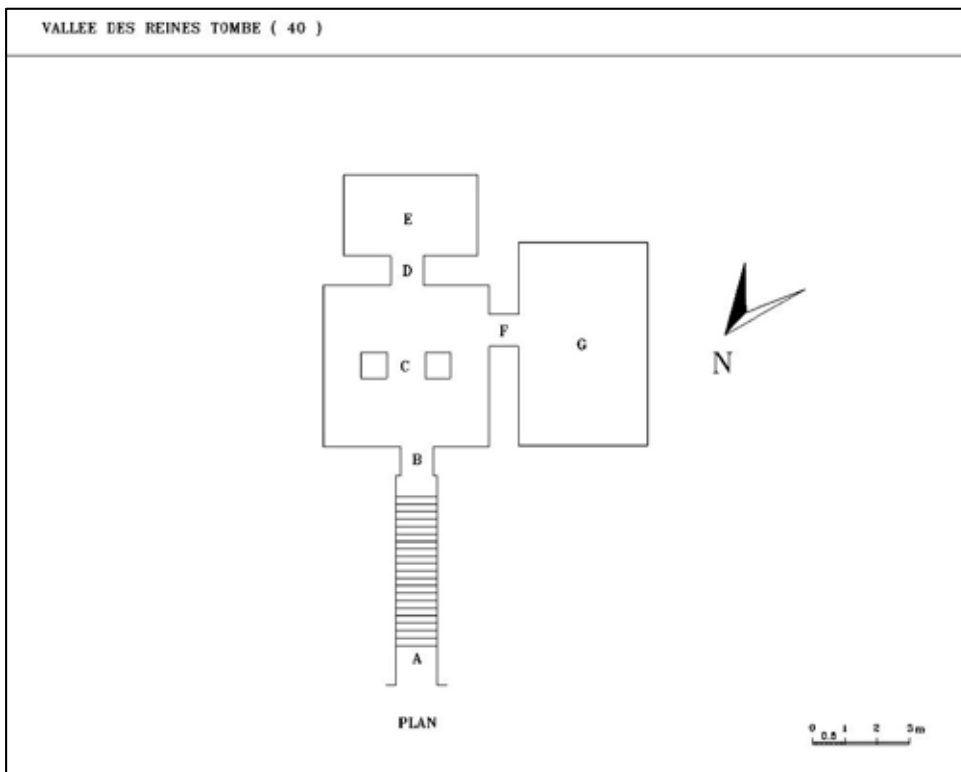
Tomb entrance in 1973 (Image: CEDAE) showing modern ramp walls. The masonry walls were constructed on top of rock-cut wall of the ramp.



Stepped ramp (A) and entrance (B) in 2008. The irregular overhang of rock over entrance (B) indicates some rock loss has occurred in the past. Stone ramp walls were repaired and plastered in 2010 by SCA.



Drawing: CNRS.

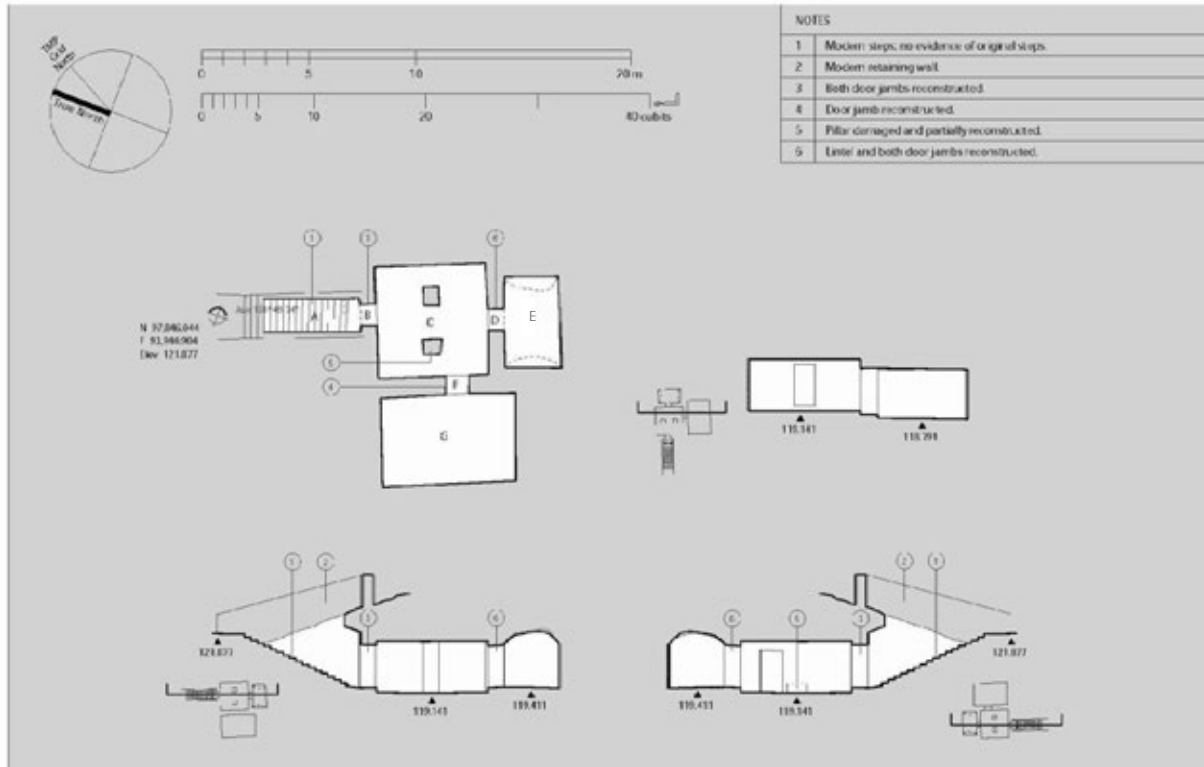


Drawing: CEDAE.

QV 40 - Anonymous Princess-Queen, Dyn. XIX

Plan, sections 1:200

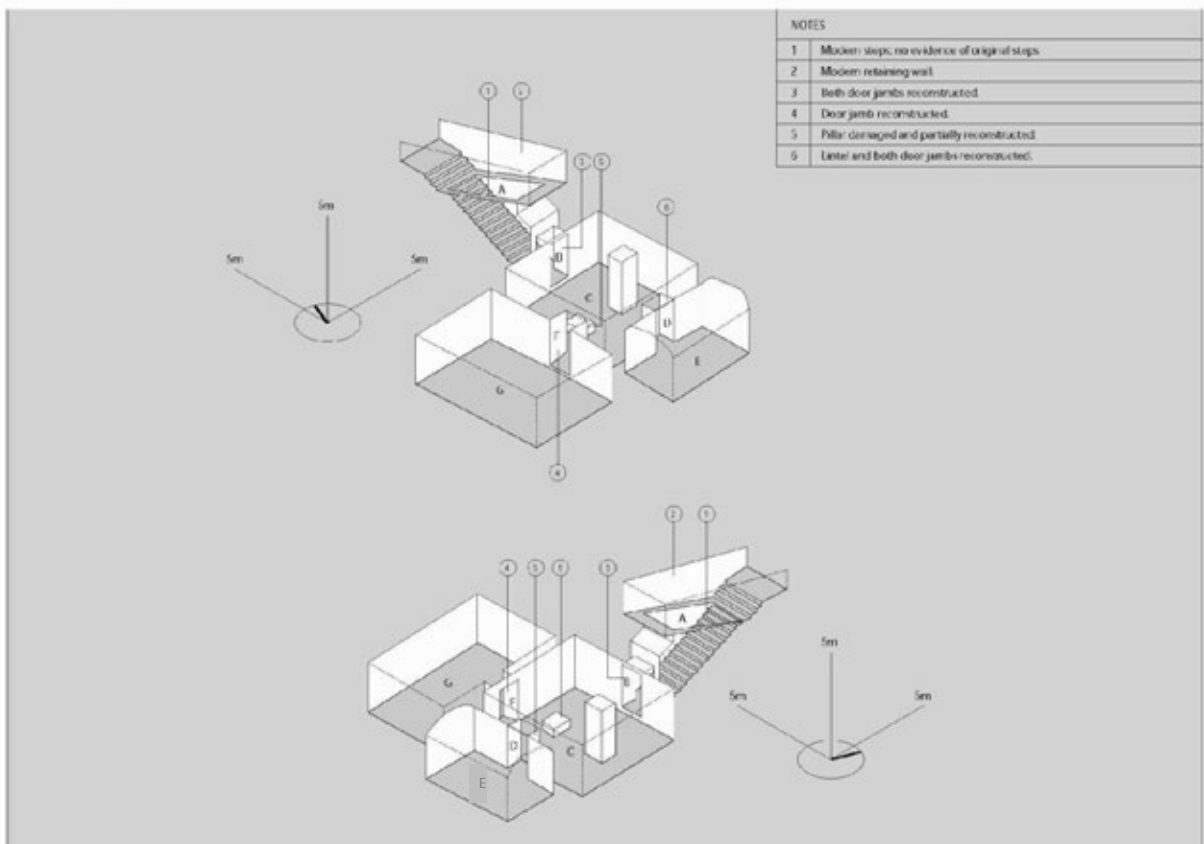
Surveyed April 25, 1981. Drawn November 1, 2007.



QV 40 - Anonymous Princess-Queen, Dyn. XIX

Axonometrics 1:200

Surveyed April 25, 1981. Drawn November 19, 2007.



Drawings : Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Currently the tomb is not open to visitation, though it was open from an unknown date (probably mid 1990s) until 2000. Cement steps in ramp (A) were built on top of original rock cut steps which are still visible at sides. Lights have been placed (though not installed) in the tomb and six cement blocks for mounting lighting units are scattered throughout the tomb. The entrance (B) was rebuilt (date unknown) with fired brick and covered in a cementitious plaster with a wooden door with metal grills and mesh installed in a wooden frame. The mesh is now torn. In 2010, the SCA repaired and covered the stone retaining wall of the ramp with cementitious plaster.

Condition

The irregular overhang of rock over entrance (B) indicates some rock loss has occurred in the past. Some loose surface rock on both sides of the entrance is present.

The interior of the tomb has no apparent structural problems and is considered stable, though the extensive plaster repairs may hide any underlying problems. CEDAE images from 1970, 1971, and 1973 show plaster repairs already present. The plaster fills and edging repairs used throughout the tomb are composed of a coarse, rough-textured, pink-colored fill for large areas of loss, and a finer plaster used for smaller losses within areas of painting. This finer plaster is sometimes found smeared over and carelessly concealing original areas of painting.

The constructed western pillar in chamber (C), of which only the base still survives, was presumably lost in antiquity. Other large areas of loss occur within the painting, around doors, in ceilings and at the base of walls. Despite these large areas of loss, there is still a fair amount of painting that survives in good condition. Plaster cracking is evident but does not appear to be severe or endangering.

An unusual darkening of the red paint of face and hands can be seen on the east wall (northeast corner) of chamber (C). Greens and blues are only rarely used in this tomb and generally appear faded or have been preferentially lost.

Additional treatment was undertaken by the SCA between 1993-1995, perhaps in preparation for opening the tomb to visitors, which included consolidation of cracks and plaster repairs. There is evidence of extensive cleaning of the paintings, which appear to have been highly abrasive and may have resulted in loss of color and painted definition of blue and green areas.

Although no bats were seen during the assessment, there is evidence of considerable past bat activity. Evidence of bats is present in side chamber (G) and in burial chamber (E) at the tops of walls, in the form of white crystalline (salt) residues and dark staining. Many of these dark stains appear to have been overcleaned, with consequent damage.

Deterioration Factors

Heavily jointed and fractured marl in the entrance ramp is at risk from occasional rainwater exposure.

Rock fissuring and loss of substantial infill material have contributed to the fragmentary survival of the decoration we see today. The extent of large areas of loss also may be an indication of past flood damage though there are no recorded reports of flooding in this tomb.

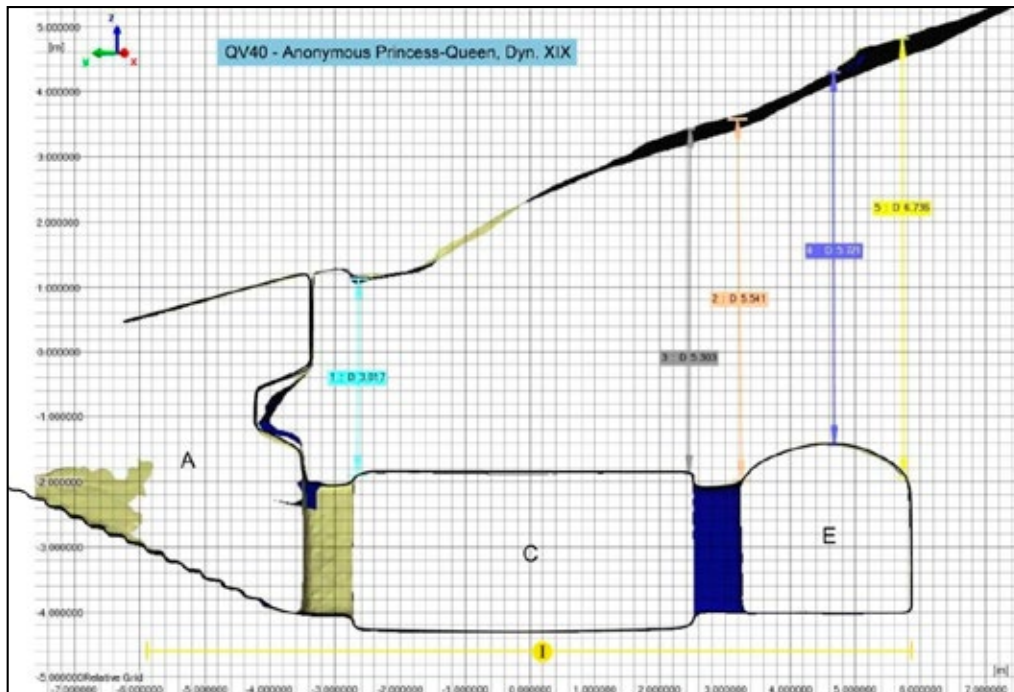
Additionally, the long history of access to the tomb including bat activity have also contributed to the deterioration visible today.

General Recommendations

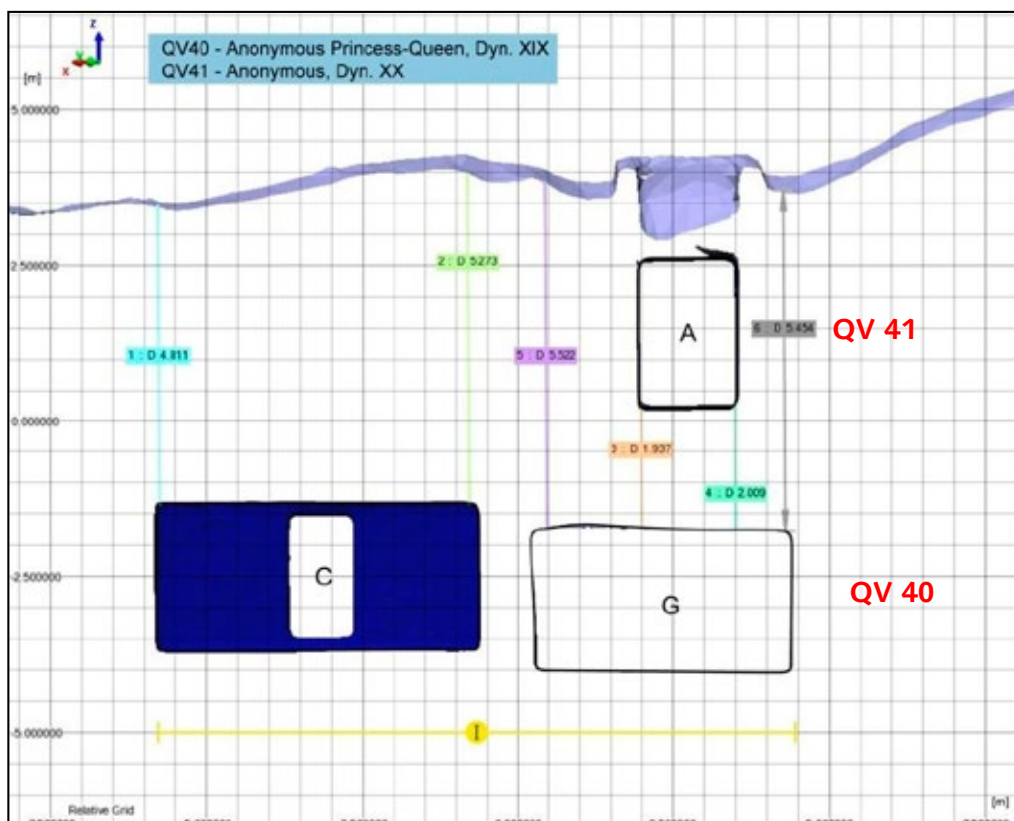
Construction of an arched cover on existing retaining walls is recommended to mitigate future flooding. Care should be taken to protect remaining areas of original plaster on the entrance ramp. Loose rock on both sides of the tomb entrance should be stabilized.

The wire mesh on the tomb door requires replacement and sealing of doors is needed to ensure that animals and bats cannot access the tomb.

Paintings have already been extensively treated. No further work is required.



Overburden section of QV 40 shows the thickness ranging from 3m above the antechamber (C) to 5.7m above the burial chamber (E).



QV 40 side chamber (G) is located 1.9m below ramp (A) of QV 41.



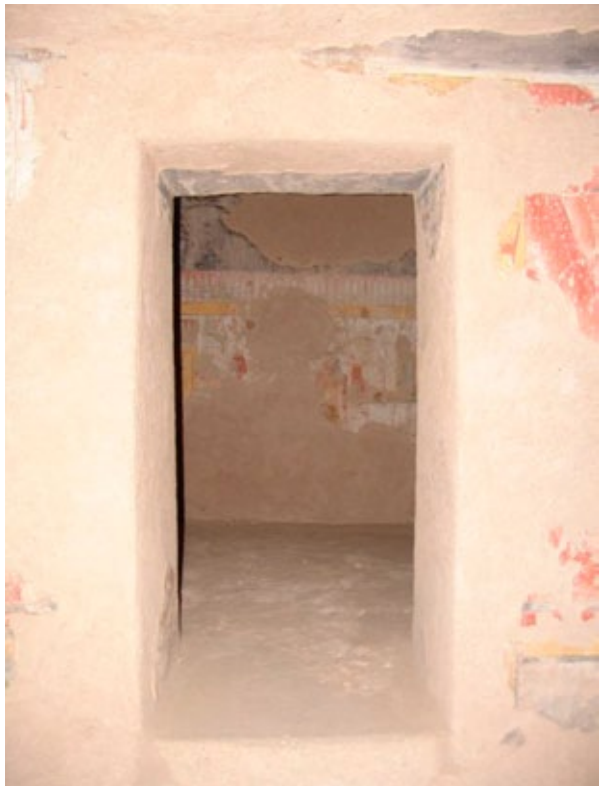
General view of pillared chamber (C), facing the southeast corner. Only the base of the western pillar survives. The large areas of loss on walls and ceilings in this tomb may indicate past flood damage.



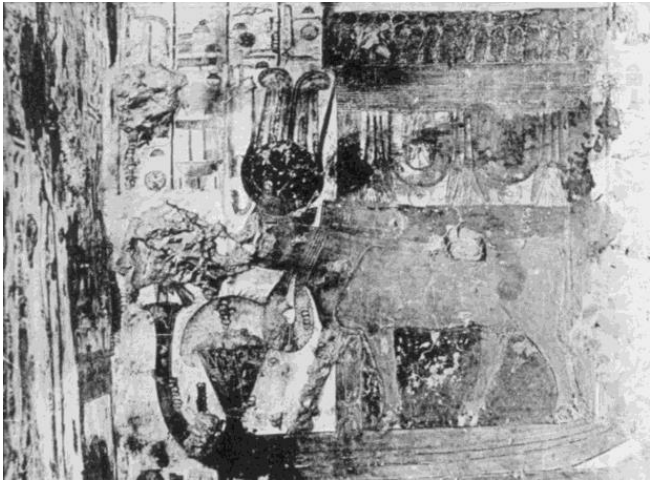
Chamber (C) in 1970 (CEDAE) showing plaster repairs already present. The extensive repairs did not allow for direct observation of the rock condition.



Extensive painted plaster survives in pillared chamber (C). This image shows the south wall. Note also uninstalled lighting on floor of tomb.



Extensive loss exists especially around doorways. This could be an indication of poor rock condition and/or evidence of past flooding.



View of south wall of chamber (C): Left taken ca 1903-05 (Image: Schiaparelli 1923); right photo 2006.



Surface has an abraded appearance with much surface paint loss and red flesh of the figure on the east wall of chamber (C) appears darkened.



Hieratic graffiti from the Rameses III reign on south wall of chamber (C).



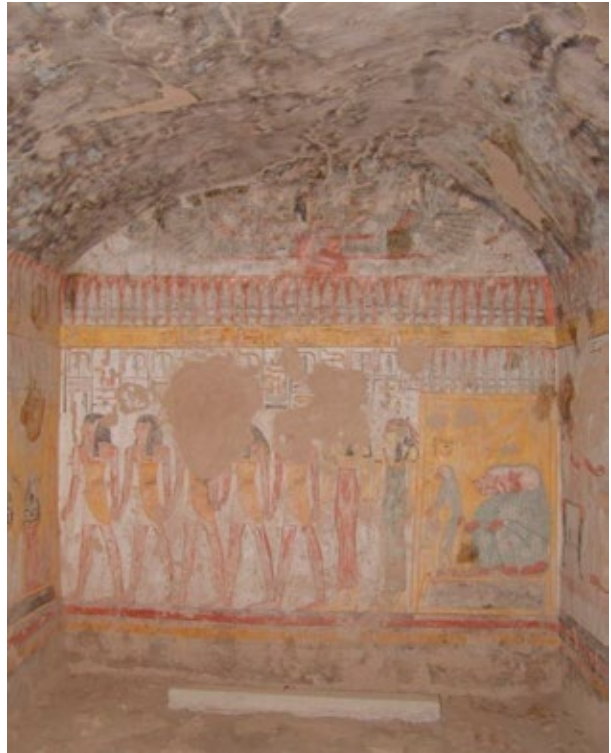
The paintings in the west side chamber (G) are painted on a larger scale and in a cruder style with a more limited palette (red, black, yellow and white) compared with other areas of the tomb and may therefore be unfinished.



The paintings appear unfinished at the color blocking-in stage. They normally would have then been gone over with more detail and would have white corrections to sharpen edges.



1973 CEDAE photograph of east wall of rear chamber (E).



Rear chamber (E), east wall in 2007. E. Thomas notes that the ceiling vault is the first example of this type in QV.



1973 CEDAE photograph of west wall of rear chamber (E).



Rear chamber (E) in 2007, west wall.



Photograph (1903-05) from chamber (C) showing dark staining on painting (Image: Schiaparelli 1923).



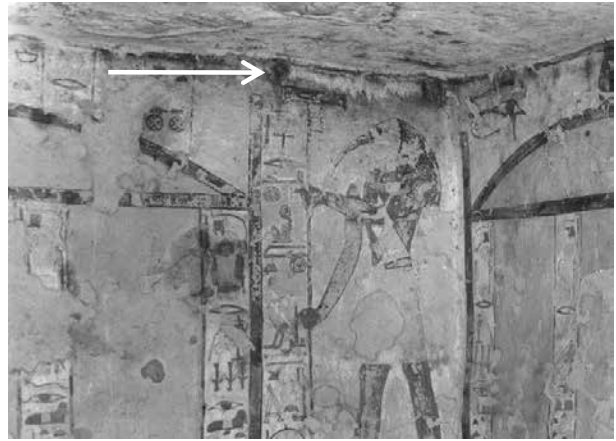
The same area of painting from chamber (C) in 1970 photograph shows what appears to be the result of cleaning to reduce the staining. Plaster fills have also been made (Image: CEDAE).



Area of green paint in chamber (G) looks as though it has been consolidated with an adhesive resulting in darkening of the surface.



Area of blue paint in chamber (G) appears abraded and faded.



Evidence of bats on the upper part of walls and ceilings in the side chamber (G), in the form of crystalline deposits (salt residues) and staining. The problem is already evident in the 1973 CEDAE photographs (right).



White crystalline deposits on ceiling of Chamber (G) indicate considerable past bat activity in this tomb.

TOMB INVENTORY

QV 41

General Tomb Information		
Tomb number	QV 41	Location At the western end of southwest branch of wadi, between QV 40 and QV 42.
Other naming systems	Hay of Linplum – Other west tomb; Wilkinson – 17; Brugsch – 5	
Owner/ Attribution	Unknown	
Owner Status	Unknown	
Dynasty/ Reign	20 th Dynasty / Rameses III	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
Description		
General Description	Multi-chambered tomb with slightly graded rock-cut ramp (A) leading into two long consecutive corridors with vaulted ceilings (C) and (F) and rear chamber (M). A small niche (D) lies to the west of corridor (C), while western side chamber (H) leads from corridor (F) to chamber (I) and shaft (J) providing access to lower chamber (K). A small chamber or niche (O) lies to the west of rear chamber (M) and was sealed with a masonry wall. To the east of chamber (M) is a shaft (P) which leads to lower chamber (Q).	
Decoration	Plastered, but not painted or no extant painting on walls. Incised representation of a bird on wall at the end of corridor (C). Thomas (1966) believed that the tomb may have been decorated and the decoration completely removed for the burial of Pentawer; however, no trace of previous decoration is seen today.	
Iconography	N/A	
Objects recovered and Current Contents		
Objects recovered	None recovered	
Removal or clearance of contents	Study materials cleared from QV 41 by CNRS and SCA in October 2008: two mummies in rear pit (Q); additional materials cleared in December 2010: leg of mummy in corridor (C); half torso of mummy in corridor (F); fragments of linen and bone in side chamber (H); fragments of linen, sherds, bones and wood in niche (D); bones, sherds and linen fragments, and 1 canine and fox skeleton in Pit (K).	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
20 th Dyn.	Tomb construction (not completed). Thomas suggested tomb was prepared for a prince of Rameses III, Pentawer, who was involved in a plot to assassinate the king.	Thomas 1966, 220
Unknown	Later occupation as suggested by blackening and perhaps excavation of pits	Thomas 1966, 220
1826	Documentation by Hay of Linplum	Leblanc 1989a, 25-38
1828	Documentation by Wilkinson	Leblanc 1989a, 25-38

1854	Documentation by Brugsch	Leblanc 1989a, 25-38
1966	Documentation (sketch and text) by Thomas.	Thomas 1966
1981	Survey by TMP	TMP
Unknown, after 1985	Construction of ramp wall	Photographs
1988	Survey and mapping by Laurent (CNRS)	CNRS
1994	Existing walls at entrance were replaced with new walls after the flood	CNRS
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2007	Trash removal by SCA-GCI	GCI
2006-2009	GCI-SCA survey and condition assessment	GCI
2008 Oct	Removal of study materials by SCA and CNRS	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2009	Tomb sealed with plastic sheeting to test method of removing bats by SCA Conservation Center	GCI-SCA
2010 Dec	Removal of additional study materials by SCA and CNRS	GCI
Documentation and References		
Historic Photographs	CNRS photo dated to 1985	
References	-Thomas 1966, 208-9, 215, 219-20, 222-23, 22;	-Leblanc 1989a.

QV 41 - Unknown

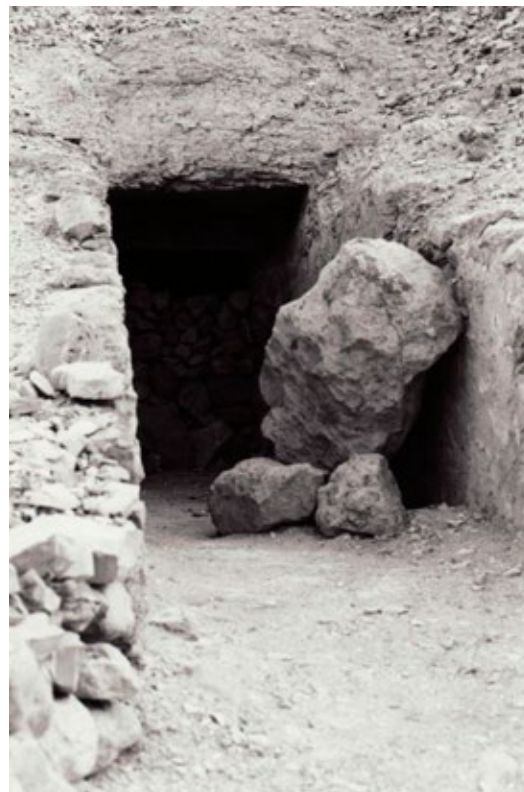
General Description

Entrance ramp (A) leads into two long consecutive corridors with vaulted ceilings (C) and (F) and rear chamber (M). A small, perhaps incomplete, niche (D) lies to the west of corridor (C), while western side chamber (H) leads from corridor (F) to chamber (I) and shaft (J) providing access to lower chamber (K). A small chamber or niche (O) lies to the west of rear chamber (M) and was sealed with a masonry wall covered in plaster that has since partially collapsed. To the east of chamber (M) is a shaft (P) which leads to lower chamber (Q).

Unlike many of the 19th Dynasty tombs on the south side of the Valley, the marl rock into which this 20th Dynasty tomb was cut is in relatively good condition. It is not heavily jointed and there are no localized losses due to swelling pressure changes related to underlying layers of shale when in contact with water.

This tomb is only plastered and the decoration was never completed. The rock walls were generally cut flat and straight and then coated with a rough base plaster that contained small rock shards, though in localized areas large voids in the rock still required infilling with larger rock shards and plaster. Other areas of the tomb were constructed out of mud brick, perhaps in areas where the rock condition was poor, in order to create a flat surface for the decoration. According to C. Leblanc the tomb was not occupied in pharaonic times. The evidence of fire in this tomb could suggest later re-use of the tomb.

A significant amount of soot blackened plaster remains on the long corridor walls and ceiling. The west wall of the rear chamber, side chambers and niches were not plastered. There is no evidence of any painting, though traces of what could be red snapped lines are just visible, as well as some incised lines around the juncture of inner corridors. A small bird was also incised at the end of corridor (C) on the west side of doorway (E). The tomb shows signs of fire and is heavily soot blackened, perhaps as a result of later occupation.



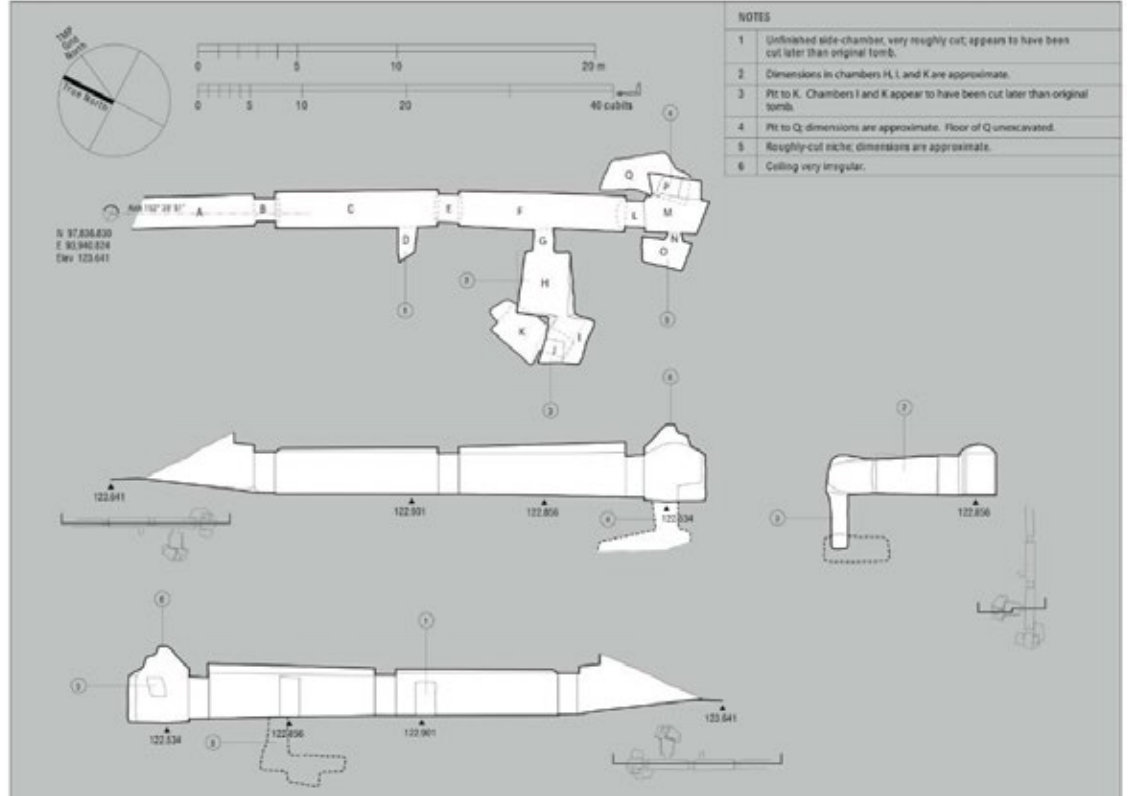
Tomb entrance before ramp wall construction. It is unknown how and why these large boulders may have ended up in the entrance ramp but they have since been removed. (Image: CNRS)



Entrance ramp (A) and entrance (B) in 2007. Modern masonry walls have been constructed along the ramp.

QV 41 - Anonymous, Dyn. XX
Plan, sections 1:200

Surveyed April 20-25, 1981. Drawn October 6, 2007.

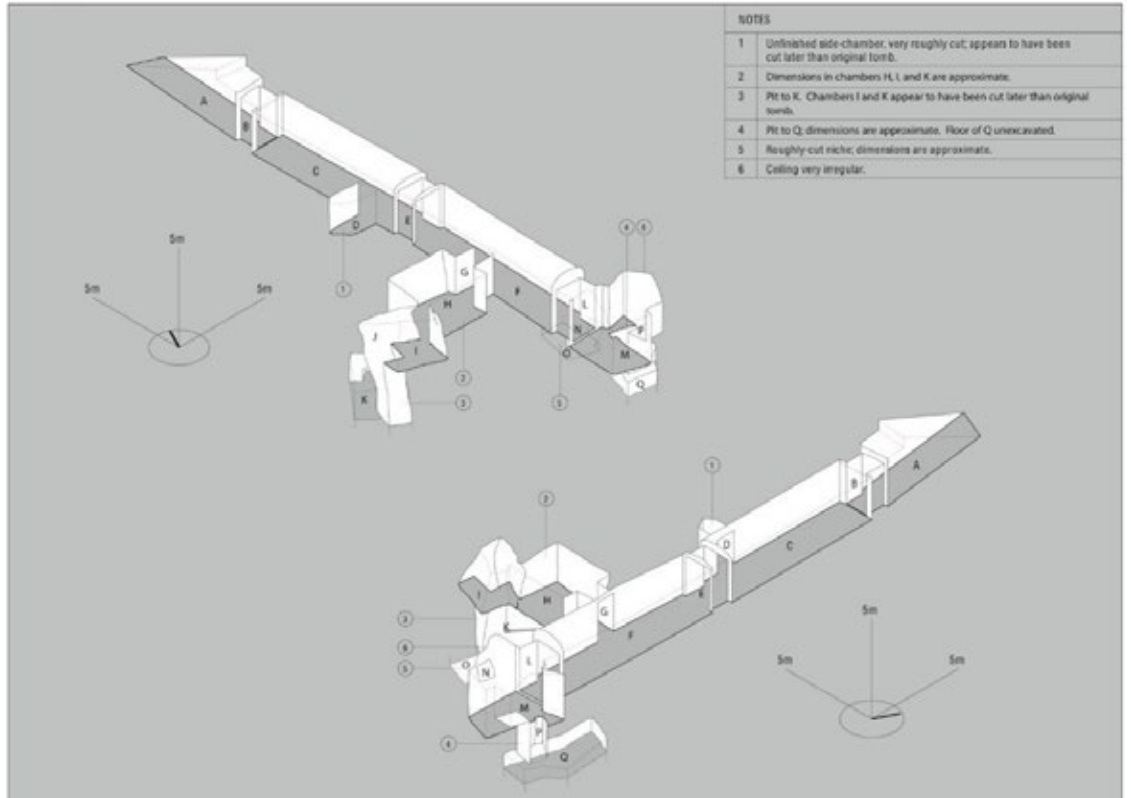


NOTES

- 1 Unfinished side-chamber, very roughly cut; appears to have been cut later than original tomb.
- 2 Dimensions in chambers H, L and K are approximate.
- 3 Pit to K. Chambers I and K appear to have been cut later than original tomb.
- 4 Pit to Q; dimensions are approximate. Floor of Q unexcavated.
- 5 Roughly-cut niche; dimensions are approximate.
- 6 Ceiling very irregular.

QV 41 - Anonymous, Dyn. XX
Axonometrics 1:200

Surveyed April 20-25, 1981. Drawn November 1, 2007.



NOTES

- 1 Unfinished side-chamber, very roughly cut; appears to have been cut later than original tomb.
- 2 Dimensions in chambers H, L and K are approximate.
- 3 Pit to K. Chambers I and K appear to have been cut later than original tomb.
- 4 Pit to Q; dimensions are approximate. Floor of Q unexcavated.
- 5 Roughly-cut niche; dimensions are approximate.
- 6 Ceiling very irregular.

Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

This tomb has been accessible since the time of R. Hay of Linplum (1826). E. Thomas (1966) considered the niches (D, N, O), chambers (I, J, K), and pit (Q) to be later additions. She noted the presence of thoroughly blackened plaster in the tomb and posited that decoration may have been applied and removed, a theory also shared by G. Hughes, an Egyptologist of Chicago House at the time, citing the jamb to the left of the entrance and the right wall 2-3m within the first corridor (Thomas 1966, 220). It is unclear what they observed as such traces of a surviving decorated scheme cannot be seen today.

Large rocks, debris and bat droppings litter the floor of the entire tomb, which has been the site of significant bat habitation, presumably for some time. There is no door at the tomb entrance, but stacked rubble in front of the doorway is used to prevent visitor access.

Condition

Localized areas of rock loss, including basal erosion of the walls in corridors (C) and (F), and of doorway (E) are present. The constructed masonry wall in front of niche (O) is partially collapsed, with edges of the wall requiring stabilization to prevent further loss. The tomb is otherwise structurally stable.

The tomb is largely darkened from fire, such that rock surfaces and plaster surfaces alike are covered with a heavy dark brown deposit. The plaster is also possibly heat-damaged. Only the lower walls at the entrance (B) where debris may have provided protection and where the heat source rose upwards toward the entrance escaped fire-related darkening.

There is evidence of post-fire loss but only in relatively small localized areas on walls and ceiling such as on doorway (D); from freshness of appearance, some of these losses may be quite recent. There is no evidence of stabilization treatments.

Deterioration Factors

The basal erosion of walls in corridors (C) and (F) and of doorway (E) indicates the likelihood of past damage from flooding. Leblanc has indicated that a large amount of upslope runoff entered into this tomb during the November 1994 flood (pers. comm. 2009).

Heat damage may also have weakened plasters and contributed to loss of substantial infill material in places and the partial collapse of the constructed masonry wall of niche (O). The long history of access to this tomb has also allowed for substantial bat activity and insect nests which have also added to the tomb's overall deterioration.

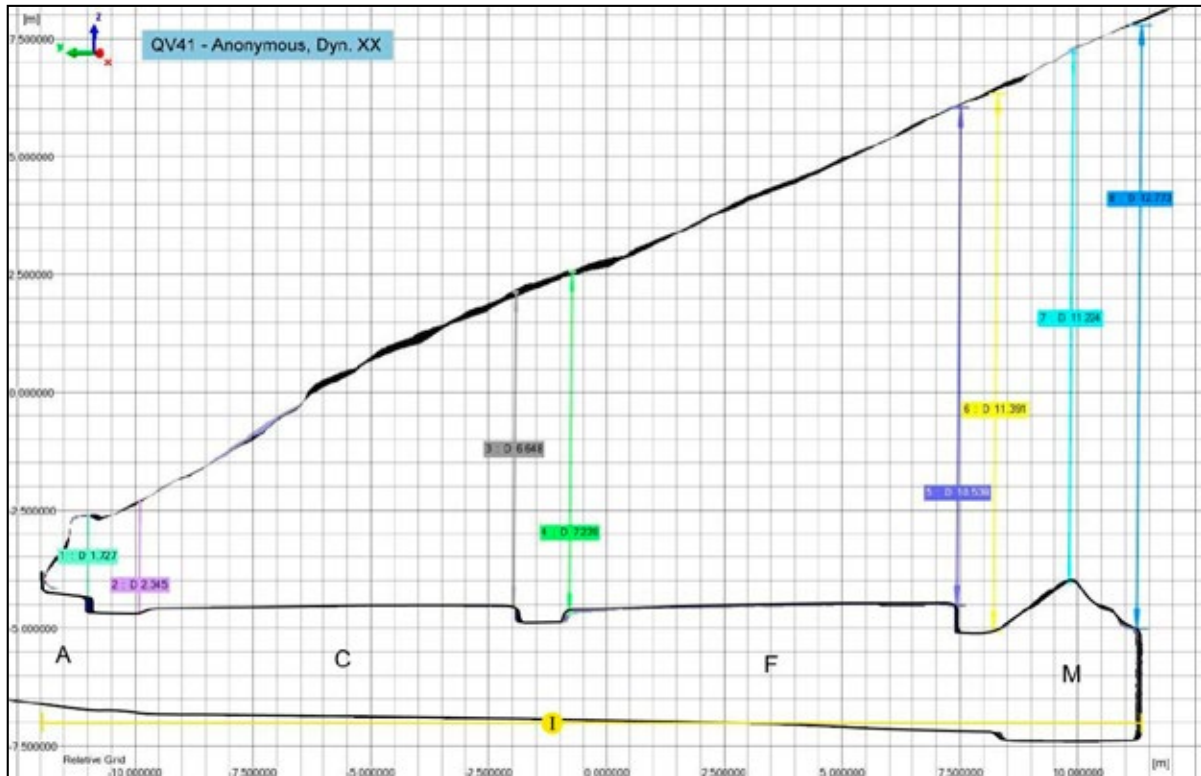
General Recommendations

An arched masonry cover needs to be constructed at ramp (A) for flood protection.

Localized stabilization of the remains of the constructed masonry wall of niche (O) and jambs of doorway (E) is advised, with limited treatment to stabilize fragile areas of plaster.

Areas of post-fire loss such as plaster above doorway (D) should be monitored to determine if deterioration is ongoing.

Exclusion of the large bat population in the tomb is necessary to prevent ongoing damage and accumulation of droppings. The tomb requires a door to seal it and prevent entry of bats and other animals, as well as floodwater and related debris. Additionally, removal of the bat droppings is necessary before any work can be undertaken in this tomb.



Overburden analysis of QV 41 showing the tomb is cut through at 2.3m at entrance (B) to 12.7m at the chamber (M) and below the bedrock.



Entrance of tomb with stacked rubble to prevent visitor access and glass panel from QV 44 in 2007. Door frame placed in entrance to secure plastic sheeting for bat removal testing by SCA n 2009; glass removed 2010.



Thomas and Hughes noted possible areas of surviving decoration on the east side of entrance doorway (B). It is unclear what they observed as nothing was visible of this decorative scheme during the current assessment.



General view of the corridor (C) and doorway (E) with vaulted ceiling. Localized area of rock loss and basal erosion of walls and doorway are present.



Walls of the tomb are well finished with a base plaster. There is relatively little post-fire loss on walls and ceiling indicating that tomb and surviving plaster is generally stable. Note large rocks on ground in corridor (F).



Areas of the tomb such as this doorway were constructed out of masonry and then plastered.



Post-fire loss in corridor (F) exposes areas of packing plaster and rock shards used to create a flat wall surface.



Rear chamber (M), with pit (P) to lower chamber (Q) and break in masonry wall on right leading to niche (O).



Constructed masonry wall of niche (O) (see also image below).



Detail of masonry wall of niche (O). This area requires stabilization to prevent further loss. Localized treatment of plaster may be needed in conjunction with this structural work.



Incised bird on west wall of doorway (E) is from an unknown date.



Rear chamber (M) was never plastered.



Bat droppings cover the floor of the tomb.



Bat deposits on upper walls and ceilings indicate significant bat activity in this tomb.



Mud wasp nests on inner doorway.



Bat on ceiling, 2008.



Corridor C: Fire damage rose upwards toward doorway (B), left. Looking from doorway (B) toward doorway (E), right. The lower part of walls of corridor (C) were protected from fire by debris.



View from corridor (C) of doorway (E) looking south. Niche (D) is on right.

Heavy fire-blackening can be seen on walls and ceilings throughout tomb.



Trash accumulation in entry, removed in 2007.

General Tomb Information		
Tomb number	QV 42	Location Southwest branch of the main wadi, on south slope
Other naming systems	Hay of Linplum – 1; Wilkinson – 16; Champollion – 8; Lepsius – 11; Brugsch - 4	
Owner/ Attribution	Pareherunemef	Minefer (?)
Owner Status	Prince (King's Son)	Queen (King's Mother / wife of Rameses III)
Dynasty/ Reign	20 th Dynasty / Rameses III	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
Description		
General Description	Multi-chambered tomb on central axis with long, descending corridor (C) leading into a large main pillared chamber (E) with four pillars and central sunken floor to receive sarcophagus. The ceiling has three barrel vaults on east-west axis, between the pillars. A southern central niche is present on south wall of the Chamber (E) and a side chamber (G) lies to the west.	
Decoration	An extensive amount of extant decoration adorns the tomb except in side chamber (G), where there is no plaster. Painted plaster with sunken relief technique.	
Iconography	Extensive imagery of King and Prince offering to various gods. No excerpts from the Book of the Dead on its walls, unlike the other Rameses III's sons' tombs. See Tomb Profile, Volume 1	
Objects and Current Contents		
Objects recovered	Anthropomorphic sarcophagus of a woman in pink granite, now in the Turin Museum (MT inv. n. suppl. 5435), with partial cover, possibly belonging to mother or wife of the prince (Porter and Moss 1964, 752). Fragments of <i>ushabti</i> of Queen Minefer in front of QV 45 together with some painted plaster fragments presumably from the tomb (Leblanc 2001-2, 216) and more <i>ushabti</i> of the queens were found by Schiaparelli.	
Removal or clearance of contents	Study materials cleared from QV 42 by CNRS and SCA in October 2008: basket of bones and potsherds. Plaster fragments with relief, some with linen facings, were collected, boxed, and stored in the tomb.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
20 th Dyn	Tomb construction	
Unknown	Reuse or pillage. Fragments of a granite sarcophagus found by Schiaparelli (housed in Turin museum) suggest the tomb was reused as the cartouche on the sarcophagus was erased.	Leblanc 1988, 133, n.7
1826	Recording and research by Hay of Linplum who records that tomb corridor (C) near the entrance (B) was filled with debris up close to ceiling at the entrance	Hay MSS 29821, 151 – Leblanc 1989a, Fig 11a
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
1829	Recording and research by Champollion	Leblanc 1989a, 25-38
1844	Recording and research by Lepsius	Leblanc 1989a, 25-38
1854	Recording and research by Brugsch	Leblanc 1989a, 25-38
1904 Feb – Mar	Re-discovery, survey, documentation, and installation of plaque by Schiaparelli and inclusion in tomb numbering system by Ballerini	Carter 1905, 120; Schiaparelli 1923, 121-123; Porter and Moss 1964, 752; Leblanc 1989a, 39

1927, 1964	Brief description, history, and plans by Porter and Moss	Porter and Moss 1927, 40 and 38 (plan); 1964, 752-53 and 750 (plan)
1966	Description, history, and plans by Thomas	Thomas 1966, 208-209, 219-221, 223-225; 215 (plans); plates 79A, 79B, 80A
1974	Measured drawings by IGN	CNRS
1977	Photographic documentation by CEDAE	CEDAE
1981	Survey by TMP	TMP
1987	Photographic documentation by CEDAE	CEDAE
1988	Survey and mapping by Laurent (CNRS)	CNRS
1988-90	Preliminary attempt to stabilize the rock and paintings was made in the burial chamber in 1988-90 by the Franco-Egyptian team.	Leblanc, pers. comm.
1989	Plaster fills and stabilization (?) by R. Bougrain-Dubourg and S. Deparis (CNRS)	Bougrain-Dubourg 1990, 40-43
1989, 1991	Testing with mortar injections, edging repairs, etc. undertaken and samples taken for identification of pigments, plaster stratigraphy, etc. by CNRS.	Leblanc, pers. comm.; CNRS mission report 1991-1992
1993	Geotechnical assessment by C. Messein and H. Halal (Cairo University)	Messein, Helal and Abdallah 1994, 478-480
1994	Damage by the flood	Leblanc, pers. comm.; Leblanc 1995, 212
1994	Walls at ramp were replaced after the flood by EAO and CNRS	Leblanc, pers. comm.
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008	Hydrologic and geologic preliminary assessments by GCI and consultants Hamza Assoc. and R. Wüst	GCI; Wüst 2008, 28-33
2008 Oct	Removal of study materials by CNRS and SCA	GCI, CNRS
2008	Tomb sealed with plastic sheeting to test method of removing bats by SCA Conservation Center	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2010 Feb-Mar	Wall painting stabilization by GCI-SCA	GCI

Documentation and References

Historic Photographs	-D'Amicone and González (2008) page 38 (Schiaparelli's photos); -CEDAE – 25126 – 25299 (March 1977); 28627-28685(1) (Nov. 1987); -Bruyère 1929-30, fig 131; Bruyère 1952, fig 1.	
References	-Brugsch 1862-1885, pl. lxiv; -Bruyère 1926, 157-159; 1952, 36-98; 1929-30; -Carter 1905; -Champollion, Maspero and Champollion Figeac 1844-1889, 395-6; -Grist 1985, 73-81; 1986, 133-145; -Hay of Linplum MSS 29821, 151; -Hassanein 1978, 44-5, 232-86, 357-61; -Hassanein and Nelson 1997, 91, n. 23; -Lepsius 1897-1913, 234-5;	-Leblanc 1988a, 133, n.7; 2001-2, 199-201; -Lecuyot 2000, 44; -Messein, Helal and Abdallah 1994, 478-480; -Porter and Moss 1964, 750, 752-3; -Siliotti and Leblanc 2002, 82; -Schiaparelli 1923-27, 121-123; -Thomas 1966, 208-209, 219-221, 223-225; 215; -Yoyotte 1958, 26; -Wüst 2008, 28-33.

QV 42 - Prince Pareheruenemef and Queen Minefer

General Description

This tomb is entered through ramp (A), which leads into long corridor (C) and into the pillared burial chamber (E) with central sunken floor and three barrel vaults running perpendicular to axis. A niche is present in the middle of the south wall of the chamber and a side chamber (G) is located to the west, off the burial chamber.

The tomb is cut into the southwest fork of the main Valley in an area of marl lying within the lower portion of Member I. As with the other tombs on the south side of the Valley, the marl is part of a large tilted geologic block, evidenced by the angle of the bedding planes visible in the tomb. Unlike many of the 19th dynasty tombs on the south side of the Valley, the rock is in relatively good condition and does not show damage from swelling pressure changes related to underlying layers of shale, except in a few localized areas.

The rock walls and ceilings of this tomb were cut relatively straight and flat. Only localized areas of rock voids and collapse contemporary with original construction required infill with stone shards and large amounts of plaster to create a flat surface for the painting. Generally two plaster layers were applied, the thickness depending on the quality of the underlying rock.

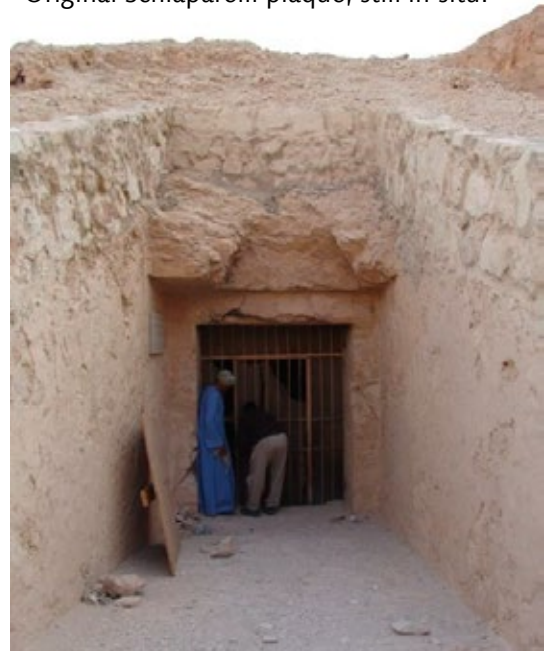
In a few areas, where the rock was in particularly poor condition, instead of using infill material walls were constructed with stone or mud brick in order to create a flat vertical surface. The east side of the north wall of funerary chamber (E) has been almost entirely constructed from mud brick. The painting technique differs in this area with no relief work and a slightly cruder painting style.

An extensive amount of sunken relief painted plaster survives throughout the tomb. Areas without decoration include side chamber (G), and the inner face of doorway (D), which were plastered but not painted, and the inner face of doorway (F), which have carved plaster that may never have been painted.

The tomb has been accessible since the time of Robert Hay of Linplum (1826) and is included in subsequent visitor records. According to E. Thomas, the tomb is the oldest of the 20th dynasty tombs and the last to appear in the Valley with pillars. It was probably usurped by Rameses III as a tomb for his son, though originally meant for a queen, as evidenced by a scene in the decoration and the sarcophagus found there by Schiaparelli. It is also suggested that Minefer was Pareherunemef's mother (Leblanc 2002001-2002, 199-200)



Original Schiaparelli plaque, still in situ.

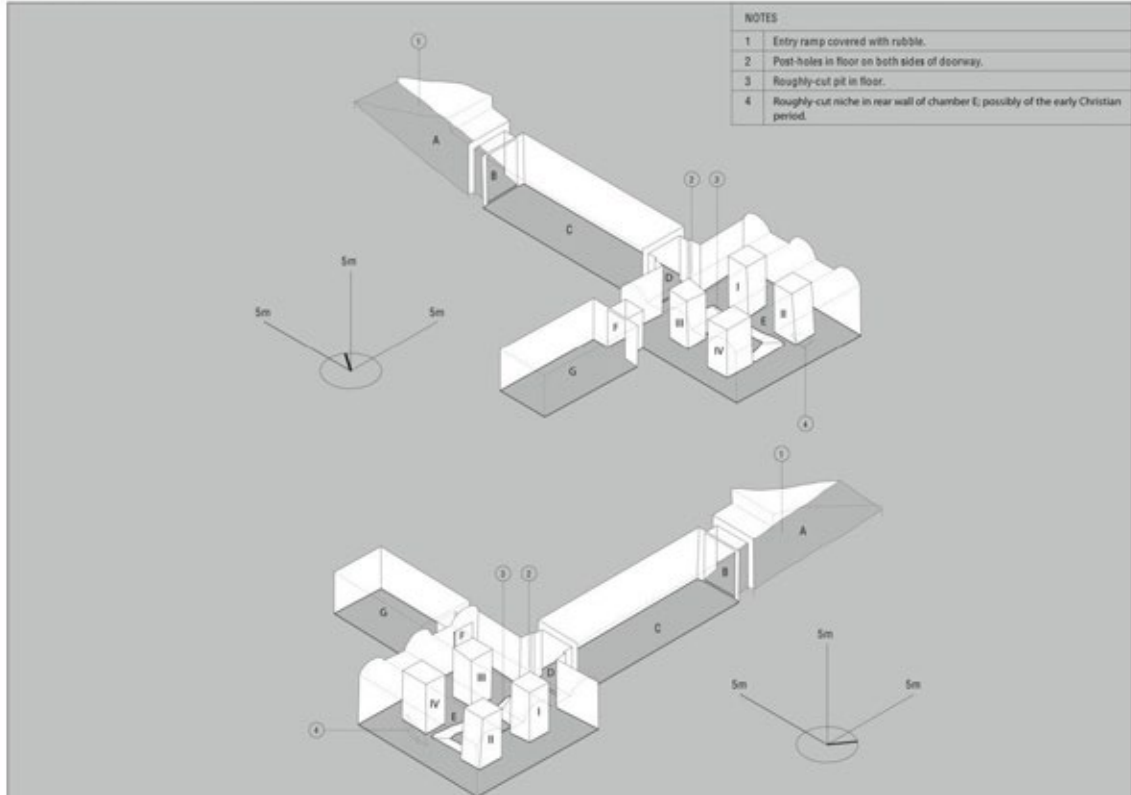


Ramp and entrance.

QV 42 - Minefer & Pareherunemef, Dyn. XX

Axonometrics 1:200

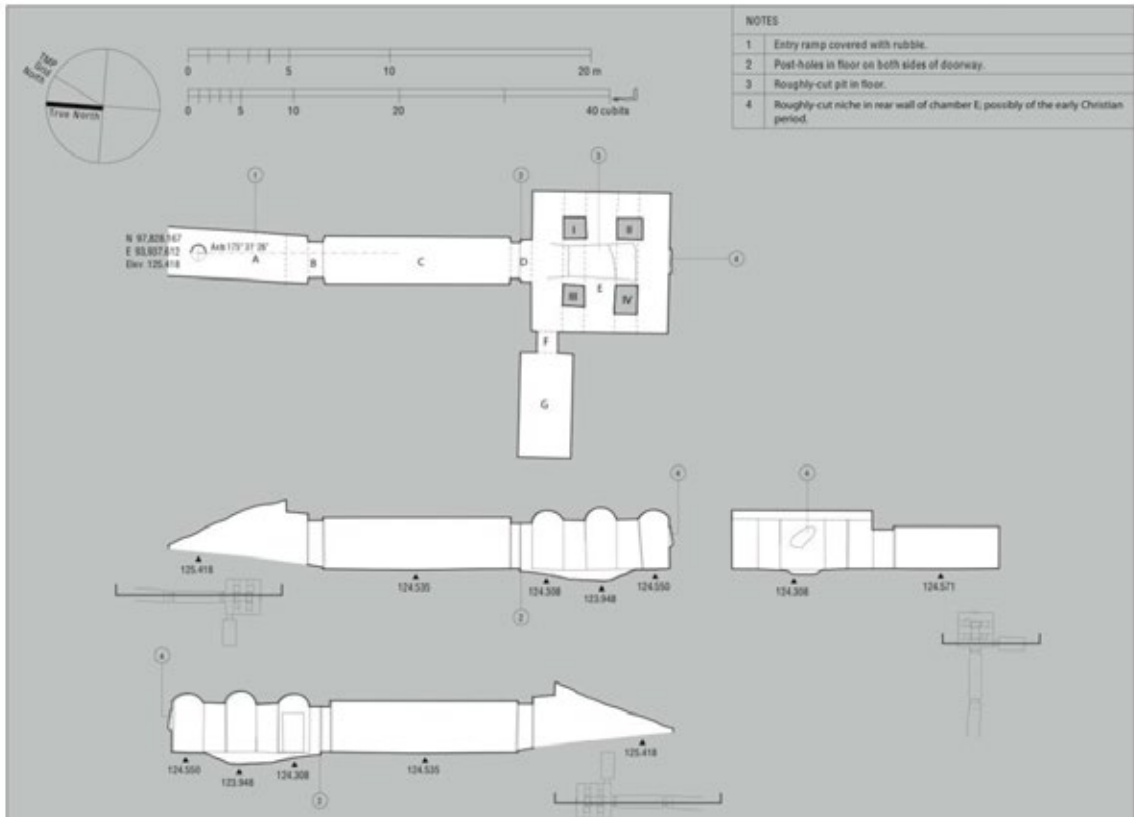
Surveyed May 2, 1981. Drawn November 19, 2007.



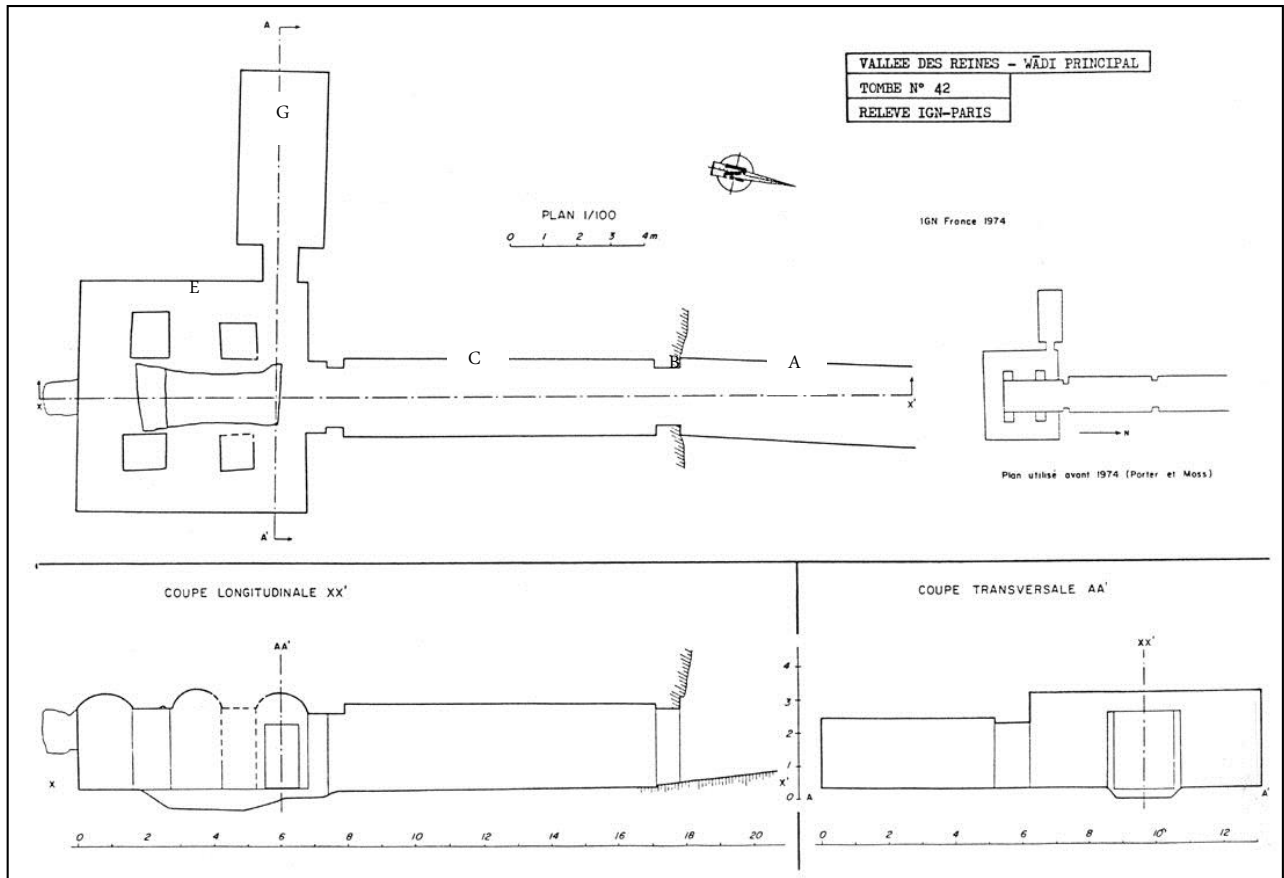
QV 42 - Minefer & Pareherunemef, Dyn. XX

Plan, sections 1:200

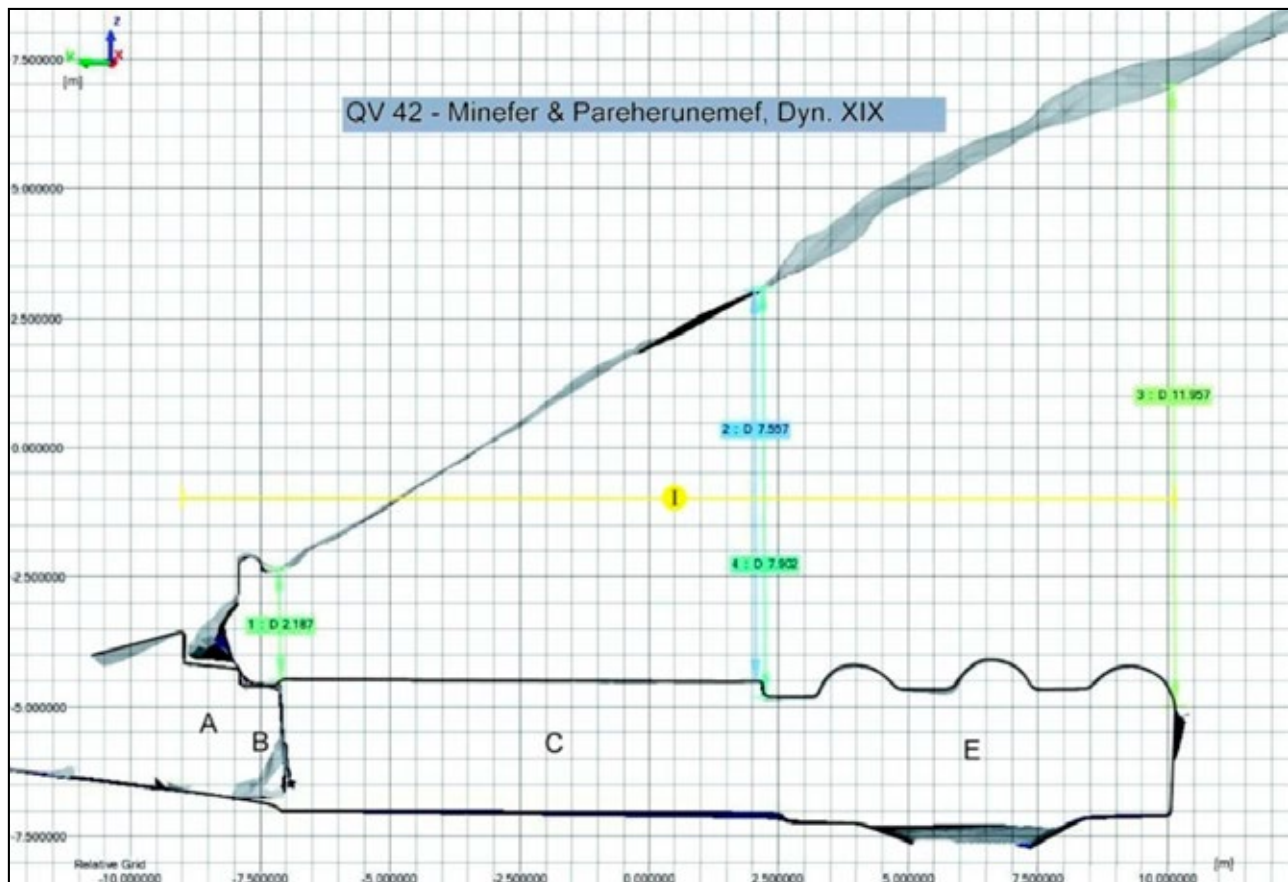
Surveyed May 2, 1981. Drawn September 9, 2007.



Drawings : Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawing : CNRS (chamber letters added).



Rock overburden section shows substantial rock mass over the entire tomb .

Thomas suggests that the different technique (which she wrongly calls "fresco") for the sole painted scene with the queen may have been due to a lack of time, although observation suggests this may instead be due to the reconstructed wall behind. Thomas also notes the presence of hieratic graffiti on the left wall of corridor (C) and suggests that the niche to the rear of the burial chamber was added later.

Currently, the tomb is not open to visitation and a metal grill door with failing wire mesh prevents access. In November 2008, plastic sheeting was attached over the door by the SCA to prevent bat and bird entry. Substantial evidence of bat activity exists in this tomb in the form of numerous dark stains on the paintings and white crystalline material on the ceiling and walls.

Condition

The two northern pillars (I and III) of burial chamber (E) have suffered substantial rock loss and associated decoration loss. Pillar III is in the most serious condition with numerous near vertical fractures in the central rock remains of the pillar. Rock loss continues up to the ceiling where post-fire loss is evident and detached fragments are at risk of falling. Pillar I also has significant loss, but the rock is not as fractured, suggesting less swelling and shrinking pressure in this area. Pillars II and IV are in better condition, though pillar IV has a long diagonal fissure that is causing separation of the northeast corner with a large area of painting.

The steeply dipping joints in the rock appear to have been a problem during the original excavation of the tomb, as there are many areas where infill masonry was used in construction of pillars, in particular the base of the north face of pillar III and pillar IV, and in tomb walls, especially the east side of the north wall of chamber (E).

Significant areas of rock loss, including (since 1977) of ancient mortar infill above doorway (D), an area of pillar III, as well as between the rear pillars and in the ceiling of burial chamber (E). There has also been partial collapse of original sections of masonry infill including on the south wall of the burial chamber, though this may have occurred in antiquity. The east side of the north wall of the burial chamber has a large diagonal crack. The plaster is in good condition, but the wall (which is constructed out of mud brick) is hollow behind and filled with debris.

There are both pre- and post-fire losses in the painted plaster. Most of the losses occur in areas where substantial infill material was used to fill voids and pockets in the rock. Post-fire losses of the paint layer can be seen on the south wall of the burial chamber including primarily on greens and blues, where areas of flaking are visible.

A CNRS mission report (1988-90) records the overall condition of the tomb, mentioning notably poor adhesion of original *mouna* fills and the soiling of the paint layer by dust, soot, brownish stains from bat excrement, and spotting. Also noted is the blackening of walls and ceiling in the first chamber of the tomb.

There is extensive blackening of upper walls and ceilings of corridor (C) which lessens toward the entrance. In general, the blackening is moderate in the rest of the tomb as the color and iconography of the paintings are still largely visible. There is peculiar fire damage in side chamber (G), quite different from deposits found elsewhere in the tomb, with a deep reddish-orange lustrous resinous deposit found only on the marl ceiling, and similar to that found in QV 43, chamber (K), and shaft tomb QV 78.

Large stains, possibly from bat activity, have darkened the painting in areas and white accretions from bat urine are concentrated on the ceiling of the burial chamber. Scratch marks, thought to be from animal activity, are found in the lower southwest corner. There are still traces of hundreds of insect nests throughout the tomb that were removed in the recent past.

A preliminary attempt to stabilize the rock and paintings was made in the burial chamber in 1988-90 by the Franco-Egyptian team. This consisted of rock infill with mortar (2/3 lime, 1/3 white cement as the binder) to support the unstable rock of one of the pillars and reattach one of the fragments. Further testing was carried out in 1989 and 1991 with lime caseinate injections, and edging repairs for wall painting stabilization, and cleaning using a dusting tool. Samples were taken as part of this conservation work for identification of pigments, plaster stratigraphy, mineralogical and petrographical characterization, and color alteration. Results of most of this work were not accessible by the assessment team.

The treatment was not comprehensive and it appears to never have been completed. The large mortar fills around the base of the walls were scored in preparation for a final finishing layer of plaster, but this was never carried out.

Evidence of other localized treatments is also visible, including hemp-like fibers dipped in adhesive and placed in a rock fracture in the remaining core of pillar III in an attempt to hold the two pieces together; grout holes and drip marks on the surface of the paintings, and a small cleaning test on the west wall of the burial chamber. Chalk marks are visible on the east side of barrel vaults in the funerary chamber associated with recent archaeological and/or conservation efforts.

Deterioration Factors

A geotechnical study undertaken in 1993 by the University of Cairo for the Franco-Egyptian mission determined that there were two primary causes of damage: mechanical stress of the rock, and one or more fires that damaged the pillars, walls, and ceiling. Despite the damage, it was determined that the tomb is not at risk of collapse. More recent geological and geotechnical assessments of the tomb have attributed areas of loss reconstructed during construction of the tomb to the steeply dipping joint planes of the rock. While this is a factor in the rock loss and instability of the pillars, they have further been damaged by rock swelling and shrinking resulting from flooding, and subsequent changes in lithostatic pressure. Leblanc has noted that during the 1994 flood water rushed into the tomb entrance from runoff (Leblanc 2009, pers. comm.).

Loss of decoration is due to localized areas of rock loss, such as on pillars and in the burial chamber ceiling, as well as to failure of infill material used to fill large voids in the rock. Fire damage might also have played a role in weakening the plaster in areas, eventually leading to collapse and loss.

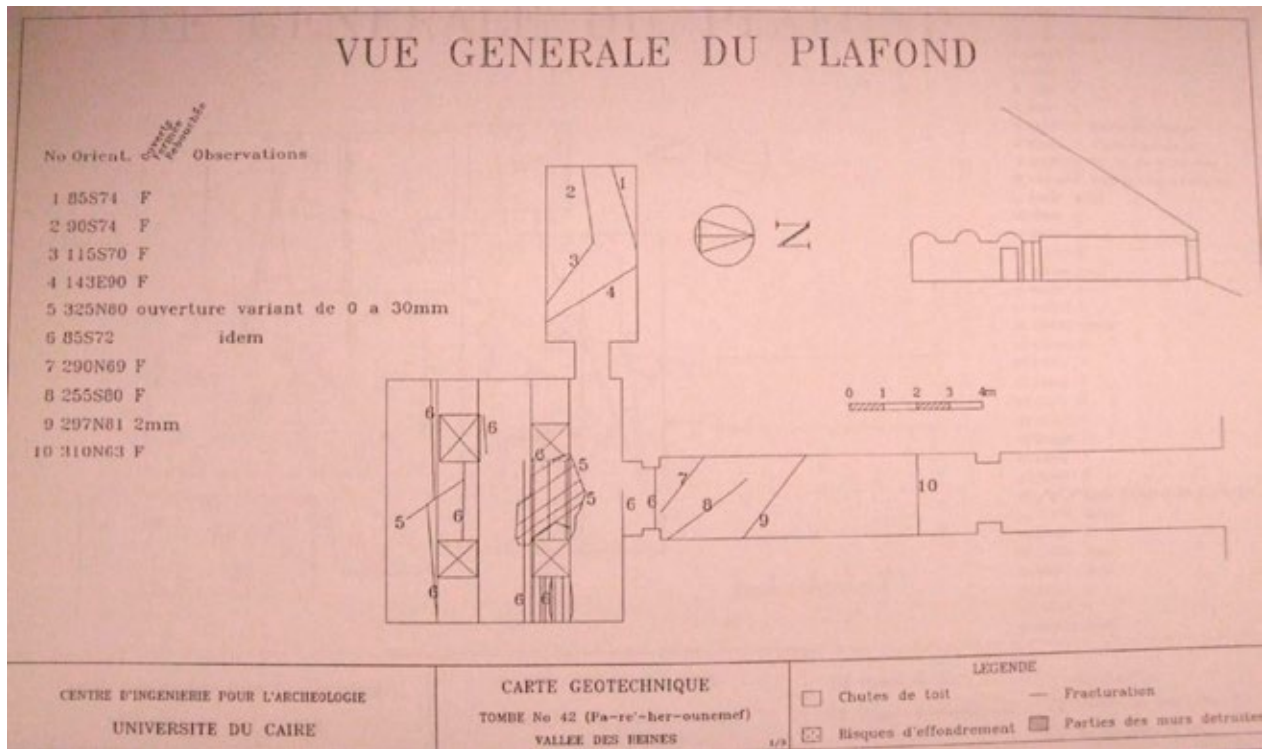
General Recommendations

Stabilization of the heavily fractured remains of pillar III and the ceiling rock above it is needed, as is the stabilization of pillar I. Areas of painting on pillars should be treated in conjunction with any structural stabilization work.

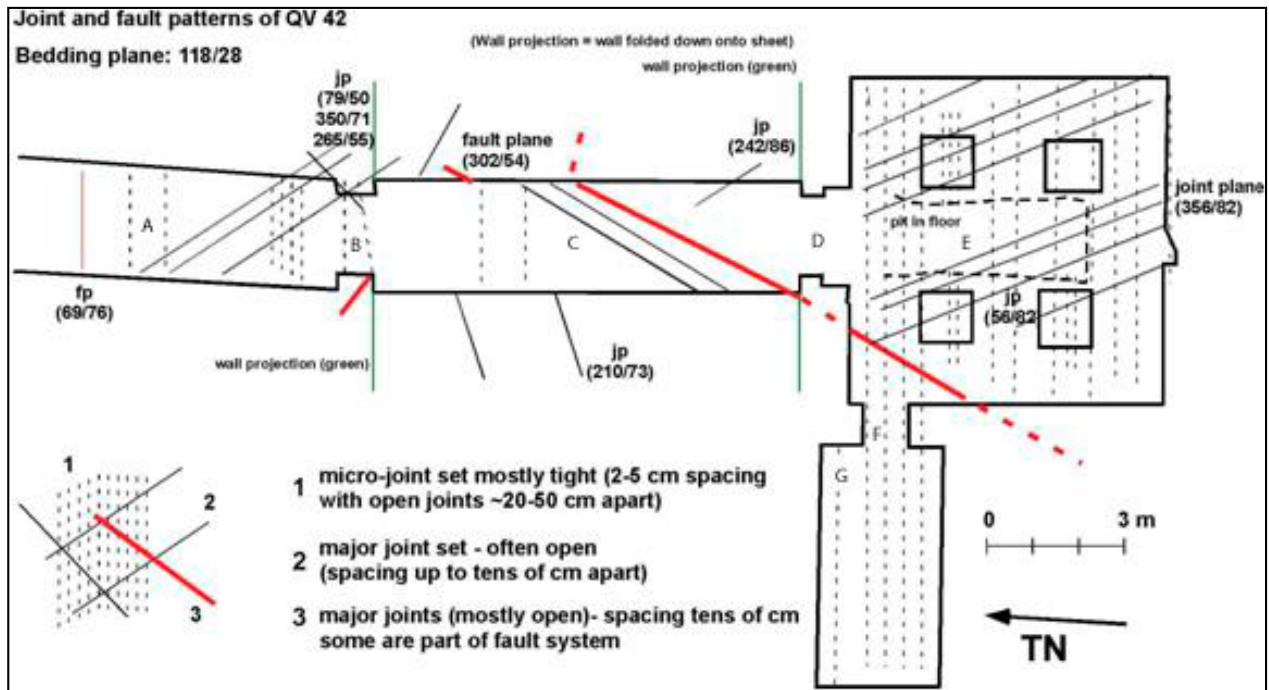
Only limited stabilization of fragile areas of plaster is required to prevent further loss. Most areas of painting have already been treated with edging repairs. Treatment required is generally localized and limited in scale, and was undertaken by GCI-SCA in 2010.

The door itself may be salvaged, but a new mesh or other barrier seal is required to replace the temporary plastic sheeting applied in 2008 in order to prevent entry of animals.

The entrance ramp requires an arched cover and a wall in front of the entrance to prevent future flooding.



Geotechnical analysis conducted in 1993 by University of Cairo. The principal area of concern is indicated as the ceiling rock between pillars I and III (CNRS).



Joint and fault patterns of QV 42 including selected structural measurements (Mapping: Wüst 2009).



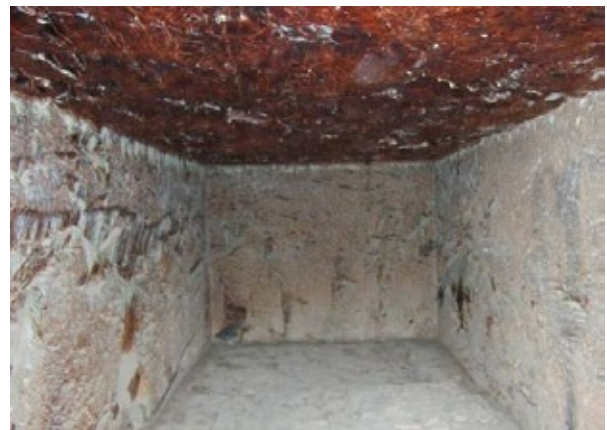
Interior view, looking towards entrance showing pre-fire loss of rock in pillar I (right) and in ceiling between the pillars.



Interior view, looking towards rear chamber (E).



Burial chamber (E) looking toward chamber (G) and showing barrel vaulting of ceiling. Note white deposits of bat urine on wall painting surfaces of the ceiling.



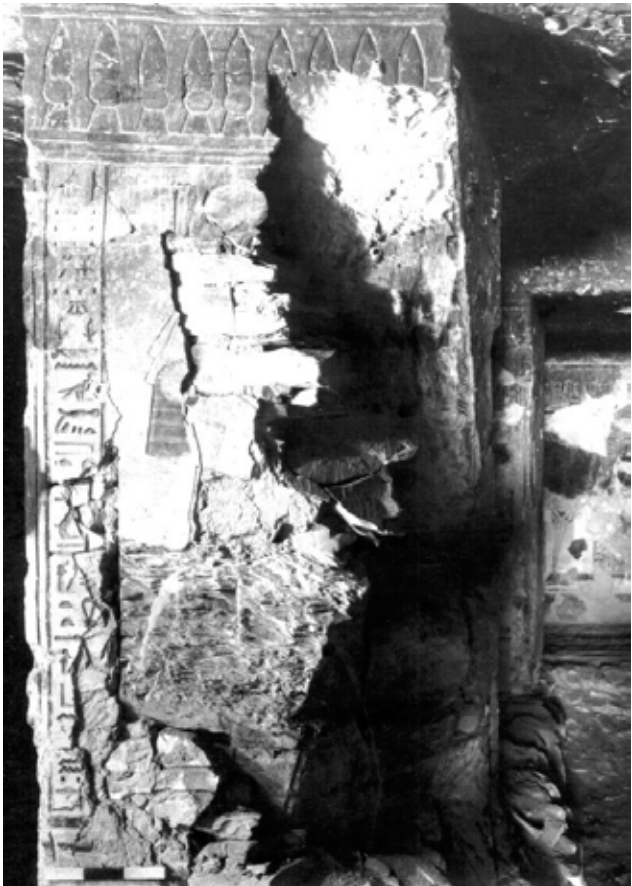
Side chamber (G) with resinous deposit on ceiling; substantial amounts of bat droppings and urine are present on ceiling and walls.



Post-fire rock loss in ceiling of chamber (E) above Pillar III.

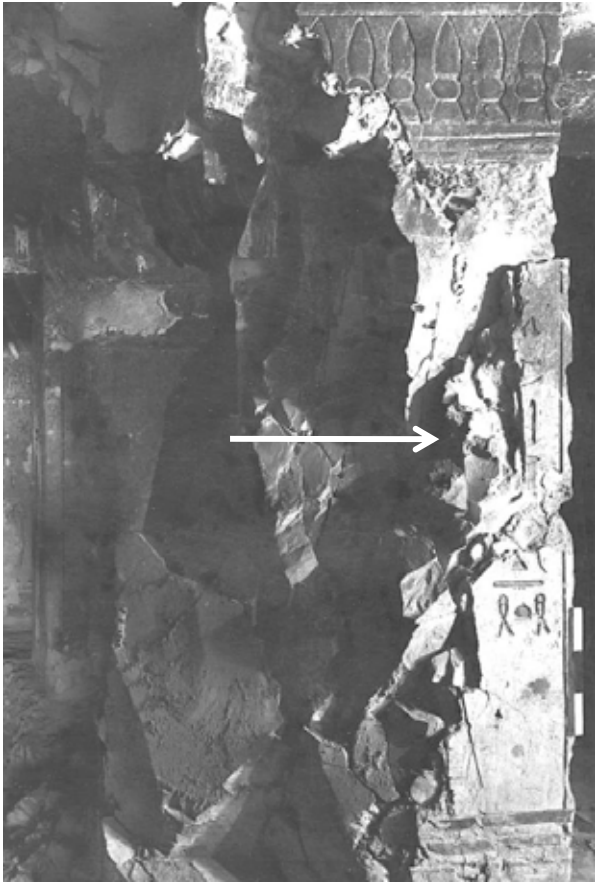


East side of north wall of burial chamber (E) that features depiction of the queen. Unlike most of the decoration in the tomb, this area is painted on a constructed masonry wall support. The painting differs in this area with no relief work and a slightly cruder painting style. Note large diagonal crack and losses of the painted plaster, already evident in the 1977 photo, left (Image: CEDAE).



Detail of area of loss on the north wall of burial chamber (E). A gap exists behind the wall plaster.

Large voids in the pillars were originally built out with stones to create a flat even surface. Some stone are still visible but most of the infill material has been lost in this 1977 photo (Image: CEDAE).



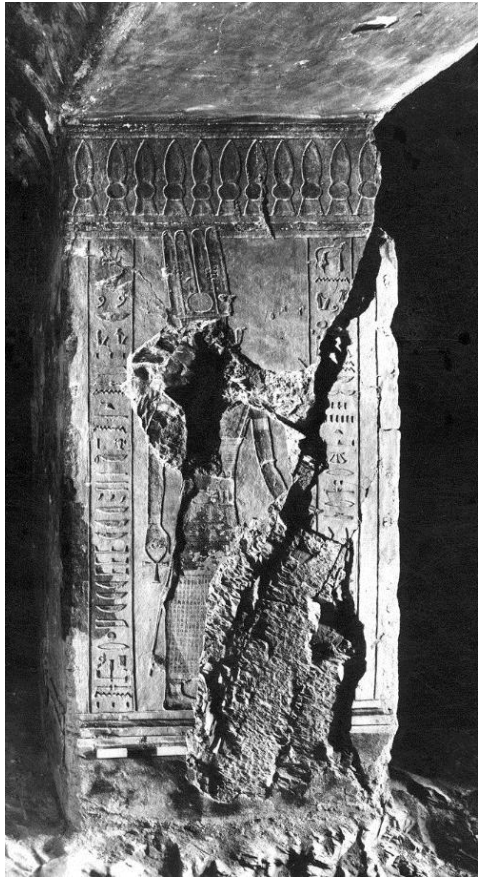
Losses of rock and painted plaster on pillar III in burial chamber (E) can be seen since 1977 photograph (left, Image: CEDAE).



Fractured remains of pillar III in burial chamber (E) with recently reconstructed base of the south face, and post-fire loss on upper right side.



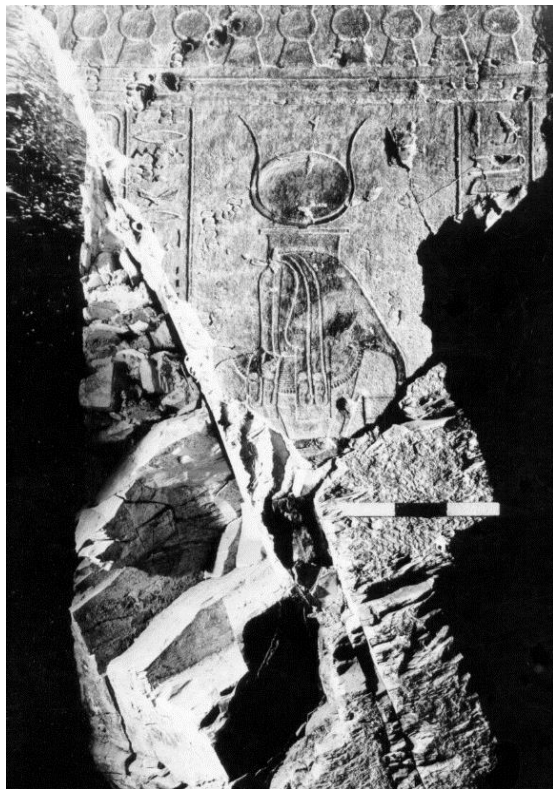
East face of pillar III showing post-fire loss and almost vertical fractures in the remaining rock.



West face of pillar IV in burial chamber (E) in 1977 photo (Image: CEDAE).



West face of pillar IV showing recent (likely 1989-91) edging repairs of wall paintings, but no change in rock fracture since 1977.



West face of pillar I in burial chamber (E) in 1977 photo (Image: CEDAE).



West face of pillar I showing mostly post-fire rock loss and recent (likely 1989-91) edging repairs, but little loss since 1977.



View of doorway (D) into burial chamber (E); jamb loss and repair, and loss of original mortar repair and painted surface since 1977 are visible in foreground; the sunken floor of the burial chamber is in the background.



Note the intact lintel of doorway (D) in 1977 CEDAE photograph.



Losses of area of painted plaster since 1977 photograph (right, Image: CEDAE) in burial chamber on north wall, west side.



The tomb contained fallen painted fragments on the ground; these were collected and stored in the tomb for their protection in October 2008.



Possible intentional damage of figures can be seen in the burial chamber (E).



Flaking of the black paint of the headdress.



Scratch marks in burial chamber (E) are thought to be caused by bats, birds or other animal activity.



Large dark splotches are attributed to bat activity.



Side walls of entrance ramp (A) retain some original plastering.



Area of decoration survives on the overhang above doorway (B).



Area of decoration survives on the exterior and jamb of doorway (B).



Blackening from fire is worse higher up the walls and on the ceiling of corridor (C). Lower walls have escaped the damage, indicating that the tomb was largely filled with debris at time of fire.



Heat alteration of pigments from yellow to red is also visible.



An early attempt in modern times at rock stabilization of pillar using gauze and adhesives.



Corridor (C) looking south. Note line of blackening that rises up toward exterior door. Plaster loss on rear part of ceiling (arrows) occurred after Schiaparelli's mission, while loss near front of corridor (in foreground) was already present, based on photographic evidence (see D'Amicone and González 2008, fig 14).



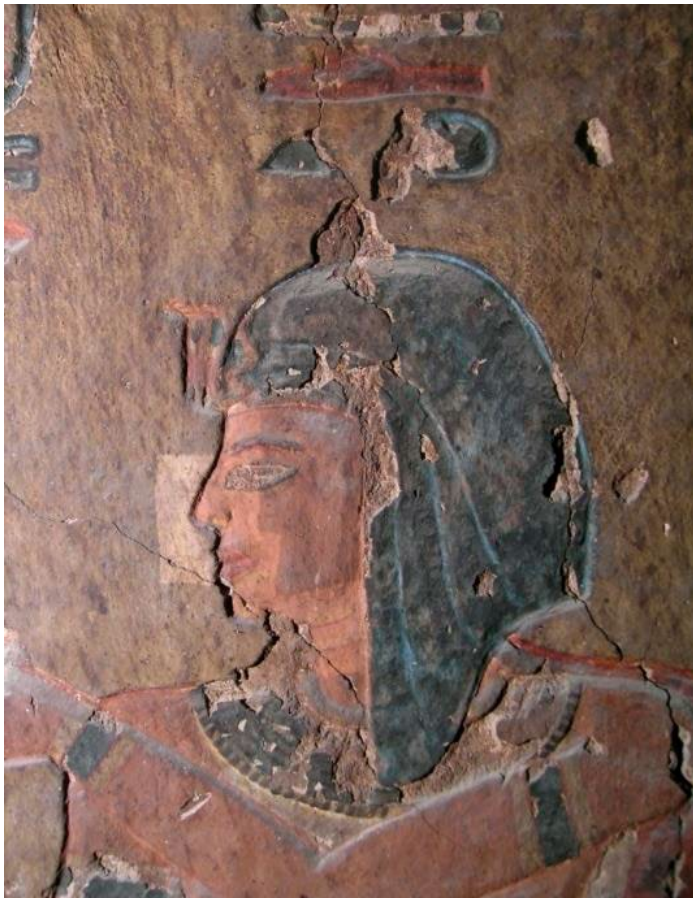
Edging repairs stand out starkly against the heavily blackened ceiling of the corridor. Note that this loss in the plaster is post fire.



Post-fire loss of ceiling rock in barrel arch that appears more recent.



Removal of the insect nest in recent past (likely 1990s) reveals the original blue color of the headdress, now obscured by blackening from fire.



Cleaning test (1990s?) on face of figure on west wall of burial chamber.

TOMB INVENTORY

QV 43

General Tomb Information		
Tomb number	QV 43	Location Southwest branch of the main wadi, southwest slope
Other naming systems	None	
Owner/ Attribution	Sethherkhepshef	
Owner Status	Prince of Rameses III (King's First Son)	
Dynasty/ Reign	20 th Dynasty / Rameses III	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
Description		
General Description	Multi-chambered tomb with two successive corridors (C, E), divided by a doorway (D). The second corridor (E) opens into a chamber (G), with a lateral chamber (K) to the south and a rear chamber (I) to the west. A shallow pit in south corner of chamber (K), leads to a small opening (L). Intensive reuse of tomb for burial in the Third Intermediate Period.	
Decoration	The decoration is painted plaster with carved relief and incised relief in corridor (C) that is heavily blackened.	
Iconography	Book of the Dead; Chapter 145-146 (guardians represented in the burial chamber (G) derived from these chapters) Iconography has a great similarity with QV 42 and 44, and to a lesser extent QV 55 (Grist 1986, 147-50).	
Objects and Current Contents		
Objects recovered	Limestone ostrakon with a likeness of the prince and the text "the son of the king, sired by him, his beloved, Seth Her Khepshef" (Sup. 5637, Turin Museum; for the image see Leblanc 2001 RdE52); wooden sarcophagi, mummies and fragmentary funerary equipment from late 22 nd -26 th Dynasties. The number of sarcophagi discovered in the tomb by Schiaparelli is not clear, likely due to its discovery ten days after QV 44, both of which were filled with jumbled coffins and mummies from the late 22 nd -26 th Dynasties. Leblanc indicates 26 complete or fragmentary sarcophagi from QV 43 and 44 acquired by the Turin Museum through partage (Leblanc 1989a, 76, n. 169 and 77, n. 184); and at least 200 mummies found in disarray in these tombs (Leblanc and Siliotti, 2002, 72).	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
20 th Dyn.	Tomb construction	
Late 22 nd -26 th Dyn.	Reuse of tomb for non-elite family burials who were associated with the temple of Amon (eg. Temple gardeners) – several generations of the same families were buried in the late 22 nd -26 th Dynasties, which suggests tomb was left open.	Hassanein 1991, 64; Lecuyot 2000, 51; Lecuyot 2000, 51; Thomas 1966, 221
1903 Feb	Discovered by Schiaparelli and Ballerini	Schiaparelli 1923; Leblanc 1989a, 43
1904-05	Iron door and Schiaparelli plaque installed	Carter 1905, 120
1964	Research documentation, brief history and description by Porter and Moss	Porter and Moss 1964, 753-754, 750 (plan)

1966	Research and documentation by Thomas	
1974	Measured drawing by IGN	CNRS
1977 Mar	Photographic documentation by CEDAE	Leblanc, 1989a
Unknown, after 1977	Extensive wall painting treatment	In situ inspection and CEDAE photos showing no treatment in 1977
1981	Survey by TMP	TMP
1985	Abrasive cleaning of wall paintings	Leblanc, pers. comm.
1988	Survey and mapping by Laurent (CNRS)	CNRS
1993	Open to visitors	SCA site staff, pers. comm.
1994	Damage by flood, water was 50cm deep	Leblanc 1995, 212
1994	Walls at ramp replaced after the flood	Leblanc, pers. comm.
c. 2000	Closed to visitors	SCA site staff, pers. comm.
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2009	Treatment of area of plaster collapse from ceiling of chamber (G) including Primal™ injections and plaster edging repairs. Undertaken by SCA.	SCA conservator notes and on-site inspection
2009 Nov	Tomb temporarily opened to visitors during closure of QV 55 for conservation work by SCA	On-site inspection
2012	SCA opened tomb to visitors, installing wooden walkways and lighting	On-site inspection
Documentation and References		
Historic Photographs	-Schiaparelli (1923-27), pp. 124-132 fig. 90, 93 -CEDAE – 25302-25316, 26115-26233 (March 1977) [Note CEDAE images that show the tomb <i>before</i> treatment]; -Bruyère (1952) fig 2; (1930), fig 71; Pillet (1930), fig 85	
References	-Ballerini 1903, 19-31; -Carter 1905, 120; -Curto 1953, 47; -Bruyère 1925, 159; 1930, 137, 142, 144, 263-264; 1952, 33, 38; -Grist 1985, 73, 77-78; 1986, 145-152; -Hassanein 1991; -Leblanc 1989a; 1995; 2001-2, 197-198;	-Lecuyot 2000, 51; -Pijoán 1945, iii, fig 447; -Porter and Moss 1964, 750, 753-4; -Thomas 1966, 208-9, 215, 219-225; -Schiaparelli 1923-27, 115-20, 124-42; -Siliotti and Leblanc 2002; -Yoyotte 1958, 26.

QV 43 - Prince Sethherkhepshef

General Description

This tomb is accessed by ramp (A) that leads into two successive corridors (C) and (E), separated by doorway (D). Chamber (G) lies on axis and opens to rear chamber (I) and southeast side chamber (K). A shallow pit in the south corner of chamber (K) leads to a small opening into the rock, perhaps the beginnings of a tunnel, denoted by (L).

As with the other tombs on the south side of the Valley, the marl into which this tomb is cut is part of a large tilted geologic block, the orientation of which can be determined from the diagonal chert layers and perpendicular open joints evident in CEDAE images taken in 1977, prior to repairs. Unlike the majority of tombs along this branch, the tomb is cut on a roughly east-west axis, largely perpendicular to the axes of preceding tombs.

Extensive sunken relief painting survives on the walls in corridors and chambers except for chamber (K) which is undecorated. The decoration at the rear end of the second corridor (E), in chamber (G) and in rear chamber (I) are unfinished; the reliefs are roughly executed and not painted, though this is difficult to fully assess because of the level of fire blackening and aggressive cleaning that has been undertaken. The walls are generally flat and straight in the corridors though a few large areas of loss suggest that substantial infill material was necessary to fill voids in the rock. This is difficult to evaluate because of the large modern repair plasters that have been carried out throughout the tomb. The walls and ceiling in the rear chambers are more uneven but have excellent survival of plaster. Walls were either packed with masonry fill in preparation for decoration (as in corridor (C)) or simply plastered and painted over, as in chamber (G), where a large concave area of the ceiling was left. Generally, there are two-layers of plastering including a lower coarse layer and an upper fine layer.

This tomb was rediscovered by the Italian mission in February 1903, ten days after the discovery of adjacent QV 44. E. Thomas noted complete blackening of the tomb, general loss of plaster relief on the lower portions of walls, and presence of wasps' nests on the upper parts of walls. She suggests the hole in side chamber (K) and beginnings of tunnel (L) were the "work of a treasure seeker" (1966, 220). E. Schiaparelli indicated that the tomb was likely accessible in the 22nd-26th Dynasties, given the large number of sarcophagi, mummies, and related artifacts found therein. The lack of an original sarcophagus caused him to question whether the tomb was originally used, though the sarcophagus may have been removed. C. Leblanc also believes that the tomb was never occupied and that the addition of side niche (K) is a possible sign of reuse. Additionally, F. Ballerini noted that hyenas may have ravaged the tomb and that the walls were blackened by fire.

The tomb has been periodically opened to visitation from approximately 1993 to 2000, in November 2009, and again in 2012 when walkways and lights were installed. The tomb has a modern steel door with ventilation holes on the sides.



Approach to ramp (A) and entrance doorway (B) with modern masonry wall.

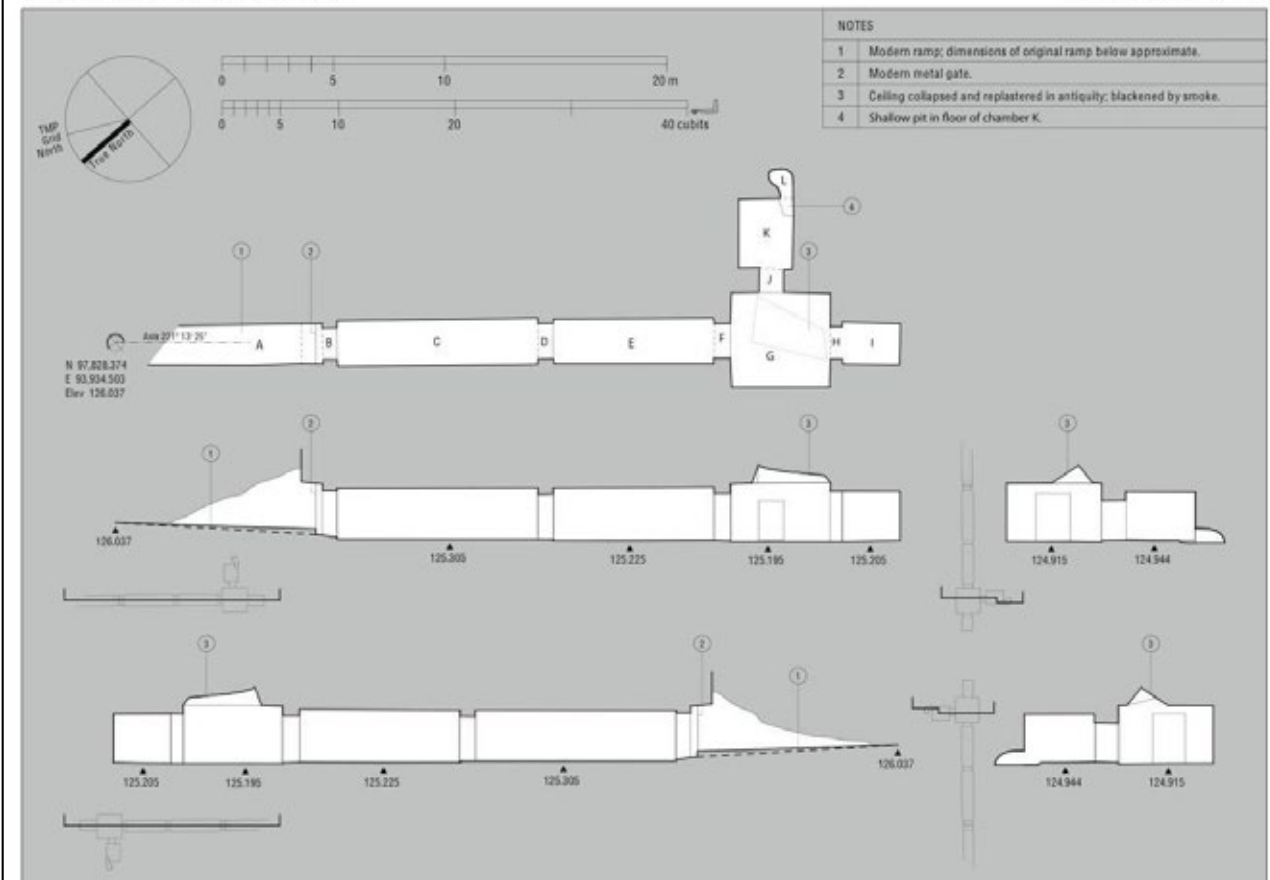


Italian-mission plaque in situ at entrance.

QV 43 - Sethherkhepshef, Dyn. XX

Plan, sections 1:200

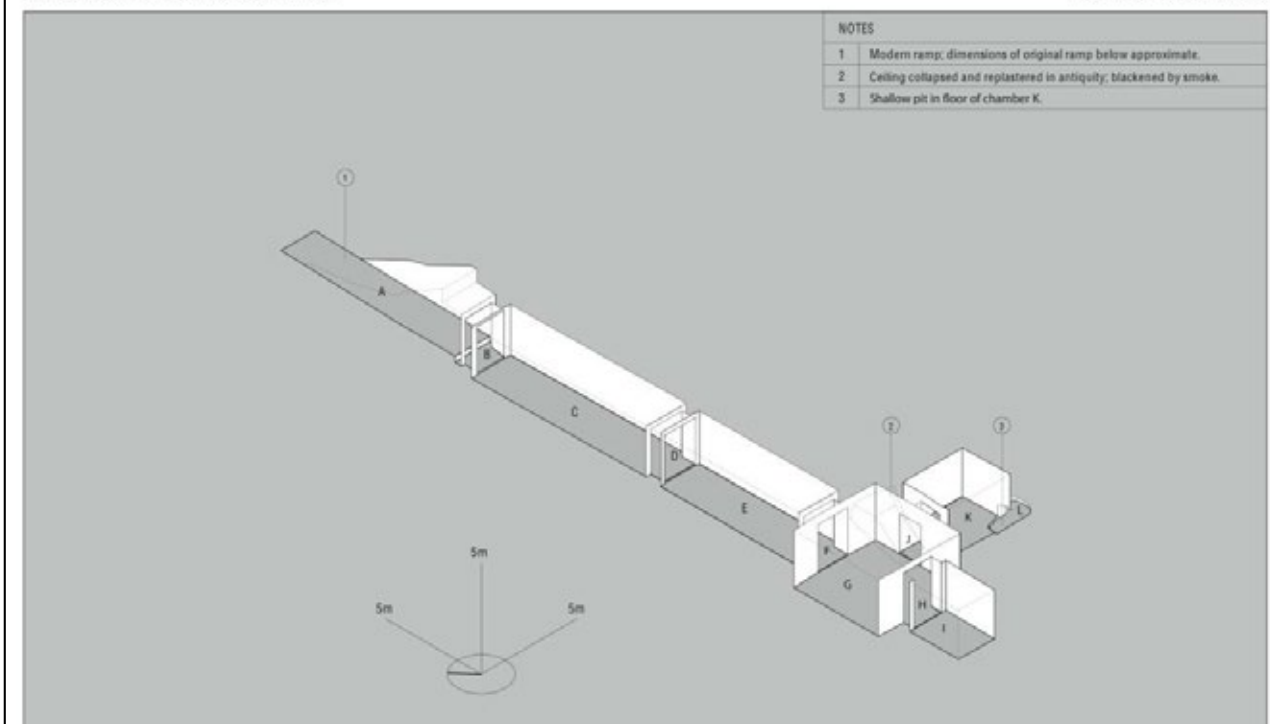
Surveyed May 5, 1981. Drawn September 9, 2007.



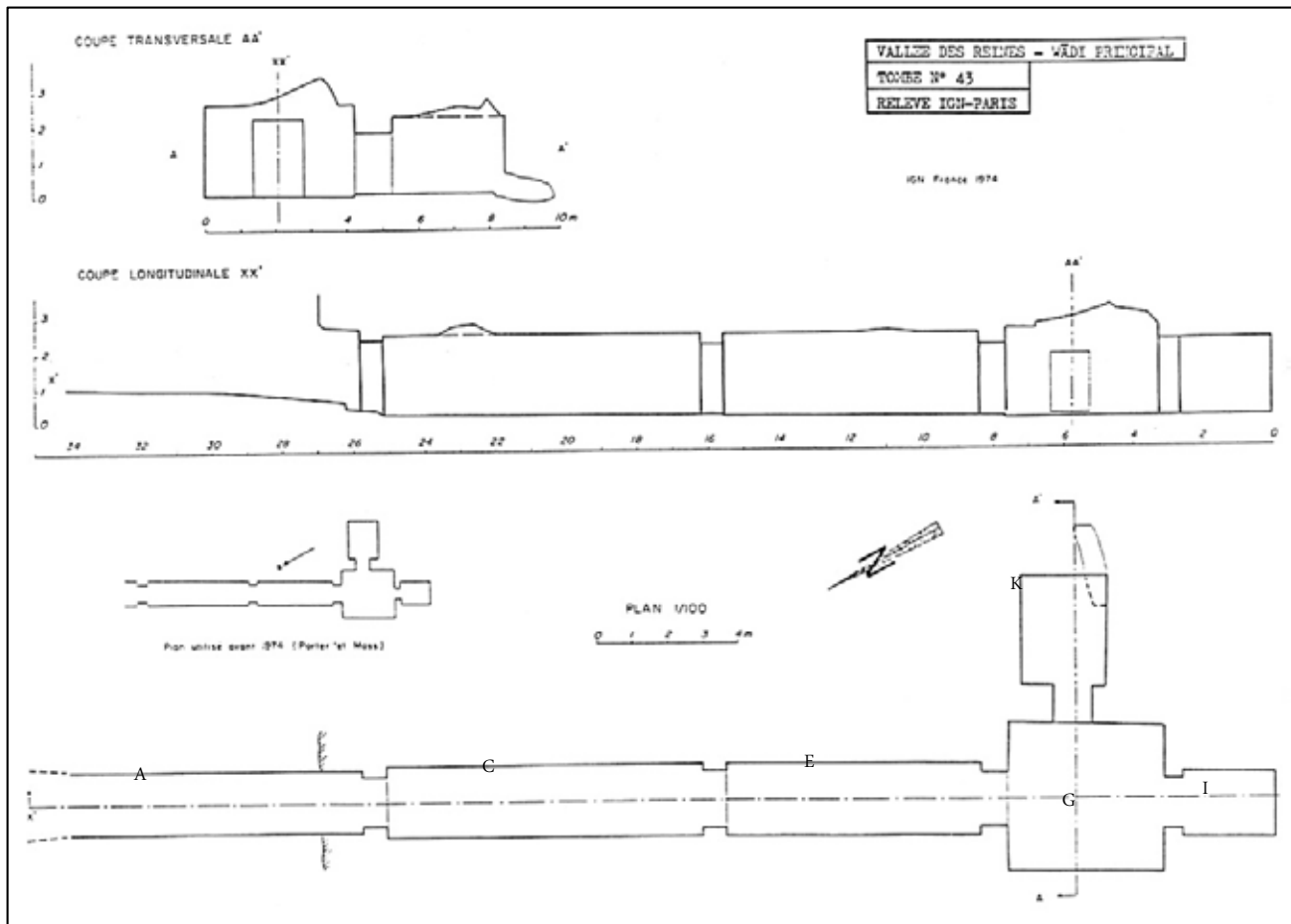
QV 43 - Sethherkhepshef, Dyn. XX

Axonometric 1:200

Surveyed May 5, 1981. Drawn October 14, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawing: CNRS (chamber letters added)

Condition

The rock appears to be in relatively good condition, though it is hidden by widespread plaster infilling. 1977 CEDAE photographs show the tomb prior to treatment with localized areas of rock loss, the most substantial of which are in the ceiling and walls of corridor (C), and one area on the left wall of corridor (E), and a small area of plaster loss in the ceiling of rear chamber (G). In side chamber (K) no plaster is present revealing rock in good condition with no recent loss, but covered with a glossy brown deposit, as also noted in QV 42 and 78. Exposed marl of ramp walls is comparatively heavily weathered, but stable, with no evidence of recent loss.

Overall survival of decoration and plaster is good, though there is complete loss of painting at the base of the walls throughout the tomb (with only the upper two thirds surviving), and a few large losses on ceiling and walls of the two corridors. Decoration is uniformly lost along the lower third of walls (approximately 0.5m high) in all chambers and along a diagonal slope in corridor (C), indicating most likely the level of debris or sediment fill that may have been associated with past flooding. These areas are now filled with repair plaster (done sometime after 1977), which forms a very regular horizontal line along the bottom edge in the second corridor and main chamber, suggesting that the irregular original plaster may have been cut off during treatment. The repairs have remained mostly unchanged, though there are localized areas of cracking that may indicate changes in the underlying rock.

There is also cracking in the historic plaster in chamber (G) especially around the west doorway and ceiling, with an extensive network of fine cracking and possible plaster detachment in areas. A small area of the ceiling plaster of chamber (G) collapsed in 2009.

There is evidence of past flaking on the black wigs of figures on the north wall of the first corridor and on areas of greens and blues. Generally, the thick paint layers of these colors are especially vulnerable to loss. These areas appear to have been previously treated.

The tomb has been subjected to severe and extensive fire damage, resulting in heavy, glossy blackening of all surfaces. Chamber (K) is the only chamber that is not blackened and instead has an unusual reddish-brown lustrous appearance of the rock surface. The pattern of blackening on the walls in the first corridor (C) indicates that the fire rose toward the tomb entrance. The bases of walls are not blackened and were likely protected by sand banking or debris. A small area of unblackened painting also survives on the exterior face of the entrance doorway (B) which is now obscured by the modern door frame. Other areas of the tomb exhibit heavy blackening, which takes the appearance of a brown deposit with a lustre and gloss.

The paintings throughout the tomb have been heavily treated in the recent past (after 1977) including selectively and destructively cleaned. The methods of cleaning differ from area to area possibly indicating either a different approach or that the paintings had different levels of blackening. In the first corridor they have been abrasively cleaned with the figures and the hieroglyphs left less cleaned than the background. In the second corridor it looks as though the removed surface material was then used as "paint" to even out the background. Drip marks of this material can be seen on the painting and onto plaster repairs. In the rear chamber, backgrounds have been thoroughly cleaned, leaving only blackened figures. The ceiling of the second corridor has been whitewashed in a sloppy fashion as part of this treatment. This white wash, presumably to make the paintings look cleaner and more uniform, is also visible going over plaster repairs. Also, as part of the cleaning, insect nests were removed causing additional loss of the paint layer below. Large repair plasters were applied to all areas of loss (exact date unknown). Injection holes and drips from what looks like a surface consolidation treatment are visible on areas of the painting and on the repair plaster throughout the tomb. No date or documentation exists of these interventions.

Deterioration Factors

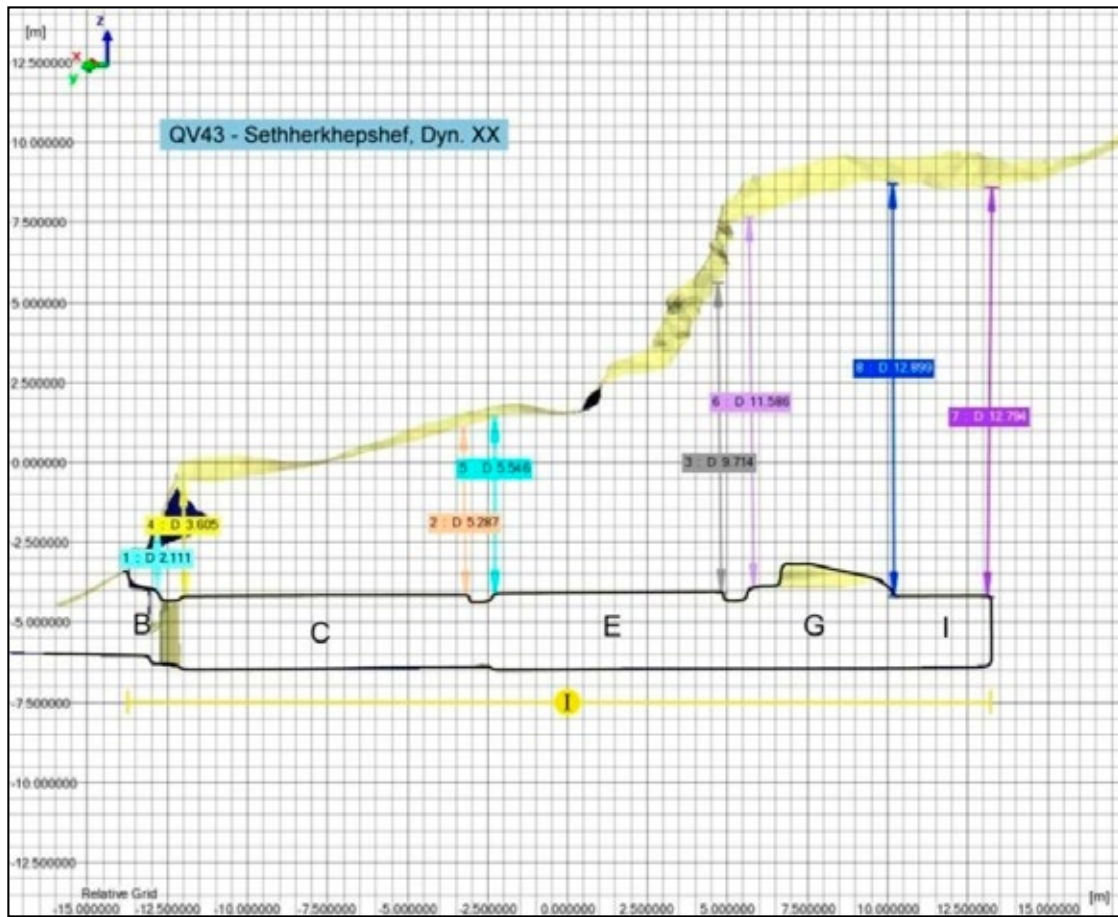
The relatively late discovery of this tomb by Schiaparelli has no doubt contributed to its preservation. However, past flooding events, likely including since the discovery, have contributed to widespread loss of decoration at the base of walls. Leblanc has noted that water rushed into the tomb in 1994 (Leblanc 1995, 212, and pers. comm. 2009).

Fire also has been a cause of plaster deterioration with heavy blackening and possible heat alteration of the paint layer and plaster. Large losses in the first two corridors can be attributed to the collapse of substantial areas of infill plaster, possibly lost as a result of both fire and flooding, as seen in the ceiling of corridor (C). The cracking and detachment of plaster on the ceiling of chamber (G) might also be related to past exposure to fire. Subsequent cleaning treatments have also caused further extensive damage.

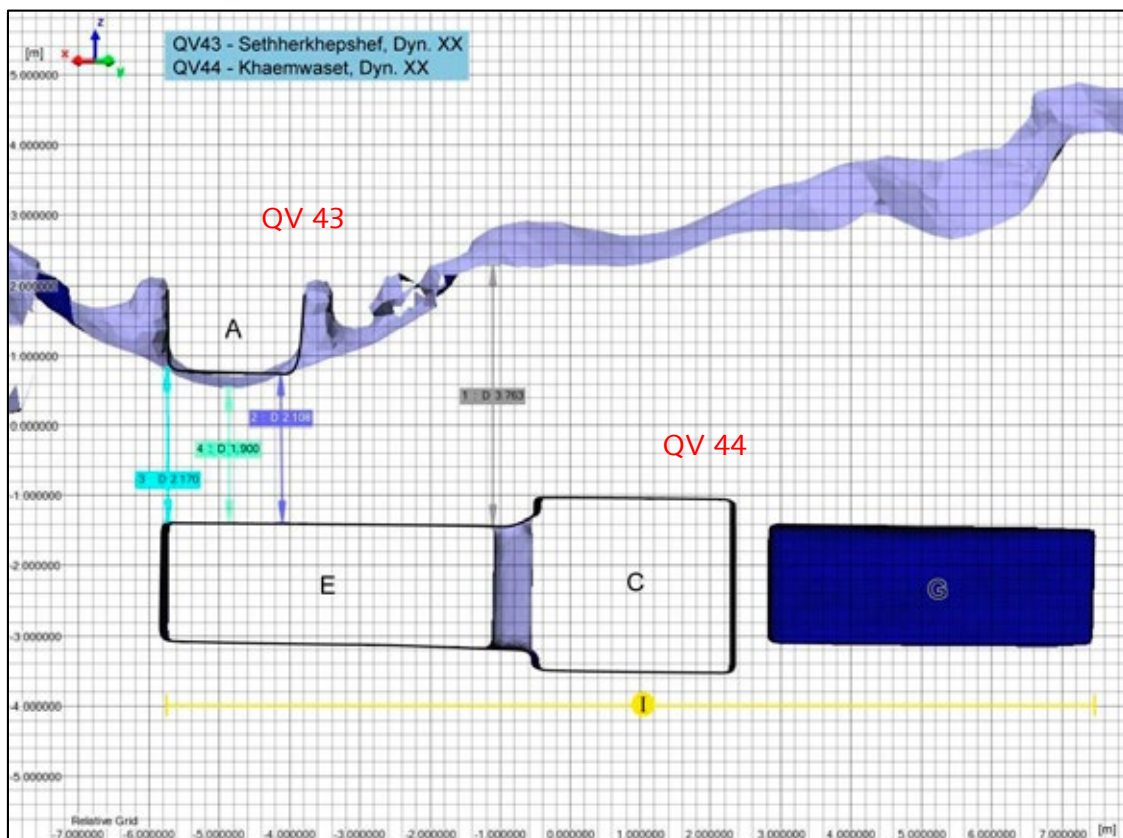
General Recommendations

The entry ramp (A) requires a masonry arched cover constructed over existing retaining walls to protect the tomb from upslope floodwater and debris. Some cracking in original plasterwork where there is likely also plaster detachment requires monitoring, especially around doorways and on ceiling of chambers (I) and (G).

Paintings have been severely compromised from aggressive cleaning. However, the blackened appearance of these paintings and the reopening of the tomb to visitors in 2009 has led to renewed interest in their cleaning. There is a lack of awareness of the previous attempts at soot removal in this tomb, the destructive results of these actions and the fact that the rear of the tomb was never painted. Further attempts at cleaning should not be attempted.



Overburden section of QV 43 showing rock thickness ranges from 2.1m at entrance (B) to 12.8m at rear chamber (I). Tomb has little inclination as is typical in 20th Dynasty tombs.



The ramp of QV 43 overlaps chamber (E) of QV 44.



General views of tomb interior, looking southwest. Lighting on ground has not yet been installed in the 2006 photo on left. Extensive interventions have been undertaken in corridors (C), (E) and chamber (I). The loss at the base of the walls is possibly from previous flood damage. These areas are now filled with repair plaster which forms a very regular horizontal line along the bottom edge in the second corridor and main chamber, suggesting that the irregular original plaster may have been cut off during treatment with repair plaster.



Small area of rock loss in doorway (F) (Image: CEDAE 1977).



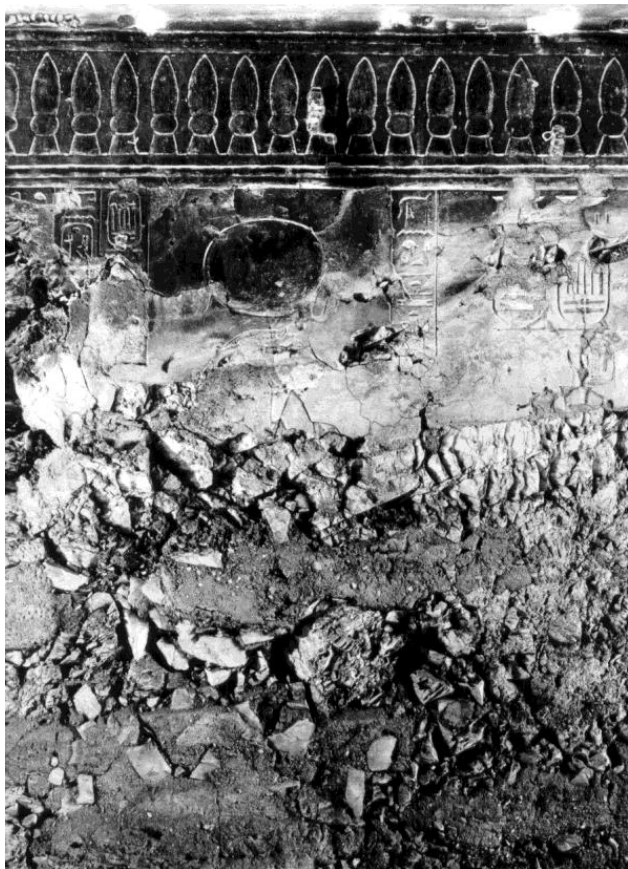
Left: East jamb of doorway (F) before treatment (Image: CEDAE 1977). Right: same area after treatment (Image: CEDAE 2009)



1977 photograph of corridor (C) shows the tomb before any treatment (Image: CEDAE). Note large voids in rock on ceiling and walls. Note also line of blackening that rises up toward the entrance of the tomb.



Corridor (C) after treatment (post-1977). All large losses in ceiling and walls have been filled with plaster.



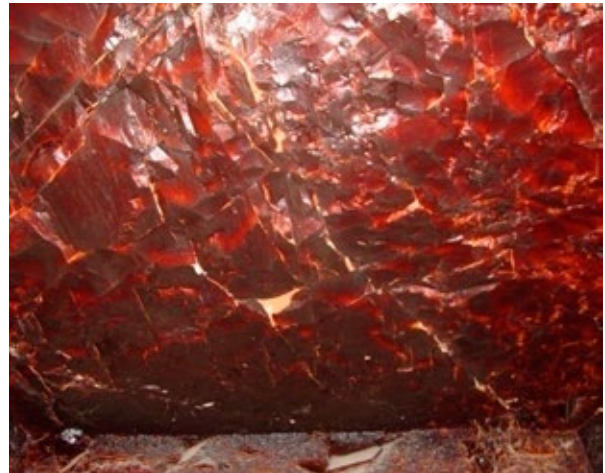
Substantial infill material was needed to pack out walls to provide a flat surface for the decoration as shown in this 1977 photograph from the north wall of corridor (C) (Image: CEDAE).



Repair plaster was applied to all areas of rock loss. The exact date of this work is unknown (Image: CEDAE 2009).



There are cracks visible in the substantial plaster repairs. As they conceal the condition of the underlying rock support these areas should be monitored to assess whether there are ongoing problems.



The rock surface of chamber (K) has an unusual reddish-brown lustrous deposit, similar to that found in QV 42 and 78.



There is a small area of painting that escaped the blackening at the entrance of the tomb.



Note shiny surface of blackened decoration in chamber (E).



Only the backgrounds were selectively cleaned in the second corridor (E) leaving a silhouette of the figures. 1977 photo above left is before treatment and above right is after treatment (Image: CEDAE). It is unknown when this treatment was undertaken.



Detail of figure from first corridor (C). The paintings were less blackened in this area of the tomb. Note loss of black areas on wig of figure and abraded look of surface. Painting has been cleaned.



Detail of figure from second corridor (E); note how background was selectively cleaned. All paint was removed from the background.



Upper border of second corridor showing partially cleaned surface. Note how the blackened background has been completely removed on the left side but not on the right.



Main chamber (G) before interventions and the insertion of large plaster repairs at the base of walls (Image: CEDAE 1977).



Main chamber (G) as it appeared after interventions (photo 2007).



Selective cleaning of background in chamber (I), north wall.



Only the backgrounds were selectively cleaned in rear chamber (I) leaving a silhouette of the figures. The 1977 photograph on the left shows the paintings before cleaning (Image: CEDAE)



There is cracking around doorway (F) though very little post-fire loss of plaster.



Note extensive cracking on ceiling of rear chamber (I) though very little loss has occurred.



Irregular ceiling of chamber (G) with surviving plaster indicates that ceiling was never flat.



Recent area of plaster collapse in chamber (G) in 2009. This area was then treated by the SCA. Other areas of plaster cracking should be further investigated as it might indicate remaining areas of plaster instability.



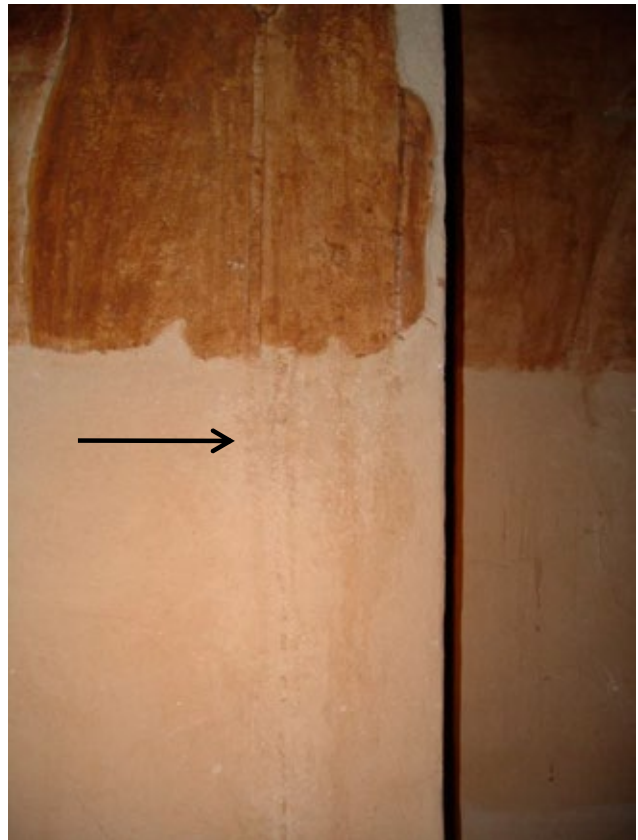
Ceiling of the second corridor (E) has been whitewashed.



The area around doorway (F) has been whitewashed as part of the previous treatment interventions in the tomb. Note how the whitewash was applied over areas of original blackened plaster.



Shiny material is visible on surface of painting in first corridor (C). Most likely a treatment for paint flake relaying.



Treatment drips run down the surface of original plaster and modern repairs.



The tomb has been intermittently open to visitation since 1993. In 2012, the SCA decided to open the tomb once again to visitors and installed walkways, railings and lighting.

General Tomb Information	
Tomb number	QV 44
	Location Terminus of southwest branch of main wadi
Other naming systems	1922 tourist map by Survey of Egypt - 43
Owner/ Attribution	Khaemwaset
Owner Status	Prince (King's First son)
Dynasty/ Reign	20 th Dynasty / Rameses III to Rameses IV
Typology [Leblanc 1989]	Type III (Chamber tomb)
Description	
General Description	This multi-chambered, corridor-type tomb progresses along a straight axis from the entry ramp (A) to two subsequent corridor chambers (C, I) and a final square chamber (M). Two lateral chambers (E, G) flank the first corridor chamber (C) (one on each side) and two niches flank (J, K) the sides of the second corridor chamber (I). The burial chamber (I) has vaulted ceiling and a pit. A second phase of construction appears to have been undertaken when the main chambers were finished. The doorways at the entrance (B) and door (H) were widened to allow the large granite sarcophagus to be brought into chamber (I). These doorways were re-plastered and the decoration was carved but they were never painted.
Decoration	Extensive painted plaster with incised relief. The texts are written in red, green, blue and black on a yellow or white back column depending on the base color of the scene. This color scheme is held to throughout the tomb.
Iconography	Chapters 145-146, incantations 6 -16 from the Book of the Dead in the burial chamber (M). The iconography is part of the integrated depiction of Chapter 145 in QV 44, 53 and 55, each tomb depicting different scenes from Chapter 145, which together form a complete suite necessary to enter the afterlife. QV 53 (gates 1-4), QV 55 (gates 5-8), QV 44 (gates 6-16), The final gates 17-21 were thought to have been illustrated in another unfinished tomb, possibly QV 45 or 53 (Leblanc 2001b, 313; also see Yoyotte, 1958, 28). See Tomb Profile, Volume 1 for details.
Objects and Current Contents	
Objects recovered	<p>Discovered by the Turin Museum mission under Schiaparelli: Top part of pink granite cover of sarcophagus of the prince with haut-relief male figure enclosed in a mummy-like 'girdle' (Turin Museum # suppl. 5215), (Hassaine and Nelson 1997, 83; Leblanc 1991, 166, n.40); funerary net with winged scarab and the effigies of the 4 sons of Horus; 50 glass-frit scarabs; and 49 wooden sarcophagi dated accordingly: twenty-two from 22nd-23rd Dynasties, fourteen from 24th Dynasty to first half of 25th Dynasty, thirteen from 25-26th Dynasties. Two Coptic vessels, wooden chisel dated the Coptic period (Schiaparelli 1923, 124-42); ostrakon that records the names of tomb workmen "Khaemwaset, son of Wennefer, and a reference to Vizier Neferrpet" (Thomas 1966, 227, n. 110)</p> <p>Fragments of wooden sarcophagi found in QV 43 and 44 were placed in the pits of many tombs by Schiaparelli; majority of the re-buried artifacts was re-stored by the Antiquities Service in 1968 in QV 51 and 60. CNRS additionally removed the sarcophagi fragments from QV 46 during the cleaning of the tomb in 1984 (Leblanc 1989a, 76, n. 169).</p>

History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Source and Comments
20 th Dyn.	Tomb construction began between year 16 and 28 of Rameses III reign; construction finished and burial took place in Rameses IV reign.	Hassanein and Nelson 1997, 16 Leblanc 2001-2001, 202
Late 22 nd – 26 th Dyn.	Intensive reuse in Third Intermediate Period (late 22 nd and 26 th dynasties) as a family burial of low-rank elites working at a temple.	Hassanein and Nelson 1997, 16 Thomas 1966
Coptic and Arab period	Possibly open and reused; Lecuyot argues no reuse after Third Intermediate Period	Hassanein and Nelson 1997 Lecuyot 2000
1903 Feb	Discovery and documentation (drawings, photographs, records) by Schiaparelli and Ballerini; plaque placed above door	Letter of Ballerini in Curto 1954
1903-4	Iron door was installed and tomb included in current numbering system by Ballerini	Carter 1905, 120
1920s	Documentation, brief history and description (drawings and text) by Porter and Moss	Porter and Moss, 1927 and 1964, 754-755, 750 (plan)
1960s	Documentation (drawings and text) by Thomas	Thomas, 1966
Before 1975	Some stabilization repairs undertaken (plaster fills)	Present in 1975 CEDAE images
Before 1980	Lighting installation	Lighting is present in 1980 CEDAE images
1975 Mar; 1980 Feb & Dec	Photographic documentation by CEDAE	CEDAE
1980	Upper part of the entrance doorway was restored by EAO	Hassanein and Nelson 1997, restoration is after CEDAE photo documentation
1981	Survey by TMP	TMP
Before 1997	Wooden stairs and barriers for protection installed	Photo in Hassanein and Nelson 1997, 21; no protective barrier in 1993 CEDAE photo
1983	Glass protection was already installed	Seton-Williams and Stocks 1983, 562
1988	Survey and documentation by Yves Laurent (CNRS)	CNRS
1988 Mar – Apr	Emergency treatment of ceiling of chamber (C), following a report of collapse of plaster. Treatment was undertaken by the EAO and lasted one month.	SCA conservator notes
1991	Ramp side walls were reconstructed following the model of QV 53 carried out the year prior	CNRS mission report 1991-1992, Planche V
1992 Jan-Dec	Consolidation of right side of entrance of tomb. No further information exists.	SCA conservator notes
Apr 1993	Photographic documentation by CEDAE	
After 1993	Glass barrier and wooden walkway installation	Barrier and walkway are absent in 1993 CEDAE images
1994	Little floodwater came into the tomb	Leblanc, pers.comm.
1994 Nov	Finishing of treatment in QV 44 (1992-1994) by SCA in preparation for opening the tomb to visitors. It is unclear what the scope of treatment was during this period.	SCA conservator notes
1995 Apr – May	Emergency treatment of ceiling of chamber (C), to right of entrance following another report of collapse of plaster (40cm piece). Treatment was undertaken by the SCA and lasted 1 month.	SCA conservator notes

1996 Jul	Emergency treatment of ceiling of chamber (?) following another report of collapse of plaster (25cm piece).	SCA conservator notes
2006	Treatment on wall paintings (scope and type unknown)	SCA conservator notes
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2010 Mar/Apr	Tomb temporarily closed for wall painting treatment by SCA	On-site inspection
Documentation and References		
Historic Photographs	<ul style="list-style-type: none"> -Schiaparelli 1923, 124-142, fig 92, 94, 96-98, 100; -D'Amicone and González 2008, 86 (Schiaparelli's photos, Turin catalogue number unknown); -Campbell 1910, 30-31, 52-53, 58-59; -CEDAE - 24072-24167 (Mar. 1975); 27006-27153 (1980); 29880-29890 (Apr. 1993); -Weigall 1924, fig 291; -Pillet 1930, fig 83; -Bruyère 1952, fig 3. 	
References	<ul style="list-style-type: none"> -Ballerini, 1903, 12-13; -Ballerini 1905, 12-21; -Bruyère 1924, 160-161; 1924-1925, 102; -Carter 1905, 170; -Campbell 1910, 25-61; -Curto 1954 -Farina 1931, 12; -Grist 1985, 73-81; 1986, 152-161; -Hassanein 1978, 18-31/116-186/313-351; -Hassanein 1991, 64. 	<ul style="list-style-type: none"> -Hassanein, Nelson and Lecuyot 1997; -Kitchen 1972, 186-189; -Leblanc 2001-2, 202; 2005, 320-323 -Lecuyot 1999 37-38; -Pillet 1930, 109-110; -Porter and Moss 1964, 750 and 754-5; - Seton-Williams and Stocks 1983, 562 -Schiaparelli 1923-27, 124-42 and 183-206; -Siliotti and Leblanc 2002, 72-75; -Thomas 1966, 209, 215, 219-225.

QV 44

Prince Khaemwaset

General Description

This corridor-style tomb is entered through ramp (A) leading into first corridor chamber (C) with two side chambers, (E) and (G). Successive corridor (I) has niches (J) and (K) and leads into rear chamber (M). The ceiling of corridor (I) has a slight barrel vault, indicating its intended use as the burial chamber.

The tomb is cut into the southwest branch of the main wadi in an area of rock lying in the lower portion of Member I. It lies some meters above the marl beds that have resulted in rock fracturing and loss in many of the other tombs on the south side of the Valley where the marl is part of a large tilted geologic block. Unlike the majority of tombs along this branch, QV 44 is cut on a roughly east-west axis, largely perpendicular to the axes of preceding tombs, except for QV 43, whose axis it shares. Worth noting is the fact that side chamber (E) underlies ramp (A) of QV 43, with approximately two meters of rock in between.

The walls and ceilings of this tomb are very regular indicating that the rock substrate is of high quality and did not require the substantial amount of infill material seen in many of the other tombs in QV, though current condition of the rock surface in many areas is hidden by widespread plaster repairs. The visible rock throughout the tomb is in relatively good condition with a large amount of extant decoration, and does not show the natural jointing deterioration from swelling pressure changes related to underlying shale.

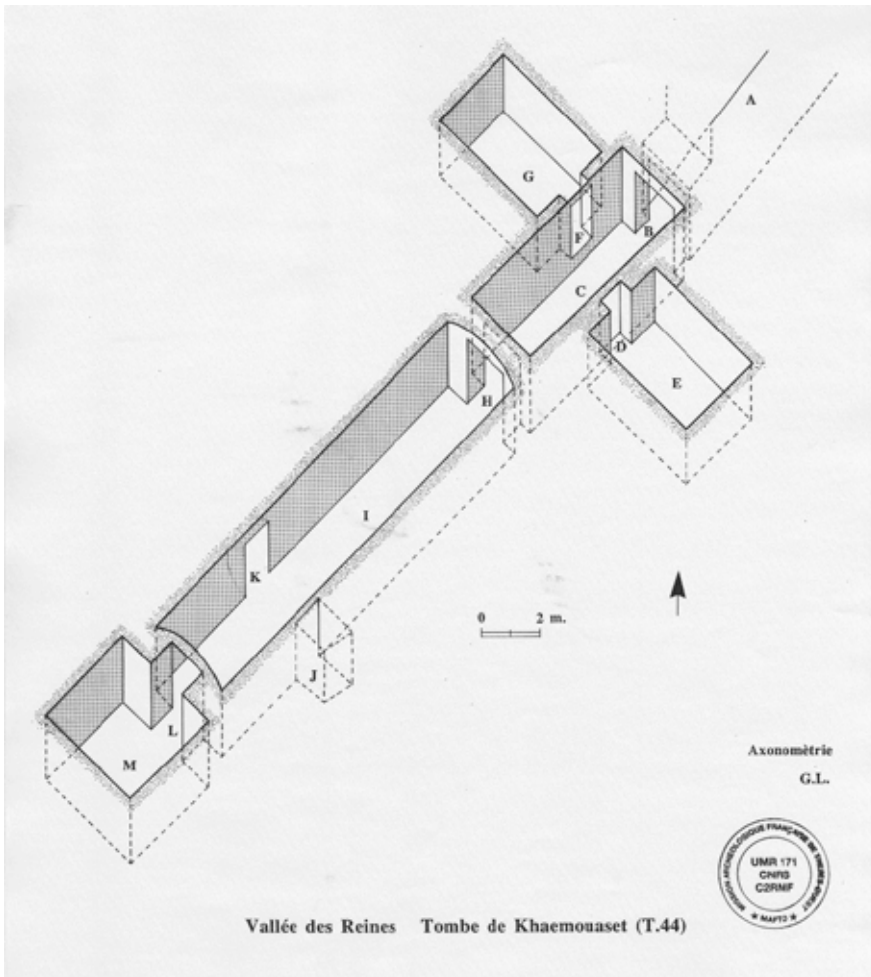
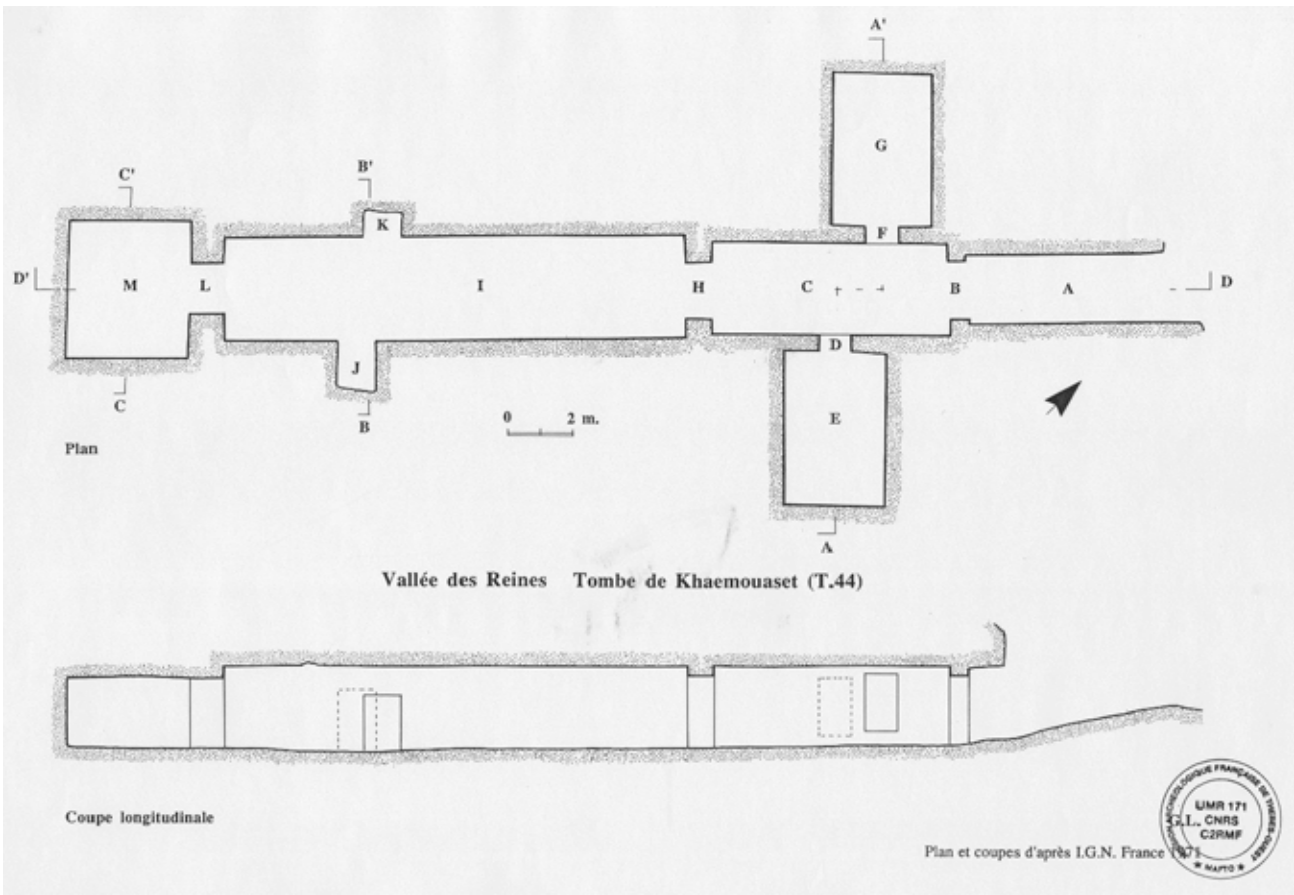
Extensive sunken relief painted plaster survives throughout the tomb on walls and ceilings in excellent condition. After QV 66, this tomb has the best preserved painted decoration in the Valley. Its decoration is in various stages of completion; side chamber (K) in second corridor (I) was not completely excavated while side chamber (J) was cut and plastered with a base plaster; doorway (H) is also unfinished—the plaster was carved but not painted. Entrance (B) and doorway (H) are thought to have been widened at a later date to accommodate the large granite sarcophagus. The doorways were replastered and carved but were never painted. It is possible that the side chambers of the first corridor may also be unfinished as the paintings are lacking the final detailing that can be seen in corridors (C) and (I). The paintings have been extensively treated and large modern repair plasters are present throughout the tomb.



Ramp (A) with modern constructed steps and entrance (B). The retaining walls were re-built after the 1994 flood. (CEDAE 2009)



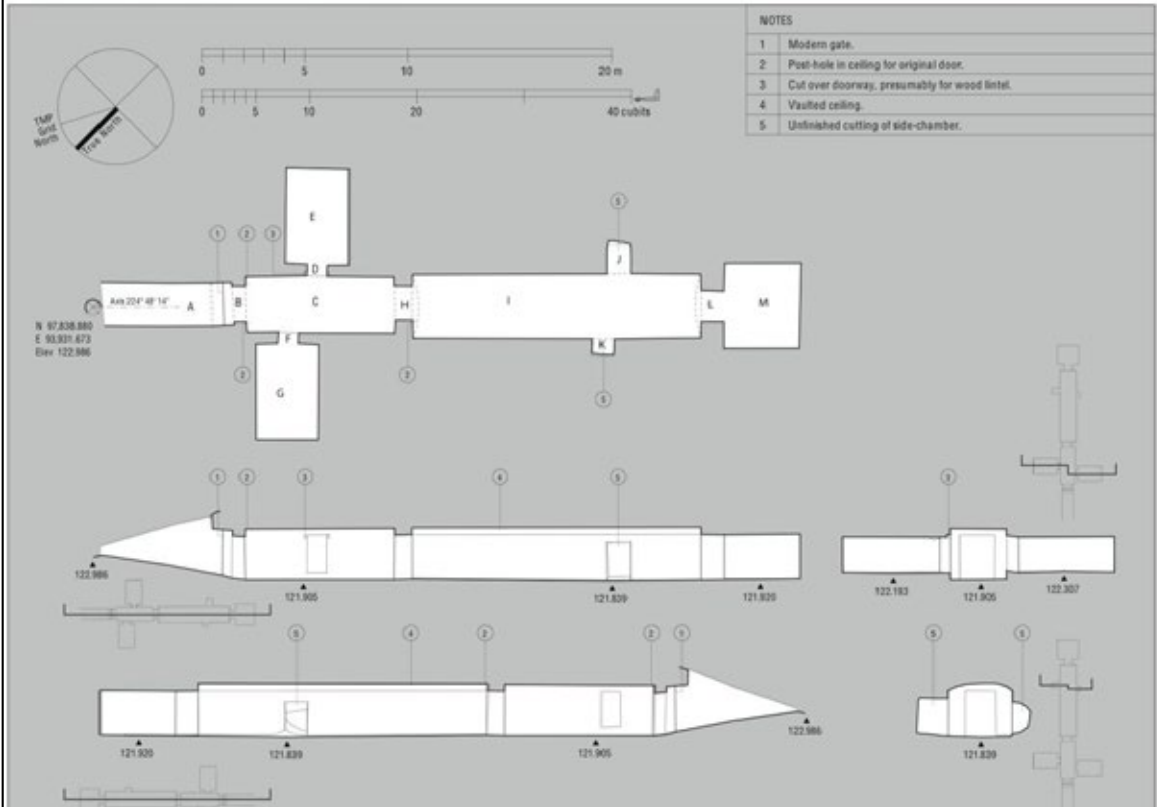
The plaque installed by the Italian mission remains at the entrance.



Drawings: CNRS.

QV 44 - Khaemwaset, Dyn. XX
Plan, sections 1:200

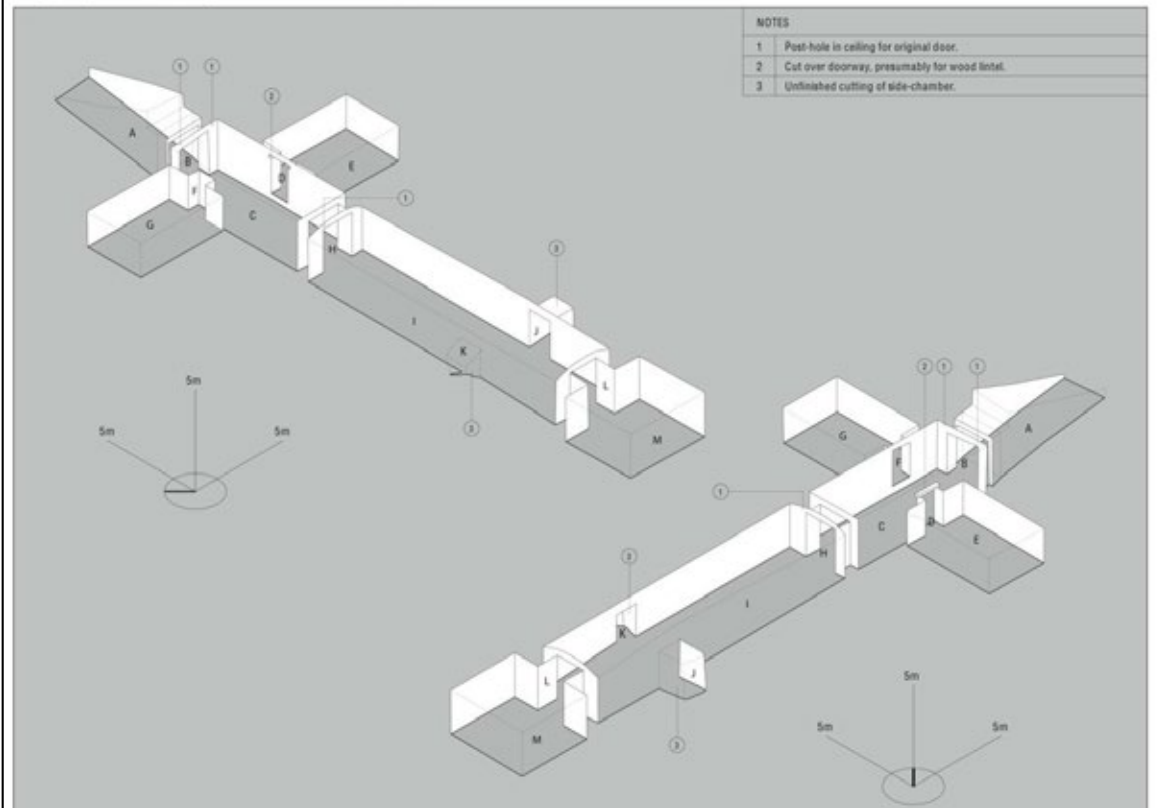
Surveyed April 26-27, 1981 & May 8, 1983. Drawn September 9, 2007.



NOTES	
1	Modern gate.
2	Post-hole in ceiling for original door.
3	Cut over doorway, presumably for wood lintel.
4	Vaulted ceiling.
5	Unfinished cutting of side-chamber.

QV 44 - Khaemwaset, Dyn. XX
Axonometrics 1:200

Surveyed April 26-27, 1981 & May 8, 1983. Drawn November 27, 2007.



NOTES	
1	Post-hole in ceiling for original door.
2	Cut over doorway, presumably for wood lintel.
3	Unfinished cutting of side-chamber.

Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007. Inset drawing: CNRS.

The tomb was discovered by E. Schiaparelli in February 1903. At the time of discovery, the tomb was piled with mummies and wooden sarcophagi dated to the late 22nd-26th Dynasties of the Third Intermediate Period, a period of substantial reuse of tombs. A dry masonry wall apparently sealed the entrance after these burials and, lacking evidence of Roman re-use, the entrance is assumed to have been lost and forgotten by that time.

The tomb was re-opened and probably pillaged during the Coptic and Arabic periods. Desert scavengers (perhaps hyenas) were noted by the Italian mission to have ravaged some of the mummified remains. A pit excavated in the floor of chamber (I) to receive the sarcophagus (measured 7.90m × 3.10m by F. Hassanein and M. Nelson 1997) had been filled with sand since its discovery.

C. Leblanc has noted that a small amount of floodwater entered the tomb in November 1994 (pers. comm., 2009).

Currently the tomb is open to visitation. Glass barriers, fluorescent lighting, and wooden flooring are installed. Previously, low wooden barriers were used. A sturdy metal door seals and locks the tomb when the site is closed. After the 1994 flood, the modern ramp retaining walls were replaced with the current walls. There is evidence of past bat activity.

Condition

Historic photographs of the tomb include images taken by Schiaparelli and four campaigns of recording by CEDAE in March 1975, February 1980, December 1980, and April 1993. Comparisons with these photographs have provided the basis for condition assessment of rock and painted decoration.

The tomb rock is considered stable and there are no signs of severe fracturing or impending loss. However, assessment of the current condition is difficult, given the extent of repair plaster that hides areas of previous rock loss. There are areas of cracking in the painted plaster which are possibly associated with underlying rock fissuring and/or instability of substantial areas of infill material. Some of these cracks are quite large and run across walls and ceiling; side chambers (G) and (E) in particular have significant cracking. However, at present none of these cracks appear to be endangering surrounding areas and there are relatively few areas of loss. The painted plaster also has smaller cracking throughout, most likely original drying cracks formed as the wet plaster dried. These cracks appear to be stable.

The low ceiling of side chamber (G) also has a number of small losses in the painted plaster which suggest impact damage. The survival of the decoration is excellent but losses have occurred, though these are noticeably less than compared with QV 55 and QV 52. These include loss at the base of walls in the entrance and first corridor and other localized areas, though these are few in number.

The blue paint is flaking in areas and there are losses of the paint layer related to the thickness and/or technique of the application of this particular pigment.

There is evidence of past bat occupation of this tomb. Bat urine traces are present in side chamber (E). Scratch marks are also visible, possibly associated with bat activity.

Modern repair plasters were used to fill areas of loss throughout the tomb, slightly recessed below the level of the original decorated plaster. These repairs are visible in the 1975 CEDAE photographs. The paintings were treated again by the SCA between 1992-1994 according to notes kept by SCA conservators though the scope of what was done during this period is unknown. The presence of different types of repair suggest several treatment phases. This can be seen on the ceiling of side chamber (G) where up to three different types of plaster repairs have been undertaken. This repeat treatment for localized areas of cracking and collapse of repair plaster on this ceiling in 1995 and again in 1996 indicates a possible ongoing problem or implies an ineffective treatment approach and inappropriate materials used to solve the problem. Paintings were last treated by the SCA in 2006, though again the scope of this treatment is unknown, but is assumed to be limited in nature.

The paintings have also been cleaned. This appears to have resulted in some smearing of color and abrasion of fragile areas of paint, in particular blues and greens. However, generally the cleaning was not aggressively done and evidence of original varnish applications are still visible. There are also numerous injection holes, evidence of grouting, as well as drip marks, possibly indicating a surface consolidation treatment.

Deterioration Factors

Substantial reuse of the tomb for burials, as shown in the Schiaparelli photograph from 1903, may have played a role in some of the deterioration. Bats, localized areas of possible iconoclasm, and localized collapse of areas of infill material also contributed to the deterioration.

Losses at the base of the walls toward the entrance of the tomb may indicate past flooding episodes. There are many areas where the painting still survives to floor level in the second corridor and in the rear chambers indicating that flood waters may have only reached the first corridor. Plaster fills at the base of the walls are also in good condition and do not show signs of moisture-related damage.

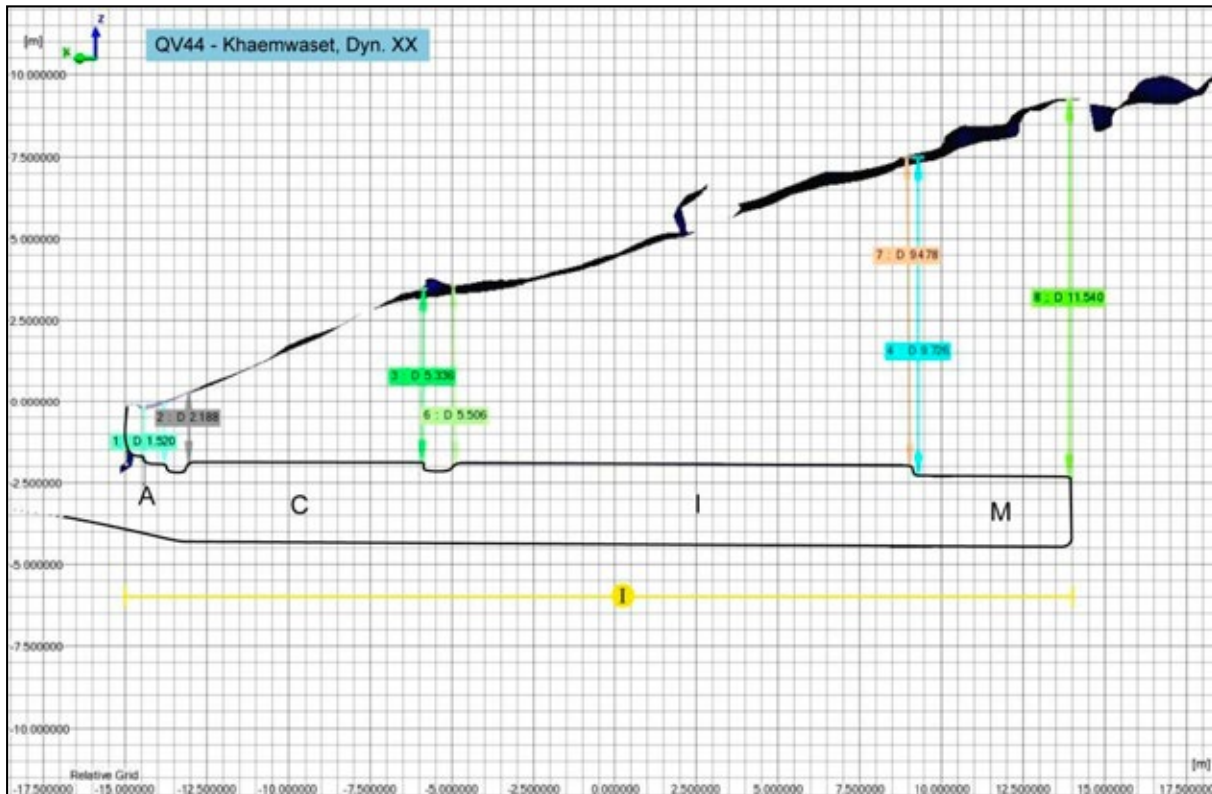
The areas of cracking in the painted plaster, most notably on ceilings, are possibly associated with underlying rock fissuring and/or instability of substantial areas of infill material but this has not been fully investigated and requires further monitoring to correctly assess the potential risk level, if any.

General Recommendations

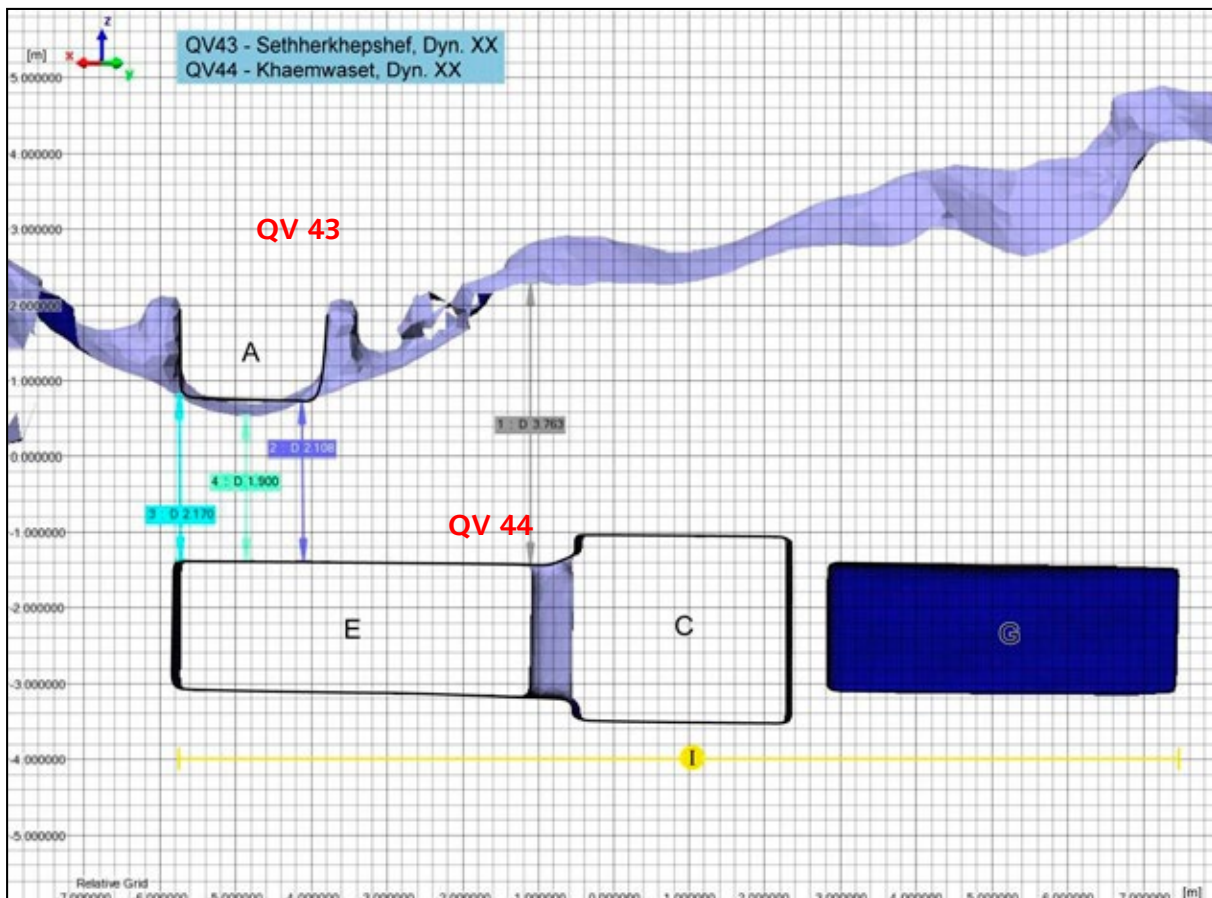
The entrance ramp (A) requires an arched masonry cover to protect the tomb from floodwater and debris.

Methods to protect the low ceilings of the side chambers, which have a history of plaster loss and collapse, need to be considered. The protective glass throughout the tomb is dirty and should be cleaned; one large panel of glass is missing in chamber (C) and should be replaced.

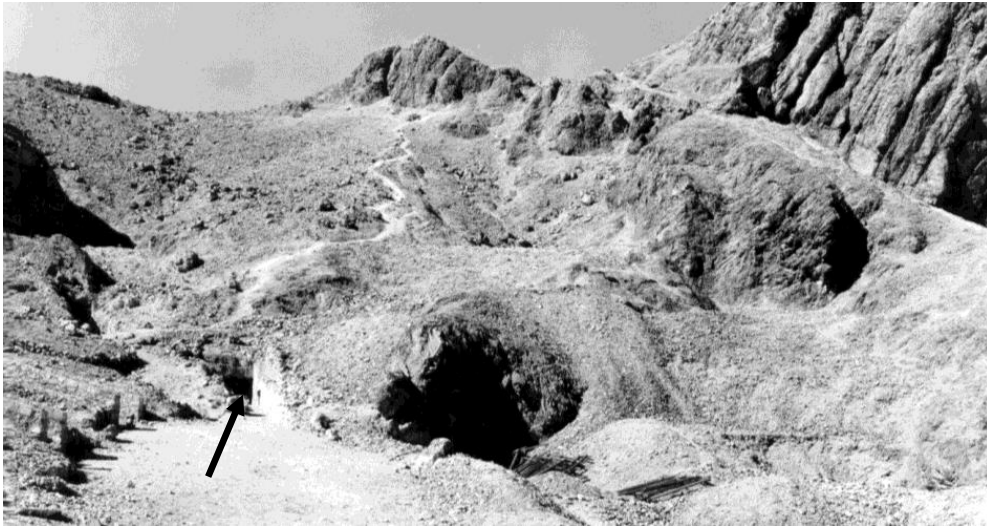
Paintings have already been previously treated. Generally, no further stabilization work is required. Monitoring, particularly of recently repaired areas, such as the ceilings of chambers (E) and (G), which have a history of plaster collapse and cracking and have had repeated treatments, is necessary to identify and record whether or not change is occurring in these areas. Only with regular monitoring will the current risk levels of these areas be accurately determined.



Overburden analysis of QV 44 showing the tomb lies between 2.1m at entrance (B) and 11.5m at rear chamber (M).



There is a 2m thickness of rock between chamber (E) of QV 44 and ramp (A) of QV 43.

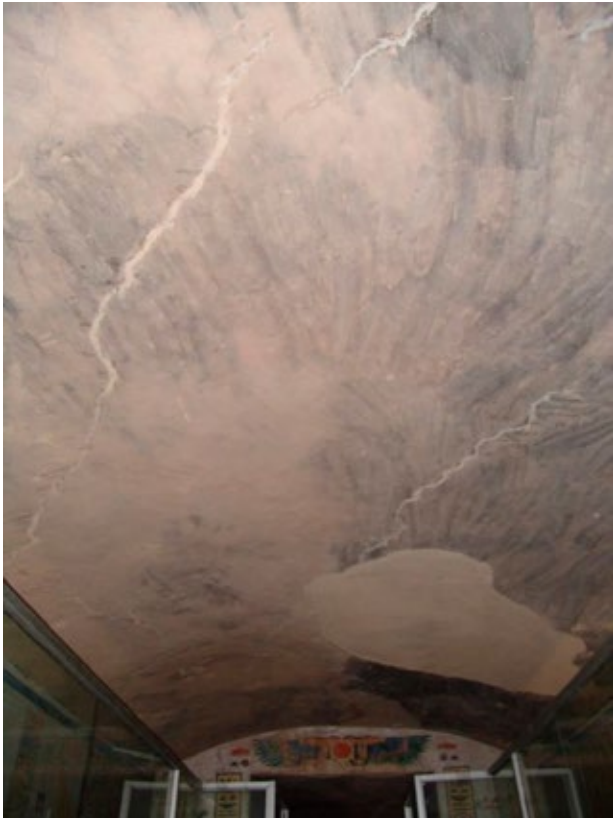


View of tomb entrance and surroundings in February 1980, above (Image: CEDAE) and in 2008, below.

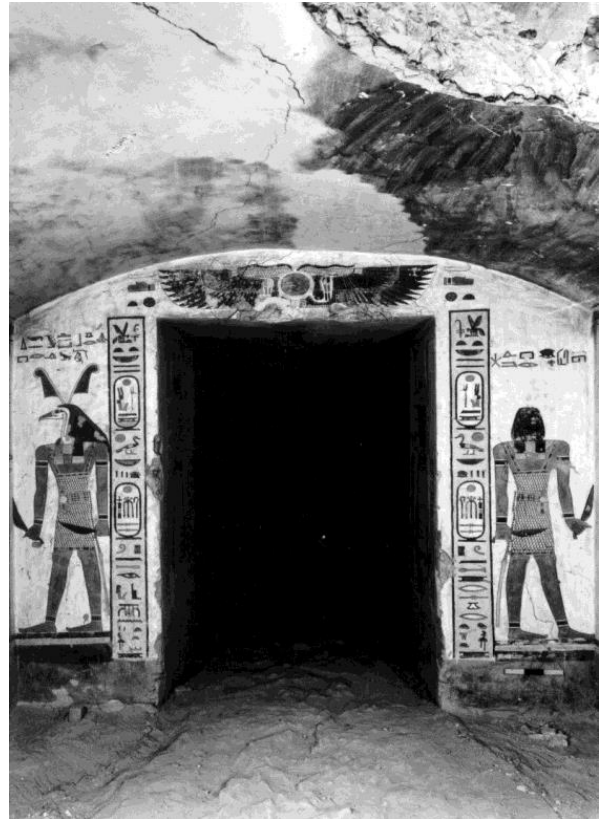


Left: Interior of chamber (I), looking towards doorway (L), as photographed by Schiaparelli in 1903 with mummies and wooden sarcophagi dating to the 22nd-26th Dynasties and demonstrating extensive reuse of the tomb for burial.

Above: View of the tomb entrance in 1903, original plaster extant on walls of the ramp. (Images: Schiaparelli 1923).



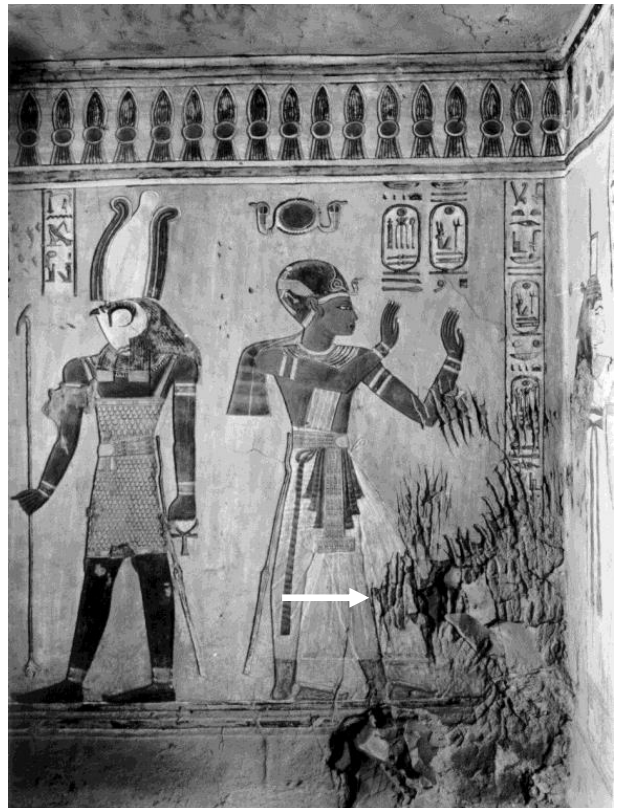
Ceiling of corridor chamber (I) is a shallow vault. It has drying cracks and loss of plaster, but overall appears stable. Some earlier losses have been filled with plaster repairs. Much of the ceiling plaster still survives in this tomb.



Cracks and loss on ceiling before repair in chamber (I) in 1975 (Image: CEDAE).



Large cracks can be seen in side chamber (G) that extend across ceiling and walls (Image: CEDAE).



Scratch marks are seen in areas (Image: CEDAE).



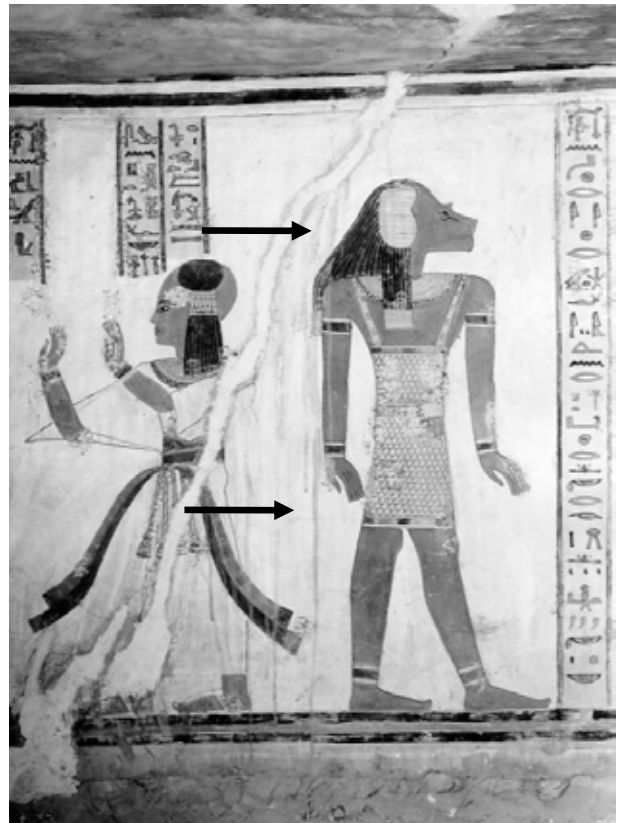
Loss in painting most likely caused by collapse of infill material (Image: CEDAE 1975).



Early plaster repairs are already visible in 1980 photographs. However, not all areas have been treated. Doorway shows large loss that was later filled. (Image: CEDAE)



Losses at the base of the walls toward the entrance of the tomb may indicate past flooding episodes as seen in this photograph from ca. 1909-10 (Image: Campbell 1910).



Treatment drip marks can be seen in the 1975 photograph along crack where a plaster fill has also been inserted (Image: CEDAE).



CEDAE photograph of tomb interior (corridors C and I, with chamber G at the end) in 1993 prior to glass barriers and walkway being installed.



Photograph of tomb interior in 2010 with glass barriers, walkways and lighting.



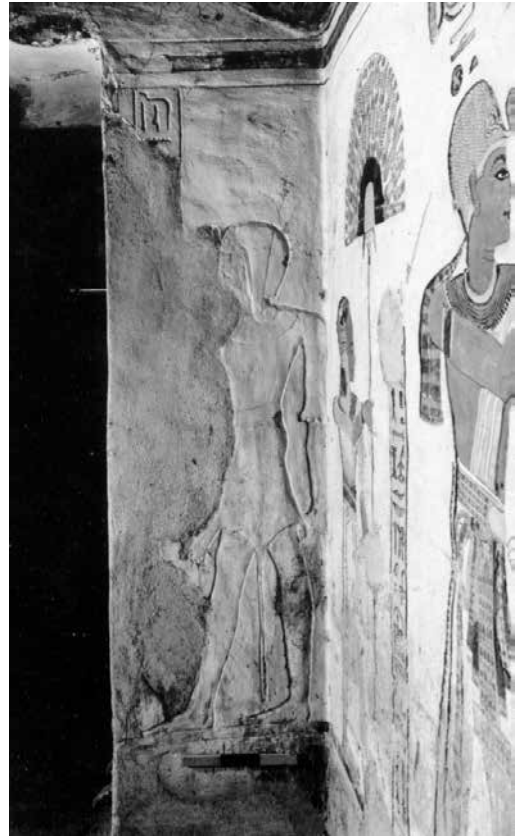
CEDAE photograph of tomb interior in 1993 (corridor I, looking toward chamber G at the end of the corridor) prior to glass barriers and walkway being installed.



Photograph of tomb interior in 2010 with glass barriers, walkway and lighting.



(Images: CEDAE 1980)



West side



East side

Doorway (H) between the first and second chamber corridors is unfinished. The door was widened in antiquity to accommodate entry of the granite sarcophagus in the burial chamber; the east side of doorway was covered with a thick application of plaster and re-carved, but never painted. There are small areas of surviving paint from an earlier painting scheme visible *below* the later plastering. Red setting out lines are visible on the unpainted but carved plaster. The damaged west side of door was not plastered in antiquity.



Side chamber (E) is located off corridor chamber (C). This is a small room with low ceiling. Ceiling has a number of different periods of repair plasters indicating ongoing problems in this chamber.

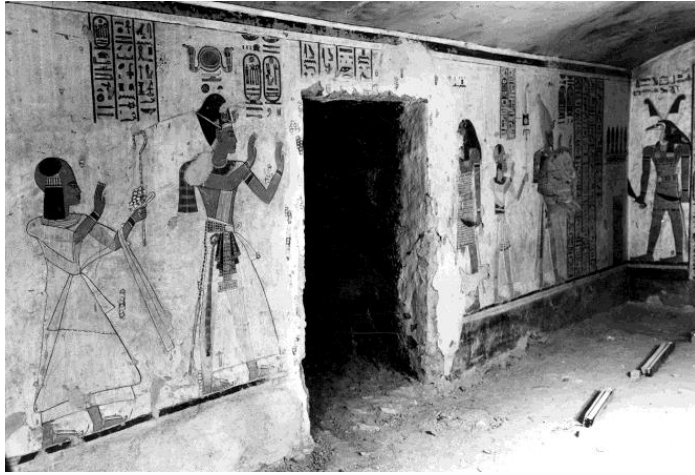
Paintings look to have been cleaned as the blues and the greens are faded and smeared. It is possible that the paint was lost when the insect nests were removed. (Image: CEDAE 2009).



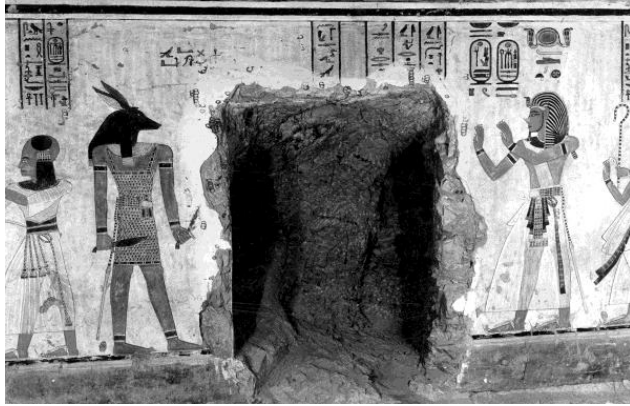
Side chamber (G) is located off corridor (C). This is a small room with low ceiling. Ceiling is irregular and has an area of crystallized bat urine that is positioned above an area of scratch marks on the paintings. The ceiling of this side chamber has had several periods of retreatment. (Image: CEDAE 2009).



There is evidence of deliberate damage to figures in side chamber (G). (Image: CEDAE 1980).



Paintings in second corridor (I) showing doorway to small unfinished side chamber (J) which was cut and plastered with a base plaster (Image: CEDAE 1980).



Small unfinished side niche (K) was only partially excavated during the tomb's construction. Photographs show the area before (1980) and after treatment (1993) (Images: CEDAE).



Panel of glass missing in first chamber corridor (C) (above and right), leaving the paintings unprotected.

TOMB INVENTORY

QV 45

General Tomb Information		
Tomb number	QV45	Location At the western end of the southern branch of the wadi
Other naming systems	Hay - 41; Champollion - 5(Thomas, p. 222); Wilkinson - 15	
Owner/ Attribution	Unknown (Thomas associates with Satefmira, wife of Rameses III)	
Owner Status	Unknown	
Dynasty/ Reign	20 th Dynasty / Rameses III	
Typology [Leblanc 1989]	Type III (Chamber type)	
Description		
General Description	A short, slightly descending ramp (A) leads into unfinished corridor (C). Just in front of the entrance, the ramp has a rock-cut ceiling.	
Decoration	Plasters at side walls and ceiling of ramp (A) and doorway (B) but no painting.	
Iconography	N/A	
Objects and current contents		
Objects recovered	Discovered by the Schiaparelli mission. Fragments of alabaster vase; two Canopic jars with a woman's face (probably queen); several wooden <i>ushabt</i> ; enamel and other various pieces of funeral furniture; alabaster canopic jar, terracotta fragment on which is a figure with a queen's name, "King's Wife Satefmire" (Thomas 1966, 222)	
History of Use, Events, Research and Interventions		
Date	Use, Events, research and Interventions	Sources and comments
20 th Dyn.	Tomb construction began and left unfinished	
1826	Recording and research by Hay of Linplum	Leblanc 1989a, 25-38
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
1829	Recording and research by Champollion	Leblanc 1989a, 25-38; Thomas 1966
1904?	Rediscovered by Schiaparelli, recorded in Ballerini's notes	Leblanc 1989a, 43; Thomas 1966, 209
1966	Documentation by Thomas	Leblanc 1989a, 25-38
1981	Survey by TMP	TMP
1990-1991	Excavation in front of the tomb	Leblanc 2001-2, 216, n.30
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
Documentation and References		
Historic Photographs	CEDAE 27010 (Feb. 1980)	
References	Ballerini Notia., 3;	E. Thomas 1966, 208-9, 215, 219-220, 222, 224-5

QV 45 – Unfinished

General Description

QV 45 is located at the west end of the south branch of the main wadi, below and north of QV 44. A slightly descending ramp (A) leads to entryway (B) and an unfinished corridor (C) oriented east-west. The ramp and entrance are well cut out of Member I marl similar to adjacent tombs.

Remains of plaster are present on ramp walls and ceiling, and in the entryway. Plaster is applied over compact materials with limestone shard inclusions.

The tomb was known since the time of R. Hay of Linplum (1826) and R. Wilkinson (1828). Entrance seemed lost between then and the time of the Italian expedition (1903-05) as F. Ballerini notes rediscovery of the tomb. E. Thomas (1966, 222) associated it with Satefmira, a queen of Rameses III and she notes a graffito on the south wall of the ramp. The plan of the tomb suggests its construction began in the 20th Dynasty (Leblanc 1989, 239).

Since the late 1980s, a large amount of debris was removed from the entry and ramp. CNRS excavated the area in front of the tomb in 1990-1991.

There is no door at the entrance, but the retaining wall along the visitor path prevents visitors from accessing the tomb.

It was used as a storage of conservator's equipments and a motorcycle parking spot by site personnel but currently is no longer used.

Condition

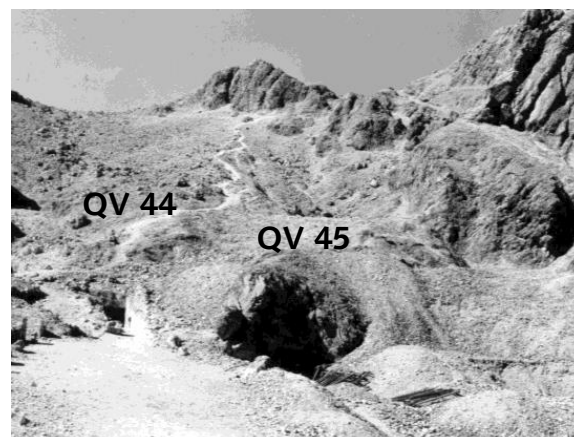
There is a fracture in the ceiling of the ramp which continues west through the doorway lintel on the north side. The doorway lintel is heavily fractured and seems to have suffered from recent loss. The south door jamb has a vertical interior crack and horizontal one which continues in both directions along the ramp wall and inside the chamber. On the north side there are several intersecting cracks.



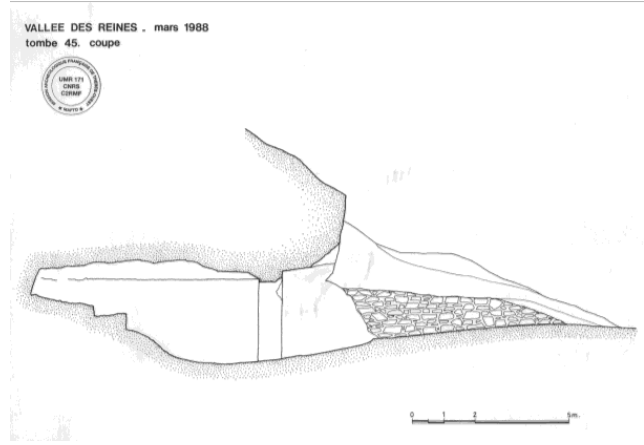
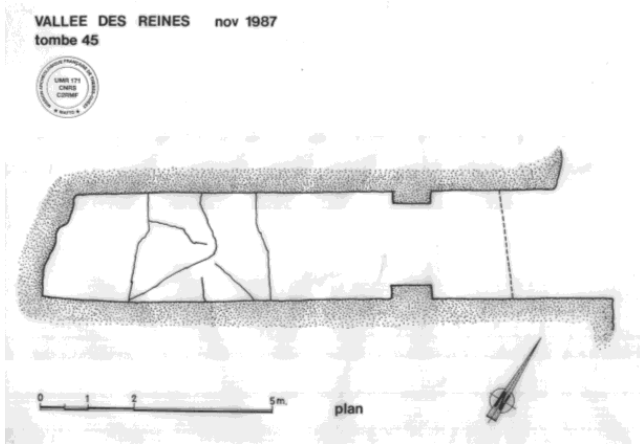
Ramp (A) and entrance (B).



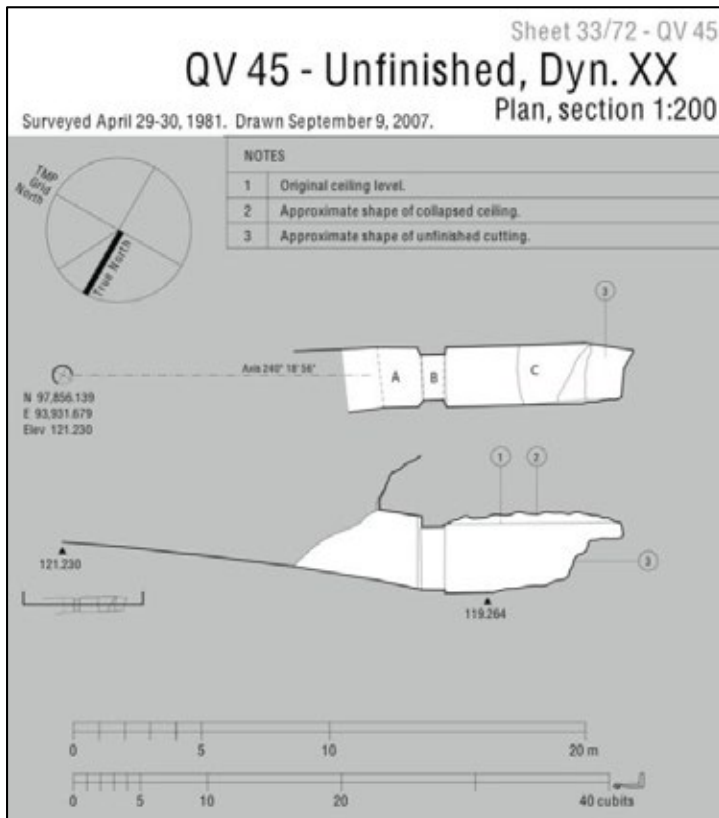
Entry to tomb in 1985 (Image: CNRS).



View of approach to QV 44 and 45 in 1980 (CEDAE).



Drawings: CNRS.



Drawings: CNRS.



Previous ceiling loss is documented in TMP (1981) and CNRS (1988) mapping.



Approach to tomb and retaining wall along visitor path with entrance and shelter for QV 44 left and above.



A fracture continues through the ceiling of the ramp to lintel at doorway.

Rock loss has occurred in the ceiling of corridor (C), perhaps during its excavation in antiquity, as documented by the Theban Mapping Project in 1981 and the CNRS in 1987-8. The ceiling loss is centered at the point where four fractures meet; the major north-south fracture, and three other diagonal fractures. The ceiling fractures and loss may explain why the tomb was not completed.

Despite the cracks in the rock near the entrance and doorway, and heavily weathered nature of the marl on the exterior, there is no visible loss in comparison to CEDAE photographs since the 1980s. Overall, the tomb rock is stable, but the door lintel and cliff rock above the entrance are at risk of localized loss. Plaster loss is observed on the ramp ceiling along a fracture running through the lintel at doorway (B). On the north wall in the ramp, several modern plaster test patches are present.

A bird's nest is present inside the unfinished corridor (C) as are a large number of mud wasp nests. Evidence of bat roosting was also observed.

Deterioration Factors

The inherent quality of the rock with its numerous natural fractures and the potential for loss of ceiling rock is the likely reason for the tomb being unfinished. The heavily weathered marl above the entrance is a result of its exposure to rain water.

General Recommendations

It is recommended to install a screened door in the entrance to prevent access, use by site personnel, and entry of insects, bats and birds. The door surround should be designed to also function to support the fractured rock to the north of the lintel. Construction of sill walls at entrance and north side of ramp are recommended to prevent water entering the tomb.



Horizontal crack on south wall in ramp continues to the corridor wall through south door jamb. Areas of loss occur along the crack.



Patches of modern plaster tests.

QV 49, 50 – Unfinished

General Description

QV 49 and 50 are located at the Y-junction of the main and side wadis. QV 49 has a steep ramp with rough-hewn steps and entryway with low ceiling. Tomb excavation was abandoned after the entryway was cut. QV 50 is entered through a short ramp (A) to a rectangular-shaped chamber (B) perpendicular to the entrance axis. This chamber connects to QV 49 on the east side through a small opening. Presumably the later construction of QV 50 was abandoned after this unintentional connection was made.

Both tombs are cut into relatively compact marl, rich in chert nodules. QV 49 was noted by R. Wilkinson (1828) and H. Brugsch (1854). The plan as surveyed by the TMP (1981) shows that the ramp of QV 49 was filled with debris and that the connection between these tombs was not visible at that time. Removal of debris must have been carried out subsequently; however, there is no record of the recent clearance of the tombs.

Date of construction of QV 50 is suggested in the 20th Dynasty (Leblanc 1989, 239), and QV 49 in the early 19th Dynasty (Leblanc 2001, 274-275).

Condition

Though highly fractured, both tombs appear in stable condition. The north wall of chamber (B) in QV 50 has substantial salt formations.

In QV 49, E. Thomas (1966) indicated that at the time of her visit, plaster was apparent on the top two-thirds of entryway lintel where she found a graffito of a modern traveler. The plaster was observed by the assessment team, though not the graffito.

In QV 50, small areas of plaster remain on the upper west side wall as well as a preparatory layer of packing materials found on the upper part of north and east walls of the ramp and the entryway lintel.



Entrance to QV 49 before installation of surround by SCA in 2007 (above) and after (below).



Entrance to QV 50 before (above) and after (below) rebuilding of masonry surround with cement capping.

Deterioration Factors

The inherent quality of the rock and the presence of salts, particularly as veins within the rock, are the primary cause of rock fracturing and detachment in these tombs. Exposure to moisture has and will continue to exacerbate these weaknesses in the rock.

General Recommendations

QV 49 should remain in its current condition. The masonry wall of QV 50 should be rebuilt with a barrier to prevent the entry of visitors.



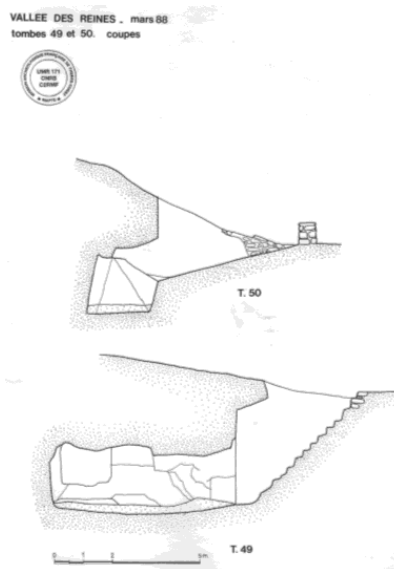
Entrance to QV 50 as seen inside surround.



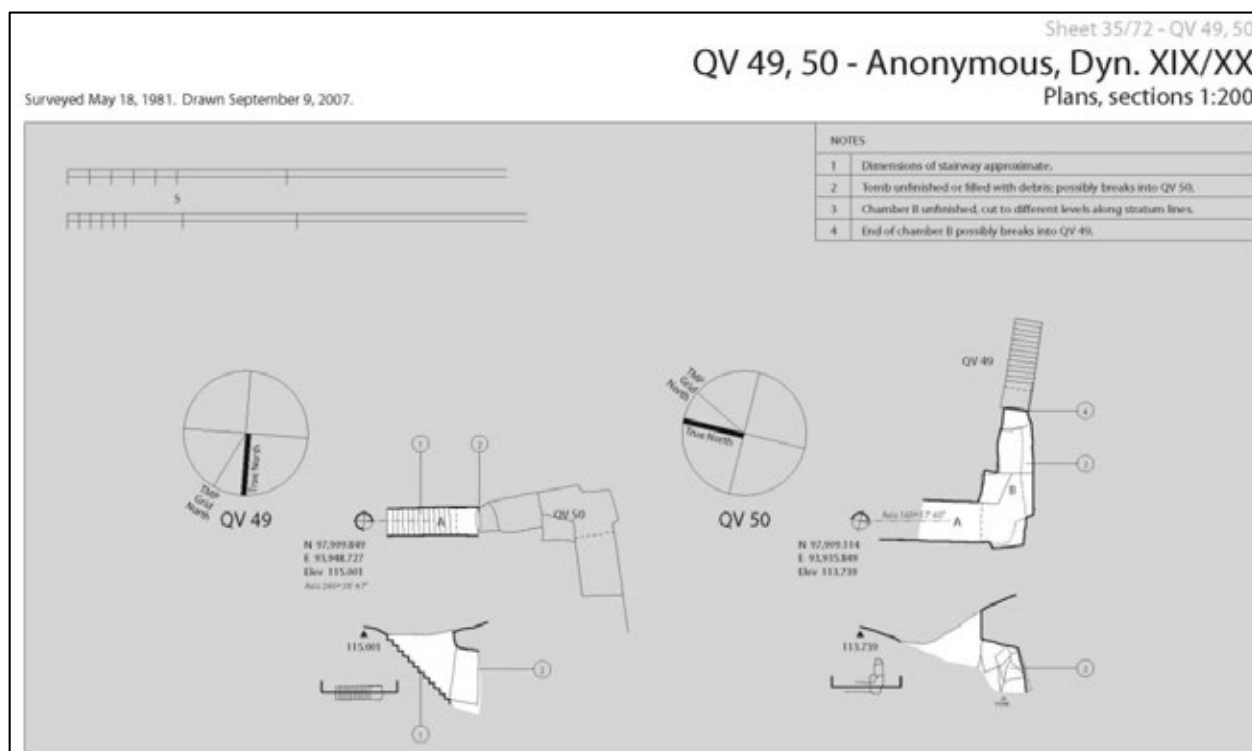
Rough-hewn steps in QV 49.



Connection between QV 49 and QV 50



Drawing: CNRS



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

<u>General Tomb Information</u>		
Tomb number	QV 51	Location Main wadi, south side
Other naming systems	Hay – 3 rd west; Wilkinson – 14 (13?); Champollion – 4; Lepsius – 10; Brugsch – 2	
Owner/ Attribution	Isis-ta-Hemdjeret (Ese)	
Owner Status	Queen Great Royal wife of Rameses III (see Volume 1 for different opinions on her family lineage)	
Dynasty/ Reign	20 th Dynasty / Rameses III and Rameses VI	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
<u>Description</u>		
General Description	Multi-chambered, corridor-type tomb on central axis. Entrance ramp (A) leads to long corridor (C) that opens into burial chamber (E), with sunken pit (F) for a sarcophagus. There is a rear unfinished chamber or niche (G) and two side chambers off the east (I) and west (K) sides of the burial chamber. A shallow trench is cut into rock in side chamber (I) along south wall.	
Decoration	Incised painted plaster. Unfinished painting in the side chambers (I) and (K) where figures are painted in red paint.	
Iconography	No guardians from Chapter 145-146 of the Book of the Dead are depicted in the tomb, which are typical in the 20 th Dynasty tombs (Grist 1986, 185).	
<u>Objects and Current Contents</u>		
Objects recovered	Three fragments of red granite sarcophagus are in Turin Museum (Sup. 5434); some ostraca (CEDAE photos); mummies (Macke and Macke-Ribet 1989). Cartouche was intentionally removed from sarcophagus, which suggests it was later reused (Leblanc 1988, 133, n.7)	
Removal or clearance of contents	Study materials cleared from QV 51 by CNRS and SCA in October 2008: numerous granite fragments of sarcophagus and two mummies; stored conservation supplies were also cleared from the tomb.	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Sources and Comments
20 th Dyn.	Tomb construction, recorded in the Turin Papyrus, reign of Rameses III, but decoration completed by Rameses VI, who was possibly Isis-ta-Hemdjeret's son as his cartouche decorated the door jamb (D).	Leblanc 2001, 283; (Hay MSS; Thomas 1966, 223; Leblanc 2001, 283)
Late 20 th Dyn.	Tomb vandalized several times as recorded on Mayer Papyri and Abbot Papyrus	Leblanc 1993a, 25; 2001, 284; Peet 2005 (c.1930) 29-40
Roman period	Reused for burial	Macke and Macke-Ribet 1989
1826	Recording and research by Hay of Linplum	Leblanc 1989a, 25-38
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
1829	Recording and research by Champollion	Leblanc 1989a, 25-38
1844	Recording and research by Lepsius	Leblanc 1989a, 25-38
1854	Recording and research by Brugsch	Leblanc 1989a, 25-38
1903-4	Schiaparelli explored tomb (plaque at entrance). Survey and inclusion in tomb numbering system by Ballerini.	Carter 1905, 120

1927, 1964	Brief description, history, and plans by Porter and Moss 1927, 1964	Porter and Moss 1927; 1964, 756, 750 (plan)
1966	Description, history and plans by Thomas 1966	Thomas 1966
1981	Survey by TMP	TMP
1986	Tomb cleared by Franco-Egyptian team. Fragments of wooden coffins presumably from QV 43 and 44 were stored in QV 60 by Antiquities Service	Leblanc 1989a, 76 n. 169
1986	Excavation and drawings, including 1986 key plan by CNRS	CNRS 1987-88
1986 Oct	Photographic documentation by CEDAE	CEDAE
1988	Survey and documentation by Laurent (CNRS)	CNRS
1988	Restoration of the walls in burial chamber (E) by EAO	CNRS 1987-1988
1988 Nov	Reconstruction of missing parts of walls and doorway in first corridor leading to burial chamber, removal of insect nests from ceiling and consolidation of plaster layer in burial chamber by EAO.	SCA conservator notes
1988-1989	Excavation in front of the tomb, uncovered a terrace to prevent water entering into the tomb	CNRS 1988-1990
1989 Jul	EAO monitored condition and previous treatment	SCA conservator notes
1990 Jul	EAO monitored condition and previous treatment	SCA conservator notes
1991	Small works (no information available) undertaken in tomb by EAO.	SCA conservator notes
1992-1993	Excavation and epigraphic survey by CNRS	CNRS 1995-1996
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct	Removal of study materials by CNRS and SCA	GCI, CNRS
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
Documentation and References		
Historic Photographs	-Schiaparelli 1923-277 (fig. 118) ; -CEDAE - 28072-28117; [28118-28198 - fragments of sarcophagus and ostraca] (Oct. 1986); -CNRS/CEDAE – Plates: CVII-CXXVI-A in Leblanc, 1989a.	
References	-Brugsch 1862, pl. lxiv; -Černý 1958, 31-37; -Champollion, Maspero and Champollion Figeac 1844-1889, 389-91; -Dodson and Hilton 2004, 31; 186-7, 192; -Grajetzki 2005, 74; -Gosselin 2007, 154-5; -Grist 1985, 77-81; 1986, 178-192; -Hassanein 1978, 95-410; -Kitchen 1972, 189-192; -Leblanc 1988, 133 (n.7) ; 1993a, 25; 2001;	-Leblanc 2001-2: family tree figure 9; -Lepsius 1897-1913, 234; -Macke and Macke-Ribet 1989; -Peet 2005 (c.1930), 33-34 and 39-40; -Porter and Moss 1964, 750 and 756; -Rosellini MSS 284, H 10-13; -Schiaparelli 1923-27, 156-7; -Siliotti and Leblanc 2002; -Thomas 1966, 209, 211, 215, 219-220, 223-5; -Troy 1986: 171; -Wilkinson MSS XVII H.20.

QV 51

Queen Isis-ta-Hemdjeret

General Description

This tomb is accessed through entrance ramp (A) leading into long corridor (C) that opens into burial chamber (E), with a sunken pit (F) for the sarcophagus. There is a rear niche (G) and two side chambers off the east (I) and west (K) sides of the burial chamber. Side chamber (I) has a shallow excavated trench along its south wall.

The tomb is situated along the south side of the northwest branch of the wadi. The orientation of the tomb along a roughly north-south axis is distinct from nearby QV 52, 53 and 55. The tomb was cut into the tilted marl block, grayish in color, and similar to the adjacent tombs in this part of the Valley.

Walls were cut straight and flat in the corridor indicating good quality rock substrate. There is fine tooling of the stone visible in this area. The quality of the rock generally worsens toward the rear of the tomb where sizeable voids required infilling with quantities of rock shards and plaster. The ceiling also required plaster and rock infill. Two plaster layers are visible: a lower earth-containing layer and an upper lighter colored layer. Hand marks in the ceiling plaster indicate the application method. In areas where the rock was able to be finely carved, only a thin skim of plaster was applied before painting; in some cases the surface of the rock substrate can be seen showing through.

There is fragmentary survival of the refined sunken relief painted plaster in corridor (C) and in burial chamber (E). Side chambers (I, K) have preliminary painting in red with no relief-work and look unfinished; the paintings appear hastily painted and are much cruder than the refined paintings found in the corridor and burial chamber. The east side of chamber (I) also has an area of rock that was not fully excavated. The ceiling of the corridor is also unfinished with only the northeast corner started with preliminary red painting. The tomb exhibits severe fire-related heat damage but little blackening.

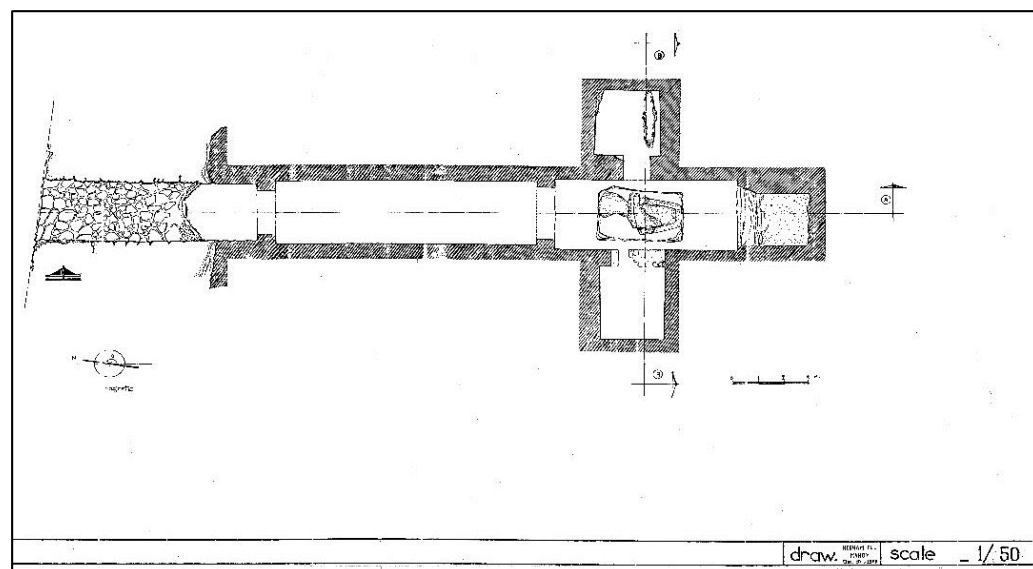
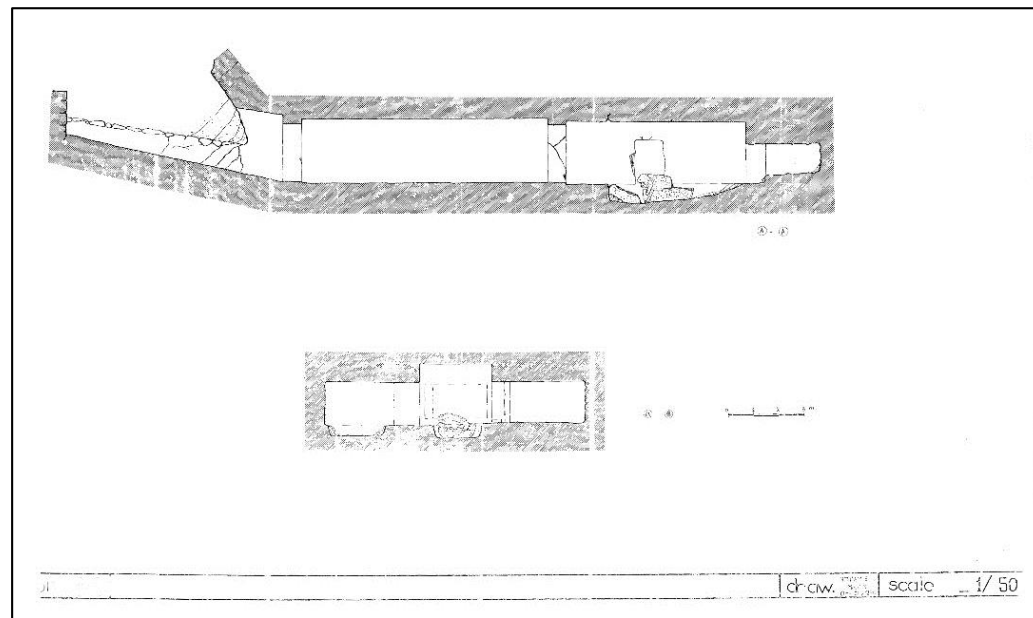
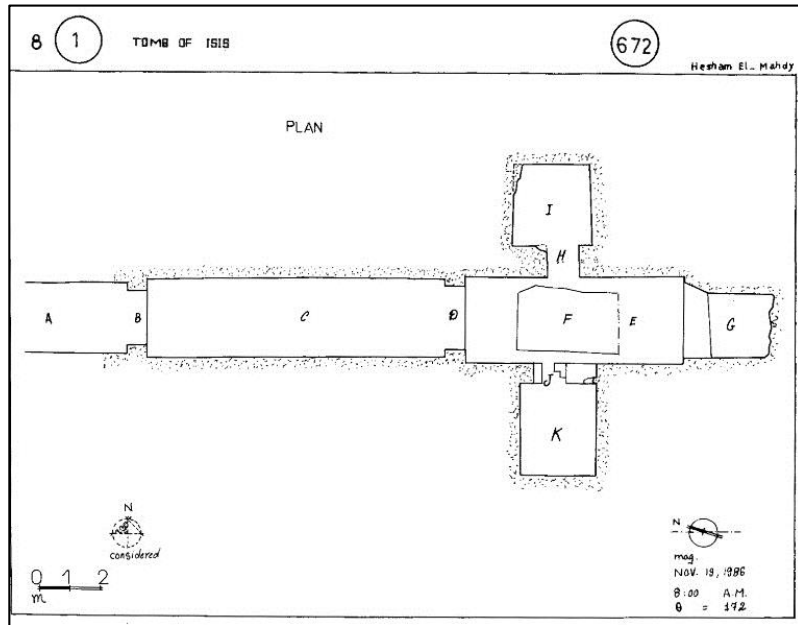
Soon after the burial the tomb was opened by robbers in the late 20th Dynasty. In modern history, the tomb has been accessible since the time of R. Hay of Linplum (1826) and was recorded subsequently by other researchers. According to Hay, the tomb was "much destroyed and filled with rubbish" and the back wall broken in search of a chamber. Schiaparelli cleared the tomb of debris during the Italian mission work in the Valley (1903-1905). He considered it to be the last tomb constructed in the Valley as a cartouche of Rameses VI was found in doorway (D). E. Thomas notes that many sarcophagus fragments remained, as they do today, scattered throughout corridor (C) and burial chamber (E).



Schiaparelli plaque at entrance to tomb.



View of entrance surrounded by cement capped dry masonry wall.

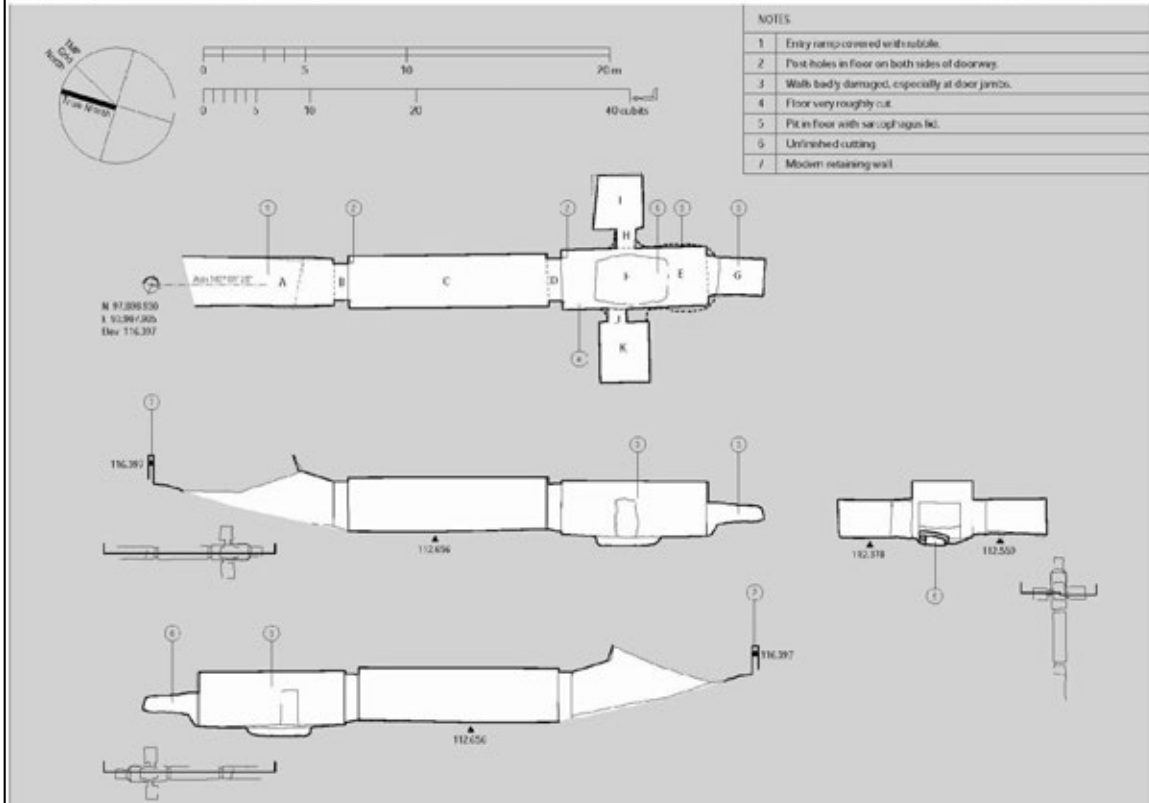


Drawings: CNRS.

QV 51 - Isis, Dyn. XX

Plan, sections 1:200

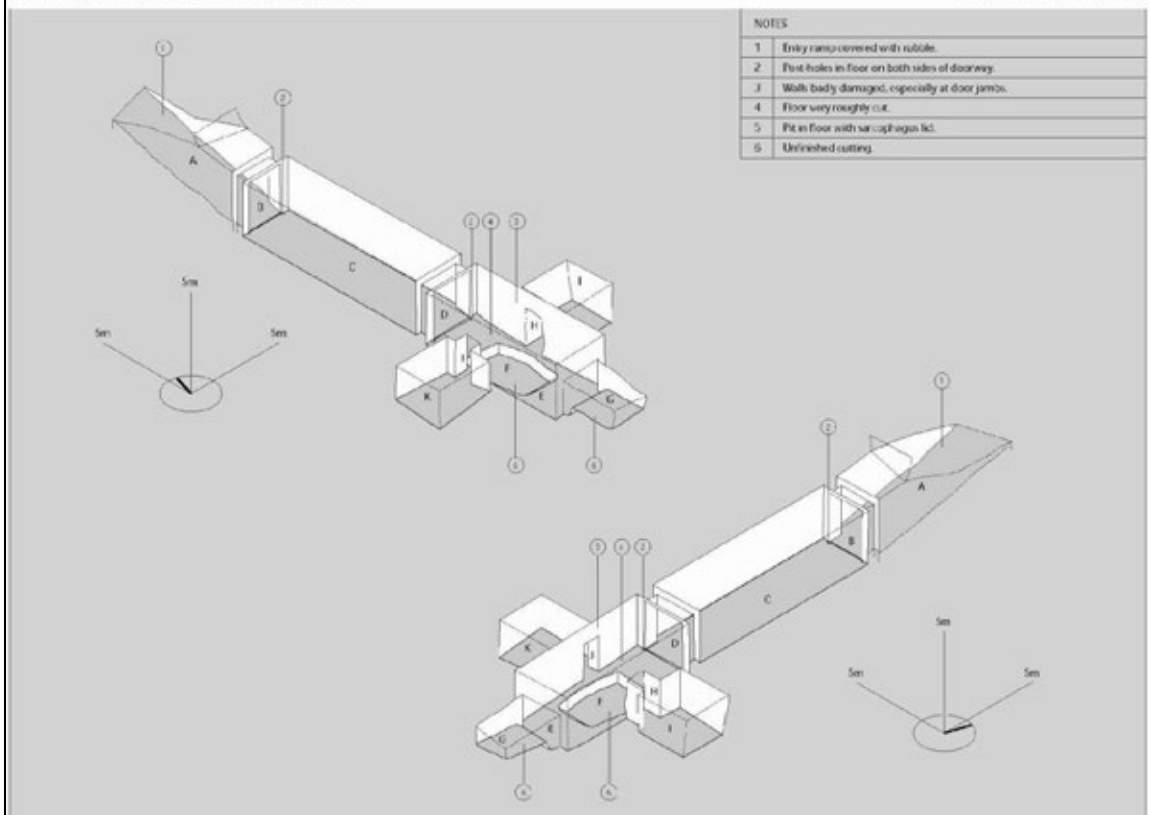
Surveyed May 31-June 1, 1981. Drawn September 9, 2007.



QV 51 - Isis, Dyn. XX

Axonometrics 1:200

Surveyed May 31-June 1, 1981. Drawn November 29, 2007.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Thomas also compared the quality of the decoration in chamber (C), doorway (D), and the rear of chamber (E) to that of QV 52, calling the rest poor in quality. She further suggests that the work, overseen by Rameses VI for his mother, was interrupted and hastily finished, based primarily on the crudeness of the decoration in the side chambers. The tomb was last cleared by the Franco-Egyptian team in 1986.

Currently the tomb is not open to visitation and bears an old sign that reads "closed for restoration" already visible in photographs from 1988. The tomb has been heavily treated as if in preparation for opening. The doorway is blocked by a metal grill door without mesh. The entrance ramp has a modern masonry surround with cement capping.

Condition

The current condition of the rock is difficult to assess because of the large modern plaster repairs that cover most of the tomb today. The rock condition prior to this treatment is documented in the 1986 CEDAE photographs, which show large open diagonal joints in corridor (C), often running across the chamber. A similar tilted open joint is visible on the exterior of the tomb on the west side of the entryway, but there is no evidence of recent movement or loss along it. The joint extends to a fracture in the west jamb of the entrance (B), but no further movement has occurred since the doorway was rebuilt. The ceiling of the burial chamber (E) is heavily fractured with substantial areas of loss, one of which may be recent and possibly ongoing. The 1986 photographs also show areas of rock loss in other parts of the tomb, particularly in jambs of doorways, before being rebuilt and coated with plaster.

Fragments of the painted plaster survive. Losses most often occur along fissures in the rock and where substantial quantities of infill material were used. The burial chamber walls have suffered the most loss of decoration. Surviving areas of decoration are fragile and detached, especially on the ceiling of burial chamber (E). There is also loss of decoration at the base of walls throughout the tomb.

The tomb has suffered intense heat damage but surfaces are not fire blackened except for small areas on the east wall of corridor (C). A horizontal line of heat alteration is also visible in corridor (C), particularly noticeable in the pigment alteration from yellow to red, at the lower parts of the west wall. The base of the wall was perhaps protected by sand or debris so that the fire only affected the upper parts of the tomb. The earth-containing plaster layers have also been heat altered, most notably changing in appearance to a terracotta orange color. The plaster has also become rigid and brittle, cracking and detaching from its substrate, and is lifting up in areas. Post-fire losses show that the underlying plaster, which was protected from the heat, is unfired and is less red in color. The burial chamber has suffered the most heat alteration, though the plasters in the rear side chambers are also heat damaged and fragile with severe cracking and detachment.

Areas of painting in the corridor also show other forms of deterioration. The upper border *kheker* frieze has an unusual pattern of loss where the red circles are almost entirely lost leaving only a ring of red. This suggests an application of a varnish in specific areas that has led to preferential loss.

The blue paint appears to be almost completely lost in areas, sometimes with the upper plaster layer gone as well. The pigment was very thickly applied directly onto the plaster instead of over a layer of black, as was typical, so that its appearance is paler than normal.

Black resinous-looking drips are also found on the walls in the corridor.

The tomb has been extensively treated. The 1986 CEDAE photographs show the tomb before treatment, and it is clear from these that extensive repairs were made throughout the tomb. The treatment was undertaken in 1988 by the EAO and included reconstruction of missing parts of walls and doorways. Different repair approaches were used in different chambers, some areas left the original lower plaster exposed while in other areas it was covered.

Cement was used in rear niche (G) on the door jambs as a base plaster. Bags of cement and other conservation materials were found in the western side chamber (K). It is possible that this cement plaster was also used elsewhere in the tomb though evidence of this is now obscured by the upper pink-colored final plaster layer. Edging repairs are also present in the burial chamber and in side chambers, though their application is not comprehensive. There is also evidence of injection holes and drips in the corridor but not in the burial chamber.

From 1988–1991 different treatment periods are recorded by SCA conservators to undertake “monitoring of old treatments”. It is unclear what this means and if there were problems associated with earlier treatments.

Staining, probably due to bat activity, is evident in the rear of the tomb.

Deterioration Factors

Complete loss of decoration at the base of the walls indicates a strong possibility of flooding in this tomb. The regularity of the loss at the base of the wall in corridor (C) is particularly strange and gives the impression that these areas were possibly intentionally cut. Pre-treatment 1986 CEDAE photographs show characteristic loss of rock around doorways and at base of walls that is also an indication of past flooding.

Rock fissuring and loss of substantial infill material have also contributed to the fragmentary survival of the decoration that we see today.

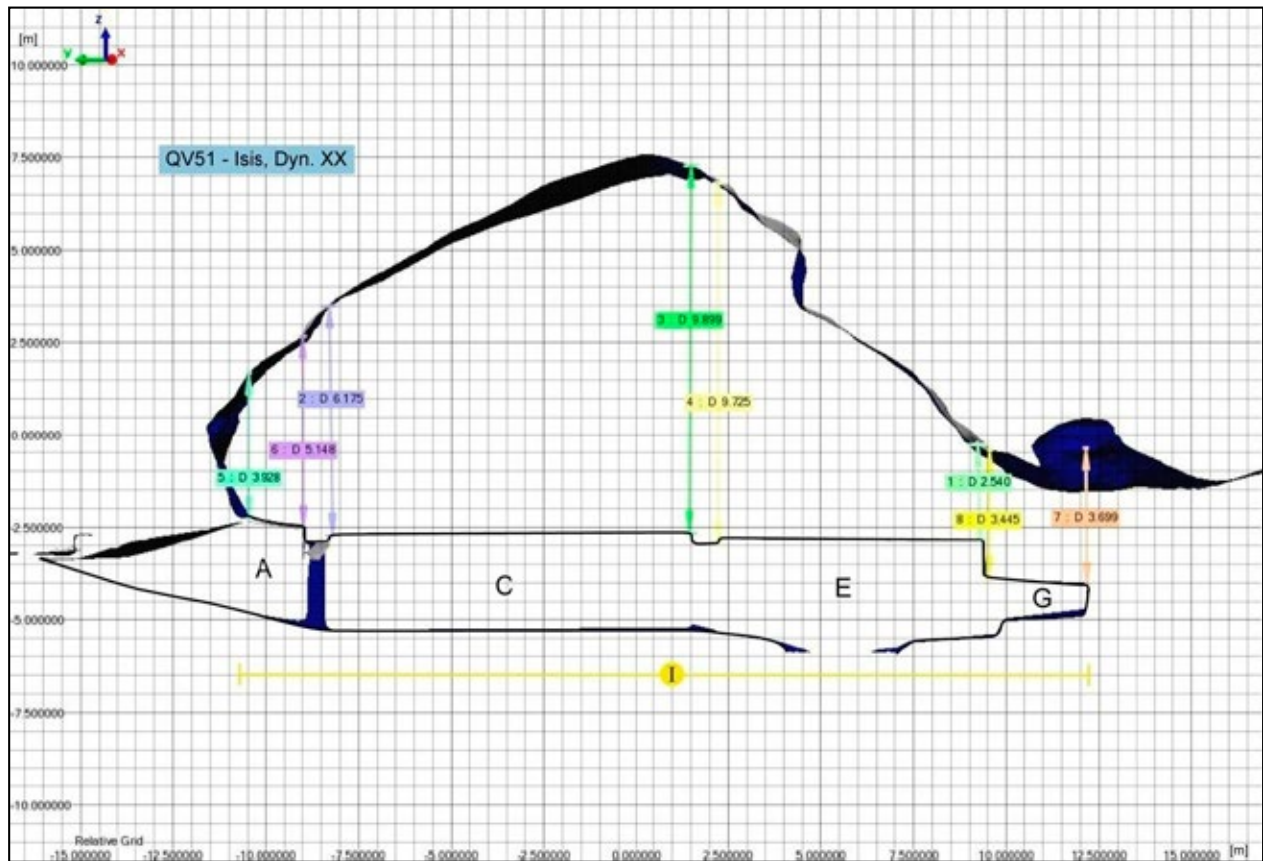
It can be assumed that the fire event(s) reached very high temperatures throughout the tomb. The fire appears to have been contained so that no soot deposited on the surface of the paintings and was instead vented out through the tomb entrance. Heat damage to the paint layer and plaster was severe resulting in permanent altering of the physical properties of these materials. The firing of the plaster layers in particular has made the painting brittle and fragile in areas leading to cracking and detachment and eventual loss.

General Recommendations

Fractured ceiling rock of burial chamber (E) should be monitored to determine whether loss is active.

Paintings have already been heavily treated but some stabilization of painted plaster is still required in side chambers (I) and (K) as well as on the ceiling of the burial chamber (E). The heat-altered condition of plaster may require stabilization treatments to be specifically formulated and trialed. Only limited stabilization of areas of plaster is recommended in this tomb.

The entrance door requires replacement and the sill wall surrounding the ramp may need replacement or re-engineering to ensure it can withstand predicted floodwater levels.



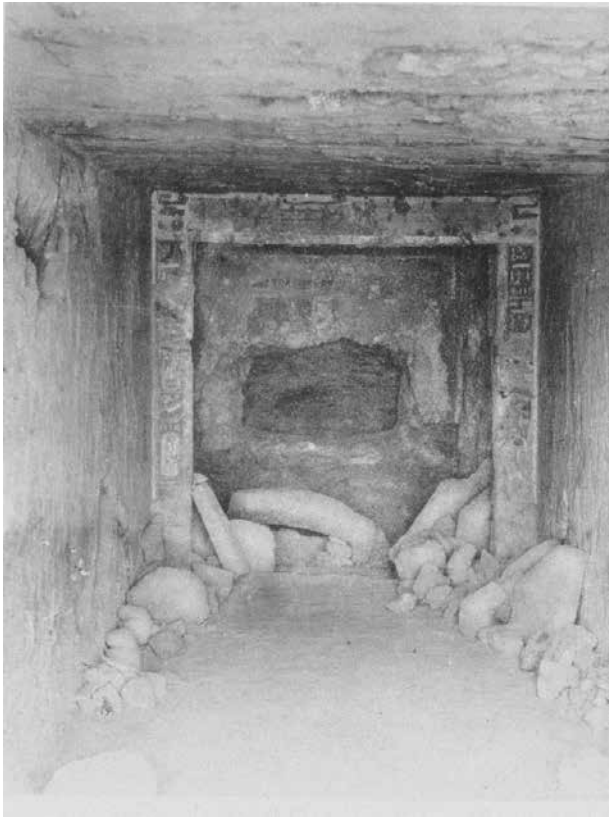
Overburden analysis of QV 51, showing that the thickness of rock ranges between 2.5m at the end of chamber (E) and 9.8m at doorway (D).



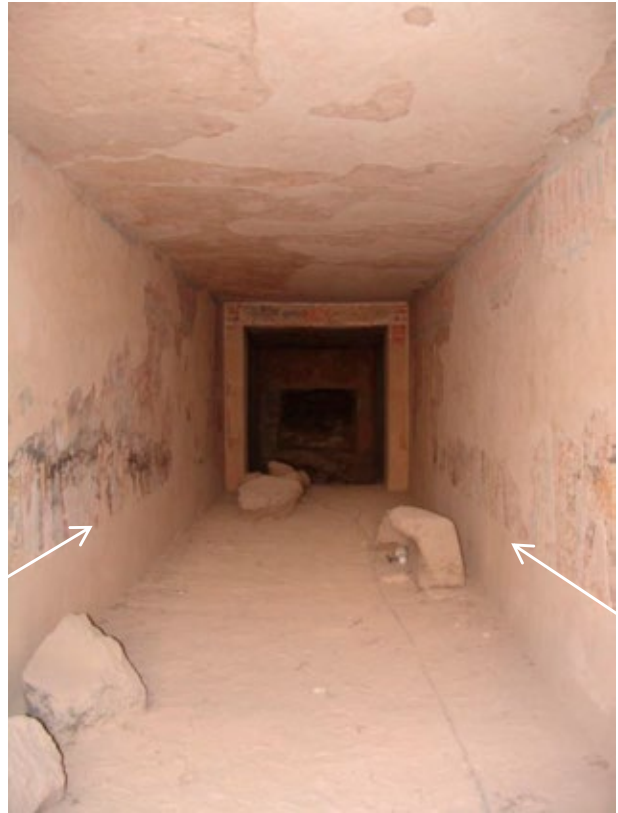
View of entrance (B) in 2006 with Schiaparelli plaque on right and "Closed for Restoration" sign above door.



View of entrance ramp (A) in 1988 with historic paving (Image: CNRS).



Photograph of the tomb taken during the Italian mission (1903-1905). (Image: Schiaparelli 1923)



Note regular horizontal line of loss of painting at base of walls of the corridor.



Burial chamber (E) in 1987 before treatment with substantial surface rock loss along walls and broken sarcophagus in shallow pit (F). (Image: CNRS)



Chamber (E) in 2006 photo, showing post-1987 treatment with plaster infill; the sarcophagus fragments still remain in situ. Little painting survives on the walls of the burial chamber.



A photograph from 1986 shows rock loss in doorway (H) which may be related to flood damage. The photo at right shows the reconstructed doorway as it appeared in 2006 (Image: CEDAE).



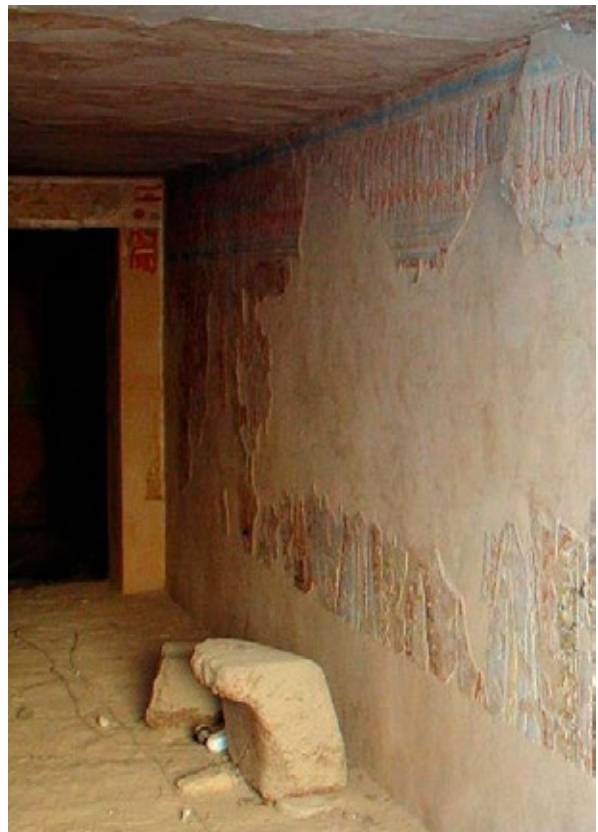
Walls in chamber (E) are largely reconstructed with plaster. Little painted plaster survives.



Niche (G) showing gray cement repair plaster. The repair has been scored in preparation for the final pink-colored finishing plaster that was never completed in this area.



Area of the corridor (C) shown before (1986) and after treatment. Note substantial infill material needed to reconstruct large voids in the wall (Image: CEDAE).



A large repair plaster being undertaken in corridor (C) in 1988 by the EAO (Image: CNRS); right, same area in 2006.



Good quality rock support, with little fracturing, in entrance corridor (C) that enabled fine chiseling and a flat wall surface. Only a thin skim of plaster was needed to prepare the surface for painting.



The underlying rock surface is visible in the areas of loss showing how thin the application of plaster was in corridor (C) where the rock quality is good.



The surviving areas of sunken relief painting in the corridor (C) are very refined.



The rock quality worsens toward the rear of the tomb. The large area of rock loss on the ceiling of chamber (E) is historic (from the time of the tomb construction) and shows evidence of rock and plaster infill still remaining.



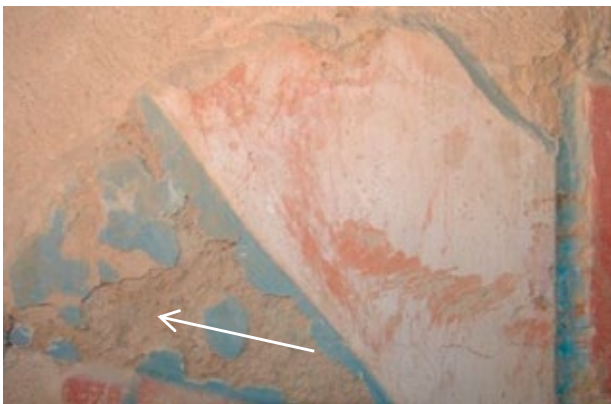
Heat alteration in corridor (C) has changed the cartouche background from yellow to orange to red. Only the upper half of this cartouche has been heat-altered.



The area of heat alteration of the pigments corresponds to the line of blackening. The lower parts of walls may have been protected from fire by sand and debris.



Red circles of border decoration look to have been coated with some sort of varnish that has since been preferentially lost.



Blue areas have suffered substantial loss, often with both the paint and upper plaster layer missing.



Ceiling in the corridor is unfinished. Setting out lines are visible in one corner but the painting was never finished.



Heat-related damage of ceiling plaster of burial chamber (E) shows a firing of the earth-containing plaster. Rock loss has also occurred here some of which may be recent.



The firing has made the plaster layer rigid and brittle. The upper layer is detaching from the plaster layer below. This lower plaster layer has rock shards set in it to serve as infill material.



Stone shards are set into the plaster as filling material. Note area where stone shard has been lost. Plaster below this has been protected from the heat and has remained unaltered. It does not have the same pinkish color of surrounding areas where the plaster has been fired.



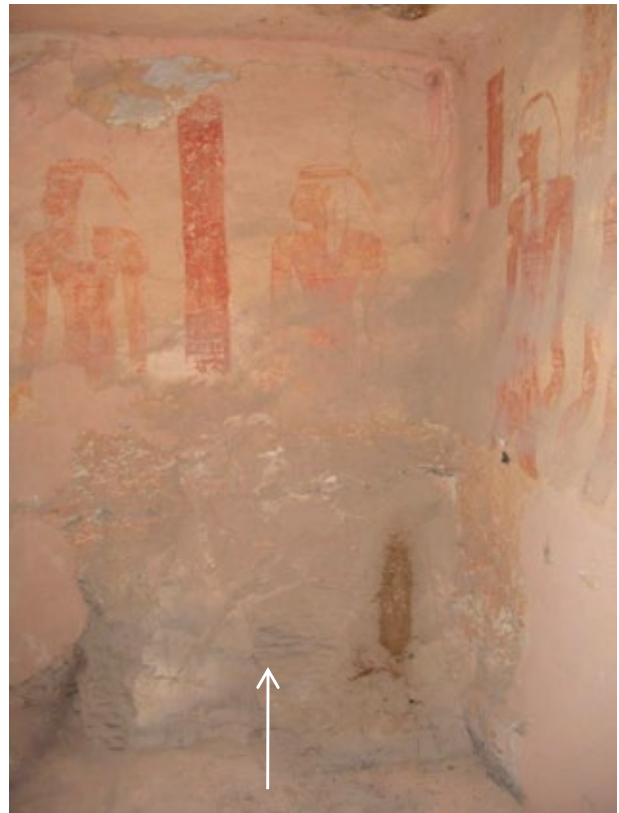
Areas of detached plaster on ceiling of burial chamber (E).



The walls and floor of side chamber (I) were never fully excavated during the tomb construction. The paintings appear unfinished. The image above left shows the area before treatment in 1986 (Image: CEDAE). Image above right shows the area after plaster repairs.



Detail of the unfinished painting in side chamber (I). There is no relief work in the painting.



There is a large area of unexcavated rock in side chamber (I).



The painted plaster in chamber (K) appears unfinished. There is no relief work in the painting.



The paintings in chamber (K) are highly fractured and detached in areas.



Note significant amount of rock loss in lower half of painting in 1986 photograph (Image: CEDAE).



Detail of plaster cracking in 1986, left (Image: CEDAE) and in 2006 showing plaster repair but no additional cracking .

TOMB INVENTORY

QV 52

<u>General Tomb Information</u>		
Tomb number	QV 52	Location Bottom of southwestern branch of main wadi, between QV 51 and QV 53
Other naming system	Hay of Linplum – 2; Wilkinson – 12; Champollion – 3; Lepsius – 9; Brugsch – 1; 1922 tourist map, Survey of Egypt - 44	
Owner/ Attribution	Tyti	
Owner Status	Queen (King's Wife [of Rameses III]) (For other interpretations see Tomb Profiles in Volume 1, 73)	
Dynasty/ Reign	20 th Dynasty / Rameses III (Leblanc 2001-2)	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
<u>Description</u>		
General Description	A short ramp (A) leads to entrance (B). This multi-chambered tomb has a straight axis with a narrow corridor (C), leading gently downward to a large sarcophagus chamber (E) with three small side chambers (I, G, K), on the south, east and west. A shaft (L) connected to lower chamber (M) is in side chamber (I).	
Decoration	Painted plaster, some parts of decoration is incised relief and painted. Cartouches in the side chambers are painted rather than incised relief.	
Iconography	The iconography is inspired from the six scenes (six groups of guardians) of the Book of the Dead. The guardians from Chapter 145-146 appear in the burial chamber (E). See Tomb Profile, Volume 1.	
<u>Objects and Current Contents</u>		
Objects recovered	34 fragments of granite sarcophagus and sarcophagus cover of the queen; some are decorated and/or with inscriptions, also image of Osiris, 3 of them are housed at Turin Museum (Thomas 1966, 223); 3 alabaster fragments of canopic jars (painted with inscriptions); a lid of container; numerous pottery sherds, 3 with hieratic inscriptions; some artefacts dated to the Third Intermediate period and Roman period (Mohamed Sayed and Sesana 1995, 215, 219-226).	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Sources and Comments
20 th Dyn.	Tomb construction	
Third Intermediate Period	Excavation of pit used for burial in the western lateral chamber	Mohamed Sayed and Sesana, 1995, 215, 218, 226
Roman Period	Reused	Mohamed Sayed and Sesana, 1995, 215
1816	Belzoni visited and left graffito at the sepulchral chamber door (his name and the date), now hidden by modern infill plaster)	Mohamed Sayed and Sesana, 1995, 215-217, 226 n. 4; Leblanc and Siliotti 2002
1826	Plan and recording of iconography by Hay of Linplum who notes that only the antechamber was full of debris.	Mohamed Sayed and Sesana 1995, 217
1829	Epigraphic studies by Champollion and Rosellini	Mohamed Sayed and Sesana, 1995, 217; Leblanc and Siliotti 2002, 59, 67
1844	Epigraphic studies, notes, and plan by Lepsius	Mohamed Sayed and Sesana 1995, 217

Early 1800s	Recording by J-J. Rifaud	Porter and Moss 1964
1893	Epigraphic studies by Bénédite	Bénédite 1893; Mohamed Sayed and Sesana 1995, 217
1903-4	Archaeological clearance, installation of steel door by Schiaparelli and Ballerini, text recording and inclusion in current numbering system by Ballerini	Carter 1905, 120; Leblanc 1989a, 39; Mohamed Sayed and Sesana 1995, 217
1927,1964	Documentation by Porter and Moss (sketch and text)	Porter and Moss 1964, 756-758, 750 (plan)
1966	Documentation by Thomas (sketch and text)	Thomas 1966
1981	Survey by TMP	TMP
Unknown before 1986	Wall paintings treatment	CEDAE photographs
1986 Mar, 1989 Mar	Photographic documentation by CEDAE	CEDAE
Unknown after 1989	Installation of barriers with glass and lighting	Site staff, pers. comm.
1994	Excavations of pits in burial chamber and western lateral chamber by CNRS-CEDAE	Mohamed Sayed and Sesana 1995
2006-2009	GCI-SCA Survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 or 2009	Installation of wooden cover over the shaft (L)	On-site inspection
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2012	Treatment by SCA of ceiling and chamber (E)	On-site inspection
Documentation and References		
Historic Photographs	-CEDAE - 27971-28071 (Mar. 1986); 28607-28626 (Mar. 1989); -Schiaparelli 1924, fig 116, 117, 119; Bruyère 1952 fig 4; Bénédite 1983.	
References	-Ballerini 1903, 5-7; -Bénédite 1893, 381-412, pl. i - viii; -Bruyère 1952 33, 38; -Campbell 1909, 85-111; -Champollion, Maspero, Champollion Figeac 1844, 383-389, ccxxix; -Dodson and Hilton 2004, 194; -Gosselin 2007, 176-183; -Grist 1985, 71-81; 1986; -Grajetzki 2005: 76 -Hay of Linplum MSS 29821, 152; -Leblanc 1989a; 2001-2; 2007 -Leblanc 1999, 182;	-Lepsius 1897-1913, text vol. iii 229-33; MS 363-71, 363, 364; -Mohamed Sayed and Sesana, 1995, 215-228; -Nestor MSS 20396, 94; -Porter and Moss 1964, 756-758; -Rosellini 1832, xiv, xix; MSS 284, H 14-21; -Schiaparelli 1923-27, 155-6; -Siliotti and Leblanc 2002 -Thomas 1966, 208-9, 214, 215, 219, 223-5; -Troy 1986: 172 -Wilkinson 1835, 80; MSS XVII H.20, vi.15; -Wild MSS ii. A. 187-189;

QV 52 - Queen Tyti

General Description

An entrance ramp (A) leads through a narrow corridor (C) into the burial chamber (E) which has a small rear chamber (G) on a central axis. Two side chambers (I) and (K) lie off of the burial chamber (E) on a northwest-southeast axis. A shaft (L) in floor of chamber (I) connects to a pit (M).

The tomb is situated along the south side of the northwest branch of the wadi. The orientation of the tomb along a southwest-northeast axis is distinct from QV 51, but similar to that of QV 53 and 55. The tomb was cut out of the tilted marl block, grayish in color and full of chert, similar to the adjacent tombs in this part of the Valley.

The high quality of the rock substrate in this tomb allowed for extremely fine stone working. Tomb walls could be cut flat and straight, unlike many other tombs in QV, and only required filling with packing plaster along rock fissures. In general, only a very thin layer of plaster was necessary to prepare the rock surface for painting. At the entrance of the tomb, on the south jamb of doorway (B), the rock carving was so fine that the painting was even applied directly onto the stone without a plaster layer.

There is extensive sunken relief painted plaster that survives throughout the tomb, though the general appearance is now abraded and the colors appear faded. The setting-out technique of using black, snapped lines is evident on the ceiling that is painted with white stars. The paintings have been previously treated and all areas of loss have been filled with modern plaster repairs.

The tomb was reused during the Third Intermediate Period when pit (M) was thought to be added, as many artifacts dated to that period were found in the pit, according to S.M. Sayed and A. Sesana (1995, 218).

The tomb has long been easily accessible in modern history. Giovanni Battista Belzoni left a graffito with his name and date in the tomb in 1816, probably in doorway (D), but it is now presumably hidden by modern infill plaster. Robert Hay of Linplum considered QV 52 to be "the most perfect" tomb (Thomas 1966, 223). He visited QV in 1826 and noted that chamber (C) was full of debris to a height of one third of the walls.

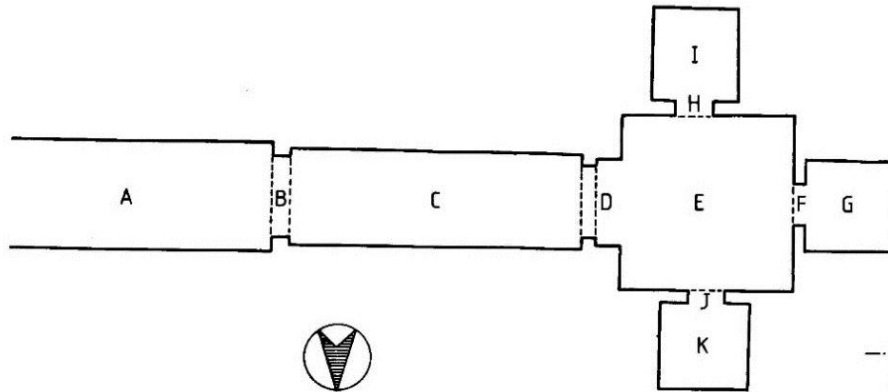


Tomb entrance in 1988 showing large wedge loss of rock. Small open joints are also present in this area, but there is no evidence of ongoing instability (Image: CNRS).

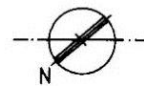


Ramp (A) to doorway (B). The walls of the ramp show the intact, regular surface of the high quality marl.

KEY-PLAN



N.C.

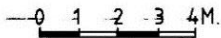


N.M.

Nov. 19, 1986

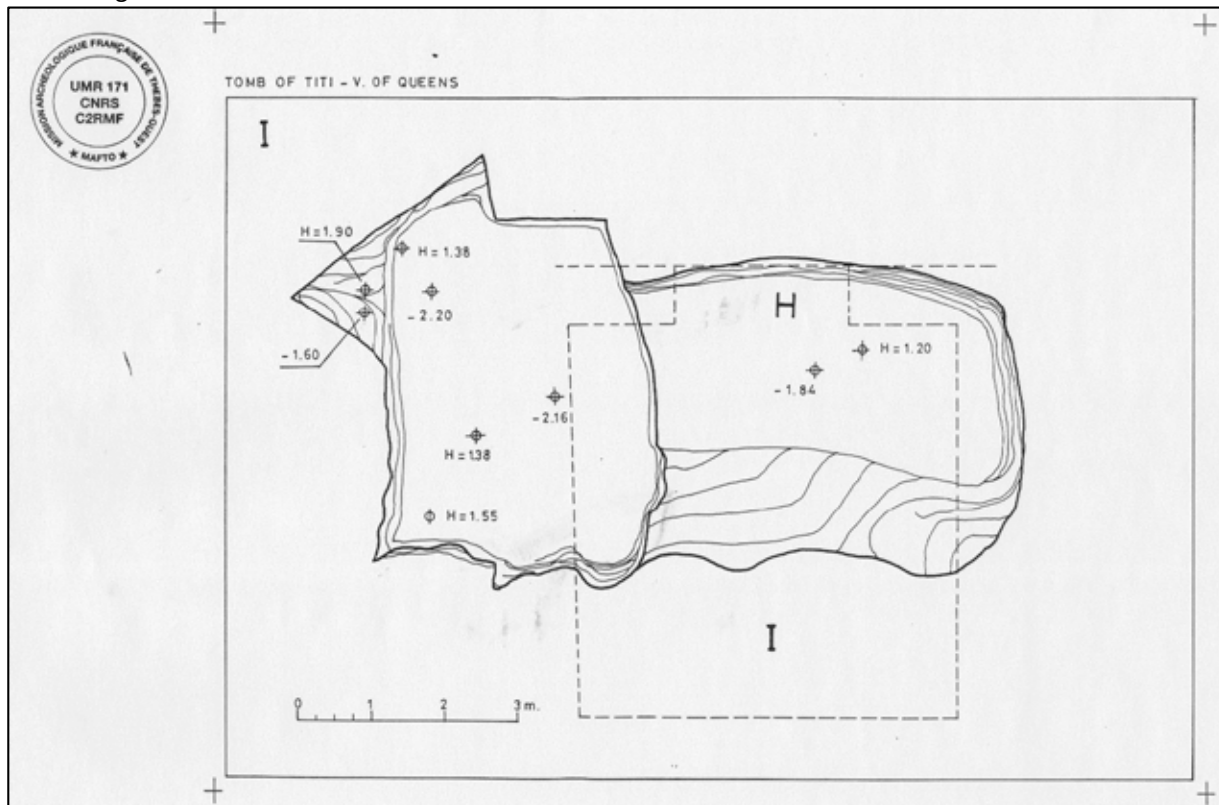
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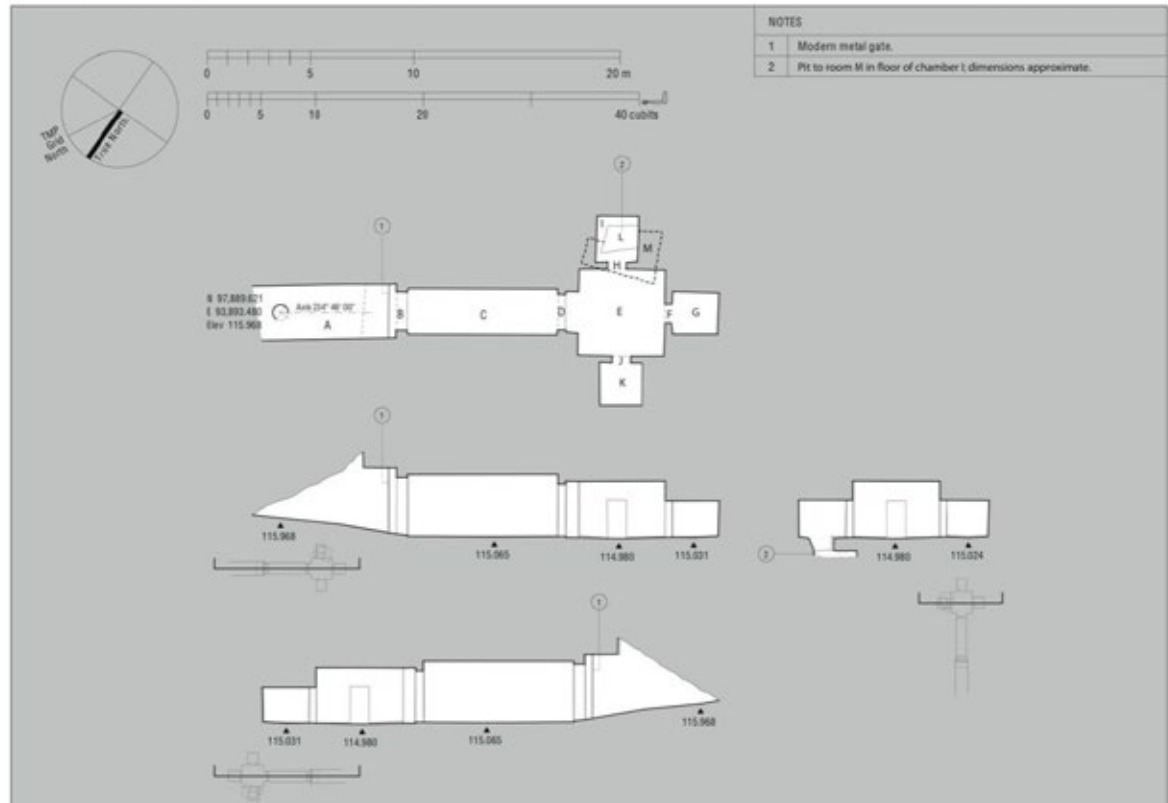
by: H. EL Mahdy

Drawing: CNRS.

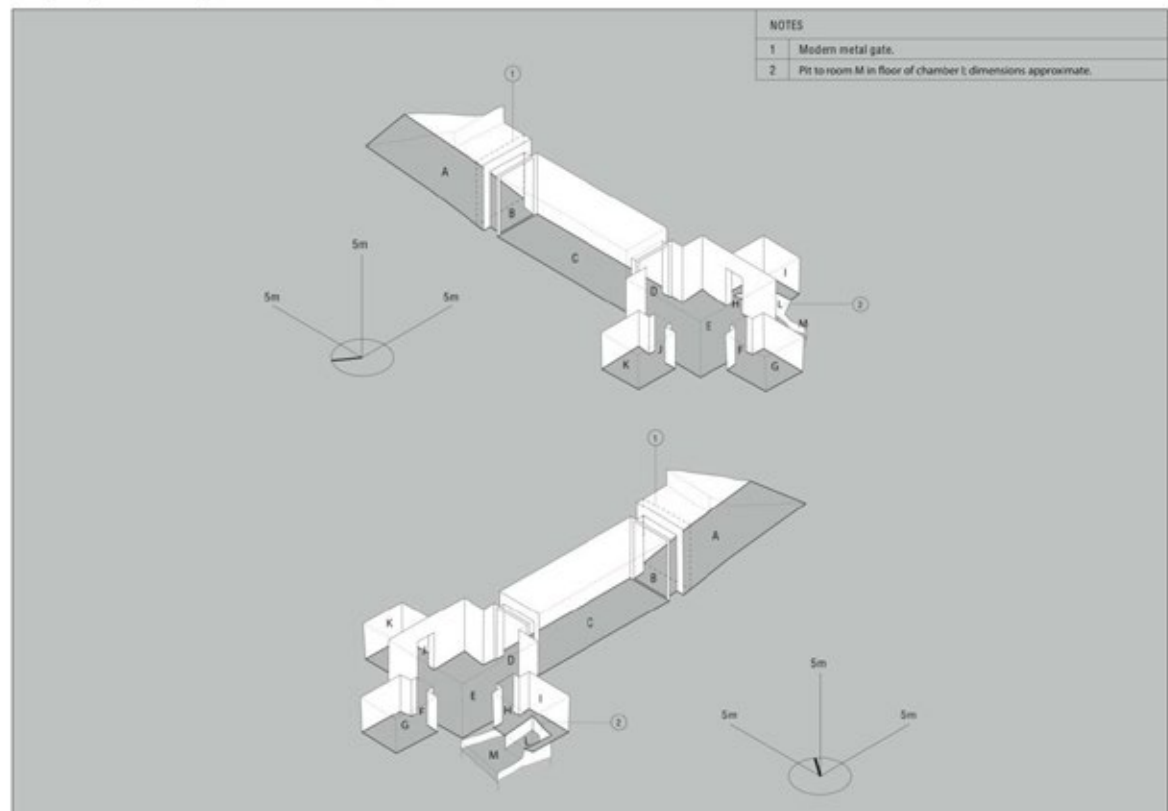


Topographical plan of shaft (L) and pit (M) in floor of chamber (I) (CNRS).

Surveyed May 21-23, 1981 & May 8, 1983. Drawn September 9, 2007.



Surveyed May 21-23, 1981 & May 8, 1983. Drawn October 14, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

G. A. Bénédite noted (1893) that the ceiling of the corridor was covered with yellow stars on a white background. He also recorded that the floor of the corridor (C) was significantly inclined toward the rear of the tomb (the height difference was approx. 55 cm), indicating that a substantial amount of debris covered the floor.

The tomb was known but was not cleared until 1903 by E. Schiaparelli. C. Campbell noted in 1909 that none of the depictions of the queen in the paintings was preserved. Elizabeth Thomas records that the tomb and decoration appear complete, created without haste and the general state of preservation to be good. She further noted that several walls were damaged by treasure hunters. Most recently, the Franco-Egyptian team excavated in chambers (E) and (I), including lower pit (M), in 1994.

Currently the tomb is open to visitation. Wooden flooring and fluorescent lighting have been installed throughout the tomb. Glass barriers line the walls except around doorways (F) and (H). The entrance is closed by a large steel door with ventilation holes.

Condition

Historic photographs of the tomb include images taken by Schiaparelli (1903) and by CEDAE in March 1986 and March 1989. Comparisons with these photographs have provided the basis for condition assessment of rock and decoration. The extent of intact decoration suggests that the tomb is largely stable though the modern plaster repairs make it difficult to fully assess the underlying rock substrate. The earliest CEDAE photographs from 1986 already show repair plaster throughout the tomb.

A photograph taken by Schiaparelli showing a large area of rock loss on the south jamb of doorway (F) is one of the few images to show pretreatment condition of the tomb. In addition to this large loss, a few other smaller areas of rock loss can be seen as well as loss of plaster at the base of the walls. This loss can be seen throughout the tomb to a height of approximately 50cm from the base of the wall. Above the entrance doorway there is a large wedge loss of rock and small open joints to the right of the loss, but no evidence of ongoing instability.

There are some large losses of plaster in the ceilings and in some walls, for example in chamber (E) and side chamber (I) and one area of loss in the lintel of doorway (D), where a small crack in the rock is visible, which continues into the adjacent ceiling plaster. Other cracks in the ceiling plaster of the corridor (C) and burial chamber (E) may also reflect the condition of the underlying rock and possible areas of plaster detachment. The ceiling plaster of chamber (E) exhibits preferential deterioration at its corners, with cracking and staining, worse toward the south side. The surface of the painted plaster is generally abraded and looks almost "keyed" with many small losses as if to have been plastered over in antiquity. The plaster surface is also stained brown in areas, presumably from repeated touching by visitors prior to the glass protective barriers being installed.

The paintings have been extensively treated. Recessed plaster repairs have been used throughout the tomb and there is evidence of surface consolidation of the painting in areas and grouting, though the exact extent of these treatments is not known. Most recent treatments were undertaken in 2012 by the SCA, to both the ceilings and chamber (E) paintings, which including poulticing of past staining, but the exact nature of this work is not known.

The overall appearance of the paintings looks faded. Paintings have also been cleaned, which may have resulted in an abraded appearance of the surface. In particular, loss of fragile areas of blue is especially prominent. Evidence of over-cleaning is noticeable in areas where insect nests and bat residues have been removed. Evidence of past bat activity is observed in the tomb.

Deterioration Factors

The only visible loss and deterioration of rock is in the uncovered entrance ramp and in the rock overhang of the entrance which could be attributable to exposure to rare rain events. Past flooding of the tomb may have caused the rock loss in doorway (F), and may have contributed to the cracking of the ceiling rock and loss of painted plaster in this area. Loss of plaster at the base of walls could also indicate past flood damage in this tomb. This loss can already be seen in the early Schiaparelli photographs. The tomb's location near the main drainage channel makes the risk of flood damage a possibility. However, apart from the loss at the base of the walls, there are no characteristic losses around doorways that can further be suggestive of flood damage, and this tomb was not affected by the 1994 flood.

Periods of reuse of the tomb as well as its long history of access and visitation may be responsible for some of the deterioration now visible. Intentional damage to the paintings accounts for the destruction of heads of figures, most notably the depiction of the queen, is apparent in this tomb. E. Thomas also notes that the tomb was partially destroyed by treasure hunters. Furthermore, localized collapse of infill material along fissures may have also contributed to the deterioration.

Past bat activity is evident and could be responsible for staining and losses seen in the ceiling corners of chamber (E) and the northwest corner of side chamber (K). More recent losses in the plaster in the low ceilings of rear chambers may be partially attributed to visitors-related damage.

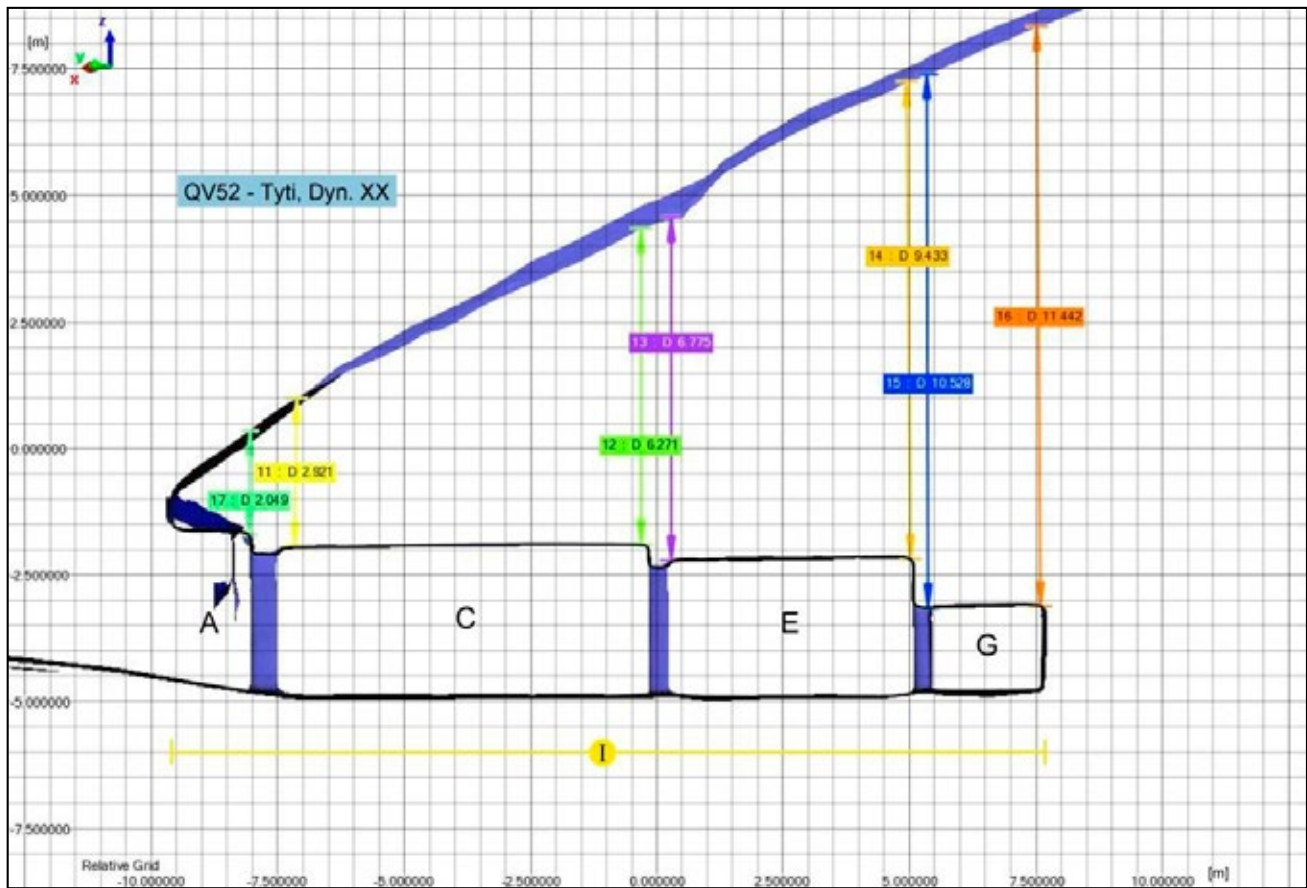
General Recommendations

The tomb entrance requires a shallow arched masonry cover to protect it from debris or floodwaters from upslope runoff. The steel entrance door requires repainting and its vent holes should be fitted with fine wire mesh to prevent entry of animals.

Paintings have already been extensively treated and appear generally stable. However, monitoring, particularly of walls and ceilings where substantial modern plaster repairs have been used, such as chambers (E) and (I) and where cracks have been observed such as around doorway (D) and the ceilings of corridor (C) and chamber (E), is recommended to identify and record whether or not change is occurring in these areas. Only with regular monitoring will the current risk levels of these areas be accurately determined.

Doorways (F) and (H) need to be protected from visitors touching the paintings. There is currently no protection of these areas. Recommend blocking off rear chamber (G) and side chamber (K) because of low ceilings and possible visitor-related problems with ceiling plaster. These areas should also be monitored.

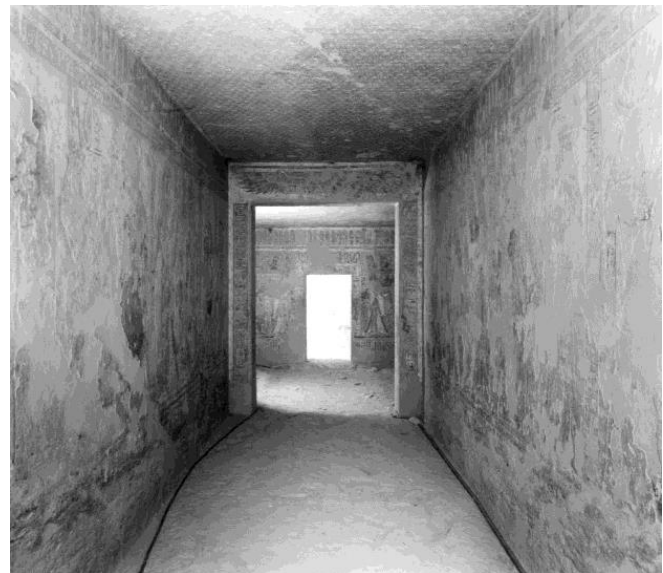
Finally, monitoring of surviving areas of blue paint, which is particularly susceptible to flaking and loss is also recommended.



Overburden analysis of QV 52 showing that the rock thickness varies from 2.0m at doorway (B) to 11.4m at rear chamber (G).



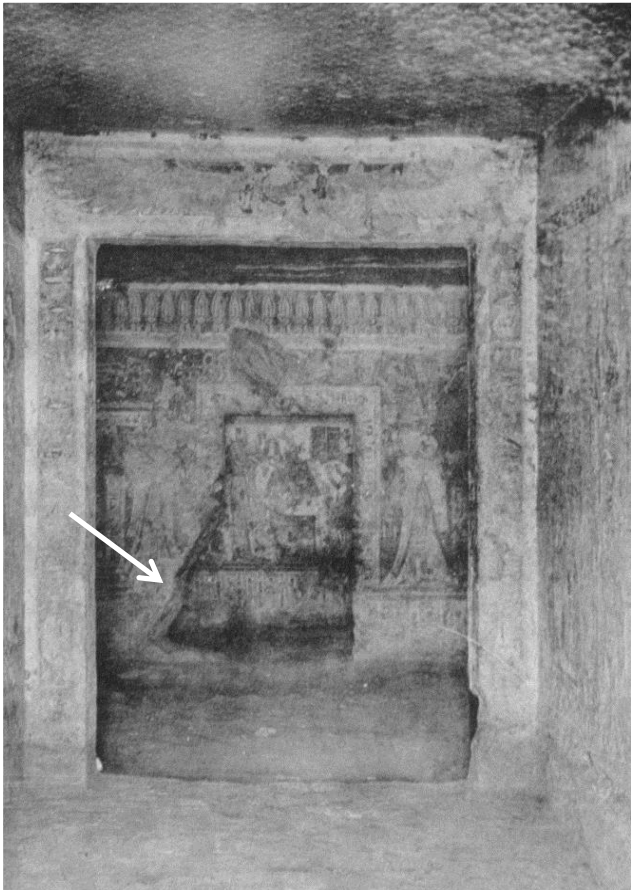
View from corridor (C) looking toward the burial chamber. Glass barrier are installed throughout the tomb to protect the wall paintings.



1986 photograph showing corridor (C) before installation of glass barriers (Image: CEDAE).



Shaft in chamber (I) leading to lower pit (M).



Photograph taken in 1903 shows condition of tomb interior. Of note is the substantial area of loss in the jamb of doorway (F) (Image: Schiaparelli 1923).



Jamb of doorway (F) in 2008 showing large loss having been reconstructed.



High quality of rock allowed for extremely fine working of the surface. Only a very thin layer of plaster was needed to cover the walls.



Black snapped lines were used on the ceiling to form a grid for painting the white stars. The beige color of the starry sky ceiling is unusual, a dark blue background color being more typical. It is not known if the effect is intentional, or the result of alteration, or some other cause.



Large area of plaster loss on the east wall of chamber (E) where it is presumed that the rock originally required plaster infilling.



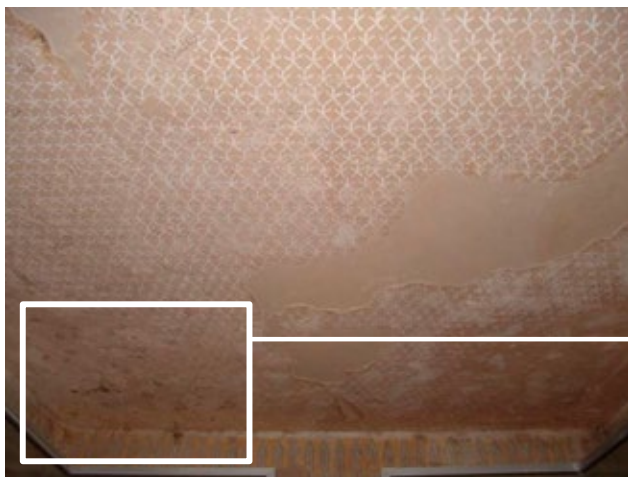
The sunken relief paintings are executed on an extremely thin layer of plaster. There are many losses in the painting, as shown here, some of which can be attributed to the intentional and systematic defacement of faces, hands, feet, and some hieroglyphs.



Though much painted plaster survives throughout the tomb, many small losses are found within the painting. The photographs show surviving painting in rear chamber (G), left, and chamber (K), right. (Image: CNRS).



There are large losses in the paintings in side chamber (I). (Left photo: CNRS).



Ceiling of chamber (E) shows losses and deterioration concentrated in the corners.



Detail of corner of chamber (E) showing concentration of deterioration and loss of painted plaster, possibly due to bats.



Dark splotches on painting indicate past bat activity. An attempt was made to clean these areas in the past, and again in 2012 (right). The photograph is from an area of painting in Chamber (E).



Insect nests on ceiling have been removed.



Bat-related damage in the corner of ceiling of chamber (K).



Losses in ceiling of chamber (G) have been filled with plaster repairs.



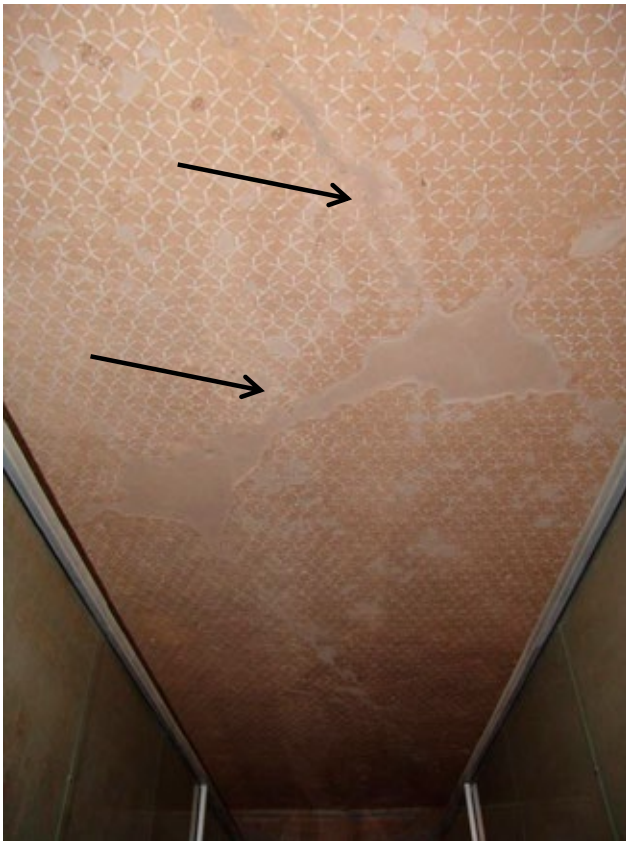
The plaster repairs are slightly recessed from the level of the painting.



The sides of doorway (H) are unprotected and show staining caused by visitors touching the plaster.



The jambs of doorway (H) show the result of visitors touching the painting. This area should be protected.



The filled cracks in ceiling of corridor (C) should be monitored.



The small crack observed in lintel of doorway (D) should be monitored.

TOMB INVENTORY

QV 53

General Tomb Information		
Tomb number	QV 53	Location South side of main wadi near its western end
Other naming systems	Hay of Linplum – 3; Wilkinson – 11; Champollion – 2; Lepsius – 8; Brugsch – 20	
Owner/ Attribution	Rameses Meryamen	
Owner Status	Prince (King's Son)	
Dynasty/ Reign	20 th Dynasty / Rameses III	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
Description		
General Description	This Multi-chambered tomb is entered through a short ramp (A) leading into chamber (C), followed by corridor (E), with two side chambers (G) and (I), to the east and west, respectively. Chamber (E) proceeds along the central axis to chamber (K), with a side chamber (M) to the west, and a niche (O) to the south of chamber (M). Barrel vault ceiling in Chamber (C). A sunken pit in the center of corridor (E).	
Decoration	Plastered raised painting, some parts are incised relief	
Iconography	Book of the Dead (Chapter 145). The iconography is part of the integrated depiction of Chapter 145 in QV 44, 53 and 55, each tomb depicting different scenes from Chapter 145, which together form a complete suite necessary to enter the afterlife. QV 53 (gates 1-4), QV 55 (gates 5-8), QV 44 (gates 6-16), The final gates 17-21 were thought to have been illustrated in another unfinished tomb, possibly QV 45 or 53 (Leblanc 2001b, 313; also see Yoyotte, 1958, 28).	
Objects and Current Contents		
Objects recovered	Remains of a wig in blue frit; fragments of a granite statue of the prince; mummies of ibises and falcons; fragments of terracotta sarcophagi from the Roman period (Leblanc 1993a, 27; Lecuyot 2000, 54); 276 bodies from Roman period (Macke and Macke-Ribet 1993, 303); large stone bins containing skeletal remains of children (Leblanc 2007 pers. comm.); bronze statue of Osiris (Lecuyot 1999, 43).	
Removal or clearance of contents	Material cleared or recorded from QV by CNRS and SCA in October 2008 and November 2009: piles of granite fragments, baskets of pottery sherds, a skull and fragment, and two lamps.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Source and Comments
20 th Dyn.	Tomb construction	
Third Intermediate Period	Reuse	Aston 2003
2 nd century AD	Reused as mass burial for infected bodies and animal mummies (ibis and falcon) with 276 bodies covered with lime, which are thought to be related to the outbreak of bubonic plague from 165-180 A.D. in Egypt. The bodies from the Roman period present "[p]hysical evidence of the pestilence" (Ritner 1998, 17; Macke and Macke-Ribet 1992, 303).	Leblanc 1999b; Ritner 1998, 17; Macke and Macke-Ribet 1993, 303

Coptic period (?)	Possible re-use according to Lecuyot.	Lecuyot 1993a, 271; 2000, 55; Leblanc 2007 Pers.Comm.
Arab period	Possible reuse for habitation: grain mill dated to Arab period found by the entrance in chamber (C).	Leblanc 1989a, Pl. CXXVIII
1826	Recording and research by Hay of Linplum	Leblanc 1989a, 25-38
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
1829	Recording and research by Champollion	Leblanc 1989a, 25-38
1844	Recording and research by Lepsius. Lepsius recorded the name and prenomens of Rameses III in chamber (C) which is the only evidence to date the tomb. It was already lost at the time of Yoyotte's visit in 1956.	Leblanc 1989a, 25-38; Yoyotte 1958, 27
1854	Recording and research by Brugsch	
1956	Documentation by Yoyotte	Yoyotte 1958, 27
1964	Documentation and brief description by Porter and Moss	Porter and Moss 1964, 759, 750 (plan)
1981	Survey by TMP	TMP
1984-86	Archaeological clearance by CNRS	CNRS
Unknown, before 1986	Painting treatment	CEDAE photographs
1986	Photographic documentation by CEDAE	CEDAE
1990	Ramp side walls were reconstructed by CNRS, to distinguish new interventions (not covered in plaster) from original courses.	CNRS Mission report 1991-1992
1994	Tomb affected by flood	Leblanc 1995, 212
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008	GCI hydrologic and geologic preliminary assessment by Wüst (GCI consultant)	GCI; Wüst 2008, 41-48
Oct 2008	Removal of study materials by Leblanc and SCA	GCI, SCA
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2010 Feb-Apr	Tomb cleaning and wall painting stabilization by GCI-SCA	GCI
Documentation and References		
Historic Photographs	-CEDAE 28366-28380 (Oct.1986); -CNRS/CEDAE – Plates: CXXVII-CXXVIII A-B (1985); CXXIX, CXXX A-B (1986) in Leblanc, 1989a.	
References	-Aston 2003; -Hay of Linplum MSS 29821, 139-40; -Hassanein 1978, 404-419; -Grist 1985, 73-76; 1986, 170-178; -Kitchen 1972, 186-9; -Leblanc 1989a; 1993a; 1995; 1999b; 2001-2, 205-206; -Lecuyot 1993a; 2000;1999; -Lepsius 1897-1913, text vol. iii, 229;	-Macke and Macke-Ribet 1993, 303; -Nelson and Janot 1993; -Porter and Moss 1964, 750, 759; -Ritner 1998, 17; -Siliotti and Leblanc 2002; -Thomas 1966, 206-9, 212, 215, 219-21, 223-5; -Yoyotte 1958, 26-30;

QV 53 – Prince Rameses-Meryamen

General Description

This tomb is located on the south side of the main wadi near its western end. The tomb is entered through ramp (A) leading into antechamber (C), followed by chamber (E), with two side chambers (G) and (I), to the east and west, respectively. Chamber (E) proceeds along the central tomb axis to chamber (K), with a large side chamber (M) to the west that has a small niche (O) to its south. Remains of a mudbrick structure are present in doorway (D).

The tomb was cut into the marls of the middle part of Member I, still part of the large tilted geologic block that composes much of the Valley. The angle of tilt is visible in the lines of chert lenses present within this part of the marl. The rock is in relatively good condition and is easily worked, though it has suffered from periodic flooding, resulting in localized ceiling and wall falls. Its grey color compared to the yellower marls elsewhere in the Valley reveal the higher clay content of the rock in this part of the Valley. A fault runs through the rear of the tomb, and much of the chert throughout the tomb is crushed or brecciated, reflecting the rotational movement that has occurred with the rock.

Evidence of recent flooding is visible throughout the tomb in the form of horizontal water marks and basal erosion along walls, and a thick layer of dried, cracked mud on the floor of the chambers, especially those farthest from the entrance. Leblanc records that during the 1994 flood water filled the tomb up to the mid-level of its walls (Leblanc 1995, 212). Elizabeth Thomas noted that the tomb was half full of debris upon her visit in 1959-60, suggesting a long history of periodic flooding.

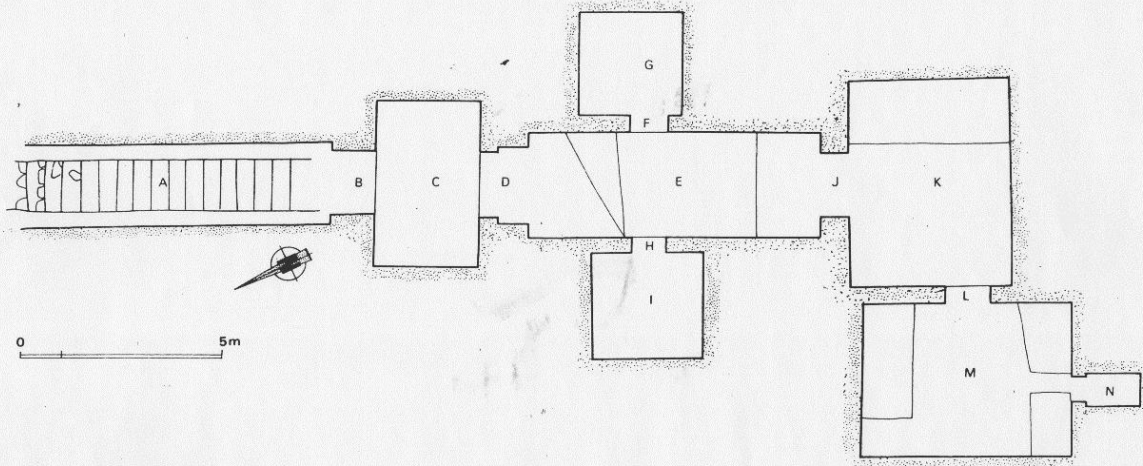
The tomb has little extant decoration, although the full extent of surviving plaster and painting has not yet been recorded.



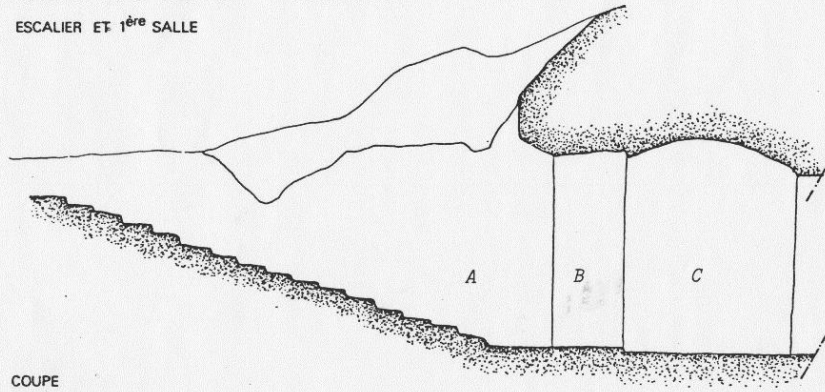
View of tomb entrance with modern masonry retaining walls lining ramp and above entrance.



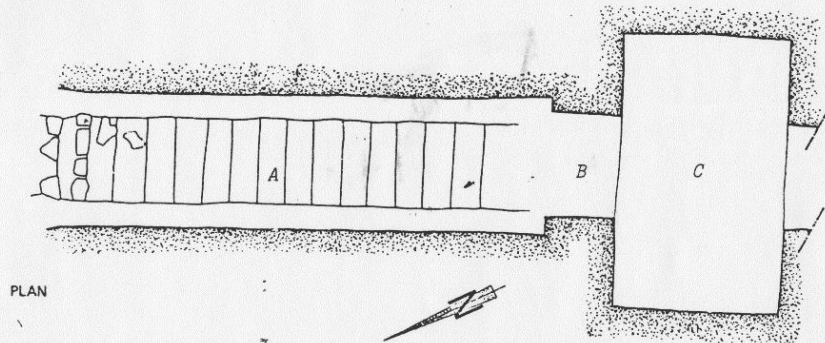
Overview of the tomb interior in corridor (E) with heavily fractured ceiling and local rock loss; water staining visible along wall.



VALLÉE DES REINES TOMBE 53
ESCALIER ET 1^{ère} SALLE



COUPE



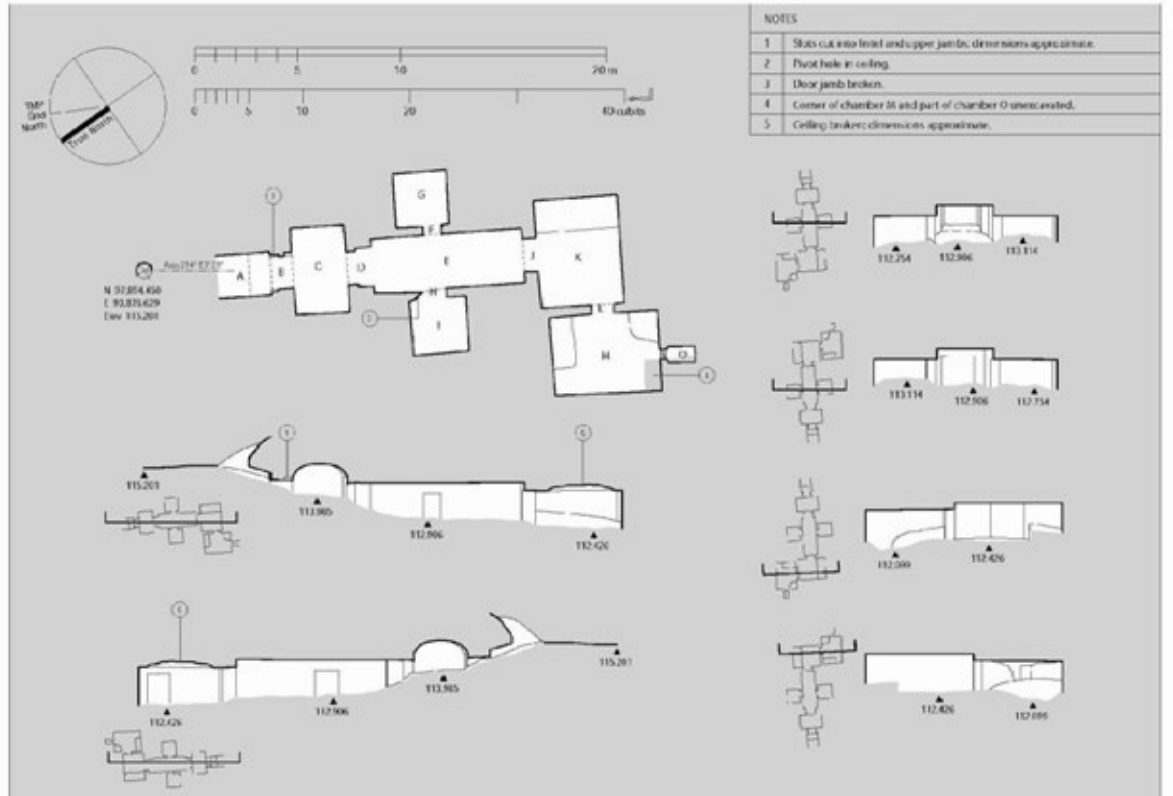
PLAN

Drawings: CNRS.

QV 53 - Rameses-Meryamen, Dyn. XX

Plan, sections 1:200

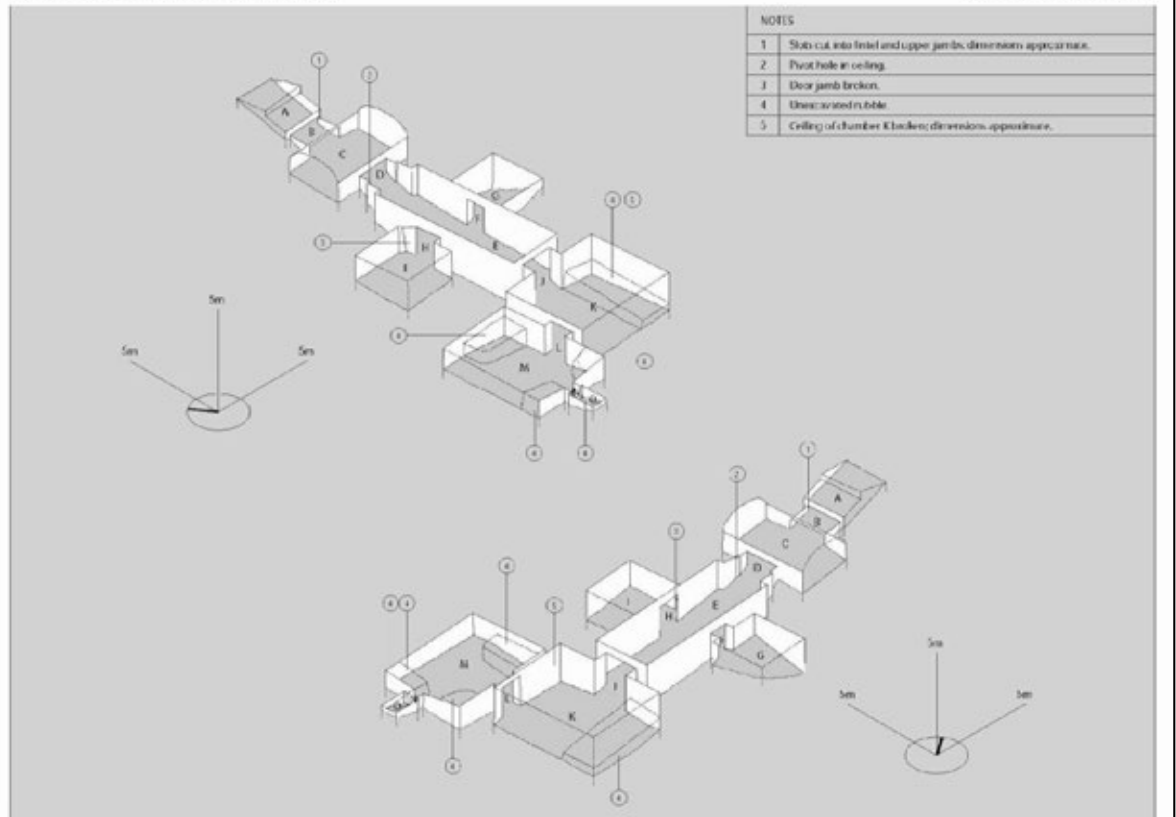
Surveyed May 18-19, 1981. Drawn September 9, 2007.



QV 53 - Rameses-Meryamen, Dyn. XX

Axonometrics 1:200

Surveyed May 18-19, 1981. Drawn November 29, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

The small areas of remaining sunken relief plaster in chamber (C) are the main areas of surviving painted decoration in the tomb. In other chambers only traces of lower plaster now remain though small areas of carved stone and traces of paint can be found in corridor (E) and fire blackened decoration in doorway (D).

All areas of the tomb were once plastered except for rear side chamber (M) and niche (O). Side chambers (G) and (I) though plastered may not have been painted. There is fire damage in this tomb but it is not uniform. Some chambers have blackening while others show heat alteration but no blackening.

The rock surfaces are finely worked in areas, necessitating only a thin layer of plaster. Areas of carved rock can be seen in chamber (E) (east wall, north end and southwest corner) used as preliminary setting out marks for the decoration. Mason tool marks are also still visible on the rock in places.

The tomb has been accessible since the time of Robert Hay of Linplum (1826) and was cleared by the French mission in 1985-86, prior to which period the tomb was partially filled with debris, requiring one to crouch or crawl upon entry, according to Yoyotte (1958).

Currently the tomb is not open to visitation. A metal grill door with torn mesh prevents visitor access. Modern masonry retaining walls lie on either side of the ramp and above the entrance.

Condition

A fault runs through the rear of the tomb, in chambers (M), (K), and a corner of (E), according to geologist Wüst, which is parallel to the joint planes along which rock loss has occurred, particularly at tomb doorways. Substantial diagonal fractures and open joints are present in ceilings and walls throughout the tomb, especially in central corridor chamber (E), which often results in localized rock loss. Fallen rock is present on the dried, cracked mud that carpets the floor, indicating ongoing loss since the most recent flood in 1994. Doorways (D) and (J) have substantial rock loss adjacent to diagonal open joints, and a recent collapse in the north jamb of doorway (D) has occurred since 1987 CEDAE photographs. Ceiling rock loss is present in most chambers, and includes notable quantities of post-fire losses. Severe ceiling rock collapse has occurred in chambers (I) and (E), with large amounts of fallen rock lying atop the mud layer. Particularly noticeable in rear chambers (K) and (M) the ceiling rock is highly fragmented and many detached pieces are at risk of falling.

Areas of salt efflorescence, especially at the bases of the rear chamber walls, and salt infill in joints can be seen throughout the tomb, and a continuous horizontal water line marks the walls half way up, particularly in rear chambers (K) and (M).

Little painting survives in this tomb. Surviving areas of painting, plaster layers and carved rock are not well known or recorded and are in areas of ongoing rock instability. The extent of surviving painting and plaster is difficult to determine due to the blackening and sediment deposit in areas. Salt efflorescence and wasp nests can be seen throughout the tomb. The nests have not yet been removed as in other tombs.

Paintings have been lost since the 1987 CEDAE photographs and correspond to areas of recent rock collapse and loss of plaster repairs. In particular, doorway (D), which was partially reconstructed by the Franco-Egyptian team (date of intervention unknown), has suffered substantial loss. New cracks not seen in the 1987 documentation have also developed in this area. In chamber (C), areas of both painting and repair plaster have also been lost since the 1987 CEDAE photographs, presumably also because of the 1994 flood.

Fire damage is not uniform throughout the tomb. Fire appears to have been localized as some areas of the tomb were not impacted by the fire. The fire caused both blackening and heat alteration and damage. Yoyotte mentions that signs of fire are present in all chambers, with some walls entirely blackened by soot. Chamber (C) is severely blackened and probably suffers from heat alteration in upper parts of walls and ceiling. Side chambers (I) and (G) both show signs of fire damage, though chamber (G) has heavier blackening. Heat damage to the plaster has made surviving areas of decoration extremely fragile and has led to loss of the upper plaster layer, as seen in side chamber (G). The plaster is separating from the rock which has led to post-fire losses. Rear chamber (K) has fragments of painting and plaster that survive. The plaster is pink in color and appears altered by heat but not blackened.

The modern masonry retaining walls along the ramp and above the entrance were constructed by the French in 1990, following recommendations to distinguish new interventions (not covered in plaster) from original courses. Chamber (E) has sloppily applied gypsum mortar fills on the west around doorway (H), and in doorway (D) the remains of repairs are still present despite recent rock loss there.

Wall paintings treatments include edging repairs and large plaster fills that have both a lower grey plaster keyed with cross-hatching, and an upper pink-colored plaster (similar to what was used in QV 51), carried out by the French in 1985-86.

Deterioration Factors

Diagonal open joints in the clay-rich rock coupled with cyclic flood events have greatly contributed to the conditions noted in this tomb. Flooding has subjected the rock of the tomb to swelling and drying pressures, which have resulted in further fracturing and rock loss, particularly of door jambs and in ceilings, some of which has occurred since the most recent flood in 1994. The tomb continues to be immediately threatened by flooding, being adjacent to the main drainage channel, which is fed by a catchment area exceeding 19 hectares. Fire in the tomb has also damaged painted plasters and may have contributed to rock fragility in certain areas.

General Recommendations

Stabilization of fragile rock is necessary, particularly in areas where recent losses have occurred, such as doorway (D) and the ceilings of chambers (K) and (M). Movement monitoring of selected fractures is also advised. Structural stabilization work should be undertaken with wall painting conservators to treat fragile neighboring areas of painting, if needed.

Stabilization of fragile areas of painted plaster is required to prevent further loss. Particular areas needing treatment include the painting in chamber (C) and chamber (F). Treatment required is generally localized and limited in scale.

The entrance requires an arched cover, new door and wall in front of it to better protect the tomb from flood and debris entry.



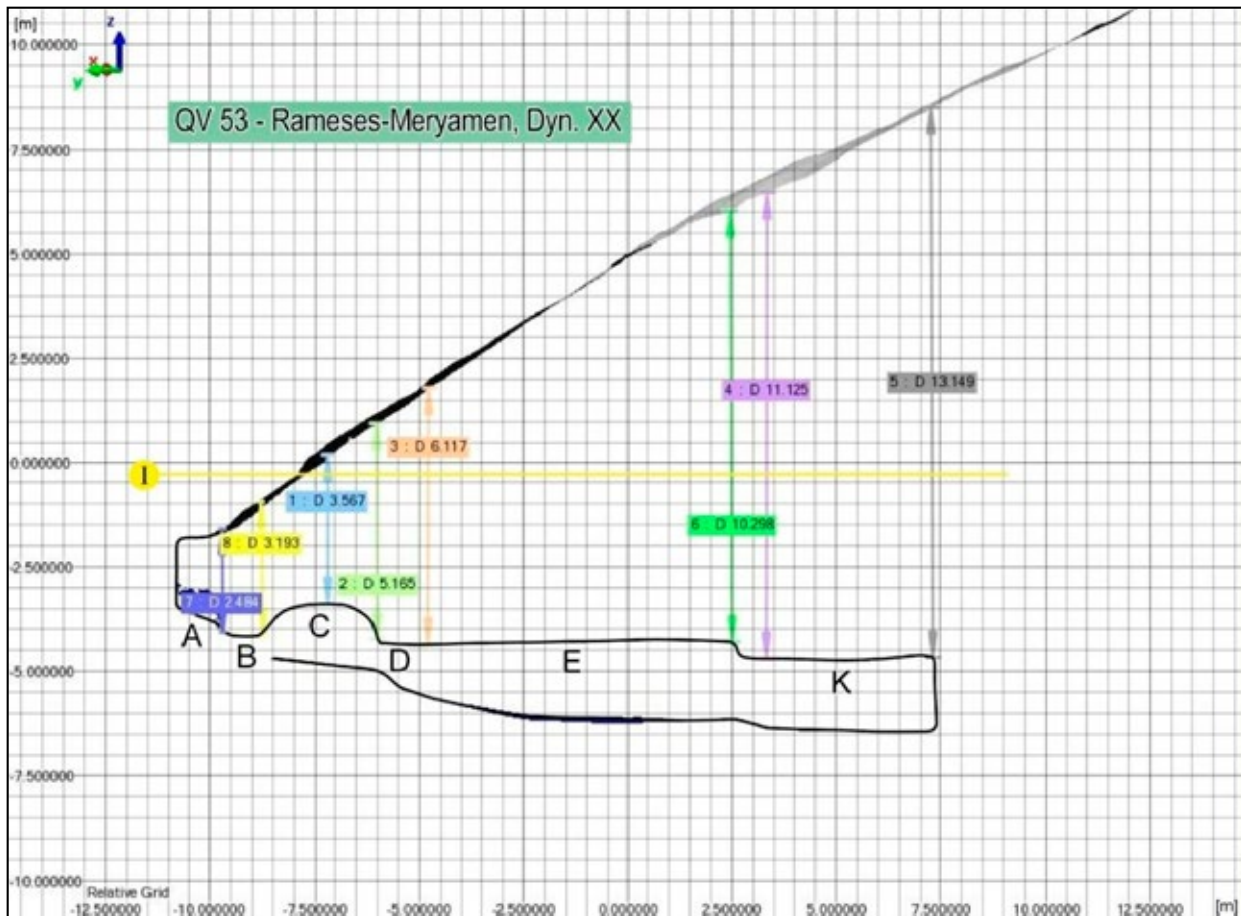
QV 53 may have been used for habitation during the Arab period. Grindstone was found in situ in the front chamber (C) (CNRS; Leblanc 1989a)



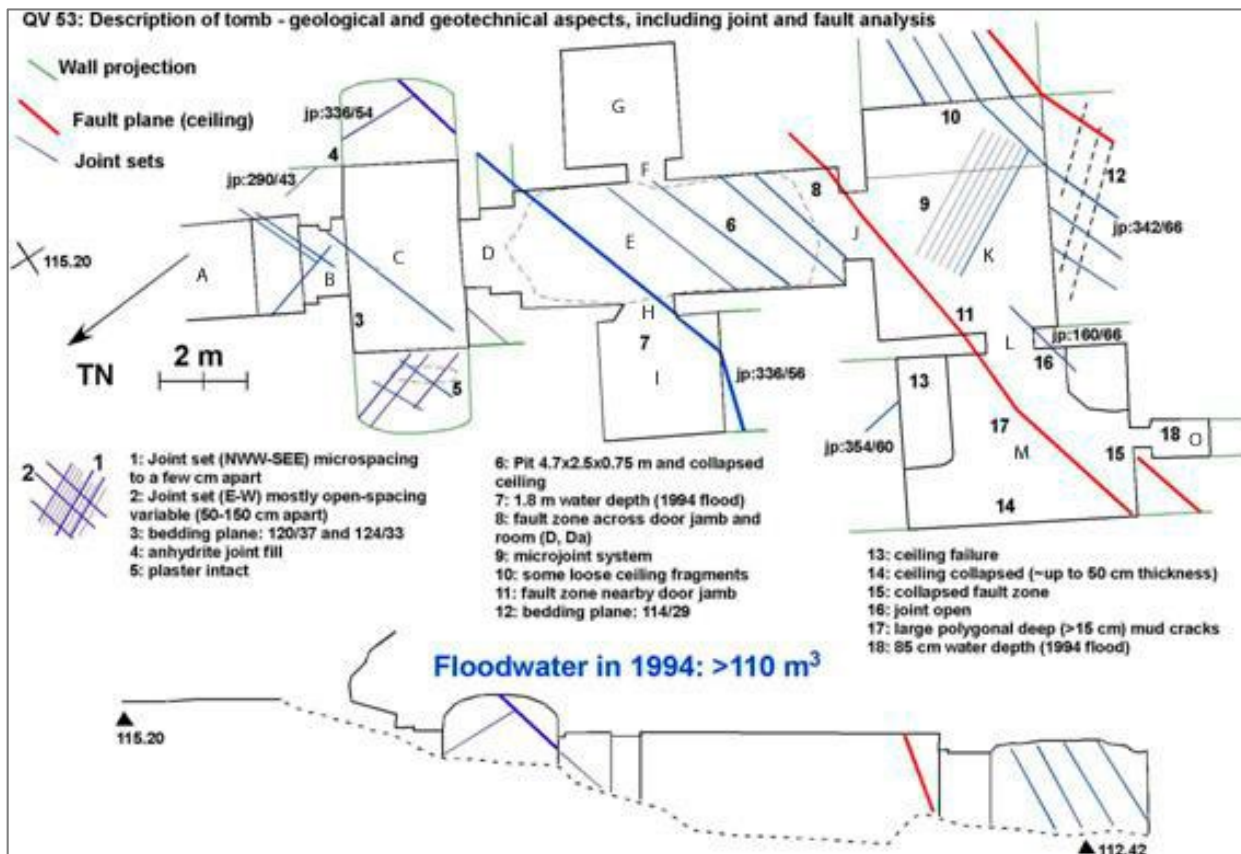
Overview of the tomb interior from central corridor chamber (E), left top: 1987 (Image: CEDAE), below: 2007.



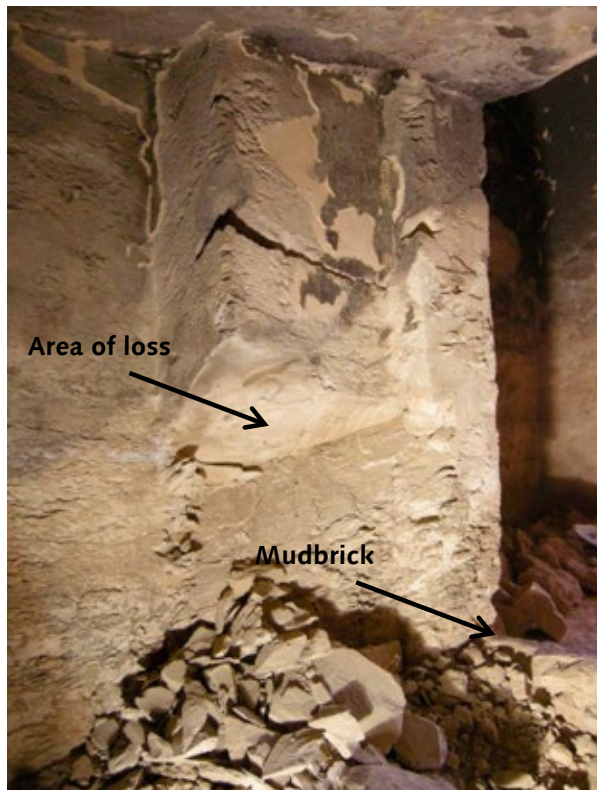
Note loss in left doorway (F) has worsened since the last flood event in 1994.



Overburden analysis reveals a substantial thickness of bedrock between tomb ceilings and exterior surface over most parts of the tomb, ranging from 3 to 13 meters.



Geologic and geotechnic analysis, showing major faults and joint systems (Mapping: Wüst 2008).



Recent rock and wall plaster loss in doorway (D). Note also remains of mud-brick in the door threshold.



1987 CEDAE photograph of Doorway (D) showing area before loss.



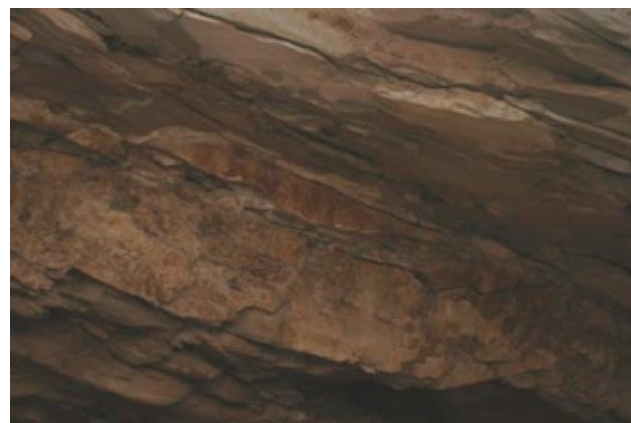
Fractured ceiling rock in side chamber (I).



Post-fire rock loss in chamber (G).



Fractured ceiling rock in chamber (K).



Fractured ceiling rock in rear chamber (M).



Chamber (M), south wall and niche (O), top in 1986 (Image: CEDAE), bottom in 2008.

Note no significant rock loss, but flood water line and salts efflorescence on the wall and cracked mud on the floor due to 1994 flood event.



Thick, cracked mud layer on floor in rear chamber (M) deposited in 1994, and fragments of fallen rock from ceiling.



Walls of entry ramp (A) were very finely worked creating a flat, even wall surface. A thin layer of original plaster survives on this wall.



The fine rock cutting in this tomb is also seen in chamber (E) where carving as preliminary setting out for the decoration is still visible.



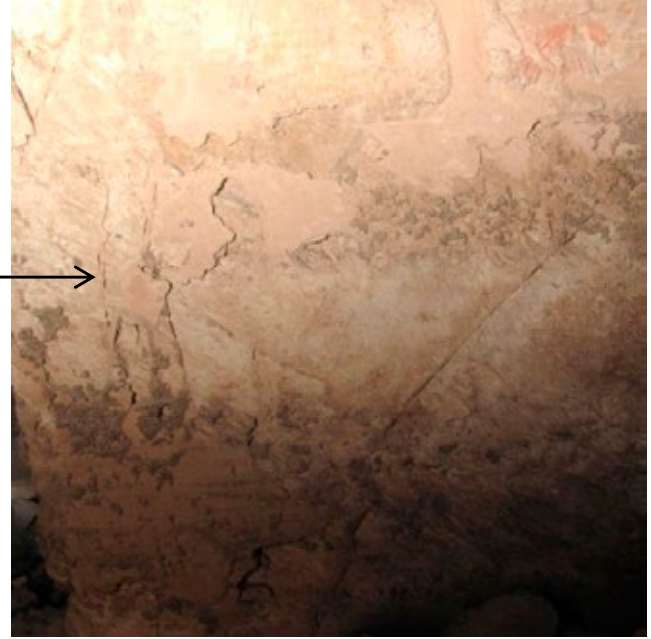
Traces of paint, applied directly on the rock, are also visible in chamber (E). It is unclear if this paint was an underdrawing or was part of an intentional painting scheme. Other areas in chamber (E) are plastered with relief decoration, though survival of these areas is limited.



Rear chamber (K) has traces of painting and plaster on all four walls and ceiling.



Packing out of walls and ceiling with plaster and rock shards was necessary in areas. Traces of this infill material still remains.



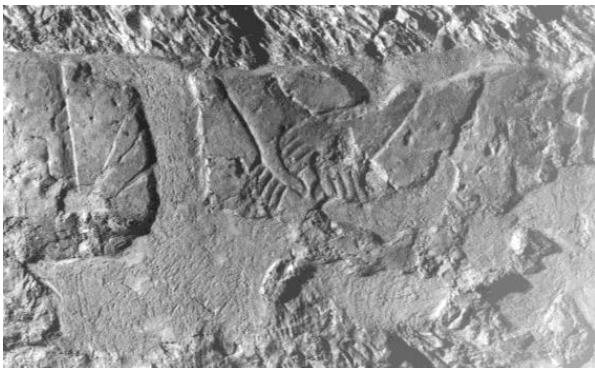
Chamber (C) has heavy soot blackening in the upper parts of the walls. There are small areas of surviving sunken relief paintings at the base of the walls concentrated in the southwest corner. Comparison with 1987 CEDAE photographs below shows substantial losses in this area.



1987 CEDAE photograph of surviving area of painted plaster.



Same area in 2008. Significant areas of painted plaster have been lost.



1987 CEDAE photograph of surviving area of painted plaster.



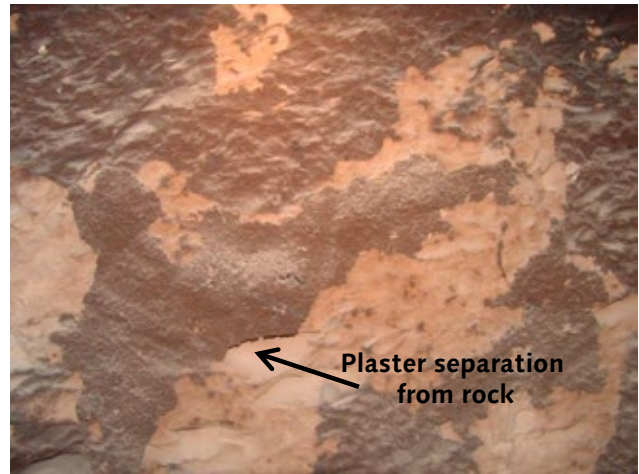
Same area in 2009. Significant areas of painted plaster have been lost.



Chamber (K): White efflorescence can be seen on the rock in the flood zone at the base of the walls. Traces of painted original plaster survive above. It is pink in color possibly indicating heat-related damage.



Side chamber (G) has heavy soot blackening and post fire losses.



Side chamber (G) has a thin layer of plaster but may not have been painted, though this is difficult to fully assess given the extent of blackening. The plaster layer has suffered heat damage and is now quite fragile; it is separating from the rock in areas.



Chamber (E): Only traces of painted plaster still survive in this room.



Chamber (E): Detail of surviving area of plaster. The light gray areas are repair plaster.



Chamber (E): Pink-colored edging repair are also visible in this tomb.



Mud wasp nests still survive in this tomb though they are no longer inhabited.

QV 54 – Unfinished

General Description

QV 54 is located behind the visitor shelter adjacent to QV 55, in the north branch of the main Valley. A ramp (A) descends slightly, leading into an unfinished corridor (C), cut into a spur of marl projecting from the base of the cliff. Roughly a quarter of the ramp is covered by a rock-cut roof.

Remains of dry laid rubble masonry exist on both sides of the ramp. At some point, areas of stone loss along the ramp walls were repaired with mortar and stone chips. On the north wall of the ramp, several test patches of modern plaster have been applied.

This unfinished tomb has been known since the time of R. Hay of Linplum (1826). E. Thomas suggests cracks in entrance and unfinished corridor were partly plastered when the tomb was being excavated. Based on the architectural plan, this tomb was likely excavated during the 20th Dynasty, though there have not been any recorded discoveries of archaeological material.

The tomb has no door and is used by site personnel to rest and store items. Bats occasionally roost on the ceiling and there is modern graffiti on the walls.

Condition

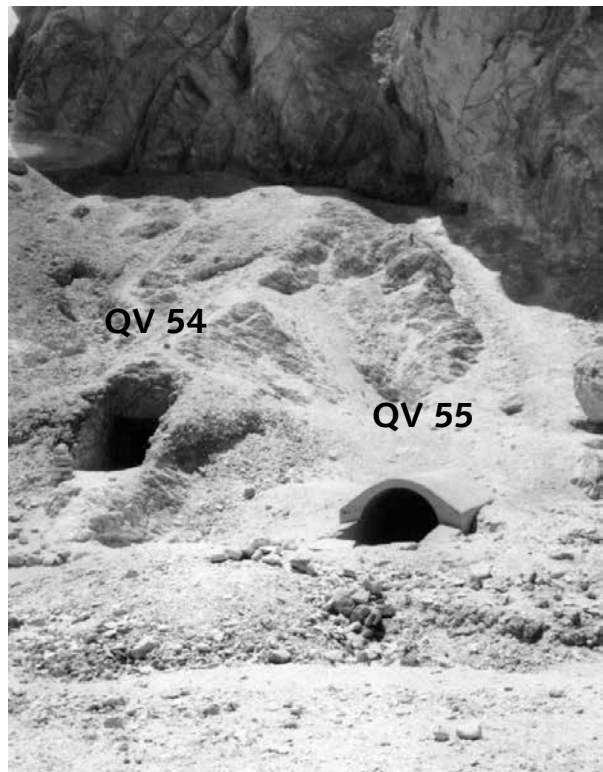
The unfinished tomb presents no significant structural concerns.

Deterioration Factors

Human and animal activity are the main sources of deterioration of the tomb.

General Recommendations

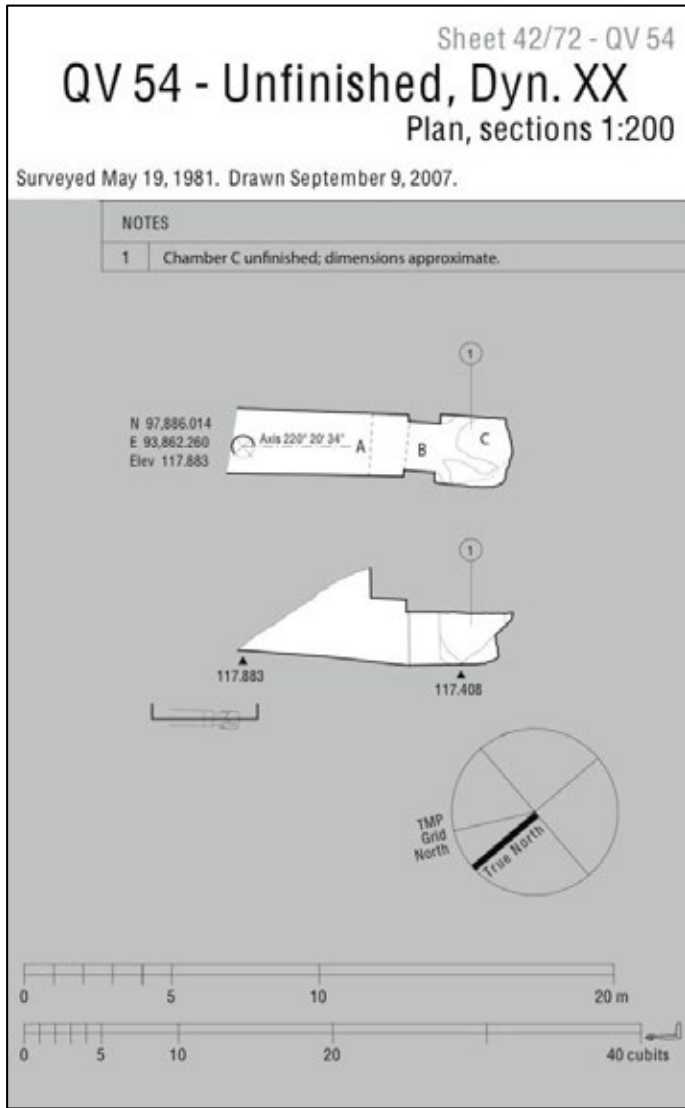
A door should be constructed at the entrance to prevent access by site personnel, visitors, and animals. Scree should be removed from the slope above the north wall and the dry laid rubble masonry should be stabilized.



CEDAE photograph from 1974 showing relationship between QV 54 and QV 55.

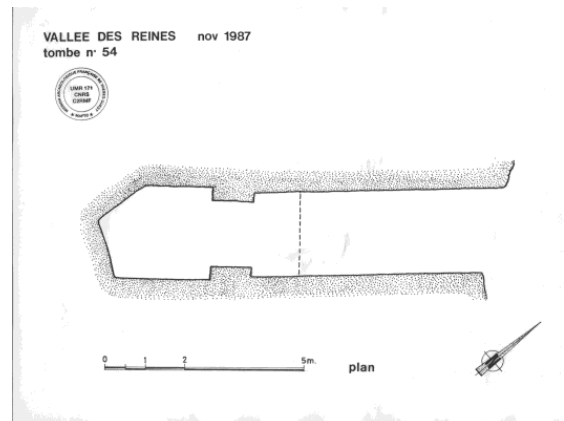
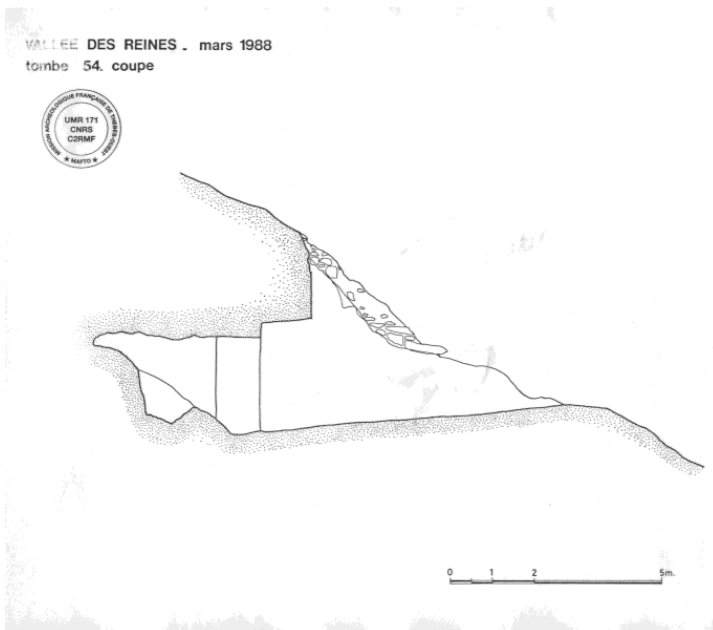


Ramp and entryway to QV 54.



Tomb interior.

Drawings : Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawings: CNRS.

General Tomb Information		
Tomb number	QV 55	Location Western end of main wadi
Other naming systems	1922 tourist map, Survey of Egypt - 52	
Owner/ Attribution	Amenherkhepshef	
Owner Status	Prince (King's Son)	
Dynasty/ Reign	20 th Dynasty / Rameses III	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
Description		
General Description	This multi-chambered tomb progresses along a straight axis from a steep, rock-cut ramp (A) with a couple of steps at the end to chambers (C) and (G) where the prince's sarcophagus was found. The corridor leads to the last chamber (K) with low ceiling where the sarcophagus is currently located. Two side chambers (E, I) with low ceilings lie to the north of corridors (C) and (G).	
Decoration	Extensive painted plaster with incised relief throughout the tomb except the side chambers and the rear chamber (K). East part of south wall in chamber (E) is plastered and underpaint drawing is present. Walls of chamber (K) is plastered but no decoration.	
Iconography	Chapter 145, incantations 5 -8 from the Book of the Dead in the burial chamber (G). The iconography is part of the integrated depiction of Chapter 145 in QV 44, 53 and 55, each tomb depicting different scenes from Chapter 145, which together form a complete suite necessary to enter the afterlife: QV 53 (gates 1-4), QV 55 (gates 5-8), QV 44 (gates 6-16). The final gates 17-21 were thought to have been illustrated in another unfinished tomb, possibly QV 45 or 53 (Leblanc 2001b, 313; also see Yoyotte, 1958, 28). See Tomb Profile, Volume 1 for details.	
Objects and Current Contents		
Objects recovered	Sandstone stele fragment with depiction of twenty-two people offering libations and block with a bark of Khons (Cairo Museum ent. 28945-6); red granite sarcophagus and remains of wooden coffin (Schiaparelli 1924, 154); two uninscribed wooden <i>ushabti</i> . Mummified fetus currently in tomb was placed in Chamber K c.1974 and moved to Chamber E in February 2010; it was found in the Valley of Prince Ahmose (Leblanc and Fekri 1993, 260; Hassanein, Nelson, Lecuyot 1997, 21).	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
20 th Dyn.	Tomb construction, ordered by the king as recorded on an ostracon dated to Year 28 of Ramese III.	(Grist 1985, 78)
Third Intermediate and Roman Periods	The entrance appears to have been lost in the Third Intermediate Period; there was no reuse of the tomb in this or Greco-Roman period.	(Lecuyot 2000, 53)
1904-05	Discovery, documentation and installation of arched cover, door and the plaque by Schiaparelli and Ballerini. Dry masonry wall with plaster which originally sealed the entrance was extant at the time of Schiaparelli's discovery.	Carter 1905, 120; Leblanc and Siliotti 2002, 82; Hassanein and Nelson 1976, 2; Thomas 1966, 221.
After 1906-1908	Sarcophagus was moved from corridor (G) to the rear chamber (K)	Photograph in Campbell 1910

1920s, 1964	Documentation (sketches and text) by Porter and Moss	Porter and Moss, 1964, 759, 761, 750 (plan)
1966	Documentation (sketches and text) by Thomas	Thomas 1966
Before 1972	Wall paintings treatment	CEDAE photography in 1972
1972-1974	Photographic documentation by CEDAE	Leblanc 1989
Before 1974	The fetus mummy put on display in the tomb	CEDAE photography in 1974
After 1974	Lighting, wooden walkway and glass barrier, fire extinguisher and fan installation	SCA staff pers. comm.
1981	Survey by TMP	TMP
1988	Survey and documentation by Laurent (CNRS)	CNRS
1988 Oct	SCA conservation work. No further information.	SCA conservator notes
1989 Dec	SCA monitoring	SCA conservator notes
1990 Mar	Consolidation of plaster layer by SCA	SCA conservator notes
1993	Photographic documentation by Siliotti (CNRS)	CNRS mission report 1992-1994
1994	Although the tomb opening is located in a low lying position adjacent to the main wadi, C. Leblanc notes that not much water entered the tomb during the flood in 1994 because the entrance was blocked with sand bags.	Leblanc, pers. comm., 2009
1994 Feb	Treatment in QV 55 (1990-1994) by SCA completed in preparation for opening the tomb to visitors.	SCA conservator notes
Unknown before 1997	Stairs at ramp and wooden handrails to protect wall paintings	Hassanein and Nelson 1997, 21
2005	Cleaning of sarcophagus and consolidation of ceiling with Primal injections and plaster edging repairs in the burial chamber by SCA.	SCA conservator notes (conservators from the QV project team worked on this tomb)
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2009 Jan	Digital photographic documentation by CEDAE.	CEDAE
2009 Feb	Data logger and dust collector installed by GCI in chamber (K).	GCI
2009 Nov–Mar 2010	Cleaning of sarcophagus and consolidation of ceiling with Primal injections and plaster edging repairs in chamber (C) by SCA. Tomb temporarily closed.	SCA conservator notes and on-site inspection
2010 Feb	The glass case with mummified fetus was moved from chamber (K) to chamber (E) by SCA to reduce congestion in chamber (K).	On-site inspection
Documentation and References		
Historic Photographs	-Schiaparelli 1923-27, 143-154 (Fig. 101-115); -CEDAE - 21952-21964 (Dec. 1972); 22255-22351 (Mar. 1973); 22689-22788 (Mar. 1974); -D'Amicone and González 2008, 87-91.	
References	-Bruyère 1924, 161-164; 1925, 162 pl iii; -Campbell 1910, 68-81 and 113-116; -Dodson and Hilton 2004, 192; -Gosselin 2007, 143-147; -Grist 1985, 73-81; 1986, 101-170; -Hassanein and Nelson 1976; 1997, 21-26; -Hassanein 1978, 8-17/68-115/289-312; -Kitchen 1972, 186-189;	-Leblanc 2001-2 202-205; -Porter and Moss 1964, 759-761; -Pillet 1930, 110 fig 83, 84, 86; -Thomas 1966, 208-10, 215, 219-25; -Siliotti and Leblanc 2002; -Schiaparelli 1923-27, 143-154; -Weigall 1924, 292.

QV 55

Prince Amenherkhepshef

General Description

A long entry ramp (A) leads into chamber (C) with a side chamber (E) to the north. Chamber (C) is followed by corridor (G) with side chamber (I) to the north, and ends in rear chamber (K), which contains a granite sarcophagus. The entry ramp has modern masonry steps replacing wooden steps visible in 1974 photos.

QV 55 is located at the western end of the main wadi, and is oriented along a NE-SW orientation, similar to QV 52 and 53. The tomb is cut into the same grayish-colored, chert-rich marl found in this part of the Valley. The rock is generally of good quality, so it did not require the substantial amount of infill material as seen in many of the other tombs in QV. However, the rock condition is difficult to fully assess because of the extensive modern repairs carried out throughout the tomb. Some original rock is visible in the ramp side wall, as is some original plaster and packing, and in side chamber (E).

Extensive sunken relief painted plaster survives throughout the tomb, though once evidently boldly colored, the general appearance is now abraded and the colors appear somewhat faded. Areas of the tomb decoration are unfinished including side chamber (E) that was plastered but was never painted, as well as rear chamber (K) that has a base plaster layer only. The ceiling may also not have been completed, with only a single wash of black paint applied.

E. Schiaparelli discovered the tomb in 1904. Part of the plastered, dry masonry wall which originally sealed the entrance was still preserved but the tomb was found empty, apart from a sarcophagus in chamber (G). E. Thomas notes that the entrance had been re-sealed with plaster after thieves had broken through. G. Lecuyot suggests the tomb location was lost during the Third Intermediate Period. The Italian mission constructed surround walls and a vaulted cover over the entrance and installed a heavy metal door. The Franco-Egyptian team carried out investigations in the tomb in 1988.

Currently the tomb is open to visitation except for side chambers (E) and (I) that are closed off. Glass barriers, fluorescent lighting, and wooden flooring are installed. Previously, low wooden barriers were used. There are no barriers around doorway (J) and in burial chamber (K).



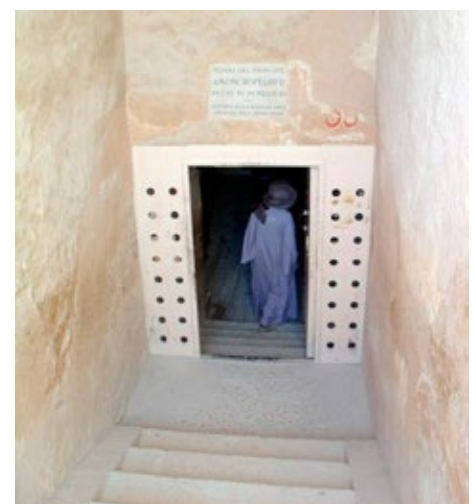
Entrance to QV 55 at the time of Italian mission c.1905 (Image: Museo Egizio).



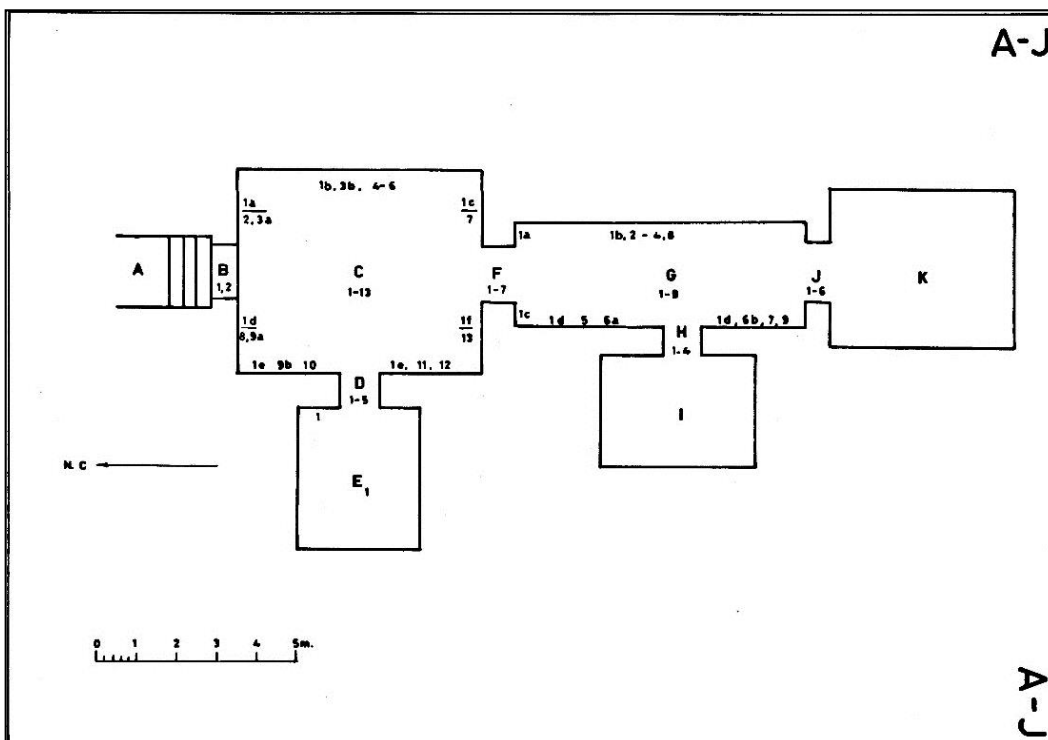
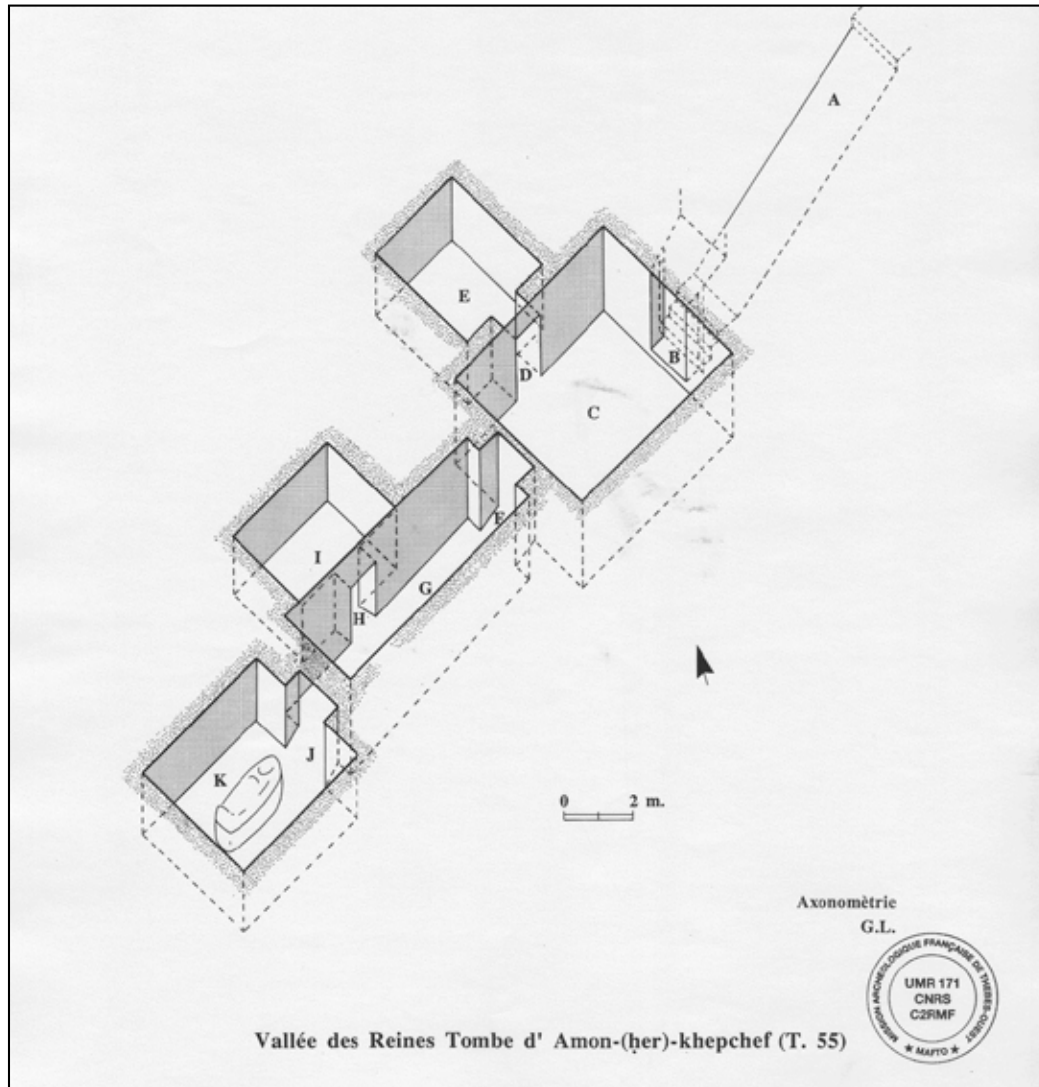
Entrance to QV 55 in 1974 (Image: CEDAE).



Entrance to QV 55 in 2010.



Entrance doorway (B) with Schiaparelli plaque in situ above the door.

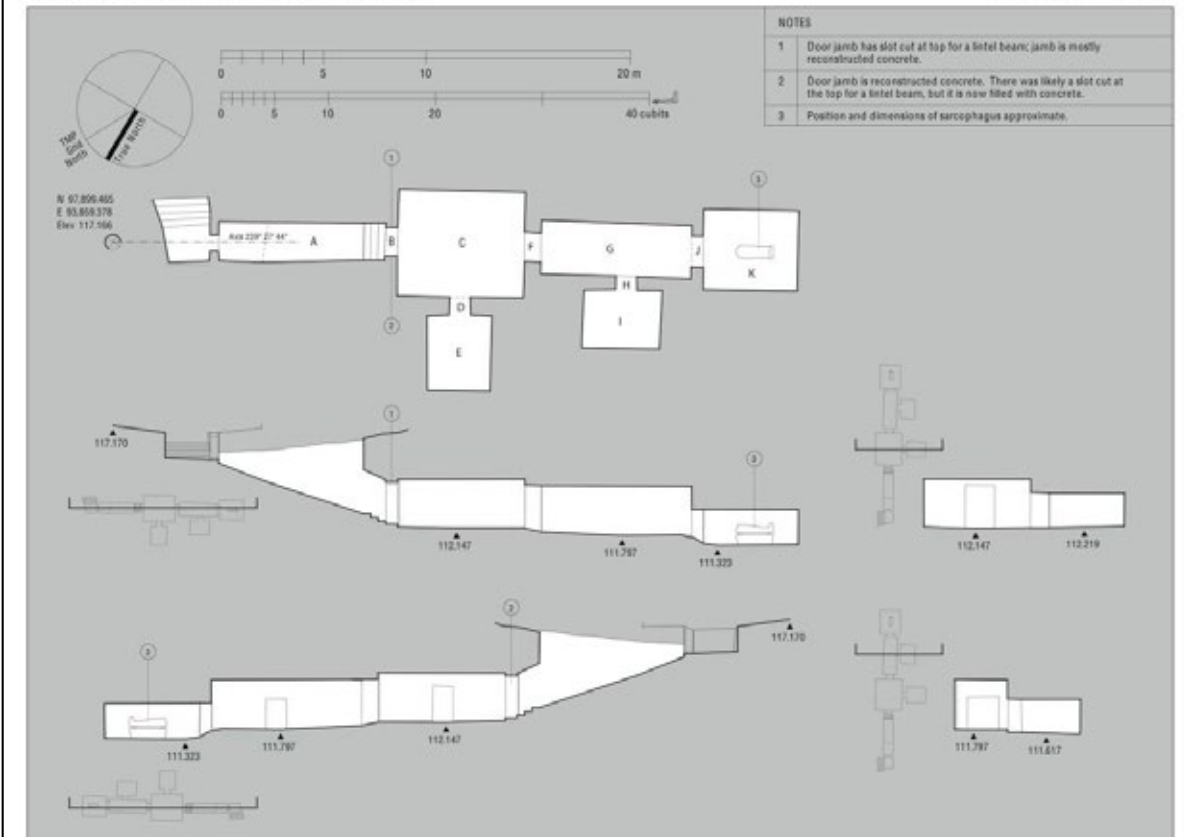


Drawings : CNRS

QV 55 - Amenherkhepshef, Dyn. XX

Plan, sections 1:200

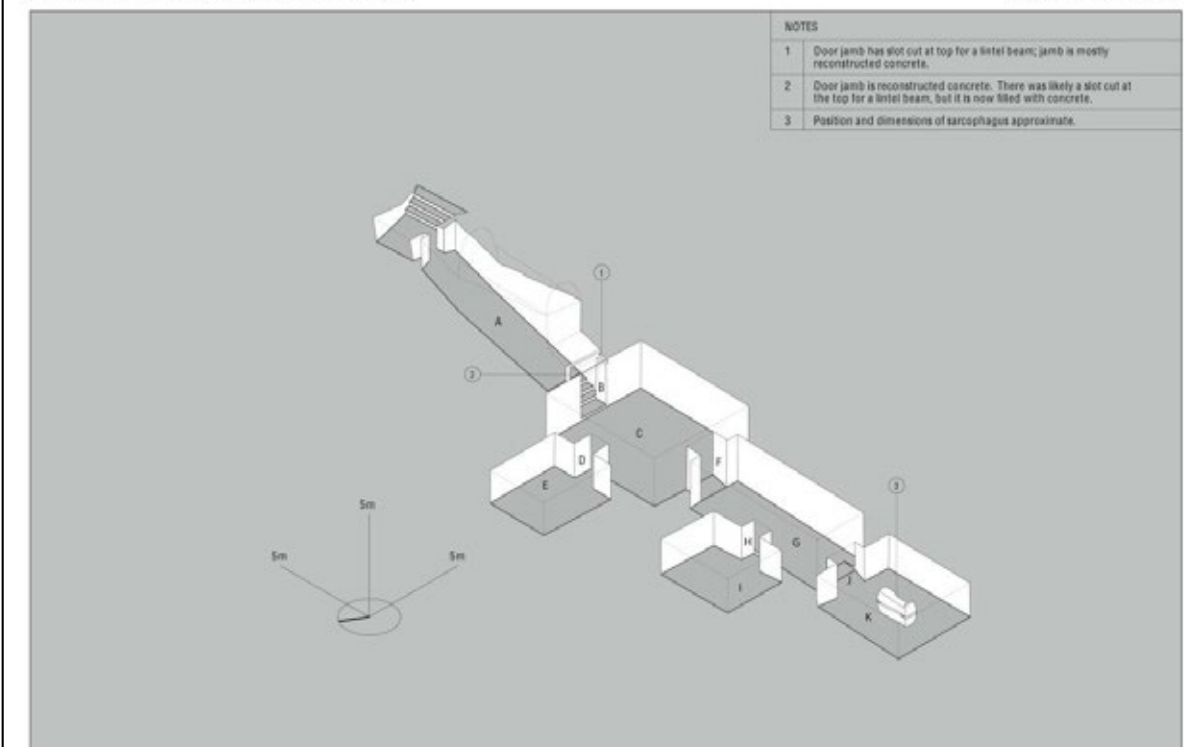
Surveyed May 27, 1981 & May 8, 1983. Drawn September 9, 2007.



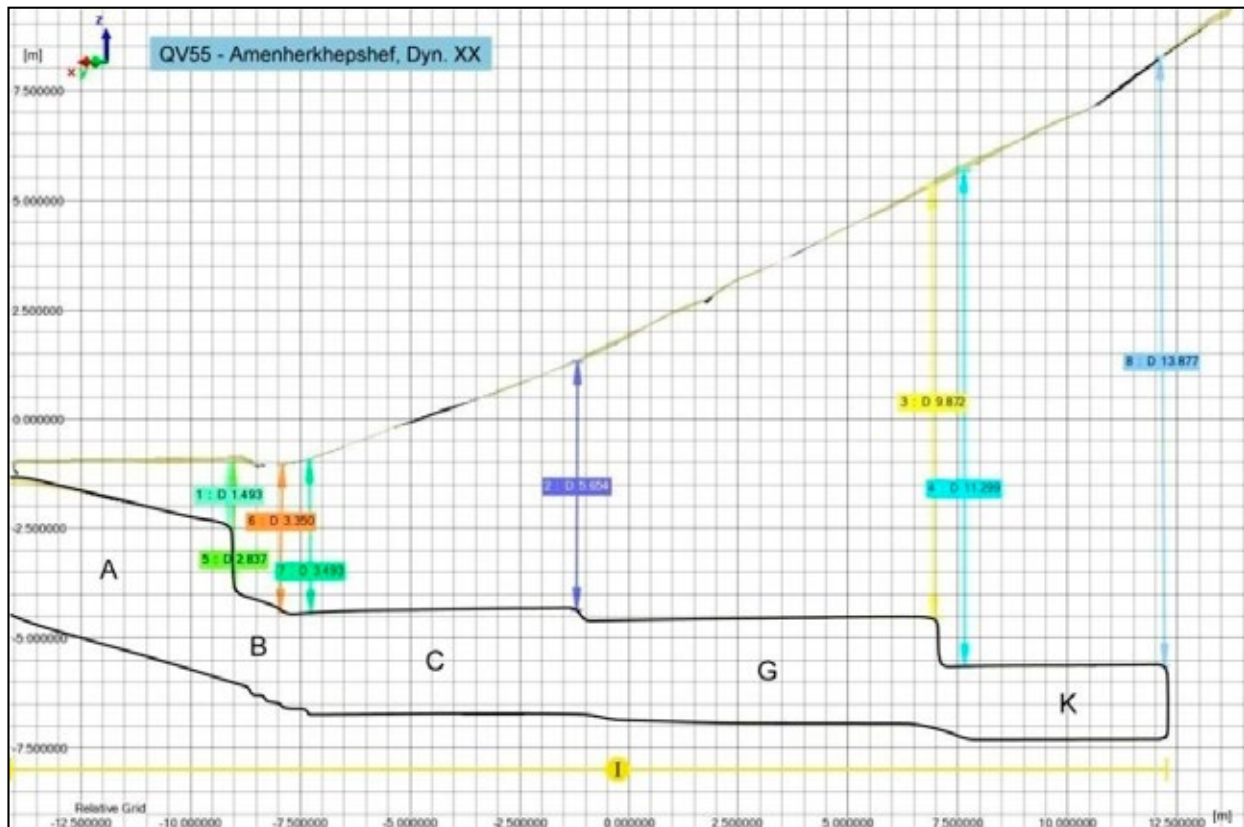
QV 55 - Amenherkhepshef, Dyn. XX

Axonometric 1:200

Surveyed May 27, 1981 & May 8, 1983. Drawn October 14, 2007.



Drawings : Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Overburden analysis of QV 55 illustrates the thickness ranges from 1.5m at entrance (A) to 13.9m at rear chamber (K)

Condition

Historic photographs of the tomb include images taken by Schiaparelli (1904-05) and by CEDAE in December 1972, March 1973 and March 1974. Comparisons with these photographs, most of which show the tomb prior to the insertion of plaster repairs, have provided the basis for condition assessment of rock and decoration. The ceilings have suffered substantial losses and historic photographs before their repair show loss occurring along fractures in the heavily jointed rock. A few of these fractures, such as the one that appears on doorway (J), extend from the ceiling down the wall. However, at present, the cracks do not appear to be endangering. The few small areas of visible ceiling rock appear to be in good condition. The rock in side chamber (E) is heavily jointed and irregular, like that seen in the ceiling in historic CEDAE photographs, but there is no sign of recent loss.

There is excellent survival of the decoration in this tomb but there are also large losses, mainly in the ceilings, that have been filled with a modern repair plaster. These plaster fills are slightly recessed from the level of the original painted plaster. There appear to be at least two different major campaigns of plaster repairs, the first gray and the later pinkish in color, though the burial chamber has as many as four different types of repair plasters. Some of these repairs are now cracking, especially in chamber (C), and some loss of this repair plaster from cracks in the ceiling may suggest movement and possible rock instability underneath. However, at present, there is not enough evidence to conclusively determine whether or not cracks indicate real instability or just a failure of the repair plasters themselves.

Areas of the decoration that are unprotected by glass barriers are stained brown from the hands of visitors, such as the jambs of doorways (B) and (J). The painted surfaces show preferential loss of areas—namely the blue pigment as well as the white background which in some areas are almost completely gone. Overall the painted surfaces also have an abraded appearance with pigment loss.

The paintings have undergone extensive prior treatment, including plaster repairs and cleaning, which may have further contributed to the abraded appearance of the surface. There is also evidence of injection grouting and surface consolidation seen in the large number of stains and drips running down the painting. Several different periods of treatment exist as can be seen from the CEDAE photographs and notes from SCA conservators.

Ceiling areas have been the focus of repeat treatments, most recently in 2009-2010 and prior to this in 2005, in response to cracking in repair plaster. The repeat treatments suggest that the method and materials of treatment (usually involving Primal (acrylic resin emulsion) injections and replastering with a lime-*hib* plaster) may not be effectively solving the problem and that the problem itself may not be fully understood.

The ramp wall repair plaster on the south side is heavily cracked and detached in some areas. There is evidence of past bat activity.

Deterioration Factors

The late discovery of the tomb by Schiaparelli explains its generally good condition as it was essentially sealed until the early 20th century.

Large losses in the tomb such as on the ceilings of chamber (C) and corridor (G) can be explained by collapse of plaster along fissures of the heavily jointed rock. The current cracking of repair plaster in these areas requires monitoring to better assess their current risk level. It is uncertain whether or not these recent cracks indicate real instability of the rock in these areas, or a failure of the substantial infill material.

Although the tomb opening is located in a low lying position adjacent to the main wadi, C. Leblanc notes that water did not enter the tomb during the flood in 1994 because the entrance was blocked with sand bags (Pers. comm. 2009). Painting also survives to the floor in many areas of the tomb indicating that, if the tomb previously flooded, related damage was minimal. The cracking and detachment of the plaster on the exterior ramp walls may also be due to previous flooding.

General Recommendations

The tomb opening needs to be adequately protected from flood by the wall on the north side of the adjacent visitor path.

Paintings have already been extensively treated and are generally stable. The areas of cracking in the painted plaster and repair plasters, most notably on ceilings, are possibly associated with underlying rock fissuring and/or instability of substantial areas of infill material but this has not been fully investigated and requires further monitoring to correctly assess the potential risk level, if any.

The jambs of entrance doorway (B) and doorway (J) leading into the burial chamber show signs of visitors touching the walls (staining from grease of hands) and should be protected.

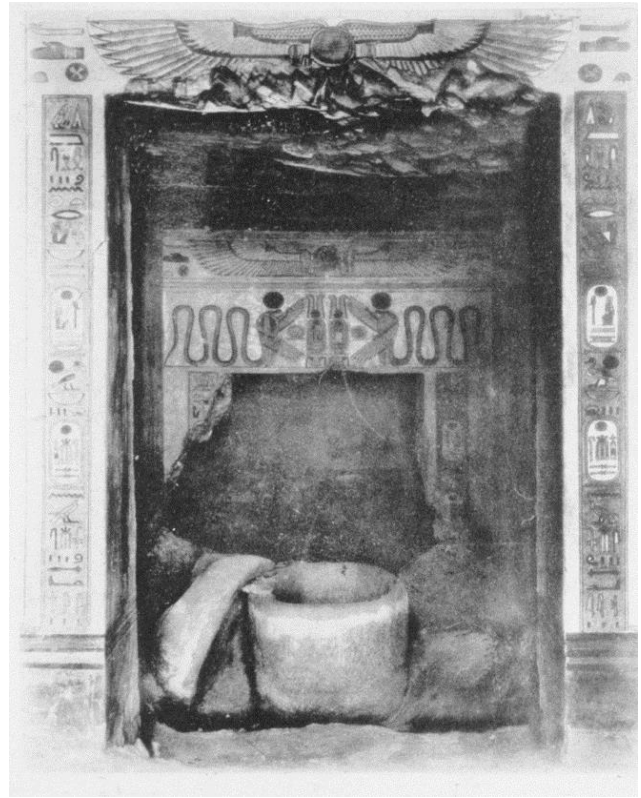
Rear chamber (K) has a very low ceiling and a history of plaster problems in this area. Considerations should be made to better protect these areas. The ceiling plaster of this chamber should also be monitored.

Postscript: SCA Interventions 2010

Outside the scope of the GCI-SCA project, the SCA undertook treatment of the wall paintings and installed new infrastructure in chamber (K) in February 2010. The details of this work are not recorded. Photographs are shown at the end of the assessment.



Wooden steps with handrail were installed at ramp (A) [to protect the original surface. They were later replaced with masonry steps (Image: CEDAE 1974).



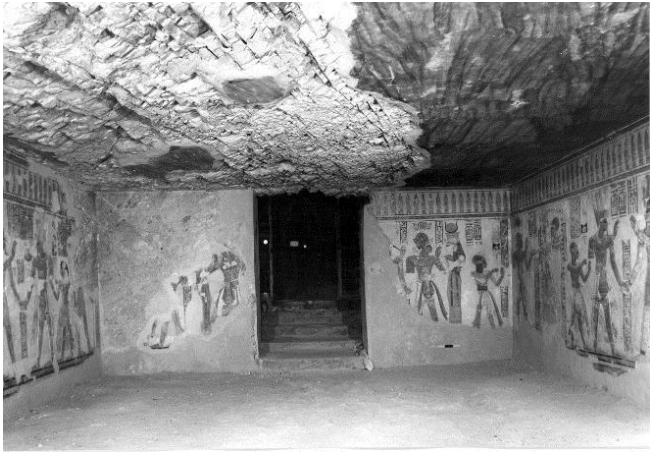
Granite sarcophagus in situ in chamber (G) at the time of Schiaparelli's discovery in 1904. (Image: Schiaparelli 1923)



View from corridor chamber (G) into burial chamber (K). Note wooden flooring and glass barriers installed throughout the tomb. There is also fluorescent lighting at the base of the walls.



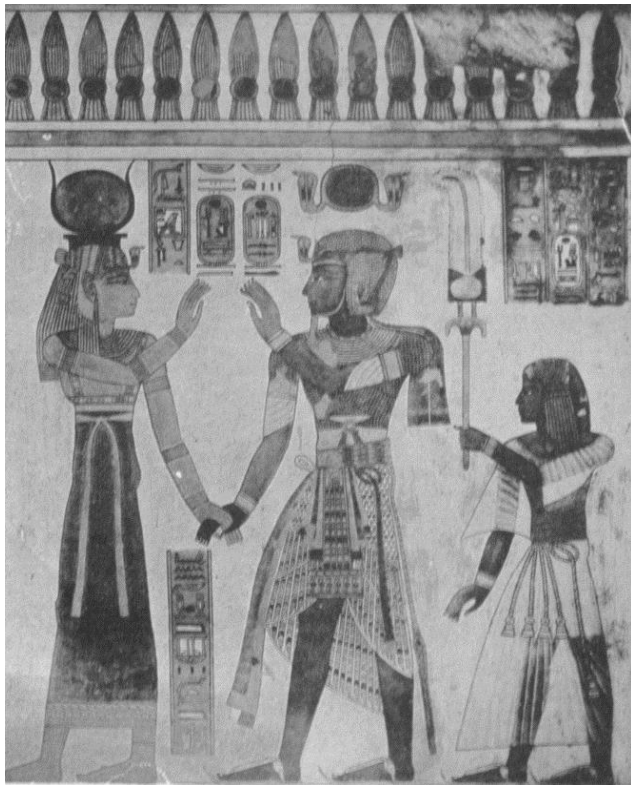
Pink granite sarcophagus and glass case containing a mummified fetus have been displayed in the rear chamber (K). The sarcophagus was originally found in chamber (G). The mummy was found in the Valley of the Prince Ahmose and it was moved to chamber (E) in 2010 to avoid congestion. The ceiling is low in this chamber and there are no protective barriers. Some trash was found inside the sarcophagus.



CEDAE photograph from 1974 shows the large losses in the ceiling in chamber (C) before they were plastered.



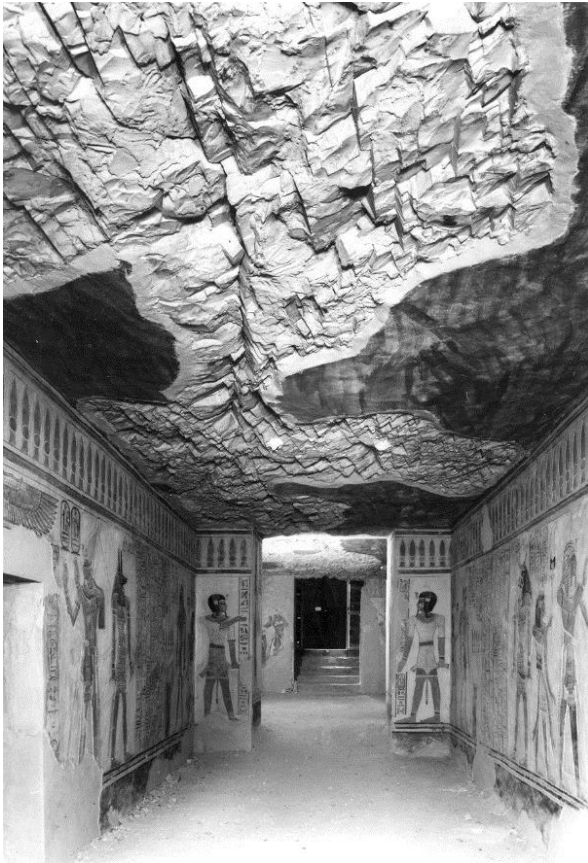
Extensive modern plaster infill now covers two thirds of the ceiling of chamber (C).



South wall in chamber (C) (1904-5) . Note the area of plaster loss on ceiling (Image: Schiaparelli 1923).



Area of loss on south wall is repaired with mortar. Only fairly small areas of decoration lost since the time of Schiaparelli (Image: CEDAE 2009).



Note large loss in ceiling of corridor (G) in 1974 photograph (Image: CEDAE).



The ceiling losses have been filled with a modern repair plaster.



Fracture continues from corridor (G) to doorway (J) in 1974. Plaster on ceiling has been lost along the fracture (Image: CEDAE).



Area of losses were repaired with mortar. Note also the doorway (J) to rear chamber (K) is extremely low.



The jambs of doorway (J) leading into the rear chamber (K) are unprotected and show signs of visitors touching the walls. This area should be protected.



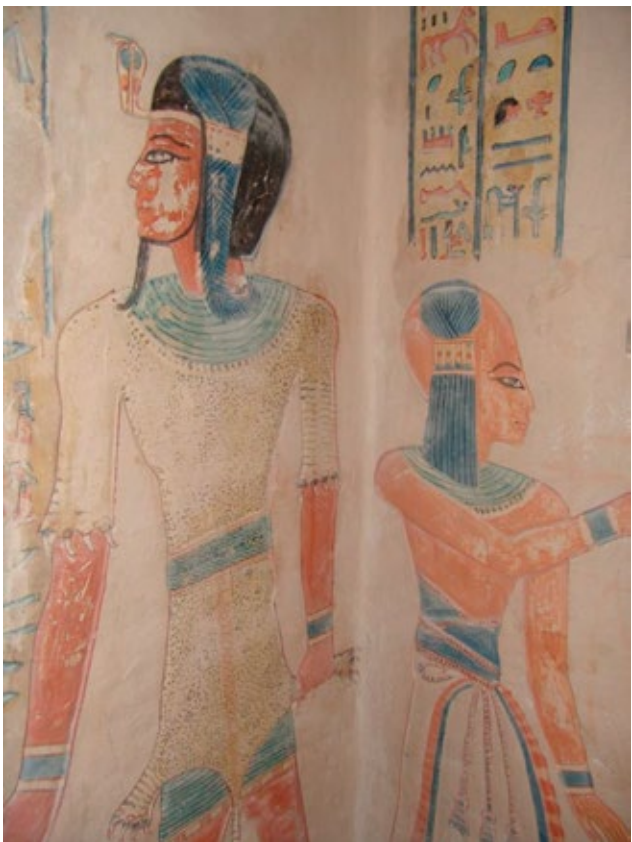
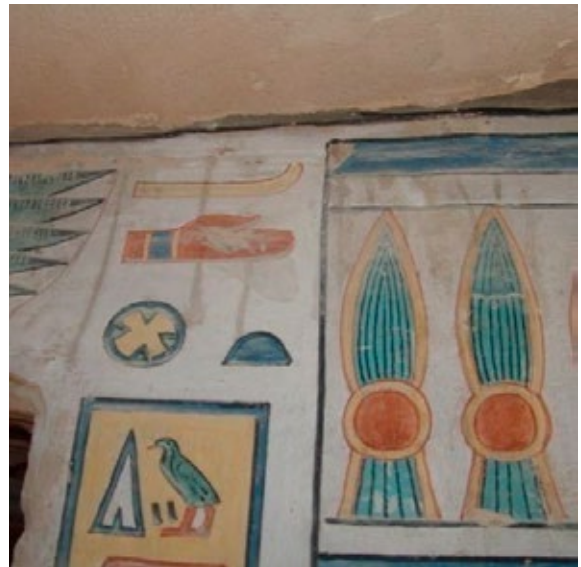
The ceiling of the rear chamber (K) has a number of different types of plaster repairs indicating ongoing losses in this area of the tomb. As the ceiling is extremely low it is recommended that access to the chamber (K) be limited and that the ceiling be monitored.



Lintel at doorway (F) is unprotected.



Many treatment drips are visible throughout tomb.



The surface of the paintings is abraded. There are small losses in the painted surface and the white background is nearly gone in areas.



Areas of blue are abraded and appear faded. These areas have been lost over time, possibly from the cleaning of the paintings.



Entryway to side chamber (E) at right (arrow). This chamber was plastered, but was never completed.



Plaster surviving in side chamber (E). Note drawing that survives (Images: CEDAE 1974).





In February 2010 the SCA installed a glass case over the sarcophagus and moved the mummified fetus to the doorway to chamber (E).



QV 56, 57 – Unfinished

General Description

QV 56 and 57 are located on the north side of the main wadi. QV 56 is entered via a steep stepped ramp (A). The first five steps are made of stone blocks, below which are traces of rock-hewn steps leading down into an unfinished chamber. QV 57 has a steep ramp with traces of steps along the ramp walls leading into an unfinished chamber. Both tombs were cut through a thick layer of fan conglomerate and into better quality marl rock.

QV 56 and 57 were noted by H. Brugh (1854). TMP (1981) section drawing includes presence of a modern retaining wall in front of QV 56 ramp and a modern curb at the beginning of the ramp of QV 57, both of which have been removed since that time. There is also some discrepancy between the TMP drawings and what is observed today in terms of slope inclination and number of steps. The tombs were last cleared out by the Franco-Egyptian mission in 1987 and were dated to the reign of Rameses II (Leblanc 2001, 274-275).

Condition

Both tombs were damaged during the flood in 1994. The retaining wall and the steps of QV 56 deteriorated during this time. The conglomerate on the east side of the tomb entrance has collapsed and this slope remains unstable. The marl rock at the bottom of the ramp remains in stable condition, however.

QV 57 is likewise in stable condition, though the fan conglomerate surrounding its entrance continues to erode. Nevertheless, debris caked to the ceiling of chamber (C) suggests that this unfinished tomb is periodically filled with flood waters and runoff.



Stepped ramp and entryway of QV 56, with line indicating horizon between rock types.



Ramp and entryway of QV 57, with line indicating horizon between rock types.

Deterioration Factors

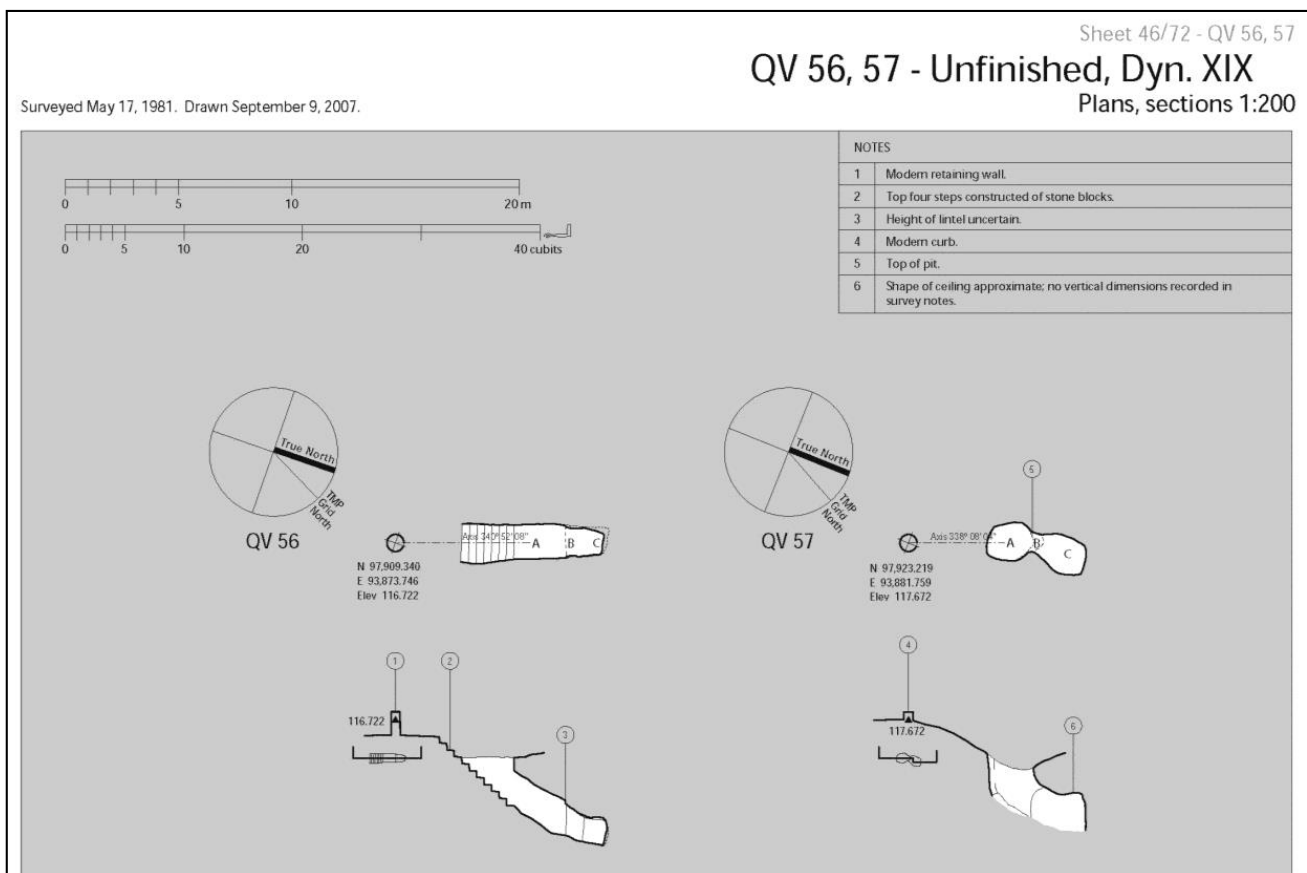
The relative instability of the fan conglomerate—presumably the reason that the tombs were not finished originally—remains the primary source for eroded material filling these tombs. This as well as the tombs' close proximity to the main drainage channel and their exposure to flood water are the principal causes of the poor condition of these unfinished tombs.

General Recommendations

Both QV 56 and QV 57 should be reburied given their relatively poor condition, their unfinished state, and their proximity to the main drainage channel.



Heavily eroded steps of QV 56.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

TOMB INVENTORY

QV 58

General Tomb Information		
Tomb number	QV 58	Location North side of the main wadi, west of QV 60
Other naming systems	Hay of Linplum – 1 st eastern tomb; Wilkinson – 9; Champollion – 10; Brugsch - 17	
Owner/ Attribution	Anonymous	
Owner Status	Queen (?)	
Dynasty/reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber type)	
Description		
General Description	The multi-chambered tomb is entered through a stepped ramp (A) leading to chamber (B) with three side chambers (D), (F) and (H). Chamber (D) and (F) are north of chamber (B); a wide doorway (G) leads from chamber (B) to a large chamber (H). A niche or unfinished small chamber (J) is located off of chamber (H). Tomb interior is thoroughly blackened.	
Decoration	The tomb may have been decorated or plastered at one time as small areas of <i>mouna</i> plaster are extant in Chamber (C) and the door way (E). Thomas records (1966, 210) a cartouche, a bird and t-sign on the left of entrance, but these are no longer to be seen.	
Iconography	N/A	
Objects and current contents		
Objects recovered	Recovered items include wig pieces; plastrons; <i>ushabti</i> ; ostrakon with an image of a lute-player; burnt mummies; fragments of terracotta sarcophagi; numerous pottery sherds; blue faience scarab amulet and an amulet representing Hapi and Imsti; a Roman (bronze/copper?) bracelet for child, metal earring, and Roman lamps (Leblanc 1995).	
Removal or clearance of contents	Since 1984 the tomb has been used for storage of archaeological study materials, with wooden shelving installed in Chambers F and H.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction	
Third Intermediate Period	Reuse for burial	Leblanc 1983; 1995
Roman Period (69-96 C.E.)	Reuse for burial during the Flavian period demonstrated by mummies with plastrons and terracotta sarcophagi with likenesses in relief	Leblanc 1983; 1995
Arab period	Reuse with complete burning of tomb and contents, perhaps as purification	Leblanc 1983; 1995
1826	Documentation and research by Hay of Linplum	Thomas 1966, 216
1828	Research and documentation by Wilkinson	Leblanc 1989a, 25-38
1829	Research and documentation by Champollion	Leblanc 1989a, 25-38
1854	Research and documentation by Brugsch	Leblanc 1989a, 25-38
1966	Documentation (sketch and text) by Thomas	Thomas, 1966
1981-3	Clearing out by Franco-Egyptian team	Leblanc, 1989

1980s	Installation of stairs, doors, shelving (Chamber H and F) for use as a magazine for QV and Ramesseum finds	Leblanc, pers. comm.
Before 1986	Construction of arched cover and retaining wall	GCI photo
1994	Tomb affected by the flood	Leblanc, pers. comm.
2006-2009	GCI-SCA survey and condition assessment	2006-2009
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	2007
2007-2009	Artifacts were moved by SCA from chamber (B) to the other chambers and storerooms put in better order.	On site inspection
Documentation and References		
Historic Photographs	CNRS/CEDAE – Plates: CXLV, CXLVI-A in Leblanc 1989a	
References	-Thomas 1966, 188, 201, 208-210, 225; -Leblanc 1983; -Leblanc 1984-85;	-Leblanc and Hassanein 1985, 28-29; -Leblanc 1995; -Leblanc 2001, 274-275.

QV 58 – Anonymous

General Description

This tomb is entered through a stepped ramp (A) leading to chamber (B) with three side chambers (D, F, H). Chamber (D) and (F) are located to the north of chamber (B) and parallel to each other. A wide doorway (G) at the eastern of chamber (B) continues to large chamber (H). A niche or unfinished small chamber (J) is located off chamber (H).

The tomb is cut into the tilted marl block found on the north side of the Valley, and is oriented on a north-south axis deep below the surface, similar to QV 80 and QV 66. The tomb, located low in the main wadi, does not exhibit any major structural problems or substantial recent rock loss, but there are major fractures running through all four chambers in different directions. As the tomb is currently used for storage, modern doors have been installed in three of the chamber doorways (C), (E) and (G), with door surrounds constructed of fired brick.

Walls and ceilings are blackened throughout the tomb. Small areas of *mouna* plaster remain in chamber (B) and doorway (C) and a hieratic inscription survives in chamber (B).

This unfinished 19th Dynasty tomb was reused in the Third Intermediate and Roman periods for burial and was possibly accessible in the Arab period according to C. Leblanc. E. Thomas noted that the tomb appeared to have been accessible for a long period.

R. Hay of Linplum (1826), who recorded the tomb as being empty except for some bones, and J-F. Champollion (1829) both visited the tomb. Thomas also observed that the tomb was well cut as indicated by mason's marks still visible in red ink at the tomb entrance and remains of plaster infill on the wall of the entry ramp. Most recently, the tomb was archaeologically cleared in 1981-83 by the Franco-Egyptian team.



Tomb entrance in 1981 (Image: CNRS).



Original steps in ramp (Image: CNRS).

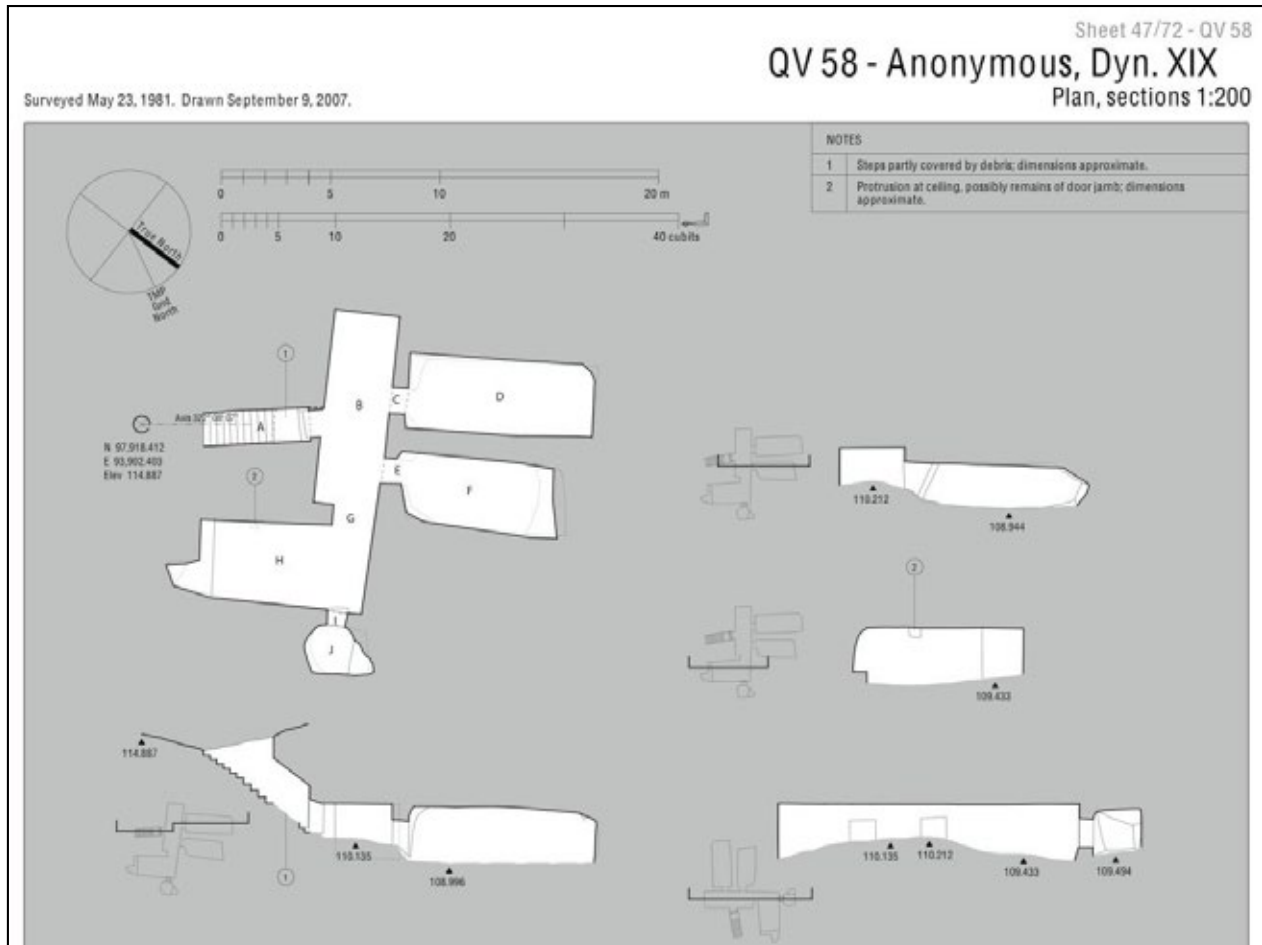


Entry ramp (A) with arched cover and masonry walls, wooden stairs with handrails installed over the original stepped ramp, and exterior metal door without ventilation holes.



North-south fracture (arrow) in blackened ceiling of entrance chamber (B), with area of recent loss near door.

The tomb ramp has an arched cover and modern a cement coated masonry surround. The surround provides inadequate protection in the event of a major flood.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Currently, the tomb is used as a magazine for archaeological study materials by CNRS and SCA, containing artifacts from QV and the Ramesseum. Three wooden doors, lighting, and shelving in side chambers (D, F, H) were installed inside the tomb by CNRS. Ramp (A) has an arched cover, wooden stairs with handrails installed over the original stepped ramp, and an exterior steel door without ventilation holes at the base of the ramp.

Condition

Above the entrance door deep below the surface, there is a vertical fracture in the marl rock overhang on the west, and another fracture on the east of the overhang which has been filled with modern repair mortar. The ceilings in all four chambers have numerous fractures, mostly parallel and in an E-W orientation, and fallen and settled wedges of rock between the fractures. However, none of the major losses or damage is pre-fire, as all rock surfaces except the bases of walls in entrance chamber (B) are blackened. The only recent localized rock losses, in the main entrance doorway and just inside doorway (E), are due to the construction of modern doors. There is a pile of large rock fragments on the floor of chamber (H), but it is unclear where they are from as the ceiling in this chamber does not have a significantly large area of loss. The presence of the shelves with archaeological materials along the walls of the three side chambers makes a more comprehensive assessment of the rock condition difficult. However, the rock of this tomb is stable.

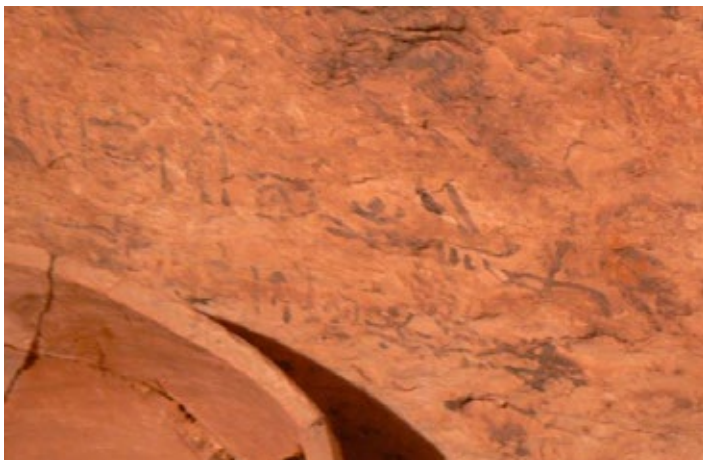
There is evidence of past bat activities in the tomb, but no bats were sighted during the assessment period.

Deterioration Factors

The factors contributing to the major losses and fractures in chamber ceilings in the distant past are the natural weaknesses of the tilted marl block and possibly flooding. Localized loss of blackened rock at the base of the wall in chamber (B) and an apparent water line about 0.5m high on its walls also appears to indicate past impact by flood. The location of the tomb opening in a low lying position within the main wadi puts the tomb at high risk of future flooding. Recent minor losses can be attributed to the construction of storage doors.

General Recommendations

Given the location of the tomb next to the wadi, and the tomb's current use as a storage facility, protection from flooding by construction of a higher arched cover and surround, as well as a return wall in front of the entrance is strongly advised.



Hieratic graffiti in black ink on south wall of chamber (B).



General view of blackened tomb interior of chamber (B) looking west (2009).



General view of blackened tomb interior of chamber (B) and modern doors to storage areas, looking east (2009).



The tomb is currently used as magazine for study materials from QV and the Ramesseum (2009).

TOMB INVENTORY

QV 60

General Tomb Information		
Tomb number	QV 60	Location North side of main wadi, toward western end
Other naming systems	Hay of Linplum – 2 East; Wilkinson 7/3; Champollion – 11; Lepsius – 6; Brugsch – 16	
Owner/ Attribution	Nebettauy	
Owner Status	Princess - Queen (King's Daughter - King's wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber tomb)	
Description		
General Description	Central axis, multi-chambered tomb, with lateral chambers perpendicular to axis. The tomb is entered through a steep ramp with flanking step leading into barrel vaulted and pillared chamber (C), with side chamber (G) on the east and another side small chamber (E) on the northwest. On axis with the entrance to the tomb, doorway (H) leads to large chamber (I), with northern niche (J). This chamber in turn gives access to west chamber (L) and east chamber (N-P). Interior changes made during Coptic re-use.	
Decoration	Painted plaster with raised relief technique. Overplastering of pharaonic painting (the faces of queens and deities) in Coptic period with <i>mouna</i> . The entrance to the tomb had painted decoration around the exterior, of which very little remains.	
Iconography	Book of the Dead. In chamber (C), Chapter 125 (west wall), 18 (east wall) and 15 and 16 above doorway (D) are represented, similar to QV 40. See Tomb Profile, Volume 1.	
Objects and Current Contents		
Objects recovered	A fragment with cartouche of the queen (Turin Museum); ostraca and papyrus with Coptic liturgical writings (Leblanc 1985, 29); Greek and Coptic papyri fragments, 6 ostraca (8 th century), a jug decorated with a cross, 4 bone pendants decorated with engraved concentric circles (Lecuyot 1993a, 269-270).	
Removal or clearance of contents	Study materials cleared from QV 60 by CNRS and SCA in October 2008: numerous unwrapped mummy parts; 2 wrapped mummies and 4 crates of wooden sarcophagi (all likely from QV 43 and 44; the mummies stored first in QV 51, then moved to QV 60) (Leblanc 1989a, 76, n. 169), fragments of textile, human bones, pottery sherds.	
History of Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Source and Comments
19 th Dynasty	Tomb construction	
Coptic period (until 8 th century)	Reuse evidenced by over plastering with <i>mouna</i> (plastering of winged figure on east wall of antechamber and overpainting with Coptic cross), graffiti; floor raised (20cm) and stairway reconstructed.	Lecuyot 1993a, 269-270
1826	Recording and research by Hay of Linplum	Leblanc 1989a, 25-38
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
Late 1820s	Documentation by Rossellini	
1829	Recording and research by Champollion	

1844	Recording and research by Lepsius	Porter and Moss 1964, 761
1854	Recording and research by Brugsch	Leblanc 1989a, 36-37
1860s	Recording by Prisse D'Avennes	Porter and Moss 1964, 761
1903-4	Research, documentation and inclusion in tomb numbering system by Schiaparelli and Ballerini	Schiaparelli 1923; Leblanc 1989a Porter and Moss 1964, 762
1927, 1964	Brief description, history, and plans by Porter and Moss	Porter and Moss 1927, 45, 42 (plans); 1964, 761, 760 (plan)
1966	Description, history and plans by Thomas	Thomas 1966, 188, 209-211, 214, 217-218, 224-225; 215 (plans)
1968	Fragments of wooden coffins, likely from QV 43 and 44, stored in QV 60 by Antiquities Service	Leblanc 1989a, 76, n. 169
1971	Partial archaeological clearing by CNRS	Dewachter 1972, 19
1981-3	Excavation and drawings, including 1983 key plan by CNRS – CEDAE	CNRS – CEDAE
1981	Survey by TMP	TMP
1980s	Shoring of rear chambers installed	CEDAE photos
Unknown, before 1983	Fired brick entrance jambs and door constructed	CEDAE photos
1983 Jan	Photographic documentation by CEDAE	CEDAE
1988	Survey and documentation by Laurent (CNRS)	CNRS
1989 and 1991 May	CNRS team carried out stabilization of <i>mouna</i> plaster in QV 60. Plaster stabilization (?) by Bougrain-Dubourg and Deparis (CNRS)	Leblanc, pers. comm. Bougrain-Dubourg 1990, 40-41; CNRS 1991/1992.
1993 April	Photographic documentation by CEDAE	CEDAE
1993 April	Geotechnical assessment by Halal and Messein (Cairo University)	Messein, Helal and Abdallah 1994
1994	Tomb flooded, leading to structural damage	Leblanc 1995, 212; Wüst 2008, 25
1994	Storage of artefacts and human remains (mummies) after the flood	CNRS and on-site inspection
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008	Hydrologic and geologic assessment by GCI and consultants Hamza Assoc. and R. Wüst	GCI. Wüst 2008, 21-27; Hamza Assoc. 2009
2008 Oct	Removal of study materials by CNRS and SCA	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2010 & 2013 Feb-Mar	Wall painting stabilization by GCI-SCA	GCI
Documentation and References		
Historic Photographs	-CEDAE 27290-27356/ 37256-37258 (Jan 1983); 29819-29828 (Apr 1993); -CNRS/CEDAE – Plates: CXLVI-B – CLI A-B in Leblanc, 1989a.	
References	Bougrain-Dubourg 1990, 40-41; -Champollion 1845, 397-9; -Dewachter 1972; -Dodson and Hilton 2004; -Hay of Linplum MSS 29821, 14; -Leblanc 1983, 29-53; 1995, 212; 1999; -Leblanc and Hassanein 1985, 29-30;	Lecuyot 1993a, 269-271; -Lepsius 1897-1913, 228-9; -Messein, Helal, Abdallah 1994, 480-482; -Porter and Moss 1964; -Rosellini MSS 284 H 22; -Siliotti and Leblanc 2002; -Tyldesley 2006.

QV 60 Queen/ Princess Nebettauy

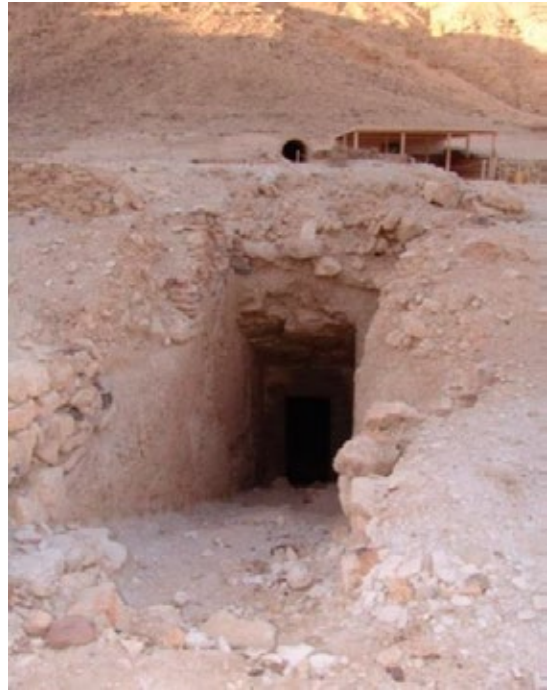
General Description

The original layout of the tomb is not immediately apparent given the loss of a number of internal walls which separate the chambers. The tomb is entered through steep ramp (A) leading into pillared chamber (C) with barrel vault and eastern side chamber (G); another small side chamber (E) lies to the northwest and connects to rear side chamber (L). On axis with the entrance to the tomb, doorway (H) leads to a central chamber (I), with northern niche (J) and access to large chamber (N_P) and side chamber (L). In its present condition, the tomb has only the two portions of walls extant, on either side of the central axis doorway (H). All the chambers presently connect and can be accessed at multiple points not originally intended.

The tomb is cut into the marl of middle to lower Member I on the north side of the main wadi, part of the large rotated geologic block that makes up the valley. The marl has tilted bedding planes with bands of chert nodules and open joints and faults sometimes filled with gypsum/anhydrite and exhibiting adjacent efflorescence and large crystal growth. Loosely cemented paleofan (fan conglomerate) debris or colluvium above the bedrock is a later deposit suggesting early exposure of the bedrock and continued weathering due to water infiltration, particularly at the entrance, where the marl roof is only 1.5m thick and overlain by 1-2m of colluvium.

Leblanc has noted that the tomb flooded in 1994, and remaining evidence of that event and prior flooding includes a layer of dried mud on the floor, floodwater marks on the walls, and corresponding deteriorated rock below the floodwater lines. A 1993 geotechnical study recorded six or seven different deposition layers within over 1 meter of sediment accumulated against the north side of the wall between chamber (C) and chamber (I), indicating that the tomb has experienced at least that many flood episodes in its history. Elizabeth Thomas and Christian Leblanc have also noted the presence of thick sediment throughout the tomb.

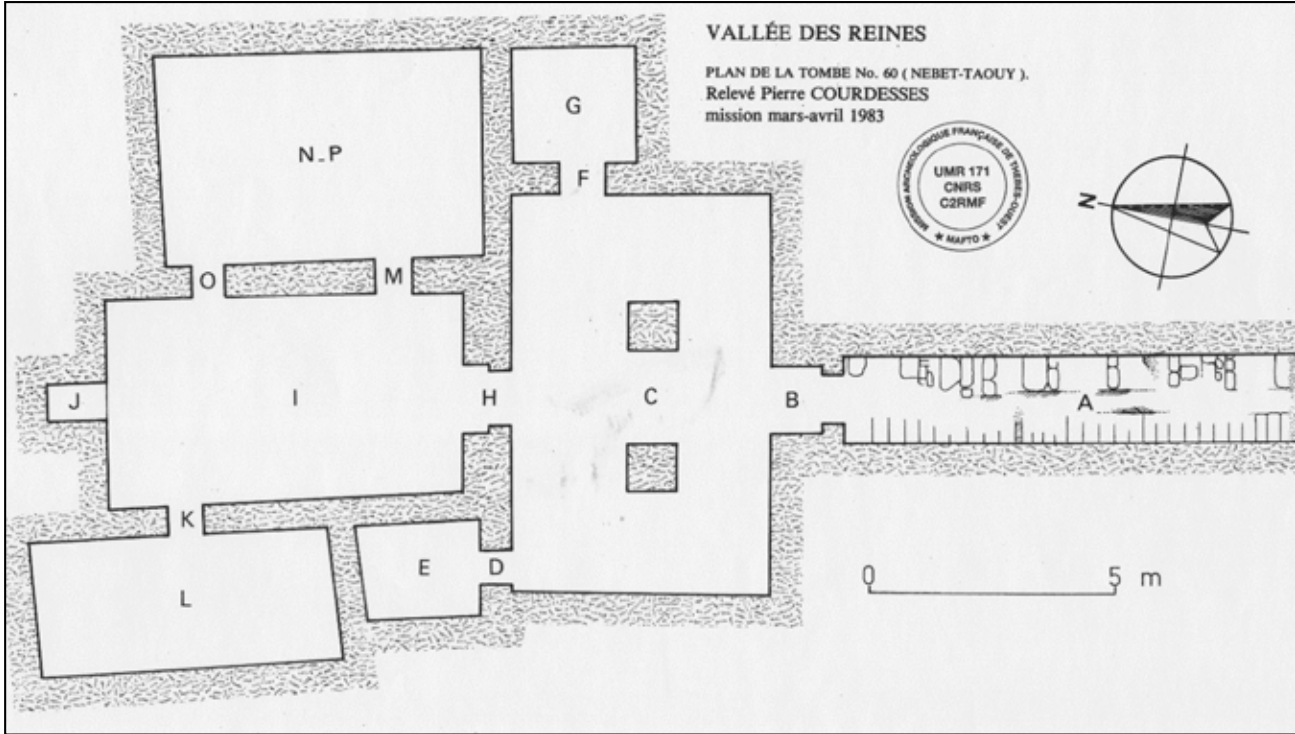
Wooden post and beam shoring is present in two locations in rear chamber (N_P), extending west across the collapsed wall of doorways (M) and (O) and into adjacent chamber (I). The shoring was erected in the 1980's in response to the observed ceiling fractures and areas of significant loss of ceiling rock and internal rock wall. Gypsum/white cement mortar has also been applied to fill gaps between the beams and the ceiling rock and in several fractures in the rock.



Tomb ramp and entrance with friable rock overhang (above) and well-cut ramp walls with brick entrance jambs (below).



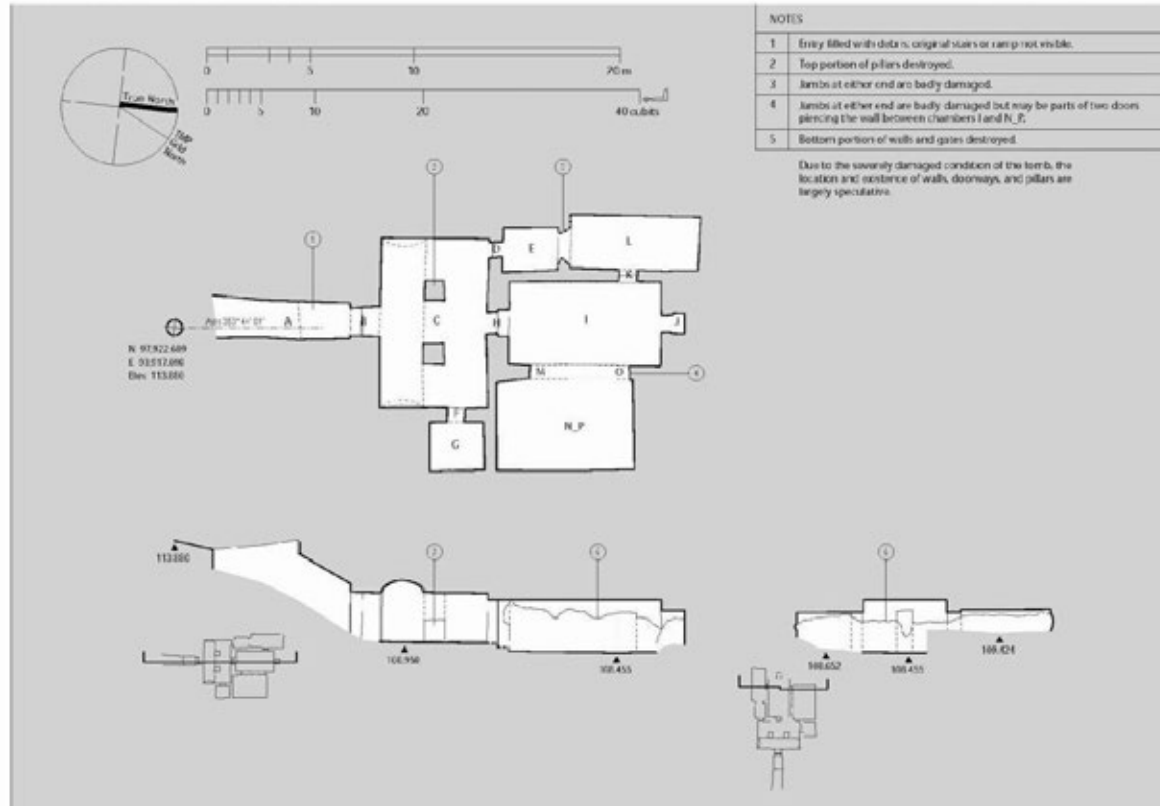
View of main chamber (C), east wall, with partial pillar, basal wall deterioration, ceiling loss, and rock fracturing.



Drawing: CNRS

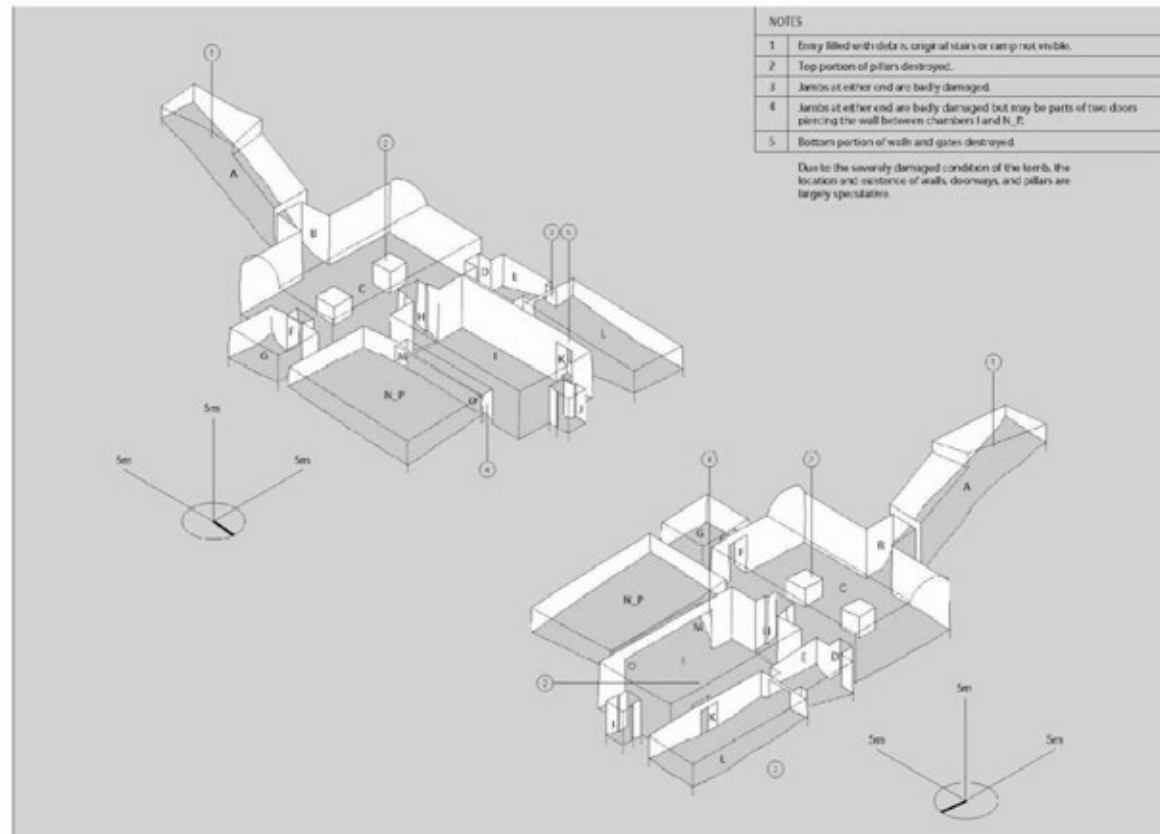
QV 60 - Nebettauy, Dyn. XIX
Plan, sections 1:200

Surveyed May 26, 1981. Drawn September 9, 2007.



QV 60 - Nebettauy, Dyn. XIX
Axonometrics 1:200

Surveyed May 26, 1981. Drawn November 22, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Raised relief painting survives throughout the tomb, but has suffered significant losses. The walls were packed out with infill material consisting of earth-based plaster and rock shards to create a flat surface for the paintings. The plastering technique differs throughout the tomb with multiple layers employed in some areas, generally thickly applied.

This tomb has surviving areas of Coptic painting and replastering over the Pharaonic paintings. Painted on the east wall of the antechamber (C) are two crosses. The Coptic plaster is characterized by a high earth content.

The tomb was cleared by the Franco-Egyptian team in 1981-83, but has been accessible since the time of Robert Hay of Linplum (1826). It was already largely damaged in Hay's time and Elizabeth Thomas notes sediment throughout the tomb. The absence of pillars, thought to have been removed during the Coptic period to create a ceremonial space, was noted with confusion by Hay. Further evidence of Coptic reuse includes graffiti in the tomb, external mudbrick structures, and fired brick pavers outside the tomb (see Volume 1, Coptic remains near QV 60, 336-340). In relation to the extensive amount of extant pharaonic painting, Thomas noted their brilliance and compares their quality to that of Nefertari (QV 66).

The tomb is not open to visitation. A door surround is constructed with fired brick and a metal grill door with mesh has been installed. Little evidence of current bat or other animal activity has been found in the tomb.

Condition

The structural stability of the tomb is seriously compromised by the loss of interior walls between the rear chambers (E) – (L), (I) and (N_P), as well as the wall between the antechamber (C) and rear east chamber (N_P), and the north wall of the central west chamber, plus the loss of two pillars in the antechamber. The result is a large expanse of unsupported ceiling rock and hanging walls. The tomb's poor condition prompted a geotechnical study by the University of Cairo in 1993. The study noted that only two piers provide support for the expanse of ceiling and rock overburden and identified areas at risk of collapse.

Rock throughout the tomb is in poor condition, especially the lower half of all remaining walls between antechamber (C) and the rear chambers where it is severely fractured and lacks cohesion, and is no longer capable of supporting upper portions of the walls. Fracturing is also present in the south wall of antechamber (C), and the west and south walls of the side chamber (G). Localized areas of friable and powdering surfaces of rock are also present. Recent significant rock loss and enlarged fractures can be seen in comparison with 1982 CEDAE photographs and are likely the result of the 1994 flooding.

Large areas of the ceiling of antechamber (C) have collapsed in the past. Extensive rock collapse is also apparent in rear chambers (I) and (N_P), and the presence of heavily fractured ceiling rock in these chambers constitutes a high risk of future collapse in some areas.

Wooden post and beam shoring has been installed in rear chambers (I) and (N_P) to support the ceiling rock and surviving upper portions of collapsed walls. Some repair fillings of cracks in the ceiling have been carried out with mortar adjacent to the shoring in chamber (N_P). Space between the shoring and the rock has also been filled with the same gypsum/white cement mortar.

Substantial amounts of salts are present as fracture infill and as efflorescence and crusts on rock surfaces, particularly in doorway (H) and along the rear wall of chambers (I) and (L). When activated by moisture these salts will continue to cause mechanical damage and eventual loss of material.

The condition of the paintings is clearly connected to the lack of stability of the rock. The extent of painting loss in this tomb can be attributed to the loss and deterioration of the rock support. Substantial losses are visible in comparison to the 1982 CEDAE photographs. The collapse of all but the highest parts of many of the walls mentioned above has left the remaining paintings essentially suspended and at high risk of continued loss.

Cracks visible in the rock often continue into the painted plaster. Surviving areas of plaster are friable with a network of cracking, and in some cases detachment from the rock support below. Surface pitting of the paintings in chamber (I) is also indicative of salt activity. Other surface conditions include flaking and loss of the upper paint and plaster layers, and a noticeable loss of the white background of the paintings. Evidence shows that attempts to remove Coptic overplastering have caused further damages to the painted surface of the pharaonic paintings.

There are edging repairs of different types found in pillared chamber (C), chamber (G) and other sporadic attempts to stabilize areas of plaster are found elsewhere throughout the tomb. These include pink and grey-colored repair plasters and a few deep fills with keyed cross-hatching. A CNRS team carried out stabilization of *mouna* plaster in several tombs, of which QV 60 was one, in 1989. The observed repairs may be those carried out in 1989.

Deterioration Factors

Lower sections of the walls were already lost by the early 1800s, presumably victims of cyclical flood events. Clearing of debris from around the tomb walls by the Franco-Egyptian team in the 1970's and 1980's may have caused further instability of the lower parts of the surviving walls. The University of Cairo geotechnical study determined that multiple floods had affected the stability of the tomb by causing fracturing of the rock that led to the collapse of walls and ceiling rock. Two major fault zones and a number of joint planes dipping steeply toward the south have contributed to chamber wall and ceiling collapse. Destruction of the two pillars in antiquity has resulted in destabilization of the ceiling in main chamber (C).

The 1994 flood had significant impact, the floodwaters scattering archaeological finds stored in the tomb and leaving a thick layer of mud on the floor, now dried and cracked. Cyclical wetting of the marl, exacerbated by the presence of sediment that retains moisture, has contributed to its weakening and deterioration.

Additionally, the large amount of moisture in and around the tomb during flood events throughout history has caused migration of salts within the rock, salt infill within geological fractures, and substantial efflorescence in certain areas of the tomb. Activation of the salts by moisture has contributed to the fracturing and needs to be prevented. Salts appear to be causing loss of plaster through cracking of the stone substrate, and possibly localized pitting of the painted surface in some areas. The tomb continues to be threatened by flooding, being adjacent to the main drainage channel, which is fed by a catchment area exceeding 19 hectares.

Packing walls with substantial infill material including stone shards and earth plaster in preparation for the decoration led to collapse in areas because of the amount and weight of infill material and these areas are often a point of weakness because of associated cracking or poor adhesion to the rock below.

Efforts to stabilize the paintings with edging repairs have sometimes caused rock movement to transfer stresses to the original plaster thereby causing further damage to the painting when there is movement along rock fissures. The removal of Coptic overplastering has caused damage and abrasion of the pharaonic paintings.

General Recommendations

This tomb exhibits substantial stability problems for both painted plaster and bedrock. Both localized areas of treatment and major structural stabilization interventions are needed to prevent future loss of rock and painted plaster.

The existing wooden shoring in chamber (N_P) should be modified, and additional new shoring installed in other chambers to support ceiling rock at risk of collapse. Selected rock macro-fractures should be monitored and stabilized as needed with localized, spot applications of a structural adhesive. Missing internal walls and their doorways need to be reconstructed with masonry, to stabilize the upper remains of the walls and ceiling rock, and the heavily deteriorated walls between the antechamber and rear chambers should be stabilized by constructing buttress walls or retaining walls around their bases. The micro-fractured ceiling rock in chamber (C) should be stabilized with localized plastering of the surface. Faults and open joints require monitoring for active movement.

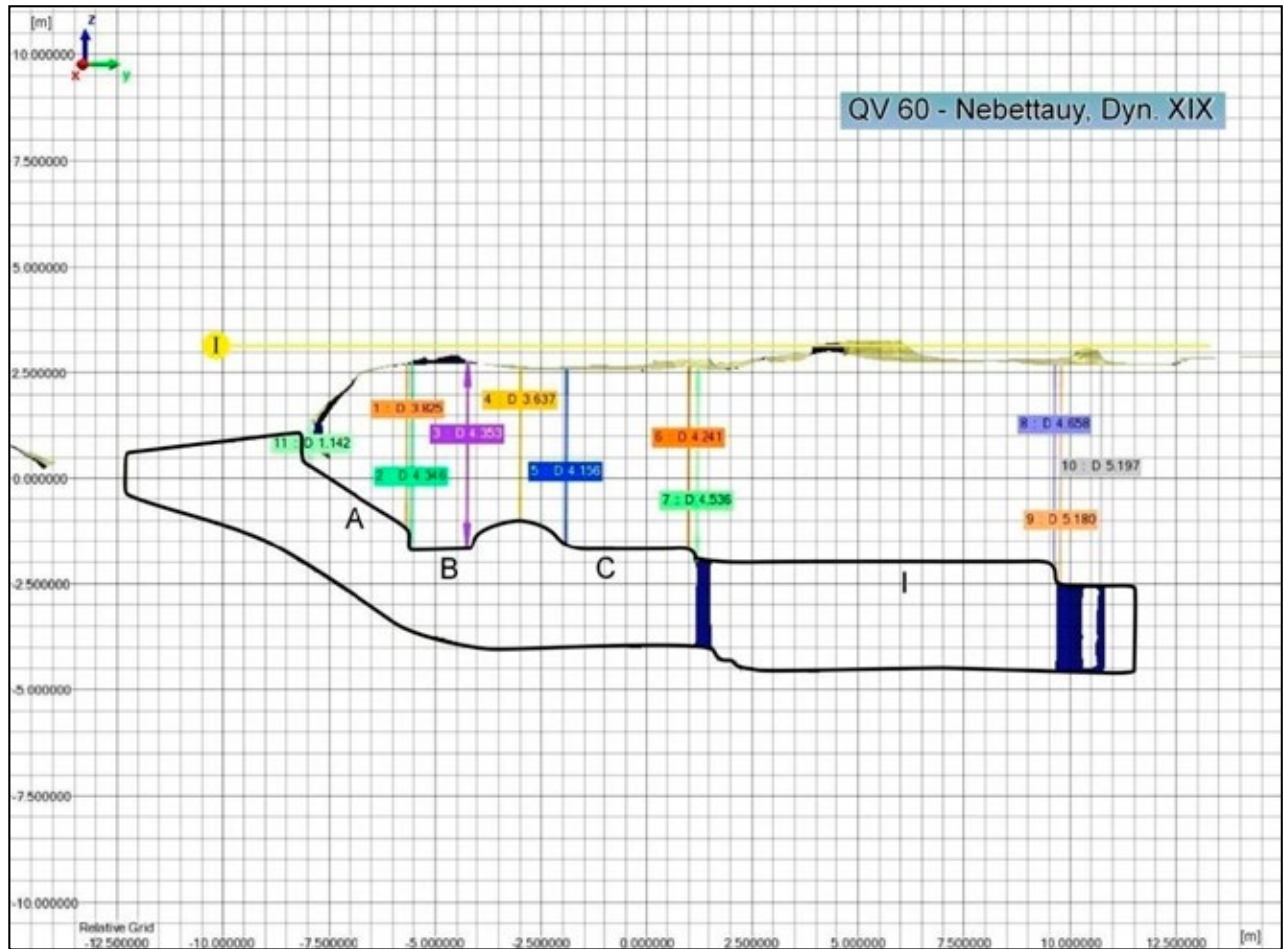
Stabilization of fragile areas of painted plaster is required to prevent further loss. Both localized areas of treatment and major stabilization interventions are needed. Scope and nature of intervention will be quite wide ranging. This work must take into account geological stresses of existing fissures. Removal of previous overly strong repair plaster that has provoked new damage in the original painting is also recommended. This work must be carried out in conjunction with the above recommended rock stabilization.

To protect the tomb from future flooding and otherwise prevent water ingress, a sill or return wall should be constructed in front of the tomb entrance, in addition to a cover arch with side retaining walls in the tomb entrance. The area above the tomb should be closed off to foot traffic and the surface surveyed for fractures that could provide water ingress. If needed, a geomembrane can be installed over the fractures to prevent water ingress.

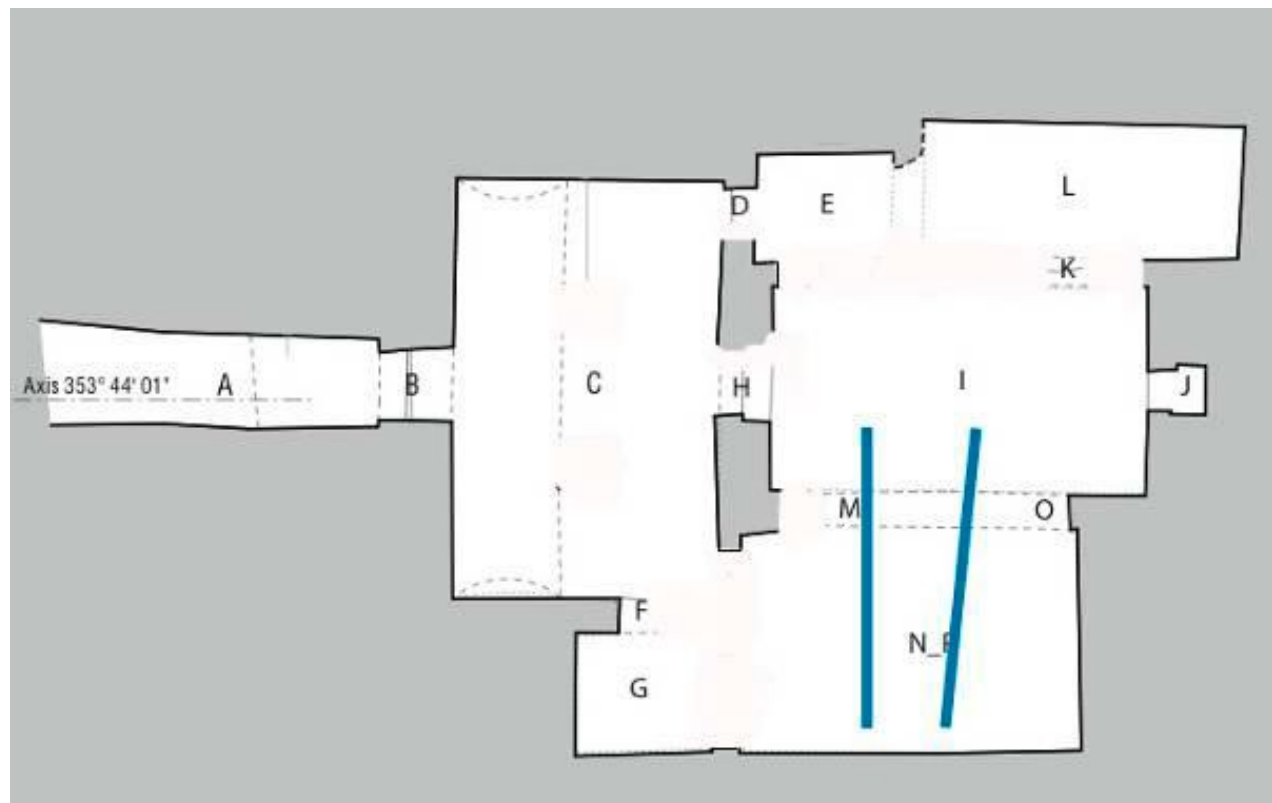
Postscript – Conservation stabilization measures were carried out by the GCI and SCA conservators in 2010 and 2013.



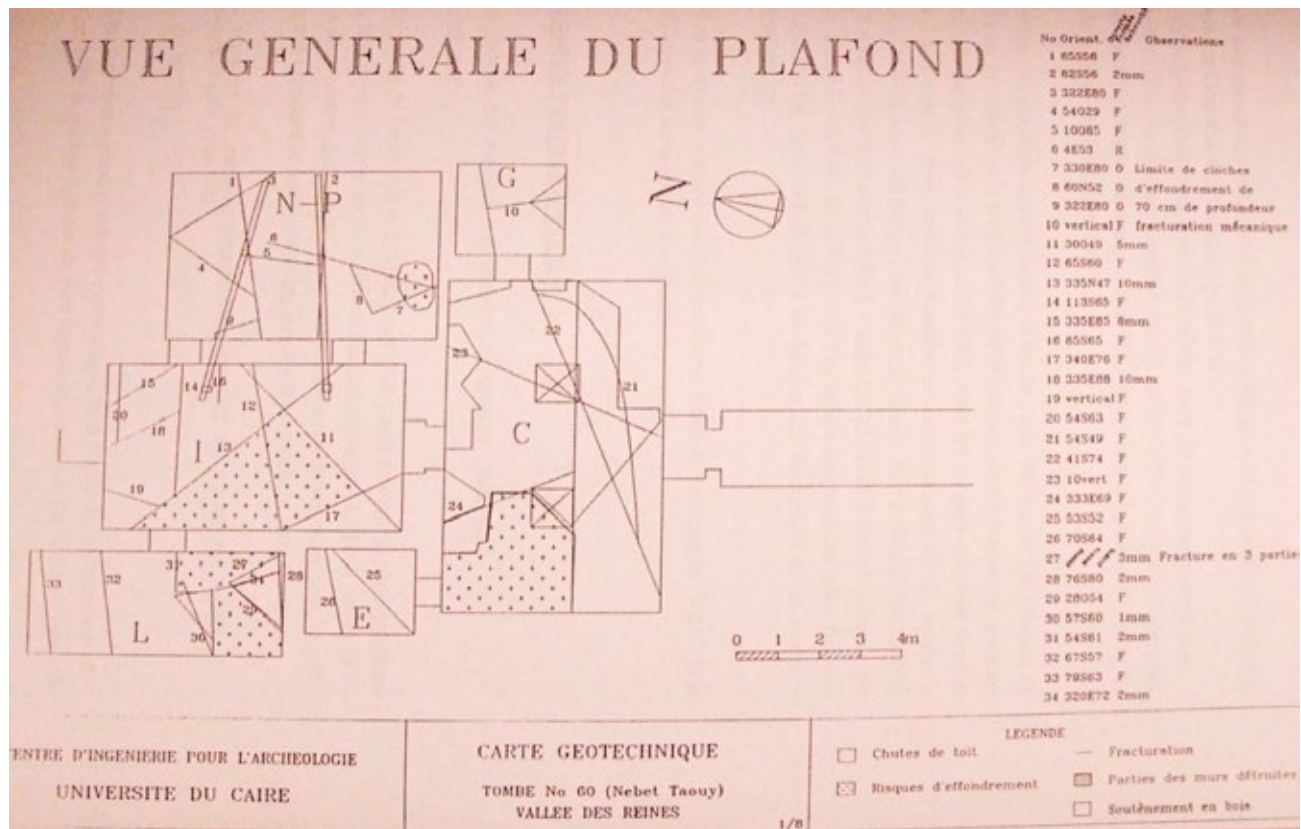
Area of rock fracture and loss adjacent to basal deterioration of wall



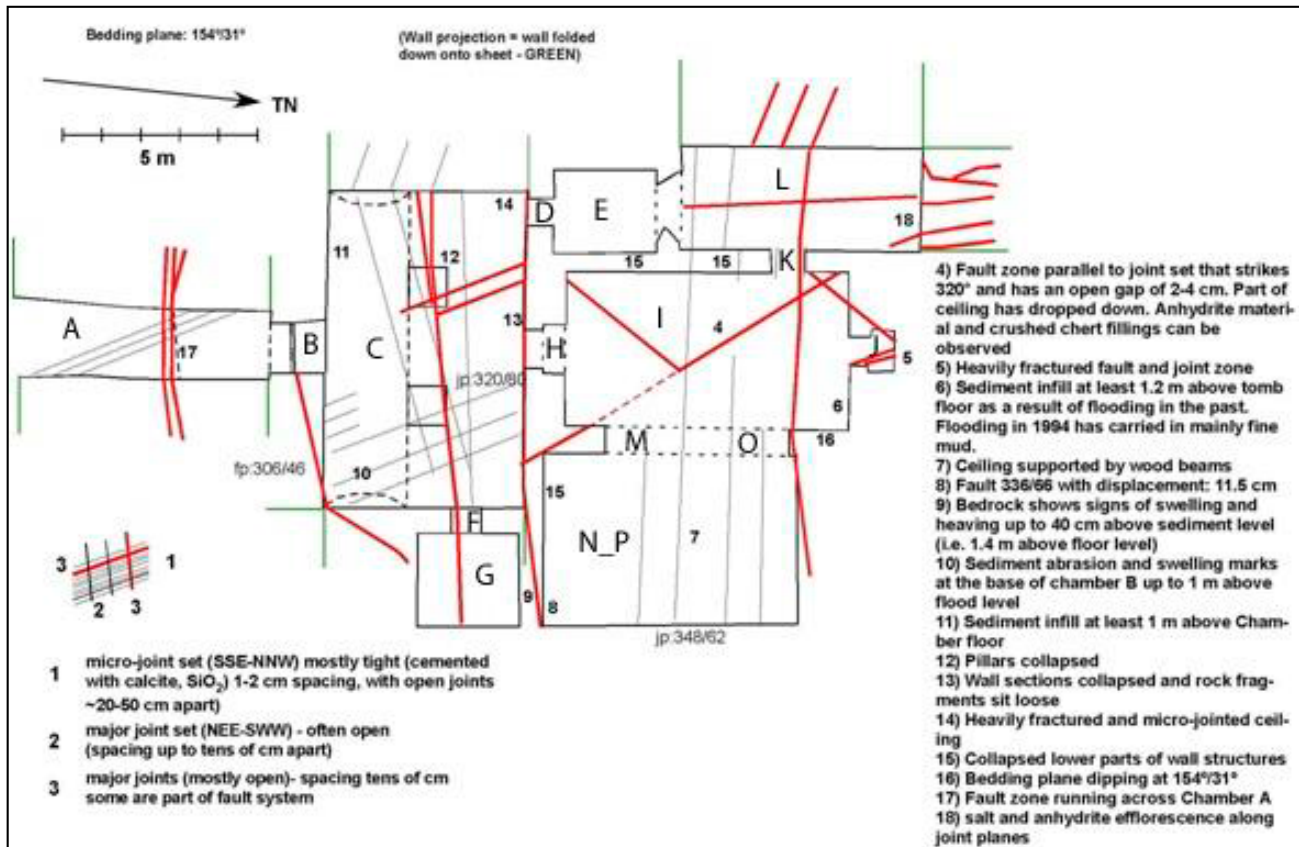
Overburden analysis reveals a rock thickness of over 3m throughout tomb.



Location of existing shoring



Geotechnical drawing created as part of 1993 study by University of Cairo for CNRS. Stippling represents areas of potential collapse.



Geotechnical drawing created as part of 2008 geological study by Raphael Wüst, showing jointing and fault systems.



At risk area around doorway (D) between chambers (C) and (E) and doorway (H) between chambers (C) and (I).



At risk area around doorway (K) between chambers (L) and (I). Loss of walls has resulted in large unsupported spans of rock throughout the tomb and localized loss of hanging rock.



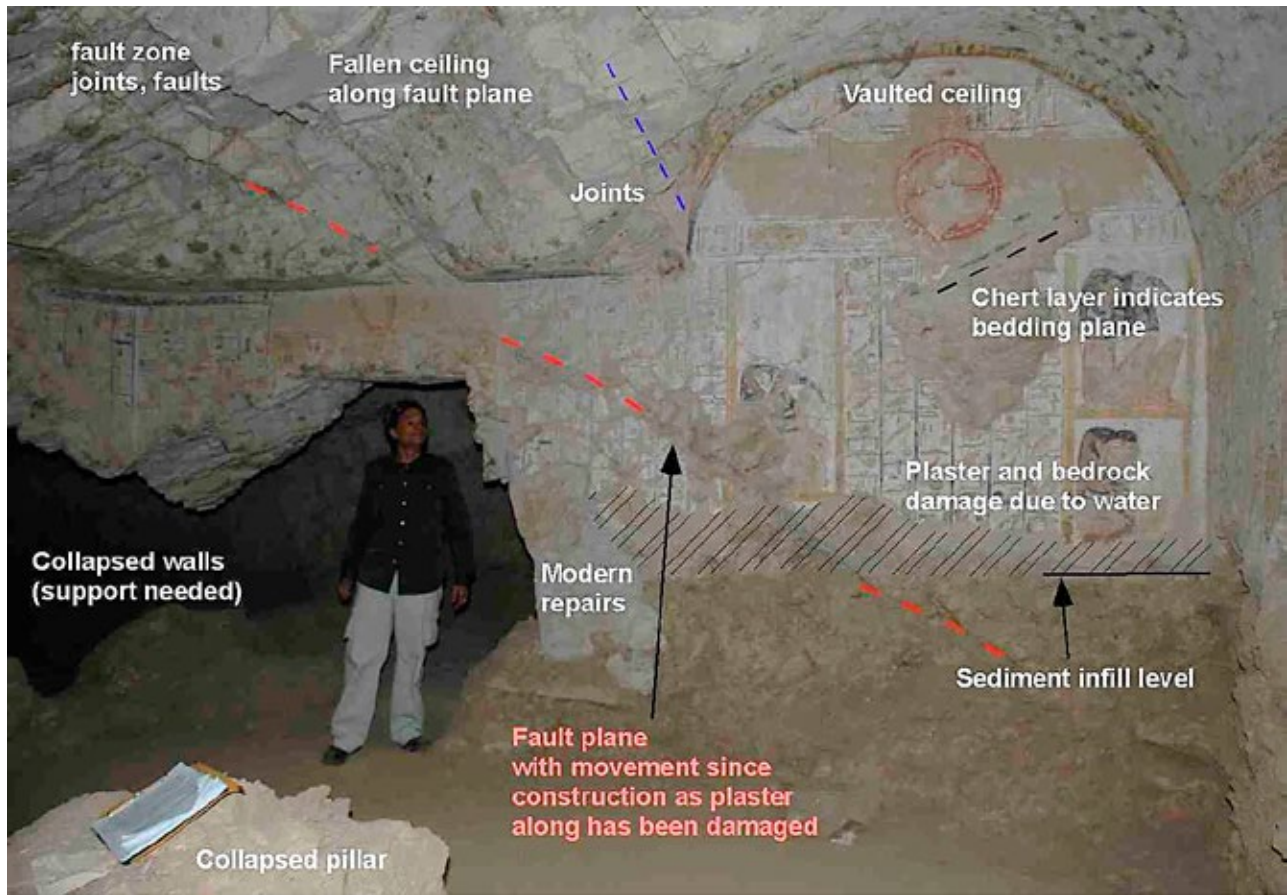
Basal erosion and fracturing of the two remaining piers within tomb. Basal rock is fragile and is incapable of supporting upper portion of rock.



Existing wooden post and beam shoring in rear chamber (N_P).



Large block at risk of collapse.



East wall of chamber (C) shows major structural and sedimentary damages, such as plaster deterioration due to sediment infill, floodwater and fault zones. Fault zones and open joint plane contribute to ceiling and wall collapse.



Lower part of wall shows weakening and deterioration by retained moisture in the clay-rich marl.



Thick layer of mud brought in by the 1994 flood in chamber (I).



Surviving traces of plaster on walls of entrance ramp (A) and on entrance doorway (B).



Traces of painted red preliminary underdrawing are visible on door jamb of doorway (B).



Multiple plaster layers are visible in chamber (L). Walls were filled with plaster and rock shards in preparation for painting.



Detail of area of painting in chamber (G). Plaster was thickly applied and the walls packed out with rock shards to create a flat surface for the painting. The plastering technique differs throughout the tomb with multiple layers employed in some areas.



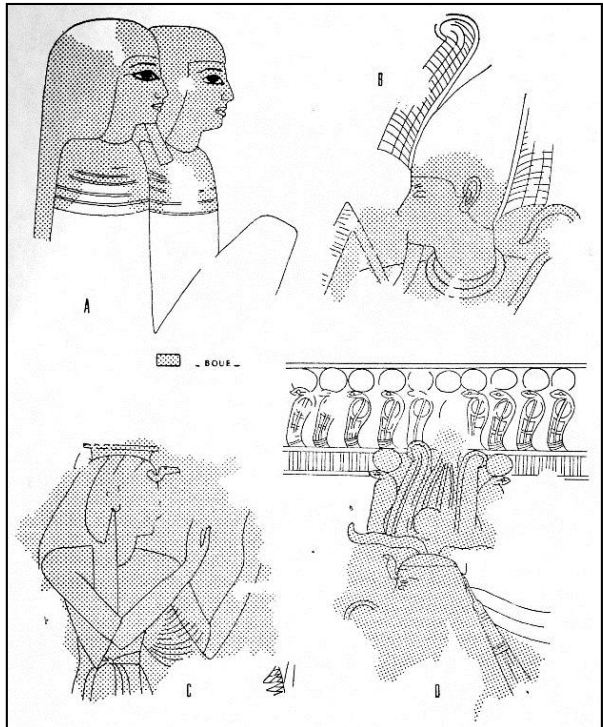
Detail of areas of Coptic painting on the east wall of antechamber (C)



Traces of Coptic overplastering of the pharaonic painting in antechamber (C) is visible in image at right. Note also loss of the paint layer and white background possibly caused during attempts at removal of the mud plaster. Pink repair plaster and gray edging repairs are also visible.



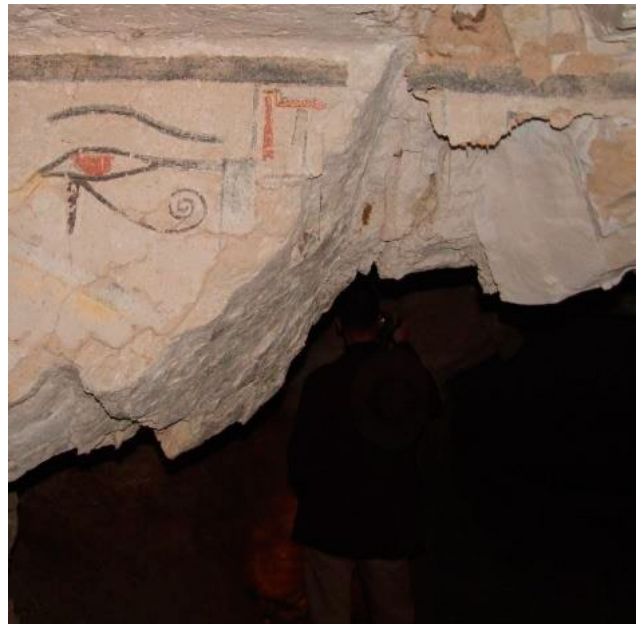
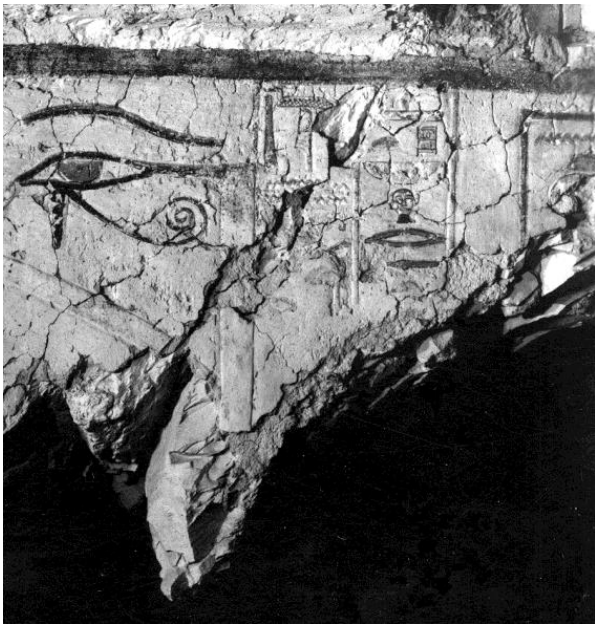
Mud plaster, thought to be Coptic period, was used to fill holes in chamber (G).



Drawing showing areas of Coptic overplastering of pharaonic painting in chamber (C) (CNRS, Leblanc 1983)



East wall (partially collapsed) of chamber (L) with detail of wall paintings debris from collapse (right).



Area of rock collapse and loss of painting on east wall of chamber (L) since 1982 CEDAE photograph.



Area of loss of painting on east wall of chamber (L) since 1982 CEDAE photograph.



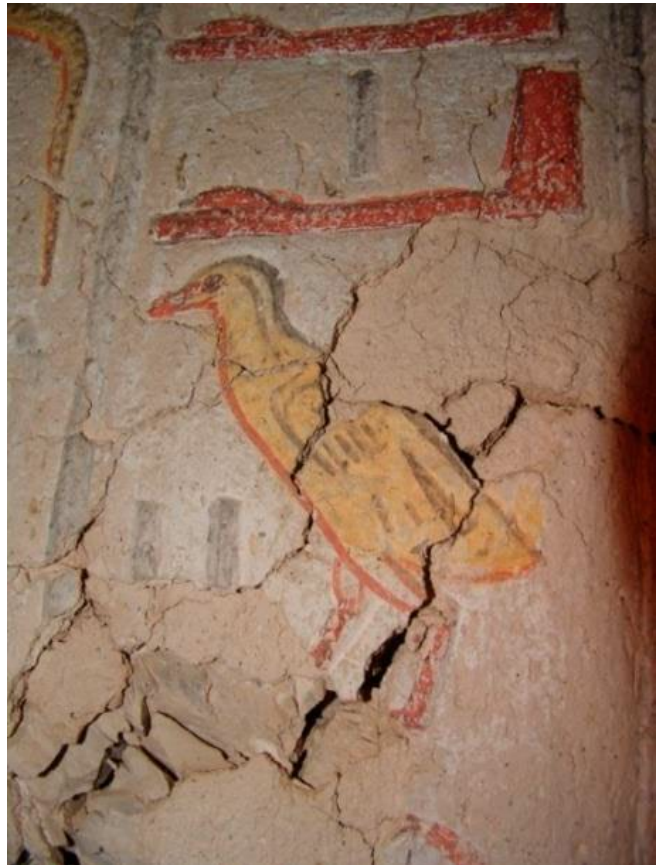
At risk area of painting around what is left of doorway (M) between chambers (N_P) and (I).



Chamber (G), Large crack through painted plaster runs across entire wall. Plaster is fragile with cracking and detached areas. Also rock at base of wall has been lost.



Detail of area of loss on the east wall of chamber (I) showing rock suffering from salt-related deterioration and pitting of the painted surface, also possibly caused by salts.



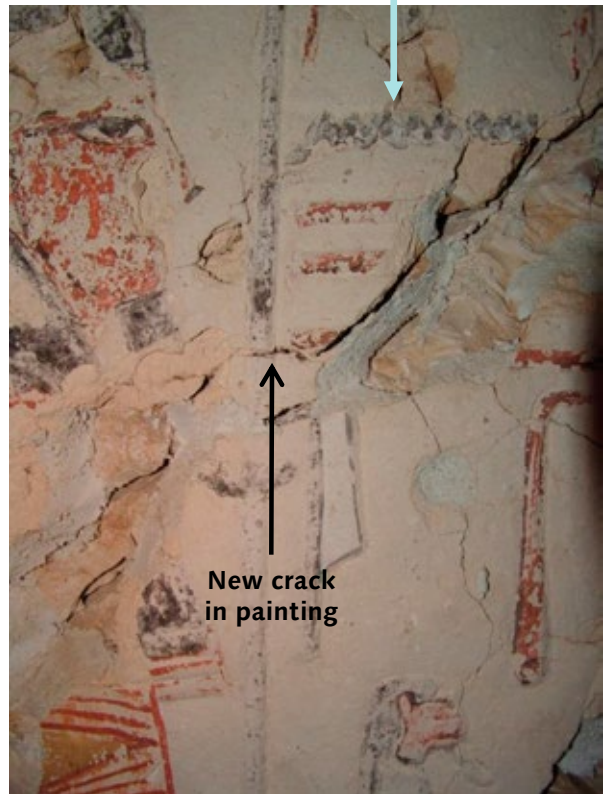
Fractured area of painted plaster on west wall of chamber (N_P) around doorway (M). Note also loss of white background and general pitting of surface, possibly salt related.



Plaster repairs on south wall of chamber (C).



West wall of chamber (G).



Efforts to stabilize the paintings with edging repairs has sometimes caused a transfer of stresses to the original plaster leading to damage in the painting when there is movement along rock fissures. A new crack has formed in the above area of painting since the 1982 CEDAE photograph of the west wall of chamber (G).

TOMB INVENTORY

QV 66

General Tomb Information		
Tomb number	QV 66	Location North slope of the main wadi
Other naming systems	None	
Owner/ Attribution	Nefertari (Nefertari-Merymut)	
Owner Status	Queen (Great Royal wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber tomb)	
Description		
General Description	The tomb is entered through stepped ramp (A) leading into antechamber (C) with ledges on the west and north sides. Two alcoves (D, E), divided by half pillars lead to side chamber (G). Continuing on from the antechamber a second stepped ramp (I) leads into pillared burial chamber (K). Three side chambers (M, O, Q) lie to the west, east and north of this chamber. There are also three magical brick niches on the west, east and north walls of the burial chamber.	
Decoration	Extensive painted plaster with raised relief preserved throughout the tomb.	
Iconography	The tomb space is divided into two by a stepped ramp with the antechamber and adjoining room providing one set of decoration and the burial chamber another. The tomb illustrates the concepts of regeneration and rebirth. See Tomb Profile, Volume 1.	
Objects and Current Contents		
Objects recovered	Box-lid of deceased (Turin Museum (MT) #Sup.5198), fragments of gold and silver inscribed plaque (Boston Museum #04.1954-5); a pair of palm-fiber sandals, a gold plaque, a <i>djed</i> -pillar amulet, 34 <i>ushabtis</i> , fragments of sarcophagus (MT #suppl. 5153), lid of a polychrome wooden casket with an inscription (MT #14475), a knob of a crate with the cartouche of Ay (MT #14472), very fragmented wooden <i>djed</i> pillar with yellow coating (MT #14479), amphora with pointed base (MT #13508). In 1988 a piece of embossed gold foil with Nefertari's name was found during conservation work in the tomb (McDonald 1996, 38).	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dynasty	Tomb construction	
Unknown	Plundered in antiquity but never reused in the Third Intermediate Period and Roman period	Lecuyot 2000, 46
1904-05	Discovery and documentation (drawings, photographs, records); plaque and door installation; reconstructed arched entrance and wall above ramp; and current tomb numbering system, by Schiaparelli and Ballerini	Carter 1905, 120; Schiaparelli 1923-27
1906-1970s	Opened to visitation	GCI documentation (see Volume 1, 228-230)
1906-1908	Campbell surveyed and photographically documented tombs	Afshar 1993,97; Campbell 1909, vii
1907	Stone photographed QV 66	Afshar 1993,97
1910s-1920s	Gaddis and Seif (Oriental Institute, University of Chicago) conducted photographic documentatio	Afshar 1993, 97-98
1914-1916	Mond (Metropolitan Museum of Art) photographed QV 66	Afshar 1993

1920-1923	Burton (Metropolitan Museum of Art) photographed QV 66	Afshar 1993, 98
1920s	Documentation, brief history and description (drawings and text) by Porter and Moss	Porter and Moss 1927
1930s (?)	Stewart took color photographs of QV 66 published in the National Geographic magazine in 1940	Afshar 1993, 98
1953	Emmer took color photographs of QV 66	Afshar 1993
Early 1950s	Hassia and Boyer photographed QV 66	Afshar 1993, 100
Late 1950s to 1960s	Ritter produced color photography of QV 66 wall paintings	Afshar, 100-101
ca. 1958	Wooden steps were installed in corridor (I) (steps were removed for 1965 photos and then replaced) and presumably in the main entry ramp to the tomb (shown in the 1965 photos)	CEDAE photo 1958; 1965 photos show entry steps
1958	Photographic documentation by CEDAE	CEDAE
1960s	Documentation (drawings and text) by Thomas	Thomas, 1966
1964	Documentation, brief history and description (drawings and text) by Porter and Moss	Porter and Moss, 1964
1964 Dec, 1965 Mar & Oct	Photographic documentation by CEDAE	CEDAE
Mar 1966	Photographic documentation by CEDAE	CEDAE
1970s to 1986	Closed to general visitors (accessible only to specialists and VIPs)	GCI documentation
1981	Survey by TMP	TMP
1988-1990	Removal of ancient path to the tomb leading to main path	CNRS mission report 1988-1990
1986-1997	GCI—EAO project for the conservation of QV 66. 1986-1992: Photographic documentation of wall paintings and conservation work. 1992-1997: Environmental monitoring and condition inspection continued until 1997.	GCI
1986 Nov– Dec	In-depth recording, including condition survey and photographic documentation	GCI
1987 Apr –Jun	Emergency conservation treatment with Japanese tissue and reversible adhesive	
1988 – 1992	Final conservation treatment in seven campaigns: February – April 1988; October – December 1988; October– December 1989; February – April 1990; October – December 1990; October – December 1991; February – April 1992. Treatments implemented according to the following sequence: (1) preliminary cleaning; (2) removing old gauze facing; (3) consolidation of plaster; (4) reattachment of paint flakes; (5) strengthening cohesion of pictorial surface; (6) detachment and reattachment of areas of painted plaster; (7) removal and repair of fills; and (8) final cleaning.	GCI
1987	BBC filmed at QV 66	Afshar 1993, 101
1990 Nov	Treatment (or study?) of biodeterioration in tomb, which lasted three days.	SCA conservator notes
Before 1991	Arched cover over entry extended	CEDAE 1991 photos
1991 Nov	Photographic documentation by CEDAE	CEDAE
1993	Carpet walkway installation by GCI	GCI
1995	New wooden walkway, handrails, lighting, extraction tubes and fans installed by SCA	GCI
1995 Nov	Opened to visitors by SCA following conservation	GCI

2003 Jan	Closed to general visitors	SCA
2005 Jan	Opened to special tour groups (see Volume 1, Part IV.6)	SCA
2005 – 2016 ongoing	Comprehensive condition assessment undertaken in 2005; thereafter, yearly inspections by GCI	GCI
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2009	Temporary changes to extractor system by GCI: ducts replaced; electrical wiring from junction box encased; RH and T sensor installed	GCI (see also Volume 1, 225)
2016 Nov	Tomb opened by SCA for 150 persons per day, reverting to system in place from 1995-2003 (see Volume 1, 203).	SCA
Documentation and References		
Historic Photographs	-Schiaparelli 1923-27, fig.49, 54-61, 71, 74; -CEDAE 2851-3002/ 7082-71096 (1958); 14741-14970 (Dec 1964); 15015-15379/ 15808-15861 (Mar 1965); 16424-16427 (Oct 1965); 16742-16745/ 16759 (Mar 1966); 28789-28790 (Nov 1991); -CNRS/CEDAE in Plates CLII-CLXXIII in Leblanc 1989a; -Metropolitan Museum of Art photo archive. -GCI photo archive	
References	-Afshar 1993; -Campbell 1909; -Carter 1905, 120; -Corzo and Afshar 1993;	-Leblanc 1989a; -McDonald 1996; -Porter and Moss 1964, 762; -Schiaparelli 1923-27, 51.

QV 66

Queen Nefertari

General Description

The tomb is entered through stepped ramp (A) leading into antechamber (C) which has ledges on the west and north sides. Two alcoves (D, E), divided by half pillars lead to side chamber (G) to the east of the antechamber. Continuing on from the antechamber a second stepped ramp (I) leads into pillared burial chamber (K). Three side chambers (M, O, Q) lie to the west, east and north of this chamber. There are also three magical brick niches on the west, east and north walls of the chamber (K) and ledges along the walls.

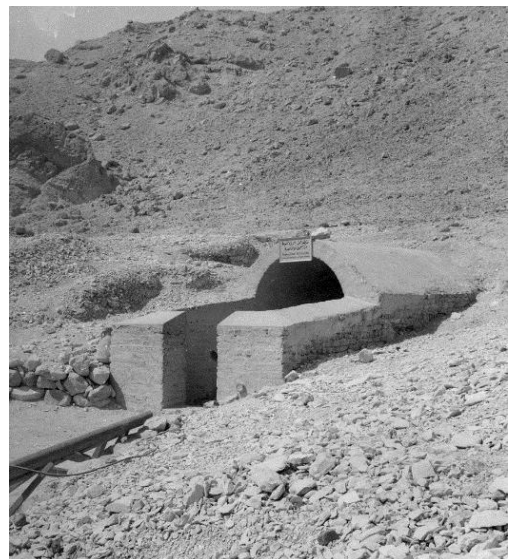
The bedrock of this tomb, similar to adjacent tomb QV 80 and others on the north side of the Valley, is part of the rotated, tilted block of the upper part of Member I, which exhibits similar joint sets but few chert nodules, and abundant salts along open joints and on surfaces, particularly in the lower chambers.

Extensive relief paintings survive in excellent condition throughout the tomb. The paintings in QV 66 have the best preservation of all the tombs in the Valley. An original hieratic inscription also survives. There is no evidence of later reuse of this tomb. However, the lack of a sarcophagus and other funerary objects found in the tomb suggests that it was looted in antiquity and "no trace of the wall that must have sealed it [the entrance] could be found" (Thomas 1966, 214) when the tomb was discovered by Schiaparelli in 1904. At this time he noted that "[t]he rubble, which had fallen upon [it] and had filled the stairs, had also entered in the first chamber [chamber (C)], where it piled up near the entrance, near the left wall and near the one in the back, almost touching the ceiling. The other chambers were almost empty; but their floor was evenly coated with a thick layer of soil, brought in by rain waters, which must have infiltrated the tomb repeatedly" (Schiaparelli 1923, 53-55).

A survey benchmark (in the form of a metal disk) indicating elevation above mean sea level is embedded in the brick entrance to the tomb. It was in place in the 1920s, and perhaps earlier. The arched entry to protect the tomb was built by Schiaparelli and altered sometime before 1991 based on CEDAE photos to its current appearance.



Tomb entrance with brick arched cover during the Italian mission in the Valley of the Queens in 1904-5. (Image: Museo Egizio).



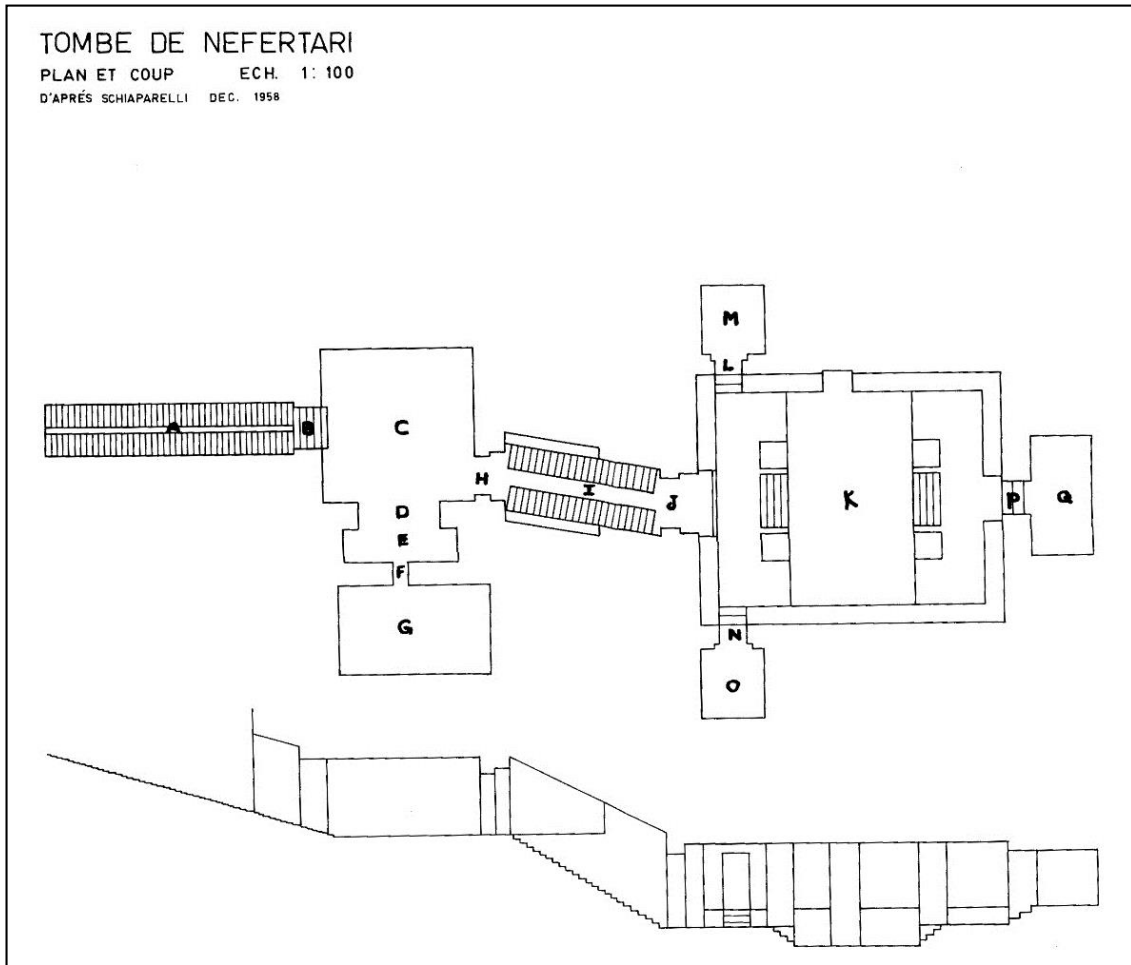
Schiaparelli entrance with brick arched cover as it appeared in 1966 (Image: CEDAE).



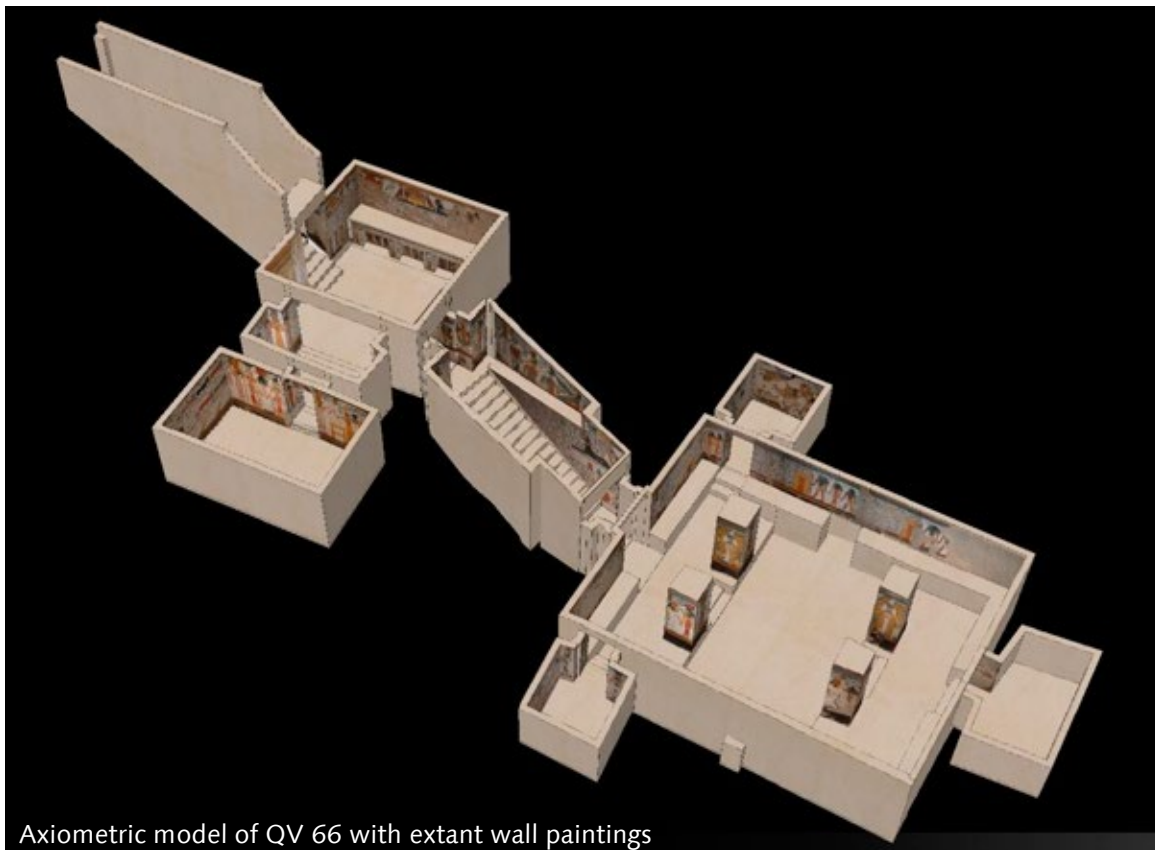
The arched cover of the tomb entrance, visible in the historic images above, was extended the length of the parapet walls to form the current entry (2007 photo).

TOMBE DE NEFERTARI

PLAN ET COUP ECH. 1 : 100
D'APRÈS SCHIAPARELLI DEC. 1958



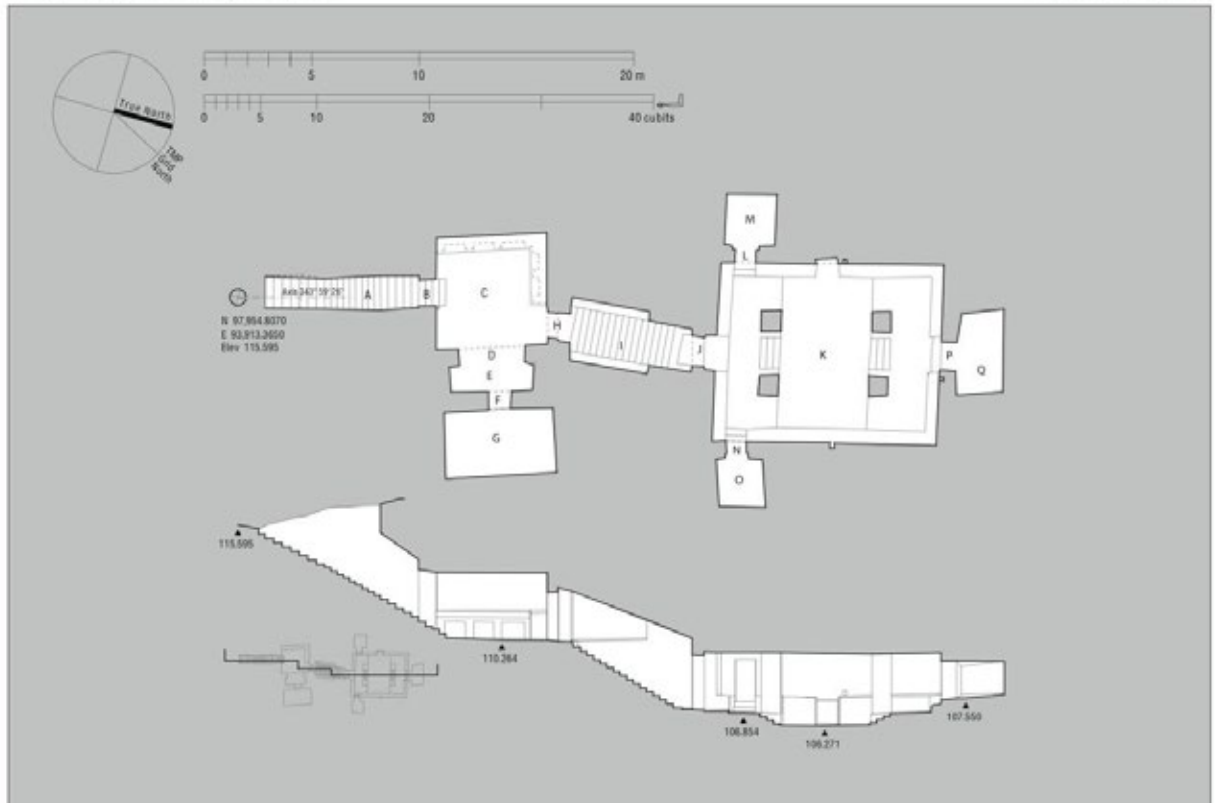
Drawing: CEDAE



Axiometric model of QV 66 with extant wall paintings

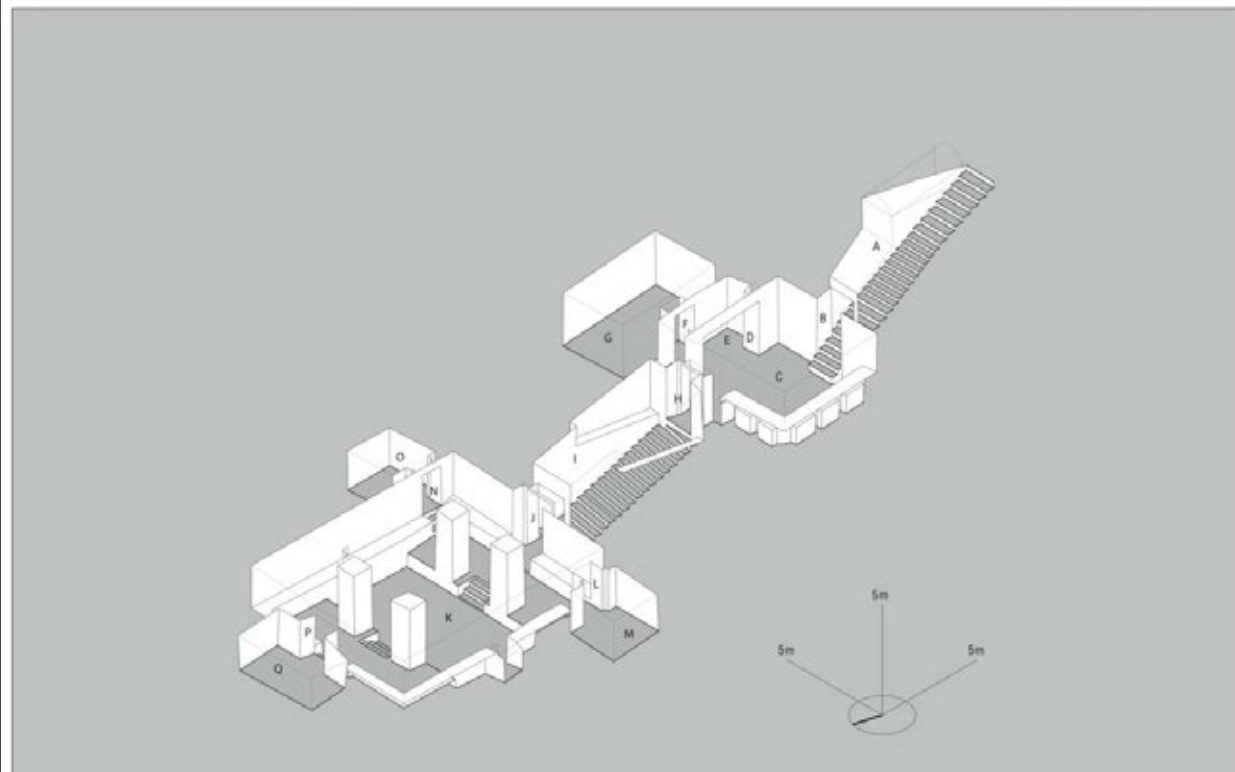
Sheet 54/72 - QV 66 (1 of 4)
QV 66 - Nefertari, Dyn. XIX
Plan, sections 1:200

Surveyed May 8-9, 1981. Drawn September 9, 2007.



Sheet 57/72 - QV 66 (4 of 4)
QV 66 - Nefertari, Dyn. XIX
Axonometric 1:200

Surveyed May 8-9, 1981. Drawn November 17, 2007.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

The tomb is currently open to restricted visitation. The tomb was closed to general visitation from the early 1970s to 1994. From 1986 to 1992, it was closed for conservation. It re-opened in 1995 until 2003 when it was again closed to general visitation. Since 2003 the tomb has been open to restricted visitation. For its opening, wooden walkways were installed, on which handrails were mounted in stepped ramp (I) and in doorways (F, H, J and P). Fluorescent lights, fans, fire extinguishers, air extraction ventilation ducts were also installed in the tomb. Entry ramp (A) has a brick arched cover and wooden steps with handrails. The entrance door is metal with ventilation holes at the sides, which are covered with mesh except the bottom hole that the ducts go through (see also Volume 1, 221-226 for protection and presentation aspects).

Condition

No active rock stability problems have been identified. The stability of the wall paintings since the end of the GCI-EAO conservation program confirms that this is the case. However, the rock of much of the tomb ceiling is covered by decorated plaster and therefore it is not possible to discern whether faulting, such as seen in adjacent QV 80, occurs. There are several small, non-threatening fractures along joints in doorway (N) and along the bench of burial chamber (K) in various locations on all four sides, and in the west jamb of doorway (P). The only other visible fractures of bedrock are located in the ceiling at the bottom of ramp (A).

Ancient flood damage was documented by Schiaparelli in 1904. He reported that rubble had filled the ramp and had also entered the first chamber (C), filling it almost to the ceiling; the other chambers were said to be empty and the floors evenly coated with a thick layer of soil brought in by the rain waters over time (Schiaparelli 1923, 53-55). This may also account for why the tomb remained unknown, after it had been looted, until Schiaparelli's mission.

Since completion of the GCI-EAO conservation program in 1992, the GCI carried out selective condition monitoring annually from 1994 to 1997, in 2004, and a comprehensive condition assessment in 2005. Following this regular monitoring has been undertaken by the QV project team. The most serious problem observed is mechanical damage, which has been far more extensive than previously recognized. Although mostly small, these frequently occur in important parts of the painting, and therefore represent disturbing losses. Cumulatively, these losses cause concern.

There are some areas of salt-related disruption that affect the rock and painted plaster, including micro-fracturing and scaling of rock surfaces. Salt-related deterioration is more extensive toward the rear and deeper into the tomb, particularly in chamber (Q) and doorway (P), and generally in the north half of burial chamber (K) and side chambers (O) and (M). The problems in these areas are both localized and relatively small-scale. They do not affect the majority of the surviving painting.

Rates of salt-related deterioration can be considered slow based on the selected monitoring areas, which have remained visually unchanged since 1994 except for one area noted in the GCI's 1996 report on the east wall of chamber (O). This area was one of the most seriously deteriorated areas to be treated during the GCI-EAO conservation program. No further visible change was noted here since 1997. This is due in large part to the humidity levels in the interior environment remaining low and stable, based on GCI environmental monitoring and recommendations for limiting visitation in the summer months (Maekawa and Preusser 1993). Other factors that have been previously noted in relation to condition include minor cracking of both original and repair plasters and small localized areas of flaking, particularly of areas of Egyptian blue painted over black, Egyptian green and black, and micro-flaking of reds and yellows. These flaking phenomena were recorded mainly as a precautionary measure rather than to indicate a serious ongoing problem.

A mouse was sighted and there is evidence of droppings throughout the tomb.

Deterioration Factors

Human-induced damage is currently the most serious cause of adverse change to the wall painting, in both nature and extent. A significant number of damages have occurred in areas not normally accessible to visitors and may be from activities such as filming. It has been observed that special interest groups visiting the tomb are insufficiently supervised. For instance, at times visitors have been observed carrying in bags that bump into painted plaster. However, insufficient supervision of film crews working in the tomb with rushed schedules poses a greater threat of impact damage. Moreover, current walkways and handrails are close to painted walls and the walkways are insufficient in some areas to allow more than one person to pass, causing visitors to have unintentional contact with painted plaster.

In many cases, pre-existing minor cracks in the original plaster have become visible through failure and/or loss of repairs. Such failures do not represent a serious risk. Many of these areas were retreated by the GCI in 2005.

Other forms of deterioration such as paint flaking can be related to the inherent susceptibility of the original painting technique associated with specific pigments and paint layer combinations. Some pigments, namely Egyptian blue, typically have a large particle size and therefore require a greater amount of medium for its application. The thickness of its application may contribute to an inherent tendency to exfoliate.

The current flood risk to the tomb is assessed to be relatively low. The tomb opening is located at an elevated position with respect to the main drainage channel and the arched surround around the tomb entrance provides it protection from upslope runoff.

The most urgent and serious threat to the tomb is hazardous electrical wiring that could cause electrical fire, which would be catastrophic given the presence of wooden walkways. The risk of fire is increased by the buildup of lint on the tomb floor coming from the clothing of visitors. The presence of mice that chew on electrical wiring, may also promote the risk of electrical shorting and fire. Given that there is no backup lighting system installed, if visitors were in the tomb during an electrical fire and the interior lighting system were to fail, visitors would likely not be able to see the path to exit the tomb.

General recommendations

Since human-induced damage is a serious threat to the safety of the paintings, all deficiencies in interior conditions (weak barriers, poor lighting, etc.) and poor visitor and film crew management practices must be reviewed and improved if the tomb is to remain open for such uses. This should include improved flooring, and a new lighting system with electrical wiring meeting safety standards. Protective barriers at narrow areas are required. Handrails need to be securely mounted. Walkways need to be expanded where possible. In 2009, the GCI covered electrical wiring from the junction box, but this is intended only as a temporary measure and does not obviate the need for rewiring of the whole tomb.

Deterioration in its various identified forms does not at present merit interventions, rather continued regular monitoring of areas of concern and the implementation of appropriate environmental controls. The detailed condition monitoring in 2005 produced protocols intended for future monitoring in the tomb. These identify 35 monitoring areas throughout the tomb, incorporating earlier monitoring areas used during inspections in 1994-1997 and 2004. Future monitoring should be implemented on an annual basis by SCA conservators, to counter SCA responses to the condition of the wall paintings being based on reported suspicions of damage and/or deterioration, rather than on collected data.

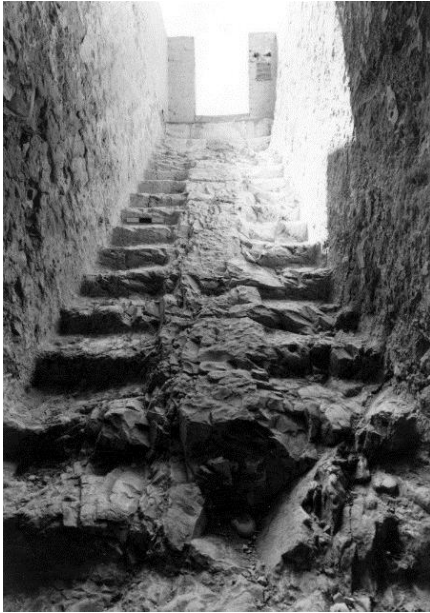
Current risks of salt-related deterioration, both in the rock and wall plaster, appear to be low and occurrence is localized. Although little or no change has been noted over a number of years, this situation needs to be kept under observation. Similarly, the status of specific areas of minor cracking and flaking paint may be considered low risk, but their condition should continue to be monitored.



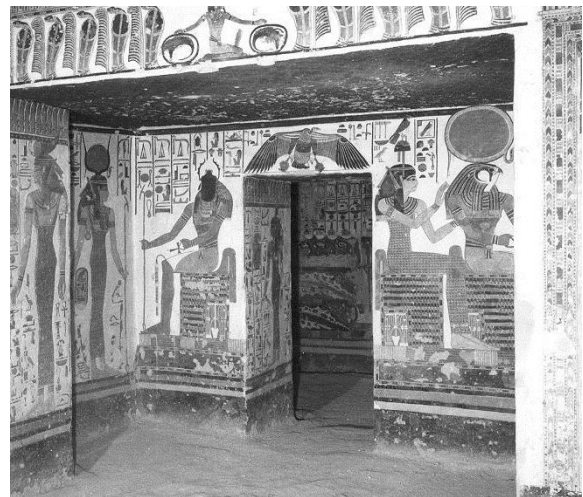
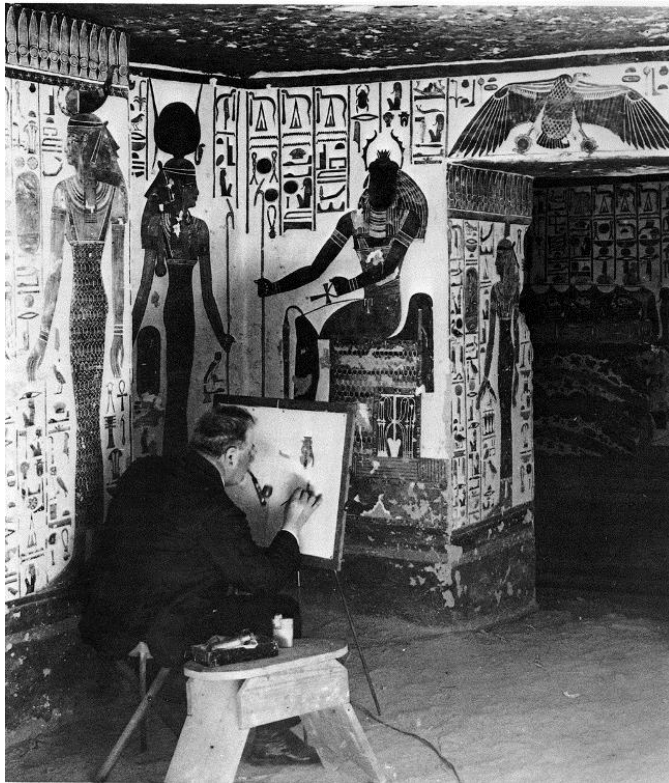
Overburden analysis shows the thickness ranges from 4.96m above chamber (C) to 11.6 meter above burial chamber (K)



Entrance with overburden above the tomb, sloping upward. An environmental station was installed in the gated area to the right of the entrance.



Original stepped ramp (A), left in 1965 photo (Image: CEDAE) and with installation of wooden steps and rail, middle, seen here in 2007. At right ramp (A) and doorway (B) with Italian Mission plaque in situ above; an electrical junction box is located left of the tomb entrance doorway.

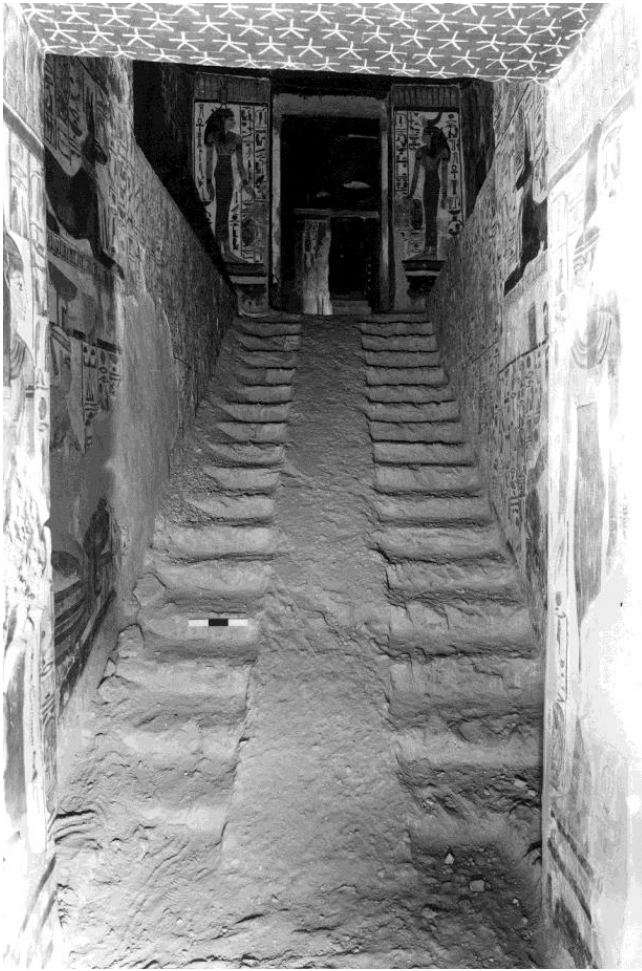


General view of alcoves (D) and (E), doorway (F):
Above: after archaeological clearing by the Italian mission with Schiaparelli sketching (Image: Schiaparelli 1923).

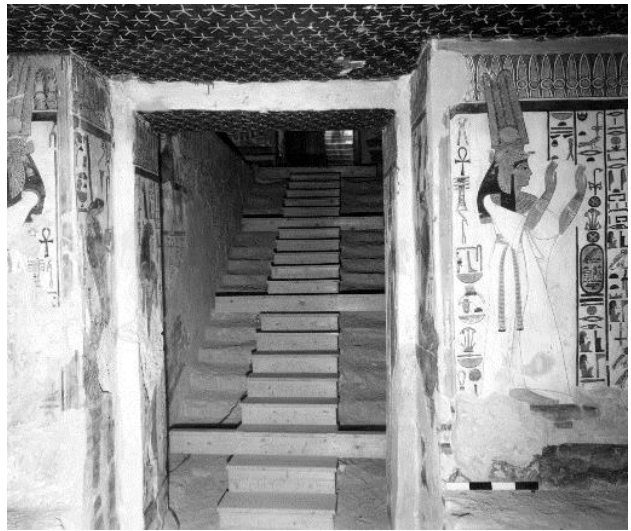
Top right: Same area as photographed in 1965 (Image: CEDAE).



Bottom right: Same area during GCI-EAO conservation of the tomb in 1988/9.



Stepped ramp (I) leading from antechamber (C) to burial chamber (K), as photographed in 1965 (wooden steps seen in 1958 photos were removed for the photo, then replaced) (Image: CEDAE).



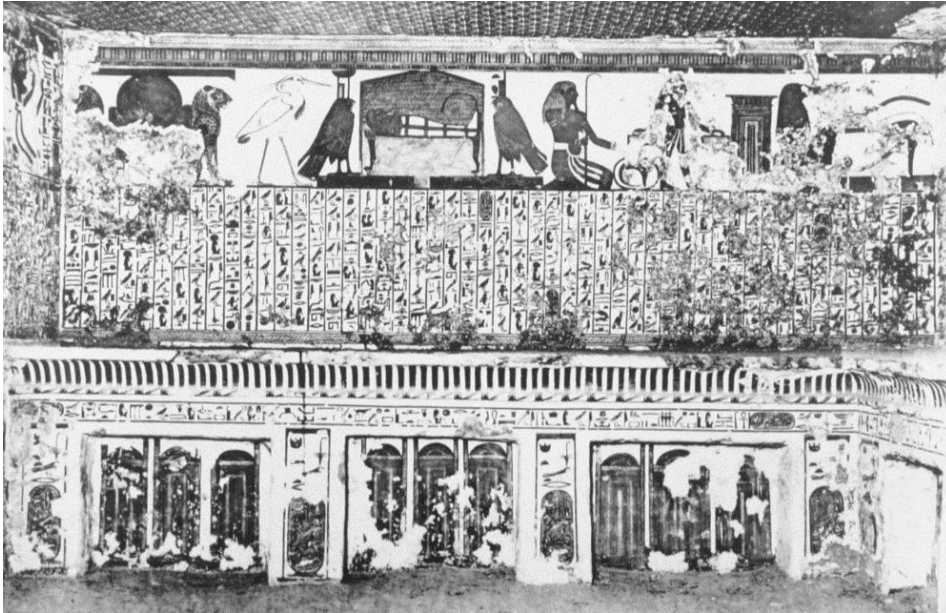
Ramp (I) as photographed in 1958 after installation of wooden steps (Image: CEDAE).



Wooden stairs in ramp (I) installed in 1996 by the SCA (2007 photo).



Chamber (C): East wall and alcoves (D) and (E), with chamber (G) beyond. Wooden walkway was installed in 1996.



Some loss of painted plaster occurred after the tomb discovery in 1904 as can be seen in these photos. West wall, chamber (C). (Image: Schiaparelli 1923)

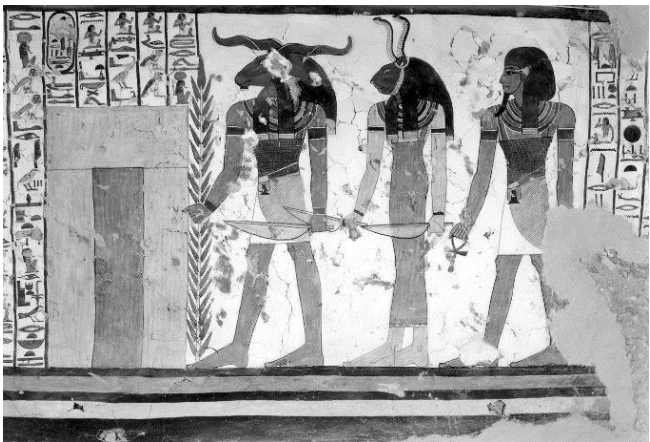


1958 photo shows some additional loss (Image: CEDAE)



2009 photo after 1980s SCA-GCI conservation; painting has remained stable (Image: CEDAE).

These photographs of selected areas of painting from the chamber (K) in 1964 and in 2009 (after 1980s GCI-SCA conservation and cleaning) show the stability of the paintings over four decades.



Chamber (K): west wall in December 1964 and January 2009 (CEDAE).



Chamber (K): North wall in December 1964 and January 2009 (CEDAE).



Chamber (K): South wall in December 1964 and January 2009 (CEDAE).



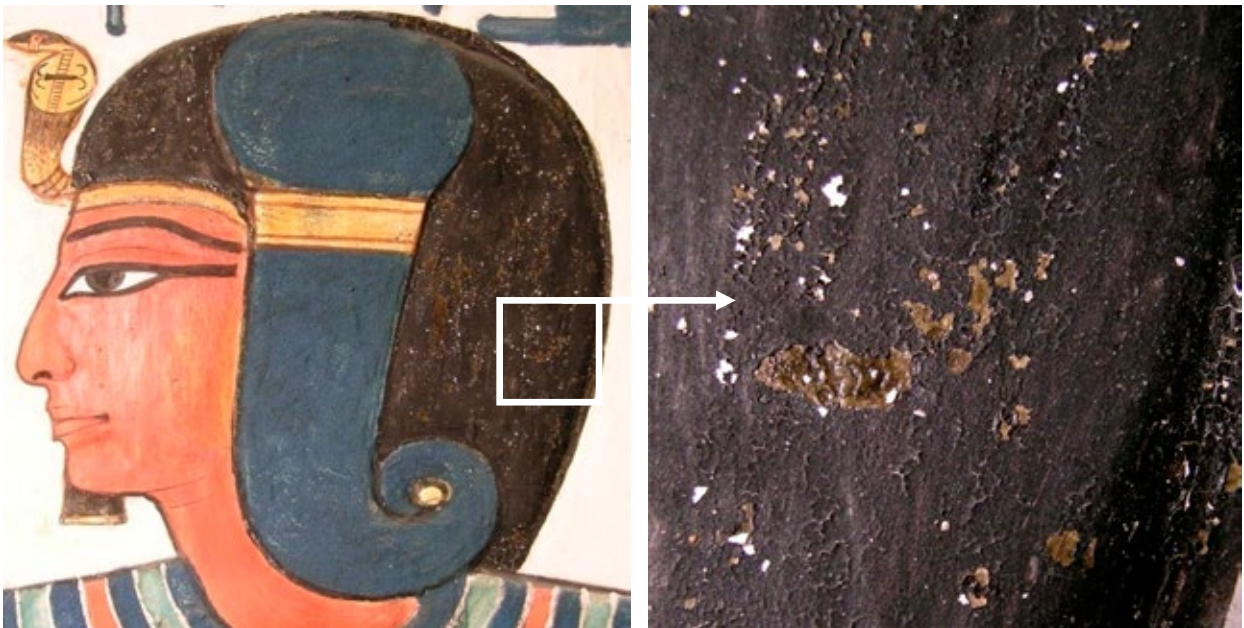
Area of damage on the east wall of chamber (K) before (above left) and after (above right) repair in 2005.



Minor cracks in both original and repair plasters are typically interpreted as evidence of ongoing deterioration. In most cases, cracks in the original plaster already existed, but photographs did not allow this to be properly assessed. These cracks do not represent a serious risk.



Detail of severe salt-related deterioration on the south wall of chamber (O). Although in a fragile condition, monitoring of such areas has indicated little or no change since 1997.



Paint flaking related to the inherent susceptibility of the original painting technique, such as the black on the wig of the figure on the south face of pillar II in chamber (K), does not present a serious risk but should be monitored.



Alcoves (D) and (E). Carpets were installed as a visitor path in the tomb in the 1990s and replaced with the current wooden walkways by SCA in 1996.



Wooden walkways, fans, fire extinguishers and ventilation ducts are installed in the tomb. Walkways are narrow and too close to walls allowing visitors to touch the walls.



Doorway (B) has no barrier to protect painted surface. The ventilation ducts are in contact with the wall surface at bottom.



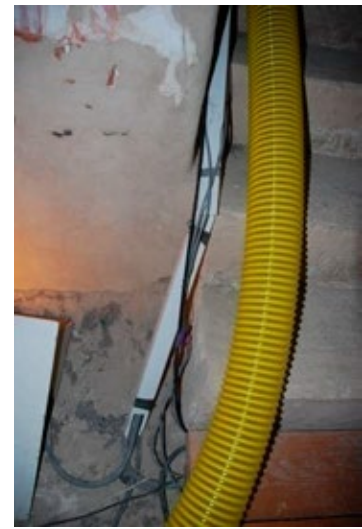
Narrow doorway (F) has no barrier to prevent visitors touching the walls.



Handrail at doorway (H) is installed too close to the wall.



Handrail at doorway (F) is not securely mounted.



Electric cables are not properly covered to prevent a fire hazard.

TOMB INVENTORY

QV 68

General Tomb Information		
Tomb number	QV 68	Location Main wadi, north side.
Other naming systems	Hay of Linplum – 4; Champollion – 12; Lepsius – 5	
Owner/ Attribution	Merytamen	
Owner Status	Princess - Queen (King's Daughter - King's Wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber tomb)	
Description		
General Description	Multi-chambered tomb with a similar architectural plan to QV 71, 74, 75. Steep ramp (A) passes through entrance (B) into large antechamber (C). A short overhang in front of entrance. Two side chambers (E, G) flank the antechamber (C) on the east and west and another small chamber (M) south of the chamber, accessed from the west side of the entrance (B) at lower level, to west of entrance. Chamber (C) originally had a reconstructed pillar, now a base remains. Chamber (C) leads to main chamber (I), on the axis of the entrance, followed by niche (K) at rear. The main chamber (I) has a central pit, as well as a pit to the west. A niche is at the north end of the tomb. There are small niches on north, west, and east walls of the chamber (I).	
Decoration	Raised relief and painted plaster in chambers (C), (E), (G) and (I); no decoration or plaster extant in chamber (M) and niche (K)	
Iconography	Extant scenes depict the queen alone facing deities and making offerings to the gods. See Tomb Profile, Volume 1.	
Objects and Current Contents		
Objects recovered	Red granite sarcophagus lid was recorded in the tomb in 1800s and then was lost, but later found in Berlin Museum (#15274) by Habachi (1974)	
Removal or clearance of contents	Material cleared from QV 68 by CNRS and SCA in October 2008: two baskets of pot sherds, baskets with stamped mudbrick and other finds (from Ramesseum), stone statue fragment of a face.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Source and Comments
19 th Dyn.	Tomb construction	
1826	Research and Documentation by Hay of Linplum	Porter and Moss 1964, 766
1828	Research and documentation by Wilkinson	Leblanc 1989a
1829	Research and documentation by Champollion	Porter and Moss 1964, 766
1828-1829	Documentation by Rosellini	Porter and Moss 1964, 766
1844	Research and documentation by Lepsius	Porter and Moss 1964, 766
1854	Research and documentation by Brugsch	Leblanc 1989a
1800s	Granite sarcophagus was removed from the tomb	Habachi 1974
1964	Brief description and history by Porter and Moss	Porter and Moss 1964, 765-766, 760 (plan)
1966	Research and documentation by E. Thomas	Thomas 1966

1971-72	Archaeological clearance by CNRS and CEDAE	CNRS
Before 1972	Restoration work on wall painting	Photographic evidence
1972	Photographic documentation by CEDAE	CEDAE
1981	Survey by TMP	TMP
1987 April	Photographic documentation by CEDAE	CEDAE
1994	Flood damage	Chief guardian, pers. comm., 2009
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct	Removal of study materials by Leblanc and SCA	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE
2013	Wall paintings stabilization by GCI-SCA	
Documentation and References		
Historic Photographs	-CEDAE – 22513-22518 (Dec. 1972); 28685-28789 (April 1987); -CNRS/CEDAE – Plates: CLXXIV, CLXXV, CLXXVI (1971); CLXXVII (1972) in Leblanc, 1989a	
References	-Champollion 1845, 399-400, 744 -Habachi 1974, 105-112; -Hay of Linplum MSS; -Lepsius 1897-1913, vol. iii 227-228;	-Porter and Moss 1964; -Leblanc 1989; 1989a -Leblanc and Siliotti 2002; -Thomas 1964, 765-766; 208-9, 211, 214, 215, 217-8, 224-5.

QV 68

Princess/Queen Merytamen

General Description

This tomb is entered through a steep ramp (A), leading into pillared chamber (C), where only the base of one pillar remains. There are two side chambers (E) and (G) to the west and east sides of chamber (C), and an opening to a small lower chamber (M) in the southwest corner, thought to be a later addition. Chamber (C) leads to burial chamber (I) and a rear niche (K) on axis with the tomb entrance. A sunken pit in the center of the burial chamber accommodated the sarcophagus. There is also a smaller pit to the west. Three small magical niches exist on the north, west and east walls of the burial chamber.



Ramp (A) leading down to entrance doorway (B) with metal grill door.

The marl into which the ramp is cut is tilted and heavily weathered and jointed. The bedrock is covered by paleofan debris (fan conglomerate) containing loosely cemented large boulders, similar to the other adjacent tombs on the north side of the Valley. Burial chamber (I) and niche (K) provide an indication of the condition of the rock in this tomb as they are the only rooms with exposed rock. In general, the tomb does not present any major structural concerns.

Generally, the poor quality of the rock in this tomb required packing of walls with plaster and stone shards in order to create a flat surface for the decoration. Evidence of this packing of walls is now only visible in side chamber (E) as most of the other tomb walls and ceilings in the upper chambers have been repaired with large, modern plaster fills. The walls were then finished with a thick leveling plaster and an upper, lighter-colored plaster.

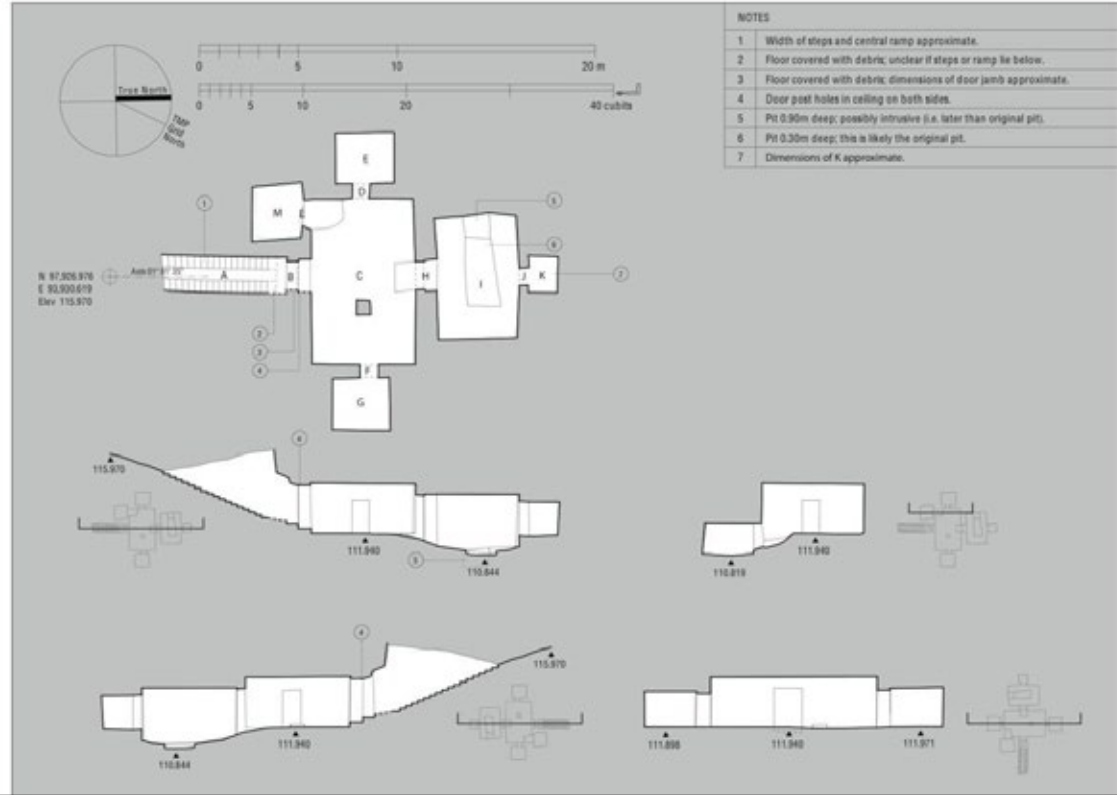
Fragmentary areas of raised relief painted plaster survive on the ceiling and upper parts of walls throughout the tomb except for rear niche (K) that was not decorated. There are fire-related damages in this tomb. The extent of blackening and heat-related damages is different from chamber to chamber.

This tomb has been accessible since the time of R. Hay of Linplum (1826). K. R. Lepsius (1844) describes the tomb as much destroyed and noted a piece of granite sarcophagus in the burial chamber (I). E. Thomas visited the tomb in the 1950's and observed chamber (C) and side chambers (E, G) substantially free of debris. She noted that the clearance of chamber (I) of debris would probably reveal the four magical brick niches and the sarcophagus fragments (Thomas 1966, 217). Thomas also records a small pit (chamber M) in chamber (C) as a later addition. The tomb was most recently cleared by the CNRS team in 1971-1972.

Currently the tomb is not open to visitation. There is a modern doorframe with a metal grill door without mesh.

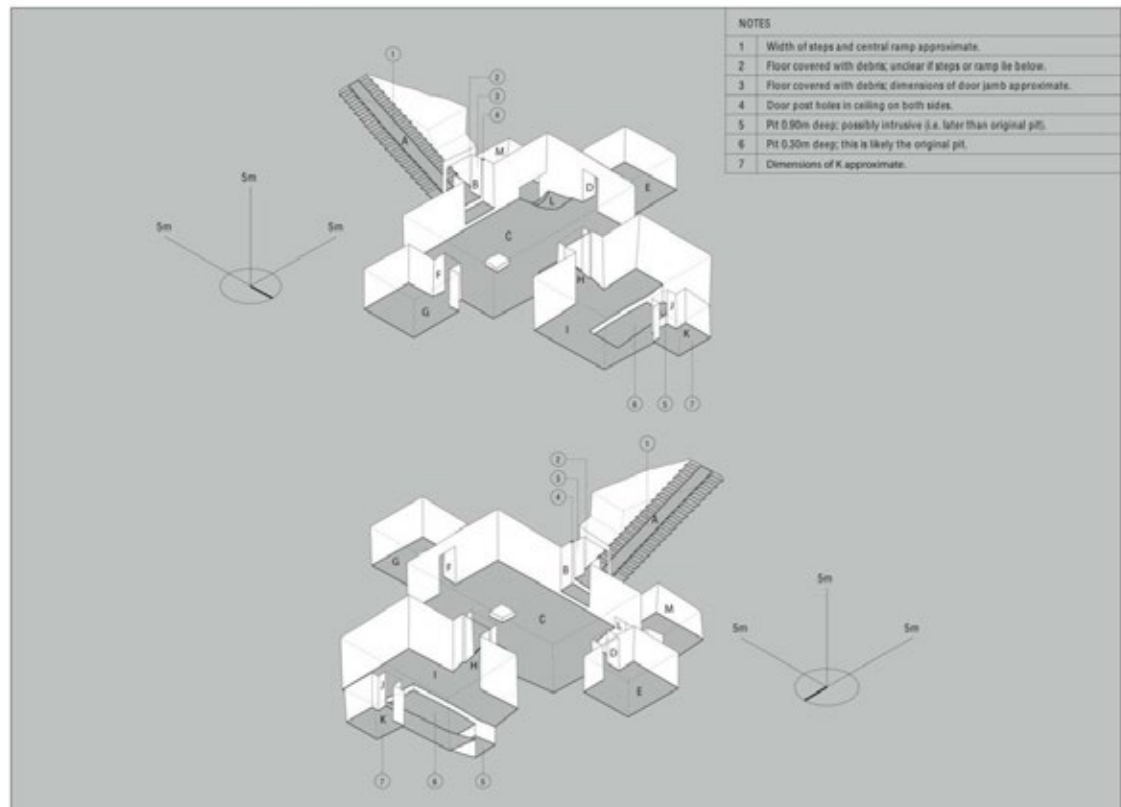
QV 68 - Merytamen, Dyn. XIX
Plan, sections 1:200

Surveyed May 30, 1981. Drawn September 9, 2007.

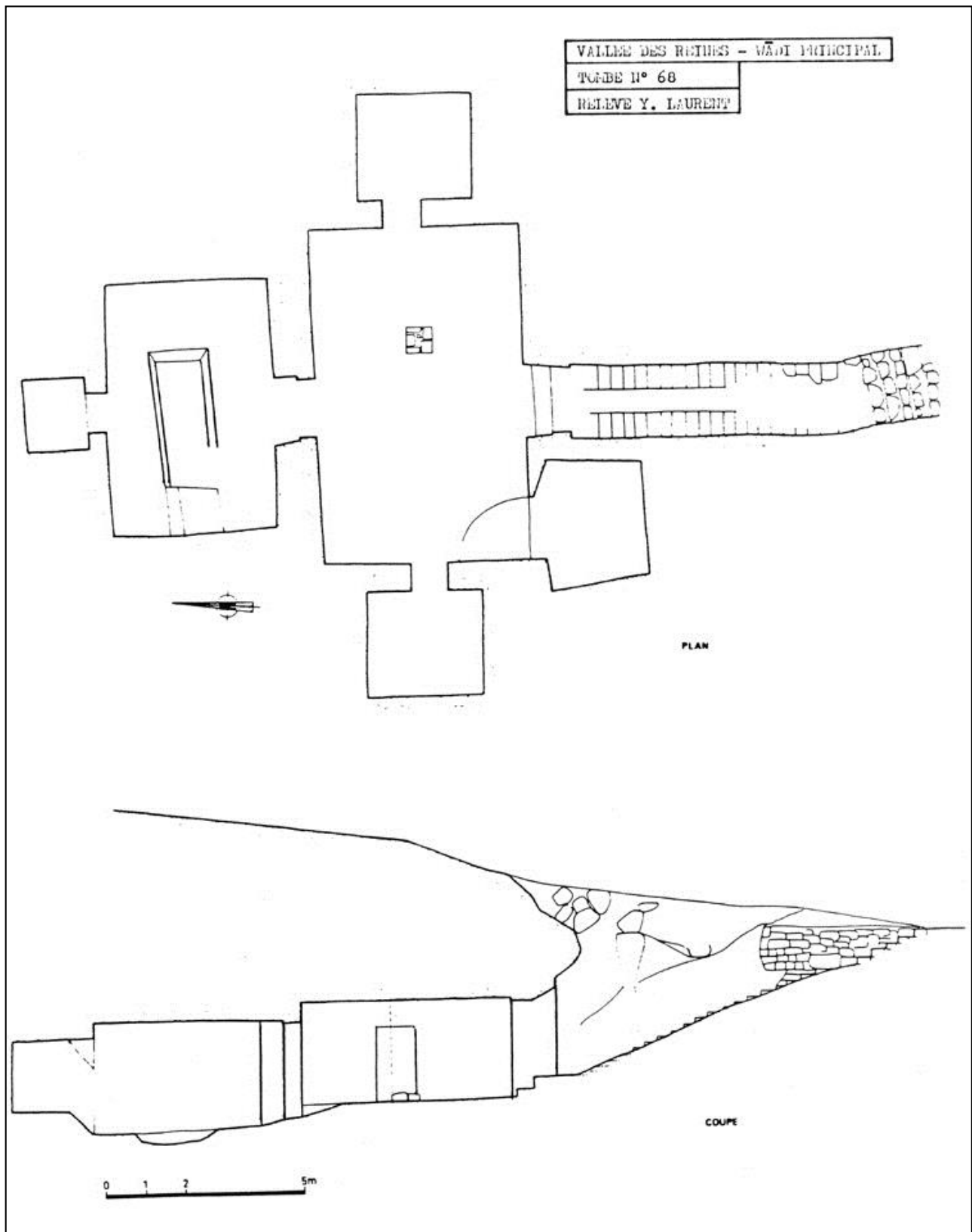


QV 68 - Merytamen, Dyn. XIX
Axonometrics 1:200

Surveyed May 30, 1981. Drawn November 7, 2007.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawing: CNRS

Condition

Entrance ramp (A), cut into heavily weathered marl, presents a large area of loss in the east wall, where boulders in the overlaying debris fan have been undercut by water erosion, and risk falling. A short overhang of marl rock above entrance doorway (B) exhibits some cracking and disaggregation. Ramp (A) was originally stepped on the sides with a narrow slope in the middle, but most of the lateral steps have been eroded, leaving only a few that have partial surviving plaster edges along the ramp sides still visible.

The tomb does not appear to exhibit any major rock fracturing or collapse; however, large plaster repairs in the upper chambers (C, E, and G) obscure much of the underlying condition of rock walls and ceiling. In the lower parts of the tomb, the rock surfaces in burial chamber (I) and niche (K) are heavily blackened from fire, both walls and ceiling, and the rock itself is heavily jointed. There is some loss in the lower part of the west jamb of doorway (J) and in the south wall of niche (K). However, overall there is little post-fire loss of rock in the tomb.

The extent of the decoration in QV 68 is fragmentary. The decoration on the lower parts of the wall has been lost throughout the tomb. The condition of surviving areas of decoration in the three upper chambers differs from area to area. The decoration in the main chamber (C), though heavily abraded, and intentionally scratched, and with substantial areas of loss, still retains much of its upper painted plaster layer. However, the decoration in both the east and west side chambers (G, E) suffers from severe cracking of the entire plaster stratigraphy. Both side chambers have substantial loss of the upper painted plaster layer, though the east chamber (G) has significantly more remaining than the west chamber (E) which has almost complete loss of this layer. The extent of surviving decoration in burial chamber (I) is more difficult to assess given the heavy blackening and fire damage of the walls and ceiling. Only small areas of decoration survive, mainly at the tops of walls. These surviving areas of painting are quite fragile and there are localized areas of cracking and detached plaster.

There is fire-related damage throughout the tomb. The tomb has a heavy matte blackened appearance in burial chamber (I) and niche (K). Chamber (C) has blackening only on the upper third of the walls; the lower two thirds were presumably protected by debris. Side chambers (E) and (G) have limited areas of blackening, with small patches on the ceiling and very tops of the walls. These rooms appear to have been possibly closed off and protected from the fire, which has also been suggested by Thomas (1966, 217).

Though significant post-fire losses are visible on ceilings and in the burial chamber, overall, the surviving areas of painting in the upper chambers are in stable condition, having been previously and extensively treated. It is unknown when the treatment was undertaken but the 1972 CEDAE photographs show large plaster repairs already present.

Different treatment approaches were used in different rooms. Extensive plaster repairs were undertaken throughout the tomb but the level of treatment in individual chambers is varied. The plaster repairs in side chamber (E) have been done carefully, respecting surviving areas of loss and leaving exposed lower layers of plaster, using both edging repairs and large plaster fills. Side chamber (G) was instead heavily treated with extensive plaster repairs applied everywhere even over the original lower plaster layer. The burial chamber and rear niche do not appear to have been treated and are the only areas of the tomb that require some localized intervention. In chamber (C) the paintings in the upper blackened zone were selectively cleaned. Some areas exhibit smearing of the blackened deposit and abrasion of original colored surface decoration. There may also be application of a surface coating to the decoration in parts of chamber (C).

There is evidence of bat activity and birds were seen roosting on the entrance door during the tomb inspection.

Deterioration Factors

The marl bedrock in ramp (A) is heavily weathered due to its exposure at the top of a small ridge. The interior marl is much less weathered but still heavily jointed and fractured due to the tilted nature of the block.

The loss in decoration of QV 68 can be attributed to several causes including past flooding, resulting in complete loss of painting at the base of the walls in the upper chambers (although survival of paintings in side chamber (G) is relatively low to the ground and suggests a low flood level and/or that this chamber was partially protected), and deterioration around doorways as shown by the extent of replastering needed to recreate the shape of the upper chamber doorways and the substantial rock loss of doorway (J) between burial chamber (I) and rear niche (K). The SCA guardian recalled removing water during the 1994 flood; Leblanc does not.

The technique of the paintings also has played a role in their overall survival. As the technique varies slightly from area to area it is reflected in the different types of condition found throughout the tomb. The upper painted plaster layer in chambers (C) and (G) survives in much better condition than the decoration in chamber (E) which has almost complete loss of the upper painted plaster layer. Both chambers (G) and (E) have deep networked cracks running across the decoration which are not present in chamber (C); these look like drying cracks and perhaps indicate a problem with plastering technique used in these two side chambers. The lack of fiber in this plaster is one reason that might account for the severe cracking.

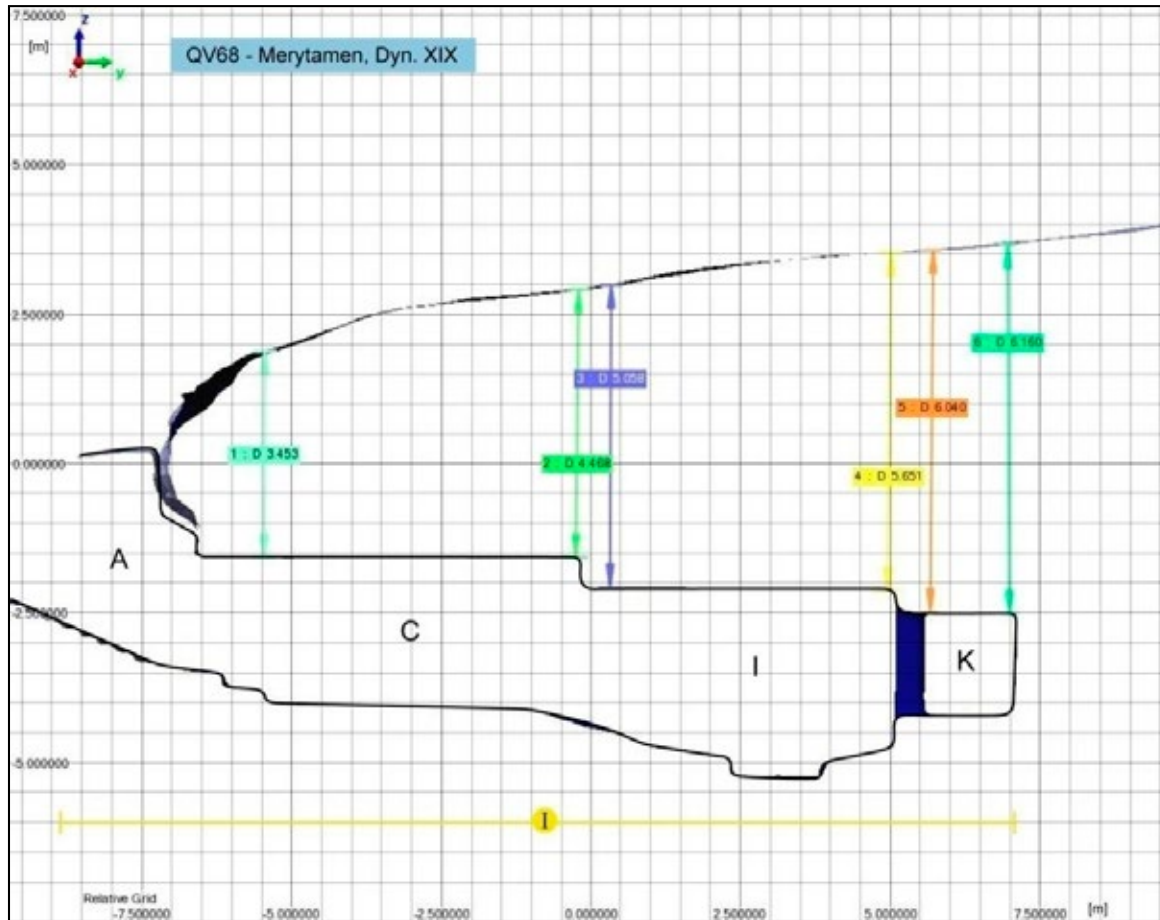
The deterioration of the decoration can also be attributed to fire. The fire may have weakened plaster layers leading to cracking and detachment which have resulted in substantial post-fire loss, particularly in the burial chamber which suffered extreme heat damage as well as the ceiling of chamber (C). This also led to the collapse of areas of substantial infill material used to pack out the walls. Intentional damage to the paintings such as the scratching in chamber (C) has also occurred.

General Recommendations

An arched cover above the ramp is needed for flood protection. In addition, retaining walls, stabilization of rock and filling of voids behind the walls is needed to prevent further erosion and collapse of marl and debris fan boulders above and to the east side of the entrance ramp.

Despite presence of localized areas of rock loss in chamber (I), no rock stabilization measures are required.

Areas of fragile, heat-damaged plaster in burial chamber (I) require stabilization to prevent further loss. The heat-altered condition of the plaster may require stabilization treatments to be specifically formulated, trialed, and applied.



Schematic of overburden analysis of QV 68. The thickness ranges from 3.4m to 6.1m.



Overburden of marl and fanglomerate on QV 68 entrance and uphill slope from the wadi in front of ramp entry.



Entrance ramp (A) has heavily weathered marl and a large area of rock loss in the east wall (see also image right). A short overhang of marl rock above entrance doorway (B) exhibits some cracking and disaggregation. Stability of large boulders above entrance and ramp walls is required.



Detail of east wall of ramp (A): a large area of rock loss where boulders in the overlaying debris have been undercut by water erosion is now at risk of falling.



Edges of original rock-cut steps and plaster remain along the walls of entrance ramp (A).



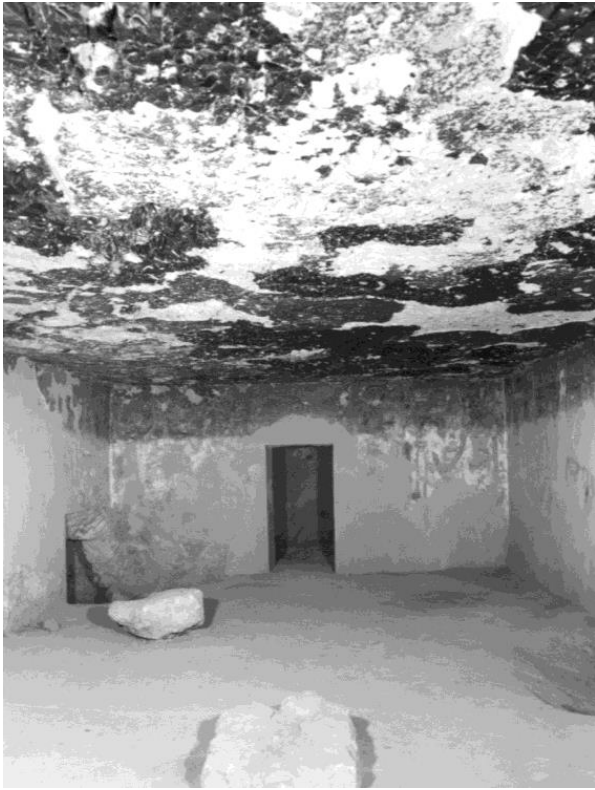
Chamber (C) looking east toward side chamber (G). Only the base of the easternmost pillar and fragments of painted plaster survive. Note blackening on ceiling and upper third of walls. The lower parts of walls were presumably protected from fire by debris. (CEDAE 2009)



Opening (L) in the southwest corner of chamber (C) leads to lower chamber (M), thought to be a later addition.



Pit in front of the west wall of burial chamber (I).



Chamber (C) in 1987 CEDAE photograph already has large plaster repairs and doorways reconstructed. Note also significant post-fire loss of plaster in ceiling. Heat-related damage from fire may have severely weakened the plaster in this area. The ceiling rock, however, is generally in good condition.



Doorway to side chamber (E) was reconstructed with a substantial amount of repair plaster. The extent of loss in this area suggests that the rock suffered extensive damage possibly caused by flooding.



Lower part of the north wall of burial chamber (I) has area of rock loss around doorway (J) leading to niche (K) but otherwise appears stable. This area has not been previously treated.

Area of rock loss at lower part of doorway (H) and partial reconstruction.



Paintings in chamber (C) are heavily abraded with much loss. The lower two thirds of the walls were protected from fire.



Image above left: Small losses and intentional scratching of painted surface contributes to an overall fragmentary appearance of the painted plaster in antechamber (C).



Image above right: Detail showing line of blackening that impacts the upper third of walls and ceiling of antechamber (C). The lower paintings must have been protected, possibly by debris, as they have escaped the blackening.

Image right: A cleaning test in antechamber (C). Note area that was left uncleared. The painted surface is overcleaned with abrasion and loss of color.



The condition of the paintings in side chambers (E) and (G) differs from chamber (C). There is severe cracking through the entire plaster stratigraphy and loss of the upper painted plaster layer.



South wall, side chamber (E). Almost all of the upper painted plaster is missing. Note the network of cracking in the plaster. There is no straw in this plaster and it is possible that this could be the reason for the drying cracks.



The treatment in side chamber (E) consists of edging repairs used to stabilize surviving areas of plaster. The repairs are quite minimal allowing areas of the rock to be left exposed and leaving the cracks of the plaster untreated.



East wall, side chamber (G). The upper painted plaster still survives in this room with better survival than side chamber (E). The large losses in this chamber indicate areas where substantial infill material was needed to pack out the walls to provide a flat surface for the decoration. These areas were often prone to collapse.



North wall, Chamber (G). This chamber is heavily treated with plaster repairs that fill both large voids and the individual cracks of the plaster. The repair plaster in many cases covers over original plaster.



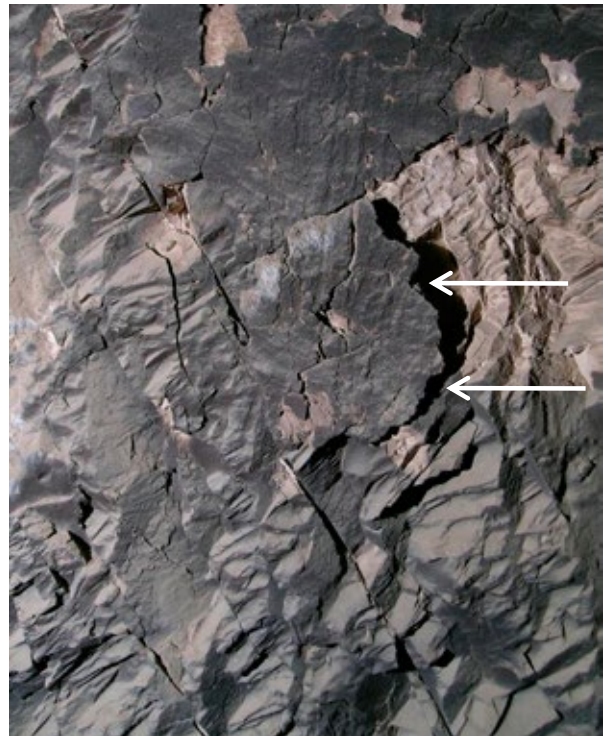
View of northeast corner of burial chamber (I). Only fragments of painted plaster survive in this chamber which has heavy fire blackening from fire.



Detail of area of surviving decoration in chamber (I) severely soot blackened.



Surviving plaster in chamber (I) is fragile. Post-fire losses have occurred.



Area of plaster detachment in chamber (I). The burial chamber and rear niche do not appear to have been previously treated.

TOMB INVENTORY

QV 71

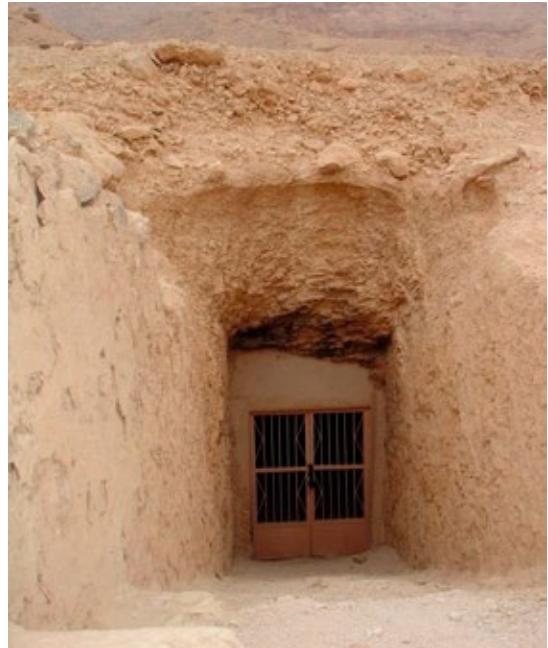
General Tomb Information		
Tomb number	QV 71	Location North side of main wadi
Other naming systems	Hay of Linplum – 5; Champollion – 13; Lepsius – 4	
Owner/ Attribution	Bentanat	
Owner Status	Princess - Queen (Kings Daughter - Great Wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber tomb)	
Description		
General Description	Ramp (A), on a steep grade, leads to this multi-chambered tomb, entered through entrance (B) to the antechamber (C). The pillared chamber (C) is rectangular on an east-west axis (perpendicular to tomb axis) with two side chambers (E, G) on east and west. Below the west side chamber (E), there was originally a lower chamber (N) with steps (M) leading to small barrel vaulted chamber (N), but vault now collapsed. Chamber (C) continues to the burial chamber (J) through small corridor (H) with steps and slope in middle. Burial chamber (J) has central sunken pit to accommodate a sarcophagus. A rear niche (L) lies to the north of the burial chamber. Four small magical niches cut in the walls of the burial chamber.	
Decoration	Painted plaster with raised relief technique. No decoration in the lower chamber (N)	
Iconography	See Porter and Moss 1964, 766-767 for details of iconography and Volume 1 of the Assessment report for possible representation of the queen's daughter in the tomb.	
Objects and Current Contents		
Objects recovered	Pairs of wooden <i>ushabti</i> in mummified form coated in resin and painted yellow on a black background and <i>ushabti</i> representing the queen in the guise of the living. Reused, pink granite anthropoid sarcophagus and lid (Cairo Museum Ent. #47370); fragments of the queen's granite sarcophagus (Cairo ex. 6023, 6253).	
Removal or clearance of contents	Material cleared or recorded from QV 71 by CNRS and SCA in October 2008 and December 2010: a carved stone capital from chamber (C), left in situ; mummy parts (feet and torso); trays of painted plaster fragments and pottery sherds (possibly from QV 66 and other tombs), left in situ, and baskets with bone and pottery sherds.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Source and Comments
19 th Dynasty	Tomb construction	
Third Intermediate Period	Reuse for burials	Aston 2003
Coptic and or Roman (?)	Possible reuse for burial during Roman period (terracotta sarcophagus)	Thomas 1966, 217
1826	Research and documentation by Hay of Linplum	Leblanc 1989a, 25-38
1828	Research and documentation by Wilkinson	Leblanc 1989a, 25-38
1828-29	Documentation by Rosellini	Leblanc 1989a, 25-38
1829	Research and documentation by Champollion	Leblanc 1989a, 25-38
1844	Research and documentation by Lepsius	Leblanc 1989a, 25-38, 56
1854	Research and documentation by Brugsch	Leblanc 1989a, 25-38
1927, 1964	Brief research history and description by Porter and Moss	Porter and Moss 1964, 766-767

1966	Research and documentation by Thomas	Leblanc 1989a, 48
1971-72	Excavation and documentation by Franco-Egyptian mission (CNRS – CEDAE)	Leblanc 1989a, 54
1974	Photographic documentation by CEDAE	Leblanc 1989a, 50
1981	Survey by TMP	TMP, GCI
1984	Photographic documentation by CEDAE	Leblanc 1989a, 50
Unknown	Small scale wall painting treatment	In-situ inspection
2006-2008	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct (&Dec 2010)	Clearance and recording of study materials by CNRS	GCI
2009 Jan	Digital photographic documentation by CEDAE	CEDAE, GCI
Documentation and References		
Historic Photographs	-CEDAE – 22857-22876/ 27911-27970 (Nov. 1984); -CNRS/CEDAE – Plates: CLXXVIII-CLXXIX (1971); CLXXX, CLXXXI, CLXXXII A-B, CLXXXIII, CLXXXIV (1972) in Leblanc 1989a	
References	-Aston 2003; -Champollion 1845; -Hay MSS; -Grajetzki 2005, 69-70 -Lepsius 1849-59; MS; -Leblanc 1989; 1989a	-Porter and Moss, 1927 and 1964, 766-767; -Thomas, 1966 185, 208-9, 211, 214, 215, 217-8, 224-5; -Rosellini MSS -Schmidt and Willeitner 1994, 30 -Siliotti and Leblanc 2002.

QV 71 Princess/Queen Bentanat

General Description

This tomb is entered through a steep, stepped ramp (A) leading into a pillared chamber (C) with both pillars no longer extant. Two side chambers lie to the east (G) and west (E). Below side chamber (E) is a lower chamber (N) which had a barrel-vaulted ceiling, now collapsed. Chamber (N) is accessible through stepped ramp (M) located in the southwest corner of chamber (C). A small stepped ramp (H), on axis with entrance ramp (A), leads to burial chamber (J) with a large rear niche (L) to the north. A sunken pit in the center of the chamber (J) accommodated the sarcophagus; rock-cut benches line the north and south walls; the south bench is in two parts with a shallow pit dug in-between. There are small magical brick niches in each wall of the burial chamber (J).



Approach to ramp (A) with cut rock and masonry wall with extant plaster.

Ramp (A) is cut into heavily weathered marl of the lower part of Member I, similar to the adjacent tombs on the north side of the Valley. Above the marl of the entrance, a layer of debris fan conglomerate containing large boulders is present, similar to the adjacent tombs. There is a substantial amount of surviving original plaster on the ramp walls.

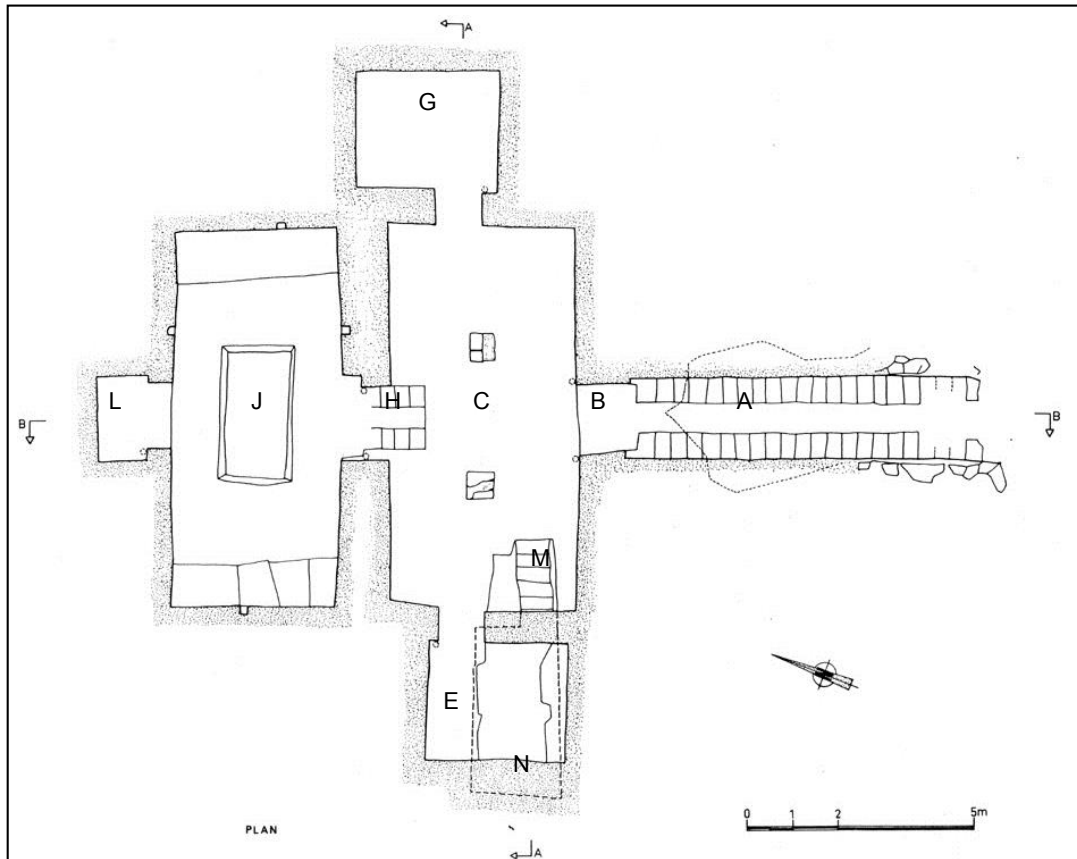
Rock in this tomb is generally of good quality thus it did not require a substantial amount of packing of wall surfaces as seen in many other tombs. However, a notably thick plaster stratigraphy was still used, which included a lower, earth-based layer. This was followed by a thin lighter-colored upper plaster layer. An additional third plaster layer is visible, but only in some areas. Doorways were constructed from stone rubble and covered with a thick application of plaster. The ceiling of chamber (C), unlike the walls, was left irregular but was still plastered and painted with stars. The floor is roughly cut in side chambers (G, E).

There is extensive surviving decoration on the walls and ceiling of tomb QV 71, though the raised relief decoration exhibits severe fire-related blackening and heat damage.

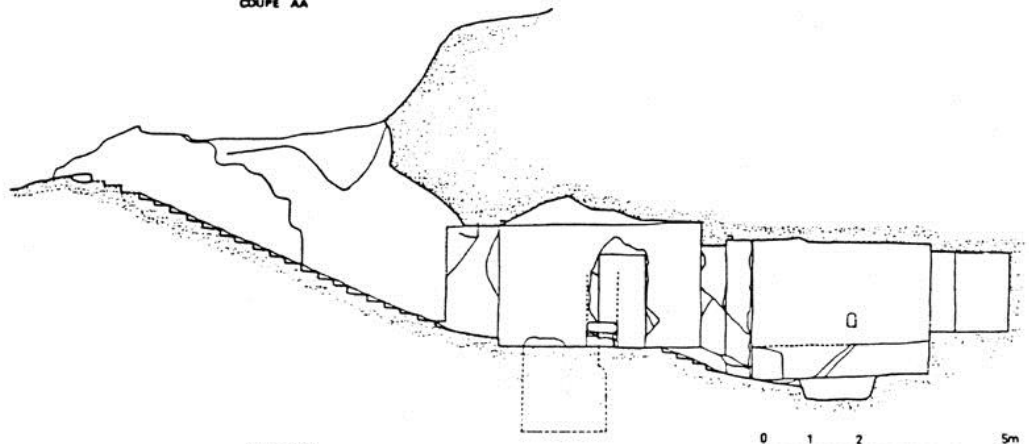
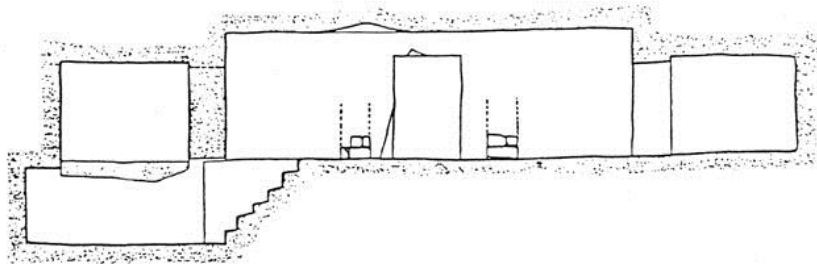
The tomb was reused in the Third Intermediate Period and probably again during the Roman or Coptic period for burial since a terracotta sarcophagus is recorded in the tomb by R. Hay of Linplum. The base of the wall in the burial chamber appears to have been replastered in antiquity which may also indicate later reuse of the tomb.

The tomb has been accessible at least since the time of Hay of Linplum (1826) who noted that the access to chamber (N) could not be located as the vaulted ceiling had collapsed. Most recently the tomb was cleared by the Franco-Egyptian team in 1971-72. Trays of wall plaster fragments stored in chamber (C) appear to be from QV 66 and from other unknown locations. Discarded carpets also from QV 66 (when the tomb was first open to visitors in 1993) are piled up on the floor of the tomb which still conceals some mummy remains.

TMP noted that the central part of the ceiling of chamber (C) partly collapsed during original construction and was then plastered and painted.

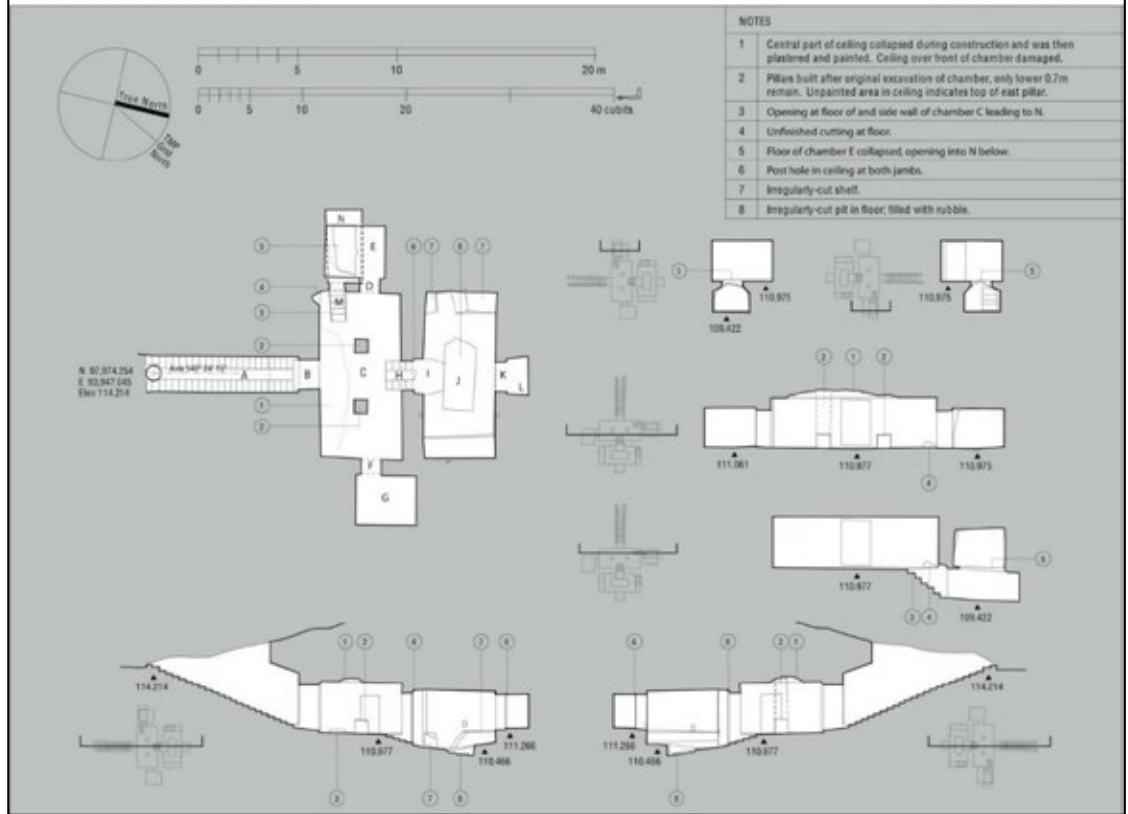


VALLEE DES REINES - WADI PRINCIPAL
 TOMBE N° 71
 RELEVÉ J.-B. DU VAURE

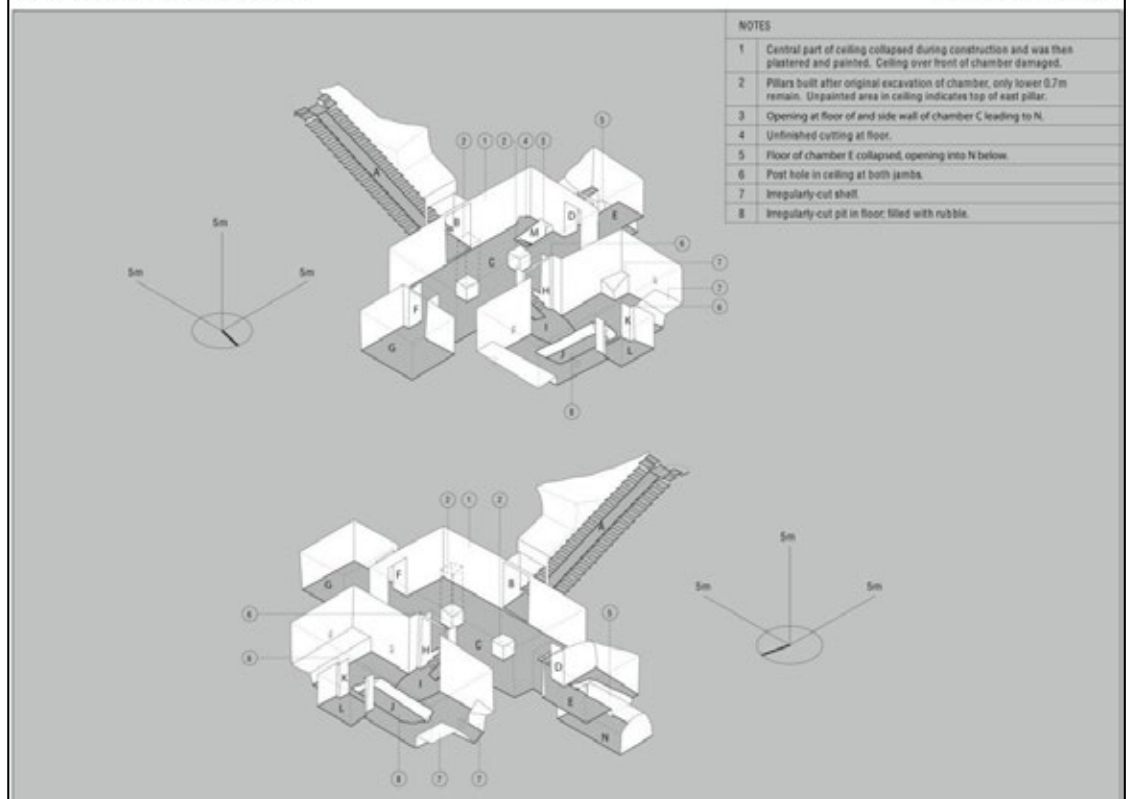


Drawings: CNRS (chamber letters added).

Surveyed May 14, 1981. Drawn September 10, 2007.



Surveyed May 14, 1981. Drawn November 10, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Doorway (B) has been reconstructed with fired brick and cement and a metal grill door with no mesh. A small area of painting survives on the door jamb.

Condition

Ramp (A), once stepped with a narrow slope in the middle, is eroded. Original plaster survives on the ramp walls, which is unprotected and fragile in areas. The rock overhang extends approximately 1m above entrance doorway (B) with some precarious large boulders in the debris fan located near the edge.

The rock in this tomb is not as heavily jointed and fractured as in other adjacent tombs. Though there is evidence of historic collapse of rock, the walls and ceilings still retain much of their original form and substantial amounts of decorated plaster. The large loss in the ceiling of chamber (C) is post-fire but does not appear to be recent. Constructed pillars in chamber (C) were both lost post-fire with only their bases remaining. Some post-fire loss in doorway (D) of both rock and packing plaster is present. The ceiling in burial chamber (J) presents loss of rock along a fracture which runs through doorway lintel (K). Large salt veins are visible throughout the tomb, in particular in the lintel above doorway (K), with some loss of rock along the veins. The west jamb of doorway (K) has a large fracture but it is pre-fire and no adjacent loss is present.

Pre-fire losses of the decoration are apparent but there are substantial post-fire losses in both upper and lower plaster layers. However, comparison of current condition with CEDAE photographs from 1984 show relatively little recent loss of painting and no evidence of severe ongoing loss in this tomb. However, some surviving areas of plaster are fragile with severe cracking and detachment. Small fragments of painted plaster were noted on the floor of chamber (C).

The surviving areas of rock and decorated plaster are heavily blackened and severely fire-damaged throughout the tomb, except for areas at the base of the wall in pillared chamber (C) where debris may have once protected the lower paintings. Heat alteration appears to be extensive with carbonized paint layers, completely gone in areas, and heat altered plaster layers. In rare areas, where the paint layer is not blackened or lost, yellow (iron oxide) pigmented areas show alteration to red.

Very few interventions have been undertaken in this tomb which include only localized areas of edging repairs and a small cleaning attempt on the north wall of chamber (C).

Evidence of bat activity includes extensive droppings on the floor throughout the tomb as well as white crystalline deposits. A bird nest was seen on west jamb of doorway (H). A substantial number of insect nests also exist.

Deterioration Factors

Some of the rock fracturing and loss is attributable to the presence of salts, while in other cases it is due to the heavily jointed and tilted nature of the marl bedrock. The substantial infill material used to construct doorways is also a potential cause of structural loss.

The deterioration of the decoration can be primarily attributed to fire. Heat-related damage of the surface caused a peculiar craquelure pattern, like broken glass. This may have resulted from soot blackening of an already severely cracked area of painting where the blackening was able to penetrate through the cracks. Subsequent loss of the paint layer then left behind only the pattern of blackening. This is most noticeable on the north wall of pillared chamber (C). The fire also weakened plaster layers leading to significant post-fire loss. Furthermore, the lack of straw

in the lower plaster used in the burial chamber (J) and the thickness of application of this layer might indicate a technique-related failure that has contributed to the extent of loss there.

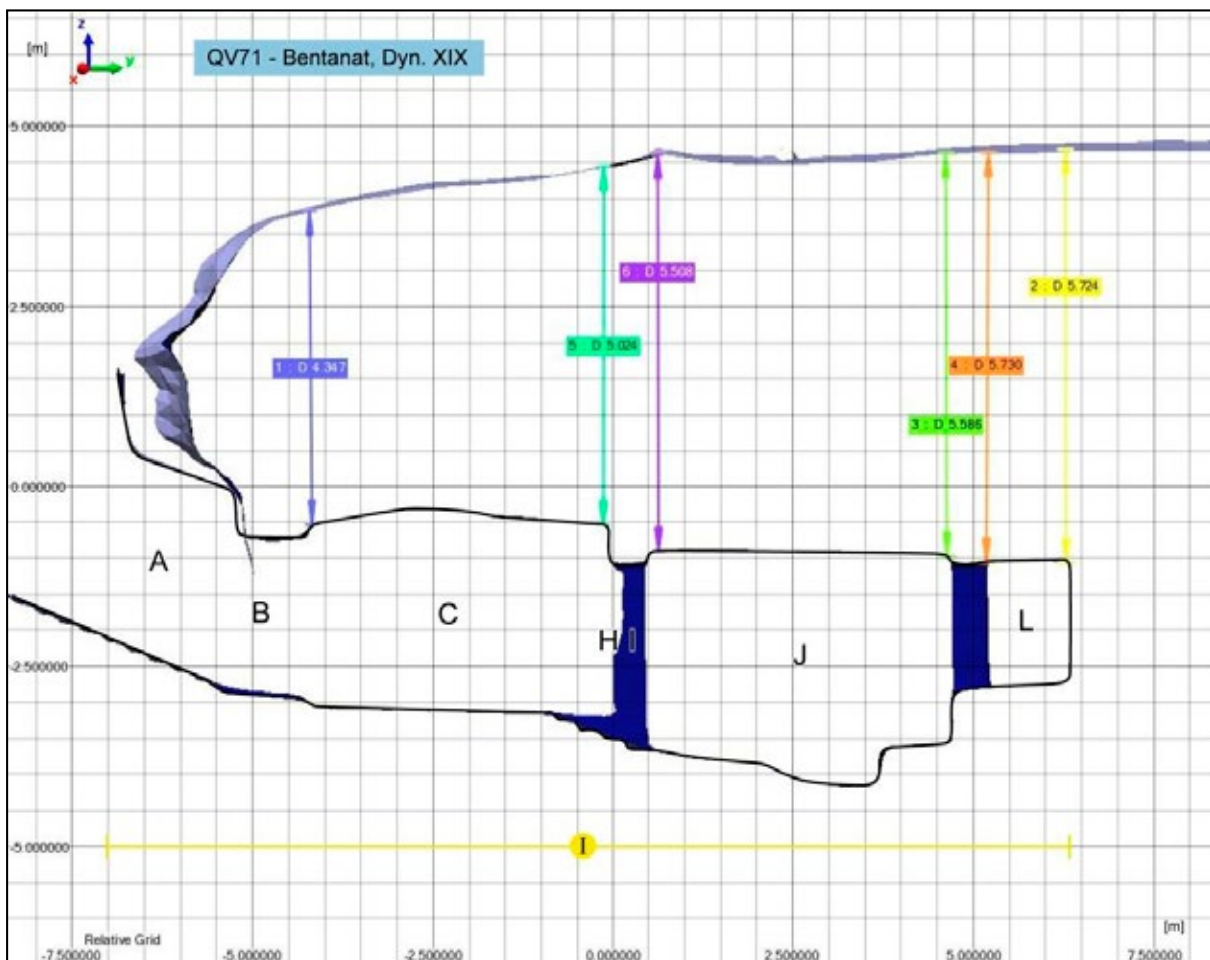
General Recommendations

Retaining walls and an arched cover over the ramp are needed for flood protection. Particular attention should be paid to original plasters on walls of entrance ramp (A) during this work. Some stabilization is also required to prevent loss of plaster in this area and around doorway (B). The remains of steps in ramp (A) also require protection.

Stabilization of the overhanging rock and boulders present in the debris fan above and behind the retaining walls and arched cover is also recommended.

The fracture in the ceiling of the burial chamber (J) should be monitored for future movement. The open fracture in doorway (K) west jamb should also be monitored as painted plaster is located on the detached corner.

Stabilization of fragile areas of painted plaster within the tomb is required to prevent further loss. As little previous treatment has been undertaken in this tomb, the scope of intervention will be more extensive than in other tombs but will also be targeted to only particularly fragile areas of decoration that are at imminent risk of loss. The heat-altered condition of plaster in this tomb may require stabilization treatments to be specifically formulated, trialed, and implemented.



Schematic section shows overburden of QV 71. Rock thickness ranges from 4.3m at entrance (B) to 5.7m at niche (L).



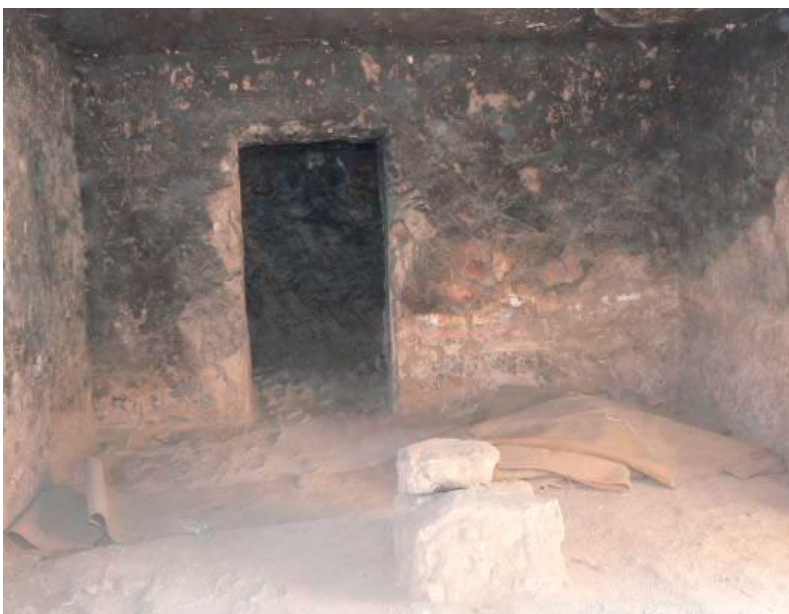
Rock overhang extends approximately 1m in front of entrance with some precarious large boulders in the debris fan located near the edge. Extensive surviving plaster on walls of left side of ramp (arrow).



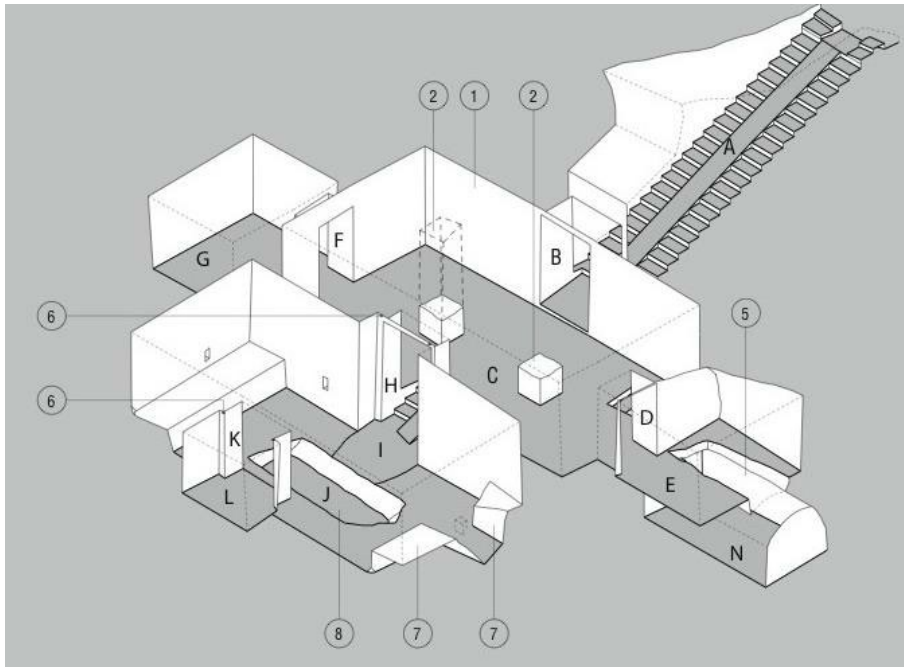
Exposed infill plaster with rock shards on walls of entrance ramp (A).



Pillared chamber (C) looking west. Only pillar bases remain. Large post-fire losses have occurred in ceiling and to the left of the entrance doorway (arrows). Note also the crates containing fragments of plaster from QV 66.



Painted plaster with relief is extensively fire-blackened. Note discarded carpets from QV 66 on floor of chamber (C).



Axonometric drawing shows complex relationship of chambers D, E and N at different levels and stepped ramp leading to chamber (I).



Steps (M) leading into lower chamber (N) below west side chamber (E).



Lower chamber (N) of side chamber (E). The ceiling of the chamber, once vaulted, is now partially collapsed.



Stepped ramp (H) looking south toward tomb entrance



Sunken pit in burial chamber (J) is where the sarcophagus was once situated.



The ceiling of burial chamber (J) shows loss of rock along a fracture.



Large salt veins visible in burial chamber (J).



Rock cut bench in burial chamber (J). (Image: CEDAE 2009)



West jamb of doorway (K) to rear niche (L) has a large fracture but this is pre-fire and no adjacent loss has occurred.



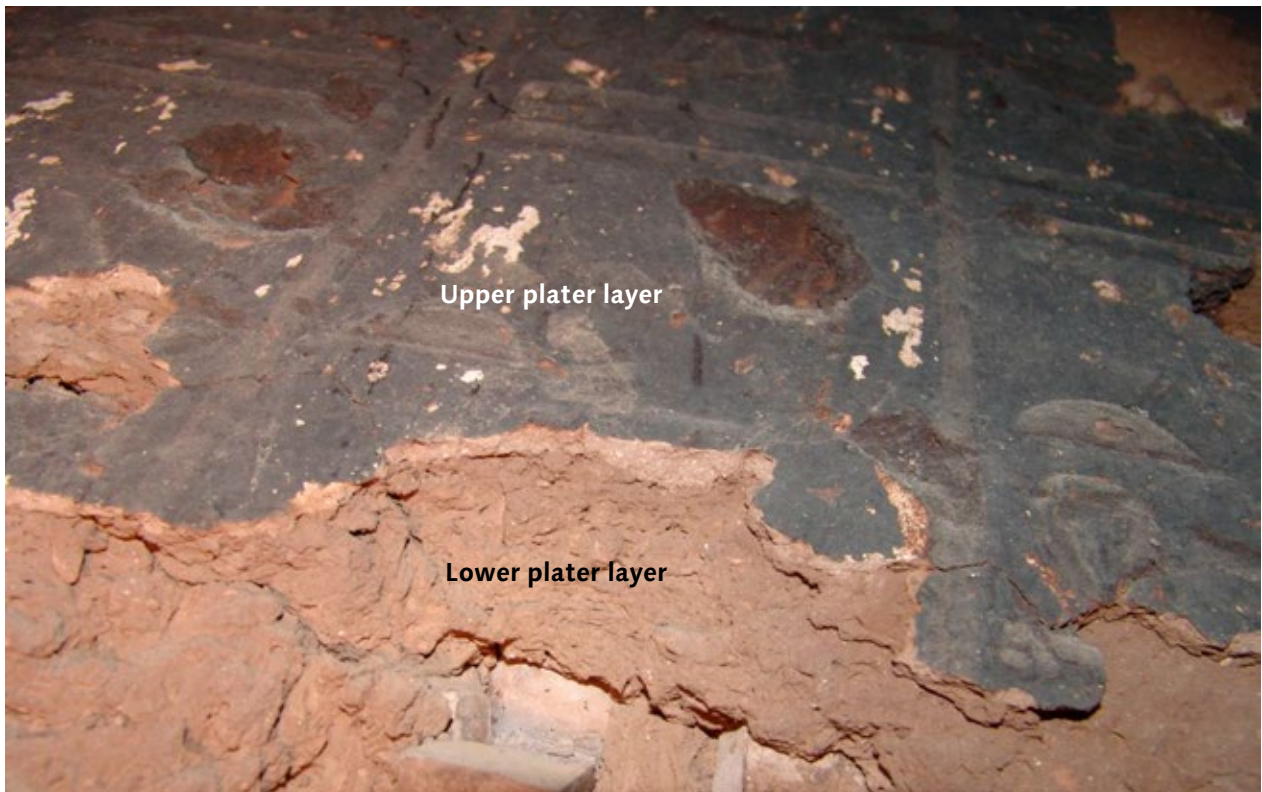
Large post-fire losses have occurred around doorway (D) of both rock and packing material



Rock shards were used to construct doorway (H).



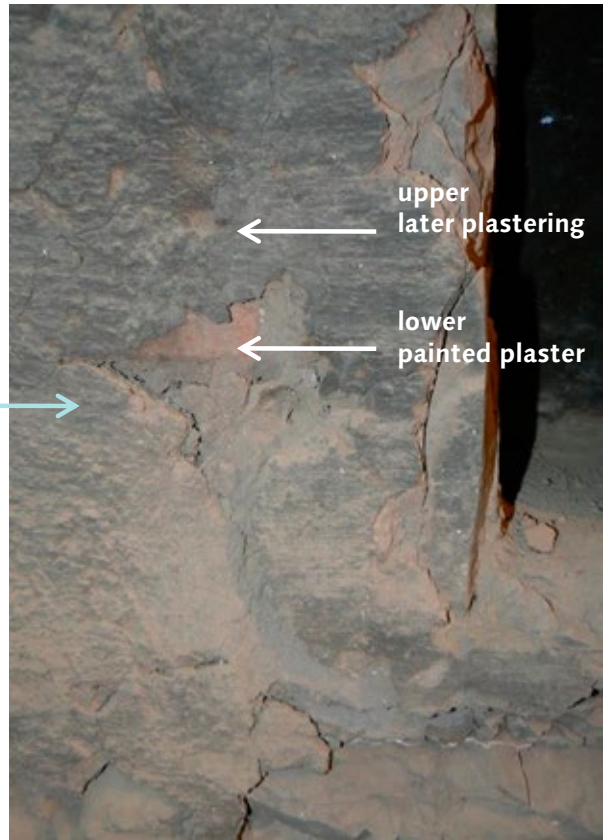
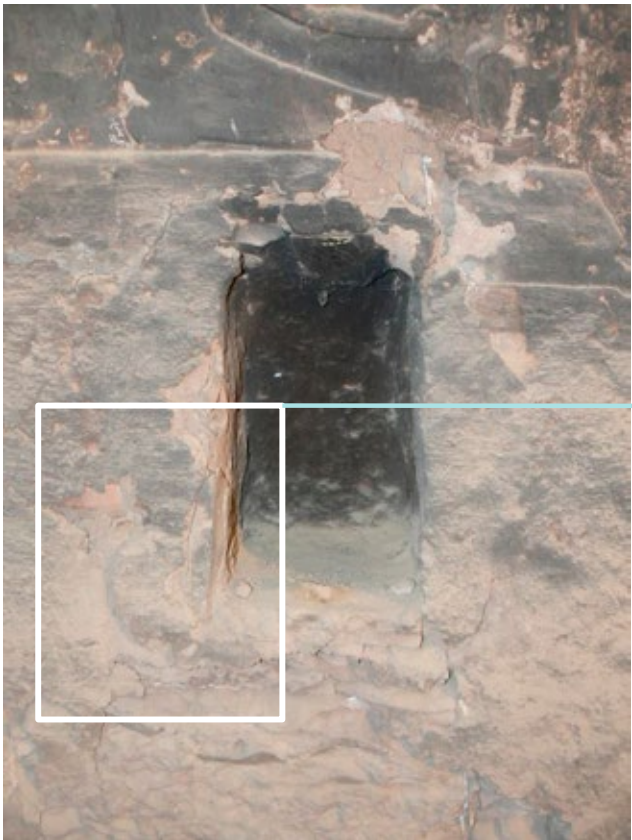
Note irregular surface of rock wall and the rock shards and large amount of infill plaster used to create a flat surface for the decoration.



Lower earth-based plaster layer is extremely thick followed by a thinner upper painted plaster.



Magical brick niche on south wall, burial chamber (J)



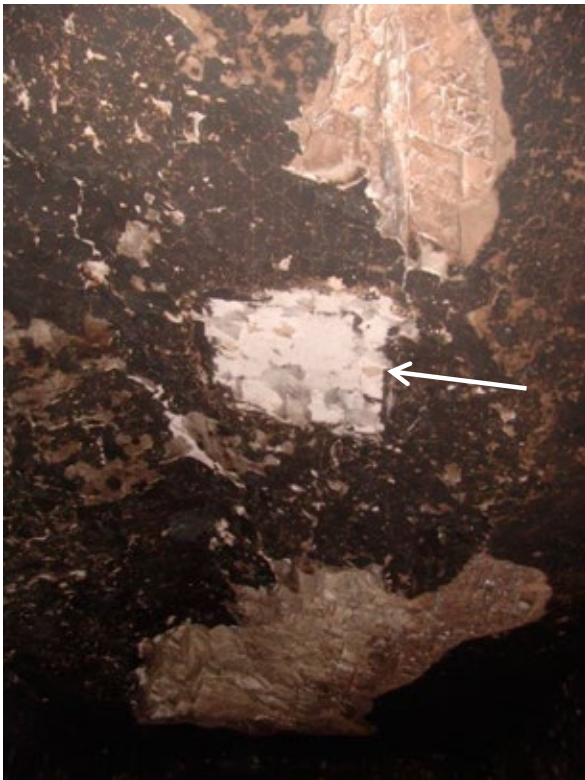
Magical brick niches on the lower parts of the walls in burial chamber (J) shows later plastering. The plaster is rougher in texture and goes over areas of relief painting.



The fire in side chamber (G) caused loss of the upper plaster leaving behind a "negative effect" of the raised decoration. The figure now appears unblackened (as upper plaster layers were lost) while the background is still fire-blackened.



Decoration on north wall of chamber (C) suffered severe fire damage, which has led to both heavy blackening of the surface and complete loss of the paint layer; remains of insect nests also apparent.



Ceiling of chamber (C) shows that loss of pillar (arrow) was post-fire.



Lower areas of walls in chamber (C) are not blackened and may have been protected by sand and rubble.



Area at base of wall shows heat alteration of yellow earth pigments to red.



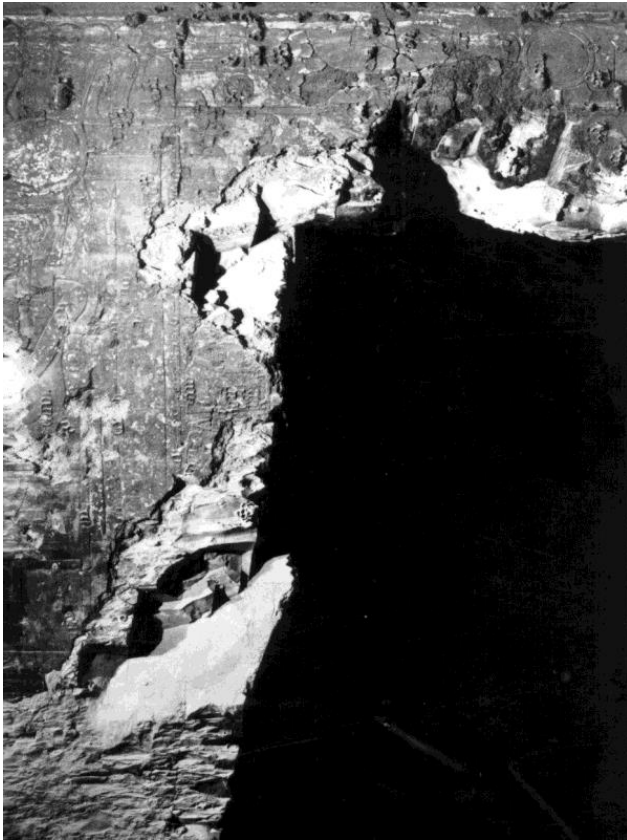
Post-fire losses have occurred throughout the tomb.



Fragile areas of plaster require stabilization.



Some areas of decorated plaster are cracked and detached.



Doorway (D) in 1984 photograph (CEDAE).



Doorway (D) with bird nest (arrow) in 2007.



Localized edging repairs and a small cleaning test on the north wall of chamber (C).



East wall of side chamber (E); note white crystalline material at tops of walls from bat urine.

TOMB INVENTORY

QV 73

General Tomb Information		
Tomb number	QV 73	Location Main wadi, north side.
Other naming systems	Hay of Linplum – 6 th East; Wilkinson – 3, Champollion – 14, Lepsius – 3; Brugsch - 13	
Owner/ Attribution	Henuttauy	
Owner Status	Princess – Queen (King's Daughter - Great Royal Wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type I (Chamber tomb)	
Description		
General Description	Multi-chambered tomb. Steep ramp (A) once had 13 rock-hewn steps, now eroded. The burial chamber (C) is rectangular shaped on an east-west axis with two small side chambers (E, G) on the north and east. Chamber (C) originally had two pillars that are no longer extant.	
Decoration	Painted plaster with raised relief technique.	
Iconography	Extant scenes depict the deceased offering to various gods and the 'weighing of the heart' scene from Chapter 125 of the Book of the Dead. See Tomb Profile in Volume 1.	
Objects and Current Contents		
Objects recovered	Wooden <i>ushabt</i> i recovered with resin, now at the Berlin Museum (inv. n. 860); two "pseudo" wooden canopic vases (inv. SAE nn. 240 and 241), dated to the Late Period; vase fragments with the name, Nehesi, overseer of troops; numerous Roman female and child mummies with plaster and painted cartonnages, 150 fragments of amphora.	
History of Use, Events, Research and Interventions		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction	
Third Intermediate and Late Period	Reused for burial	Wagner, Leblanc, Lecuyot and Loyrette 1990, 368
Roman Period	Reused for burial	Leblanc 1986, 226; Macke and Macke-Ribet 1989
Coptic period	Reuse and overplastering of pharaonic paintings	Leblanc 1986, 226; Lecuyot 1993, 269; Wagner, Leblanc, Lecuyot and Loyrette 1990, 368
1826	Recording and research by Hay of Linplum	Leblanc 1989a, 25-38
1828	Recording and research by Wilkinson	
1829	Recording and research by Champollion, noting the pillars were already ruined	Leblanc 1986; Leblanc 1989a, 25-38
1828-29	Recording and research by Rosellini	Leblanc 1989a, 25-38
1844	Recording and research by Lepsius	Leblanc 1989a, 25-38
1854	Recording and research by Brugsch	Leblanc 1989a, 25-38
1927, 1964	Brief description, history, and plans by Porter and Moss, dating the tomb as 20 th Dynasty in 1964 edition	Porter and Moss 1964, 766-767
1966	Description, history, and plans by Thomas	Thomas 1966

1981	Survey by TMP	TMP
1984, 1985?	Clearing out by Franco-Egyptian mission (CNRS and CEDAE)	Wagner, Leblanc, Lecuyot and Loyrette 1990, 368
Unknown, before 1985	Removal of <i>mouna</i> plaster by EAO	
1987	Photographic documentation by CEDAE	CEDAE photo
1988	Survey and documentation by Laurent (CNRS)	
1989-1991	Test patches of different types of plaster formulation were made on the north wall of Chamber (C) by CNRS from 1989 through 1991 but these were never carried out. Plaster tests and infills and stabilization (?) were undertaken by Bougrain-Dubourg and Deparis (CNRS).	Per. comm. Leblanc; Bougrain-Dubourg 1990, 40-41
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008	Hydrological and geological preliminary assessment by GCI consultants Hamza Assoc. and R. Wüst	Wüst 2008, 57-62
2009	Digital photographic documentation by CEDAE	CEDAE
2010 & 2013 Feb – Mar	Tomb entrance cleaning and wall painting stabilization by GCI-SCA	GCI
Documentation and References		
Photographs	-CEDAE - 28331-28365 (March 1987); -CNRS/CEDAE – Plates: CLXXXVII, CLXXXVIII, CLXXXIX, CXC, CXCI in Leblanc, 1989a.	
References	-Bougrain-Dubourg 1990, 40-41; -Champollion, Maspero and Champollion Figeac 1844--89 -Hay MSS -Leblanc 1986, 213-225 -Leblanc and Hassanein 1985, 30; -Lepsius 1849-59; MS	-Macke and Macke Ribet 1986-7, I-1, 2-147 and I-2, 334-43; -Porter and Moss 1964, 760, 767; -Rosellini MSS -Thomas 1966 185, 214, 217-8, 224-5; -Wagner, Leblanc, Lecuyot and Loyrette 1990, 368 -Wüst 2008 16-20.

QV 73 Princess/ Queen Henuttauy

General Description

This tomb is accessed through a steep ramp (A) without steps leading to main chamber (C), which originally had two constructed pillars, no longer extant. Smaller rear and side chambers lie to the north (E) and east (G). Elizabeth Thomas suggested the plan was cut short, given that the general layout is similar to many of the preceding tombs.

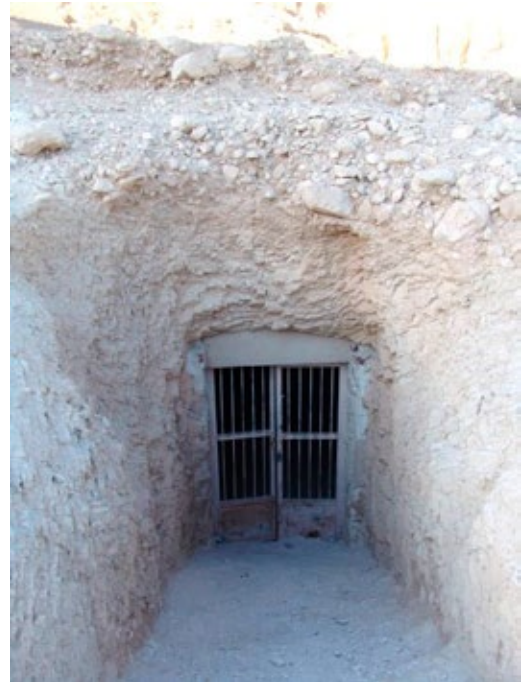
The tomb is located on the northern side of the main wadi, at the lower end and excavated into the marl of the lower part of Member I. As with the rest of the main wadi, the bedding planes are tilted. The tomb overburden is shallow and the rock into which it is cut is heavily weathered and jointed and covered by a 2-3 meter thick partially cemented debris fan. The tomb is heavily jointed, with the presence of faults. Some joints are open, while others have salt infills.

The rock substrate is roughly carved and irregular (because of its poor quality) requiring a thick plaster application and use of rock fragments to pack out the walls to create a flat surface for the painting. Door jambs appear to be built up with masonry rather than cut from the rock. Pillars were also constructed, built up after the ceiling was already plastered and painted. Red mason marks are still visible on exposed rock in a few areas.

Two layers of plaster were generally applied to the infill material: a coarse plaster followed by a fine plaster layer. All chambers were decorated with raised relief painted plaster, though the paintings in side chamber (G) appear cruder and less refined than in chambers (C) and (E). Note that plaster remains on small area of steps in ramp (A).

In chamber (C) a significant amount of the infill and coarse plaster survives but it is the upper painted plaster layer that is fragmentary and has suffered substantial losses. More painted plaster survives in side chambers (E) and (G) though these are also quite fragmentary.

There is evidence of overplastering of the pharaonic paintings throughout the tomb, attributed to Coptic reuse, characterized by an earth and straw-containing plaster used to fill holes in the wall and to cover over the paintings. This plaster has since been removed though not very thoroughly, as traces of the plaster are still visible in many areas. In chamber (C) an unknown wash was applied to the ceiling perhaps as an early restoration attempt. This wash was carried out sometime in antiquity before loss of the pillars.



View of ramp and entrance, with shallow overburden composed primarily of partially cemented geological debris, over heavily weathered marl bedrock.

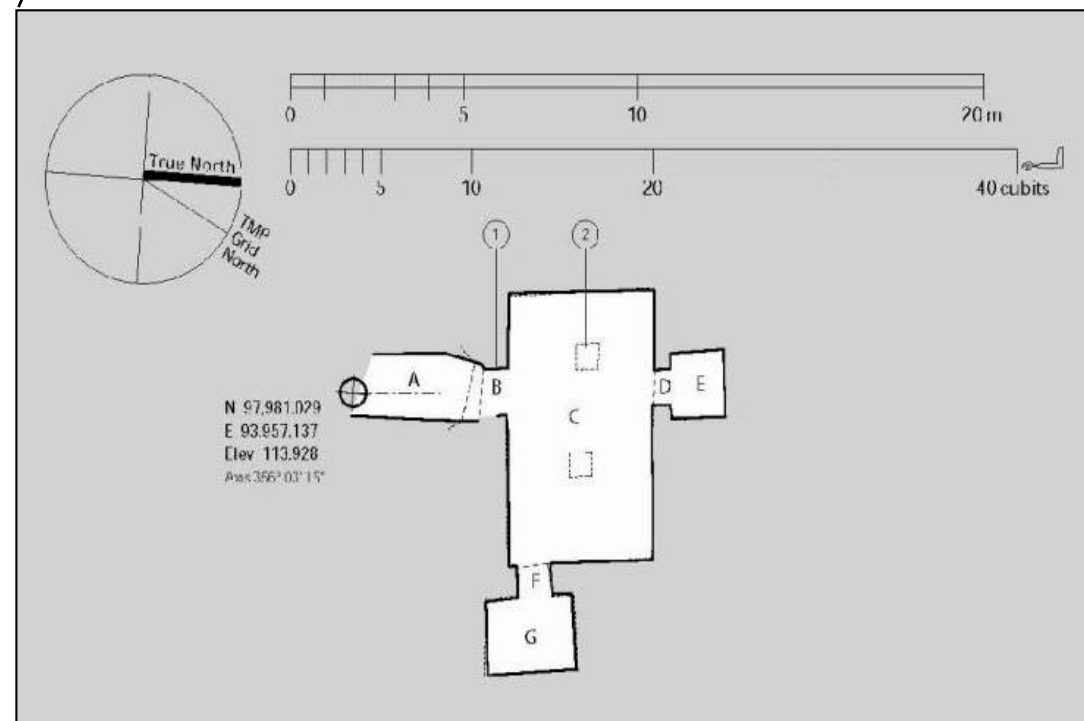
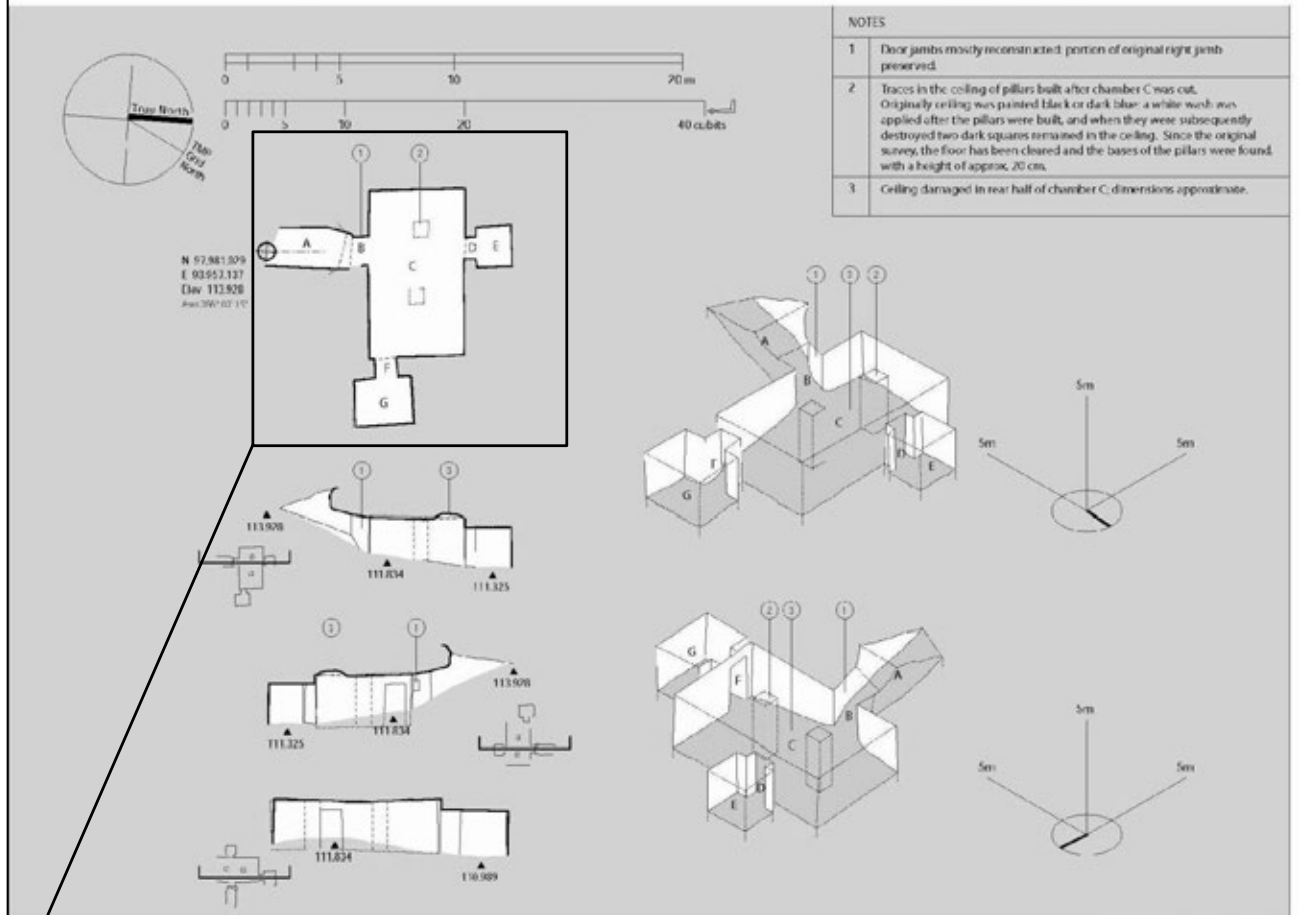


View of main chamber (C), looking west.

QV 73 - Henuttauy, Dyn. XIX

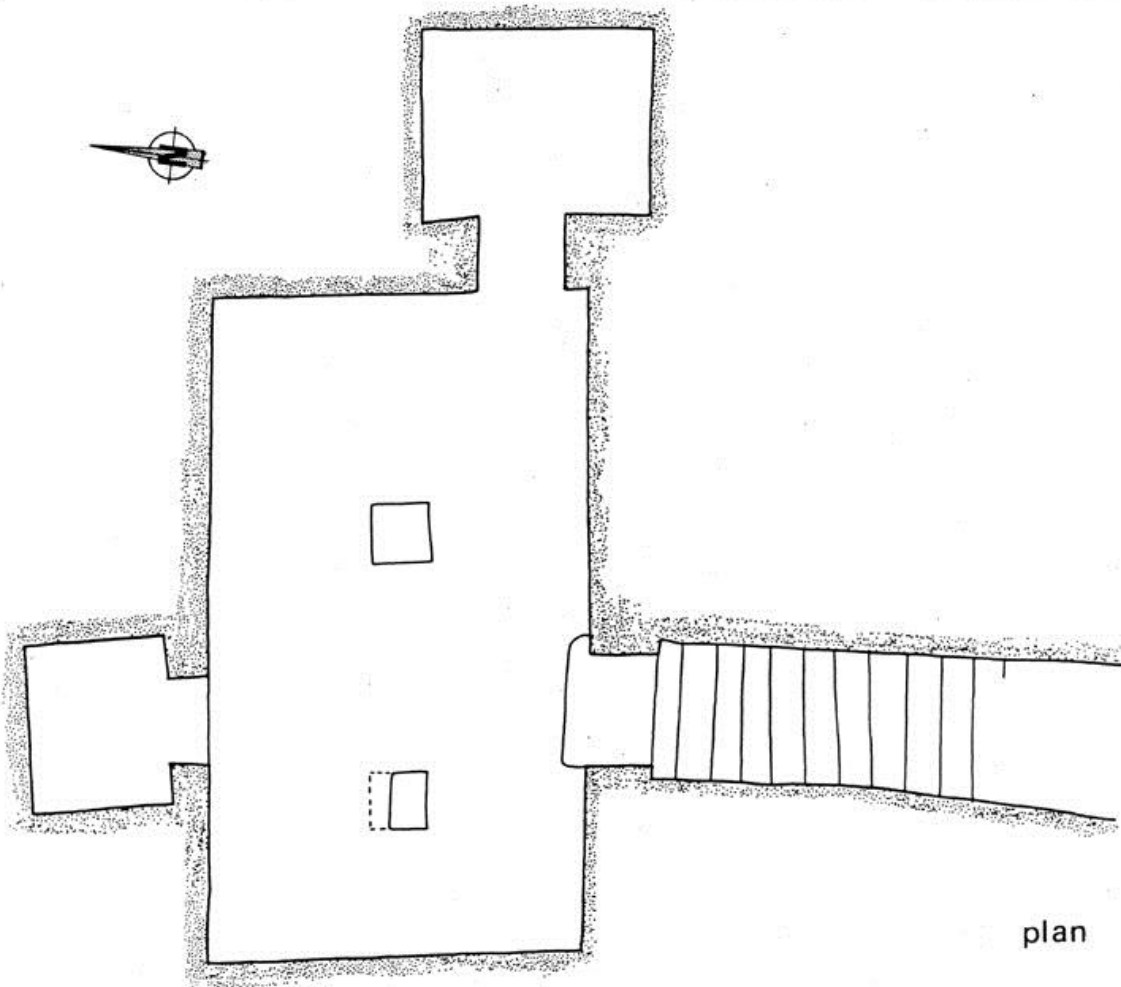
Plan, sections, axonometrics 1:200

Surveyed May 17, 1981. Drawn November 29, 2007.

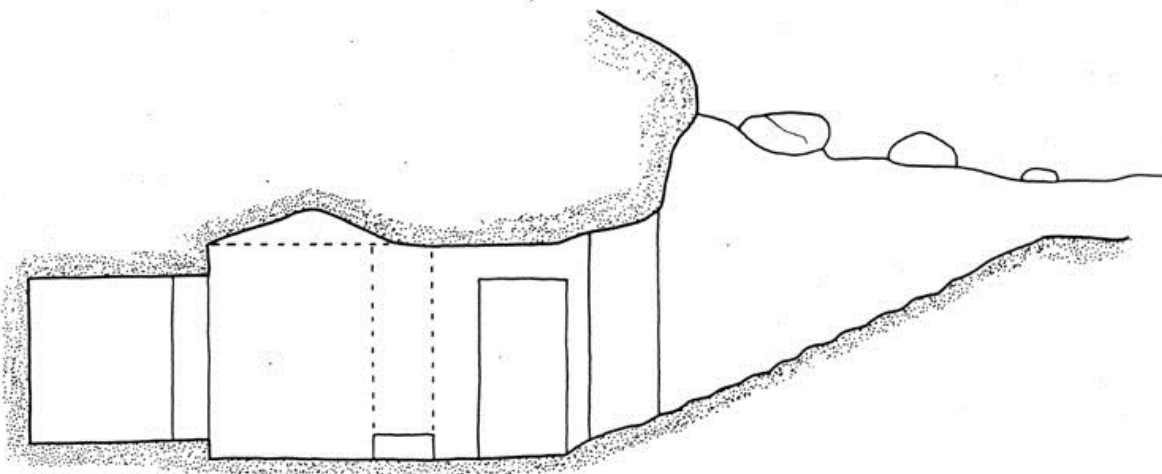


Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

LA VALLEE DES REINES — TOMBE No. 73
PLAN ET COUPE, D'APRES G. LECUYOT ET D. ESCARTIN,
(mission mars-avril 1984).



plan



coupe



Drawing: CNRS.

The tomb has been accessible since the time of Robert Hay of Linplum (1826) and was most recently cleared by the Franco-Egyptian team in 1984. Hay thought the overplastering or "mud" that coated the paintings took some of the paint layer with it as it fell. Elizabeth Thomas notes that far more decoration may be protected beneath the overplastering and suggested Henuttauy as the tomb attribution based on a partial cartouche, though it was the Franco-Egyptian team who confirmed this after removal of the earthen overplastering. Thomas also notes the localized smoke evidence in an eye-level hole on the right of doorway (D), which she suggests might be from candle-burning related to Coptic ceremony. Christian Leblanc states that the extent of finds related to different periods suggests extensive reuse of the tomb throughout the Third Intermediate, Roman, and Coptic periods, the latter representing the period during which the pharaonic paintings were covered over with mud.

Currently the tomb is not open to visitation. Entry is prevented by a metal grill door with no mesh. Two birds' nests were observed in the large hanging rock ledge in the ceiling of chamber (C) and the presence of a bird has been noted during in situ inspections. The open fracture also has accumulated bird droppings, suggesting that the rock is also used as an active perch.

Condition

The tomb has a number of faults and structural concerns related to open joints and the tilting of the bedding planes. The ceiling of chamber (C) exhibits severe fracturing, rock collapse, and loss of painted plaster. Two substantial fractures run through the tomb laterally (east-west) with associated and localized rock loss. In main chamber (C) one open diagonal fracture along a chert bedding plane, which may transect the other further up in the rock, has created a deep ledge in the ceiling where birds have nested. This ceiling was once supported by constructed pillars, now largely lost. Rock loss is also present throughout the tomb and appears active in some areas, particularly in main chamber (C) walls and ceiling, and in rear chamber (E). Only about two meters of heavily weathered overburden is located above the main vertical, lateral fracture in the tomb ceiling. Visible in this fracture is original ancient infill plaster indicating that the fracture has been there since the tomb was excavated in antiquity, and is stable, but could be susceptible to rain water infiltration from the external surface. Walls and ceilings throughout the tomb show similar collapse of ancient infill that has led to losses in the decoration particularly along large fractures in the rock.

Salt infill is present in some of the fractures and joints and salt-related damage is evident in some areas of decoration, especially in the west wall of main chamber (C) and localized areas of side chamber (G).

In chamber (C) a significant amount of the infill and coarse plaster survives but it is the upper painted plaster layer that is fragmentary and has suffered substantial losses. The surviving plaster is cracked and generally fragile and vulnerable, with localized areas of detachment.

Rear chamber (G) has mud repairs, and walls retain traces of mud plaster applied, according to Leblanc, during the Coptic period. Shrinkage of the mud plaster and its subsequent removal has resulted in an abraded surface (including loss of the paint layer and of the white background).

Some areas of painting are missing and in other areas attempts to remove painting are evident (eg. main chamber (C), eastern wall; eastern side chamber (G)).

Insect nests are present particularly on the ceiling of chamber (C).

Limited interventions have been carried out on the decoration in this tomb. Localized drip lines from previous treatment to secure areas of detaching plaster fragments are present in Chamber (C). Localized efforts have been made to stabilize the plaster through edging repairs. Test patches of different types of plaster formulation were made on the north wall of Chamber (C) by CNRS from 1989 through 1991 but these were never carried out. The Coptic period earthen overplastering was largely removed by a conservator from the EAO prior to 1985.

Deterioration Factors

There is no evidence of the most recent flood in 1994, though floodwaters may have impacted this tomb in the past.

Many of the tomb's structural problems relate to the dipping open joints, multiple fault planes, and the weathered character of the bedrock. The presence of salt veins and previously open joints have contributed to the deterioration.

The condition of the wall paintings relates to the differing techniques used throughout the tomb. The very fragmented plasterwork which has led to substantial losses in the upper painted plaster layer in chamber (C) might be a result of poor original plastering technique used in this chamber. Losses may also be due in part to vandalism and theft.

More painted plaster survives in side chambers (E) and (G), though it is also quite fragmentary. Losses in these chambers can be attributed to the collapse of infill material in major fractures in the rock. Surface damage to the paint layer can be primarily associated with the removal of the mud plaster which caused substantial damage.

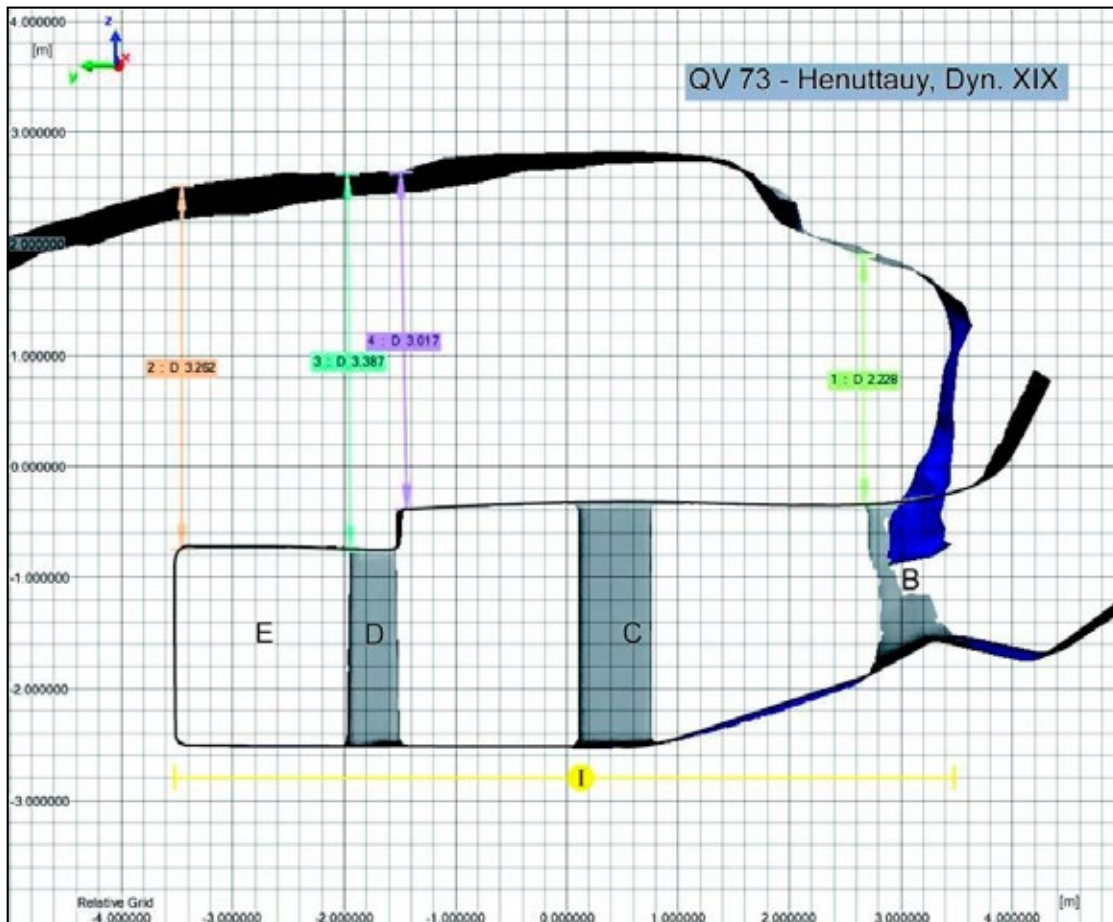
Bird(s) living in the tomb may also have contributed to its deterioration.

General Recommendations

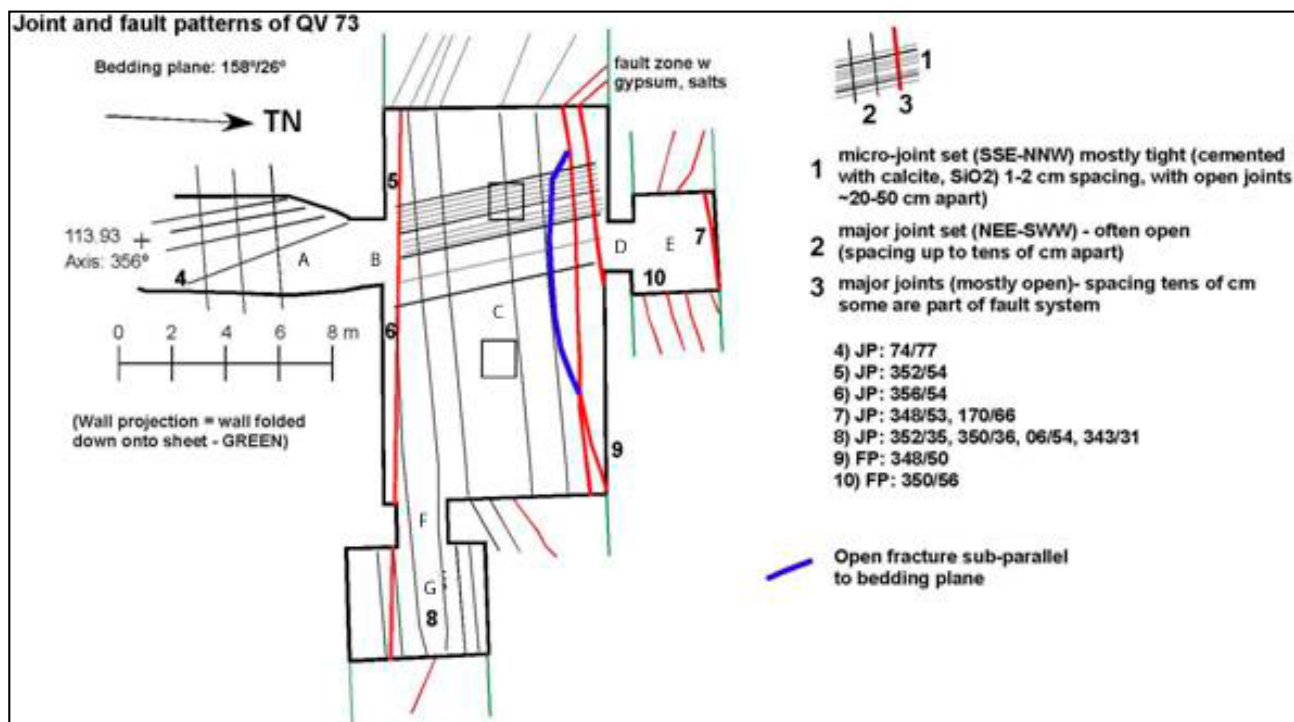
Stabilization of the rock is required, particularly shoring of the hanging ceiling in chamber (C) and the lintel in doorway (F), and regular monitoring of faults and fractures should be carried out to determine if movement is active. Given the proximity of the vertical ceiling fracture to the external surface, the possibility that the two are connected should be investigated and measures taken to seal the fracture and prevent rainwater infiltration.

Ceiling plaster will need to be stabilized in conjunction with rock engineering work. Stabilization of fragile areas of painted plaster, including separation of upper painted layers and cracking of plaster, is required to prevent further loss. This work must take into account geological stresses of existing fractures to ensure that treatments will not lead to further damage.

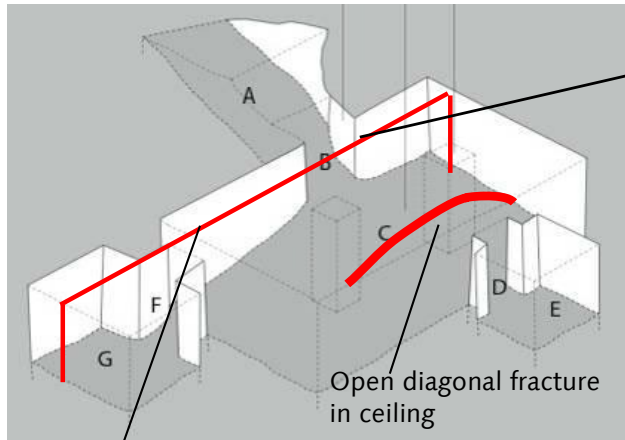
Removal of birds and nests is necessary. Additionally, the entrance ramp (A) and entrance (B) overhang require stabilization and construction of an arched cover to prevent further collapse and entry of debris. Steps and surviving plaster in ramp (A) requires protection to prevent further loss. Fitting doors with mesh is required to prevent further animal access.



Overburden analysis reveals only about 2m of heavily weathered marl and partially cemented debris fan overlying major ceiling fracture.



Geological and geotechnical analysis showing joint and fault patterns of the tomb. The diagonal open fracture (blue line) threatens the collapse of the ceiling rock in chamber (C) as it may be closely connected to the vertical fracture/fault that laterally crosses the entire tomb.



Open vertical ceiling fracture along length of tomb



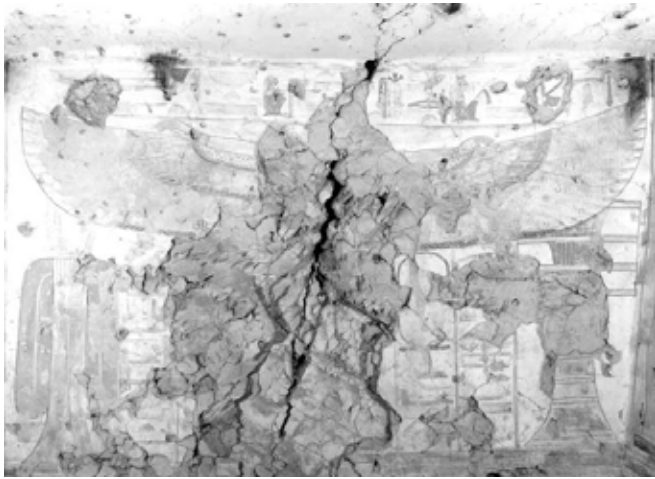
Open vertical ceiling fracture running laterally across the tomb and continuing into the east wall of chamber (G). Presence of original mortar packing in the fracture indicates little movement has occurred since the tomb was excavated in antiquity.



Open diagonal ceiling fracture with adjacent areas of unstained rock, indicating loss in the past.



Bird nest on ledge of ceiling fracture and micro-fractured ceiling rock.



East wall of chamber (G) in 1987 above, and in 2007 on right. Note little change in rock or plaster loss despite the large open rock fracture (Image: CEDAE).



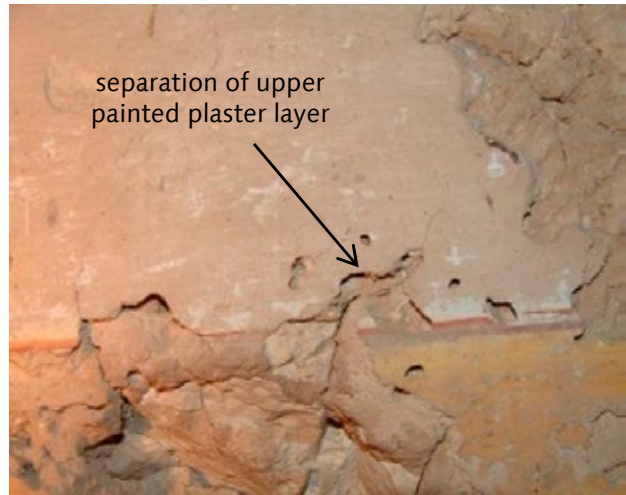
Pillar base (above left) and painted square on ceiling in chamber (C) directly above it (above right), indicating that the pillar was constructed at a later date (after the ceiling was already plastered and painted) and is now largely lost.



North wall of pillared chamber (C). Note fragmentary survival of painted plaster in this area.



Detail of area of painted plaster on north wall of pillared chamber (C). Note paint loss and cracking in plaster layer.



East wall of chamber (C) – condition of the plaster is fragile in areas.



Stratigraphy of painting: deep losses were infilled with plaster and rock shards followed by a coarse plaster and fine plaster layer, then finished with the paint layer.



Area of repair on ceiling of chamber (C) is possibly an early repair from antiquity.



Detail of area of painting in chamber E showing traces of mud overplastering still left on painted surface.

Mud overplastering in chamber (E).



Attempt to remove area of painting in pillared chamber (C)



North wall of pillared chamber (C) with grey lower repair plaster and testing of three different types of upper repair plaster undertaken by CNRS.



North wall of pillared chamber (C) before treatment in 1987 CEDAE photograph.



White edging repairs were used locally to stabilize areas of painted plaster.



Drips from previous treatment are visible on the painting in chamber (C), north wall, east side.

<u>General Tomb Information</u>		
Tomb number	QV 74	Location North side, main wadi
Other naming systems	Hay of Linplum– 7 th East; Wilkinson – 2; Champollion – 15; Lepsius – 2; Brugsch - 12	
Owner/ Attribution	Anonymous princess in 19 th Dynasty	Queen Duatentipet in 20 th Dynasty
Owner Status	Princess King's daughter	Queen Great King's Wife, King's daughter (See Tomb Profile, Volume 1 for biographical detail)
Dynasty/reign	Constructed in 19 th Dynasty/ Rameses II	Occupied in 20 th dynasty / Rameses IV
Typology [Leblanc 1989]	Type II (Chamber tomb)	
<u>Description</u>		
General Description	Long, graded ramp (A) with no steps. Central axis, multi-chambered tomb, with one side chamber (I) off central axis. Chamber (C) with two central pillars leads north through doorway (D) to a small chamber (E) graded downward (F) to the barrel-vaulted main chamber (G), originally with two pillars. Chamber (C) has a small side chamber (I) to the east. A pit (J) leads down to chamber (K) in the main chamber (G). At doorway (D), the base of a mudbrick wall is partially preserved.	
Decoration	Painted plaster with raised relief technique. There are extensive, but fragmentary and largely blackened remnants of painted plaster.	
Iconography	Comparable iconography of chamber (C) can be found in QV 38, 40, 52 and 75. See Tomb Profile, Volume 1.	
<u>Objects and current contents</u>		
Objects recovered	22 nd -23 rd Dynasties: 40 ushabti of glazed frit, a painted wooden statue of falcon with solar disc (EAO #436), fragments of glazed clay scarab; wooden painted headdress of Ptah-Sokar statue (Leblanc and Abdel Rahman 1991, 168). Found outside of the tomb: Foundation deposits discovered in 1985, pottery fragments, wooden legs of funerary bed, and fragments of caning (Leblanc and Abdel Rahman 1991).	
Removal or clearance of contents	Study materials cleared from QV 74 by CNRS and SCA in October 2008: mummy parts, pottery sherds, wood, plaster and skull fragments.	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Source and Comments
19 th Dyn.	Tomb construction for anonymous princess	Leblanc and Abdel-Rahman 1991
20 th Dyn.	Tomb re-occupied by Queen Duatentipet and changes made in decoration	Leblanc and Abdel-Rahman 1991
22 nd -23 rd Dynasties	Reused for burial, a pit (J) dug in burial chamber	Thomas 1966, 218; Leblanc and Abdel-Rahman 1991, 168
Roman Period	Reuse, mud brick walls (partially preserved) built at doorways B and D.	Leblanc and Abdel-Rahman 1991, 151-152, 169
1826	Recording and research by Hay of Linplum who notes that tomb was "much filled with bones and pottery."	Thomas 1966
1828	Recording and research by Wilkinson	Leblanc 1989a, 25-38
1829	Recording and research by Champollion	Leblanc 1989a, 25-38

1828-1829	Research and documentation by Rosellini	Leblanc 1989a, 25-38
1844	Recording and research by Lepsius	Leblanc 1989a, 25-38
1854	Recording and research by Brugsch	Leblanc 1989a, 25-38
1927, 1964	Brief description, history, and plans by Porter and Moss	Porter and Moss 1920, 48, 46 (plans); 1964, 767-8, 760 (plans)
1966	Description, history, and plans by Thomas	Thomas 1966, 85, 208-9, 214, 218-9, 224-5; p. 215 (plans), plates 76B 77A, 77B
1981	Survey by TMP	TMP
1984	Excavation and drawings by CNRS-CEDAE	CNRS
1985	Foundation deposits recovered in front of the ramp (A)	Leblanc 1991, 149
1987 Nov	Photographic documentation by CEDAE	Leblanc 1989a, 50
1988-1990	Clearance and epigraphic survey by CNRS	CNRS mission report 1988-1990
1989	Treatment testing was undertaken by CEDAE-CNRS in 1989	Pers. comm. Leblanc
1991	Conservation work by EAO, CEDAE, CNRS	CNRS mission report 1991-1992, 71
1991 Nov	Photographic documentation by CEDAE	CEDAE
After 1991	Door installation	CEDAE 1991 photo
Unknown	Entrance repairs	In situ inspection
Unknown	Plaster fills	In situ inspection
1988	Survey and documentation by Laurent (CNRS)	
2006-2008	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct	Removal of study materials by CNRS and SCA	GCI
2009 Jan	Digital photographic documentation by CEDAE	GCI, CEDAE
Documentation and References		
Historic Photographs	-CNRS and CEDAE excavation reports (1984, 1987-8); -CEDAE photos: 28381-28447 (Nov.1987); 28782-28790 (Nov.1991); -CNRS/CEDAE - Plates CXCIII – CC in Leblanc, 1989a.	
References	-Champollion 1835; -Grajetzki 2005; -Gosselin 2007, -Hay MSS; -Leblanc 1989; 1989a; -Leblanc and Abdel Rahman 1991, 153-159;	-Lepsius; 1897-1913 text vol. iii 226-227 ; MS -Porter and Moss 1964; -Thomas 1966, 185, 208-9, 214, 215, 218-9, 224-5; -Rosellini 1832; -Rosellini MSS 284; -Leblanc and Siliotti 2002

QV 74

Anonymous Princess/ Queen Duatentipet

General Description

This tomb is entered through a long ramp (A) leading into chamber (C) with two constructed pillars and a side chamber (I) to the east. On axis with the entrance, a stepped ramp runs through a small intermediate chamber (E), leading into the vaulted burial chamber (G) which originally contained two constructed pillars, one of which has since collapsed. A later pit (J) which continues to a small lower chamber (K) was cut into the burial chamber floor. Remains of mud brick walls survive to the east of doorway (D). A similar construction at doorway (B) is no longer extant.

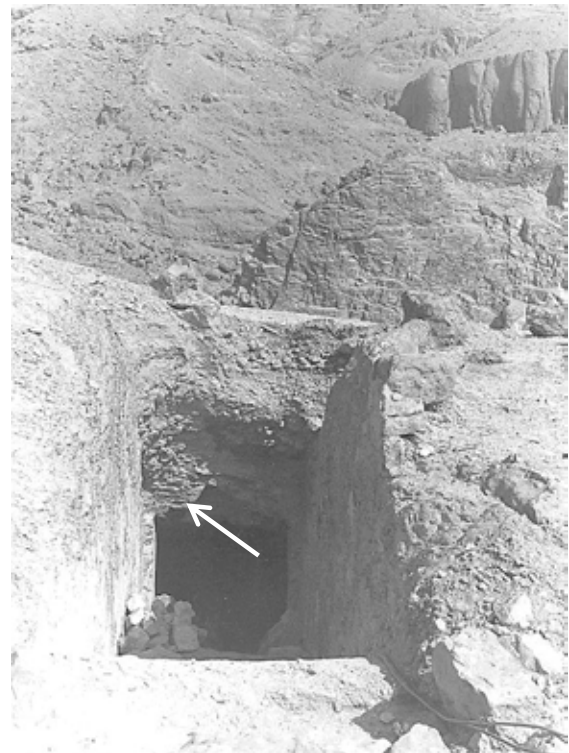
The ramp and chambers are cut out of highly weathered marl as found in other adjacent tombs on the northern side of the Valley, but above the tomb entrance the paleofan conglomerate layer is largely missing and was likely removed in recent decades.

Generally, the interior rock quality was good, allowing the tomb walls to be cut fairly straight. However, infilling with rock shards and plaster was still needed in localized areas. The walls were prepared with two layers of plaster including an earthen-based lower layer followed by a very thin upper plaster layer. Floors are roughly cut throughout the tomb and may be unfinished.

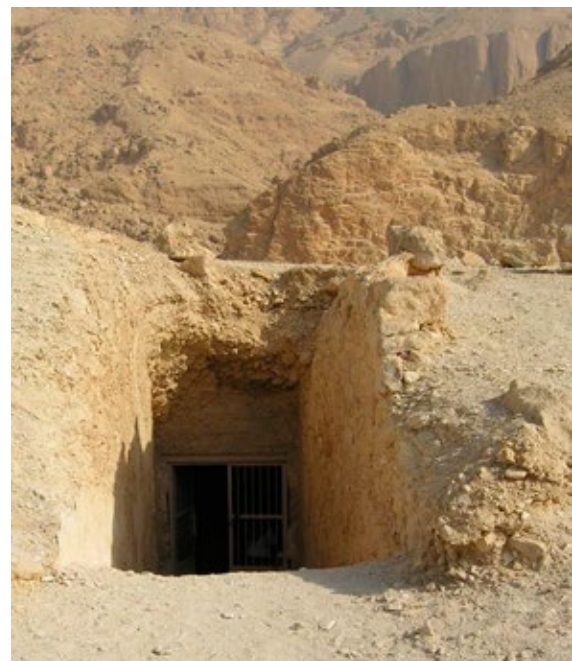
Extensive raised relief painted plaster survives throughout the tomb in fragmentary condition. This also includes remnants of plaster on walls of ramp (A) and small areas of painted plaster on both sides of doorway (B).

There is fire-related blackening and heat-related deterioration, though the overall blackening is not as severe as in other tombs.

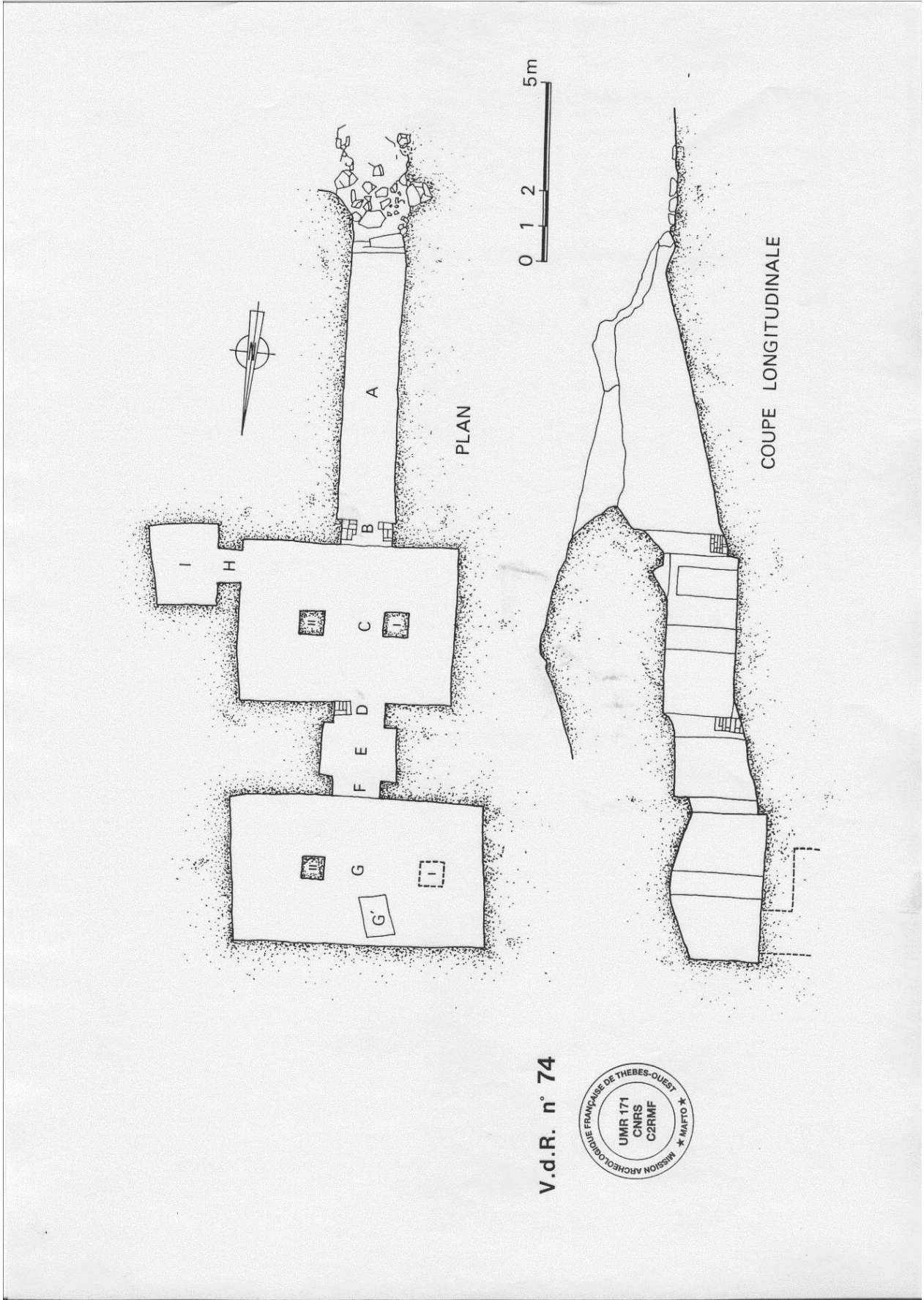
The tomb was constructed in the 19th dynasty for a princess but was later used by Queen Duatentipet in the 20th dynasty. This is evidenced by the replacement of the existing titles of princess with the Queen's title to reflect the new occupier (Leblanc and Abdel-Rahman 1991, 159-164). During the 22nd and 23rd Dynasties, the tomb was reused as a communal burial and pit (J) was cut.



1991 photograph showing entrance before the door was constructed. Rock wedge is visible above doorway (B). (Image: CEDAE)



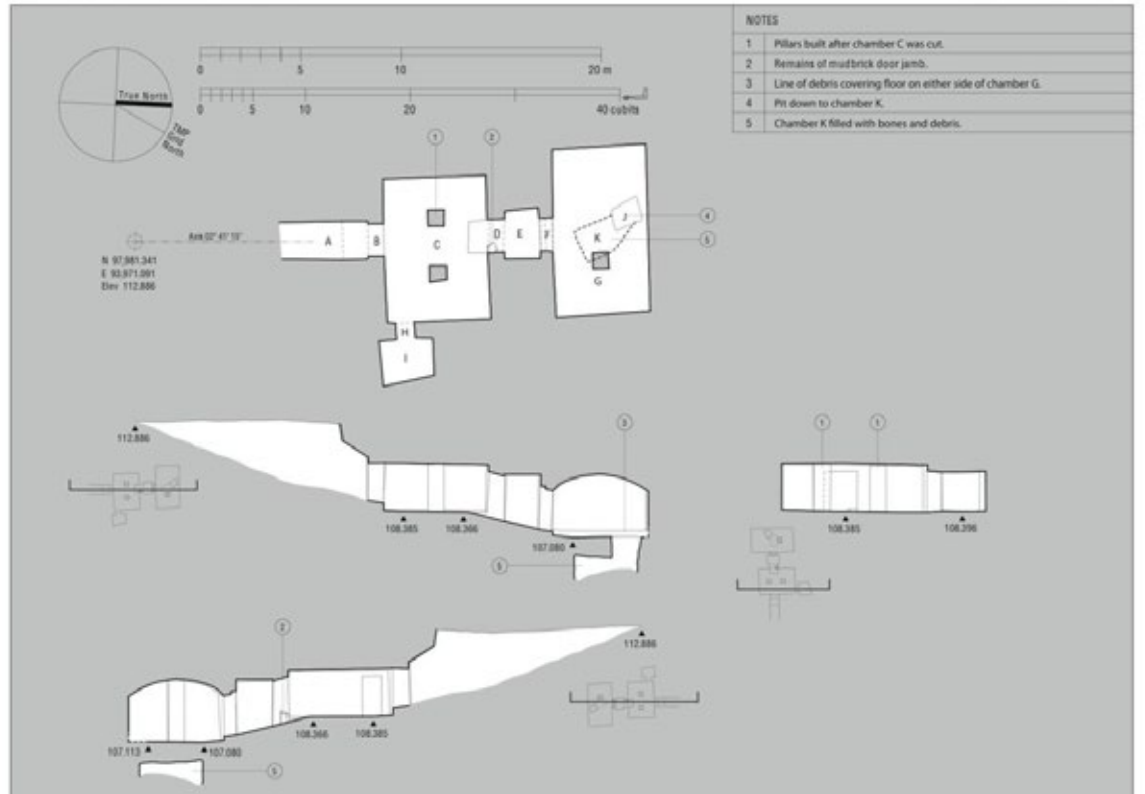
Long, graded ramp (A) leading to entrance doorway (B). Note the paleofan conglomerate layer is largely missing above the tomb entrance.



Drawing: CNRS

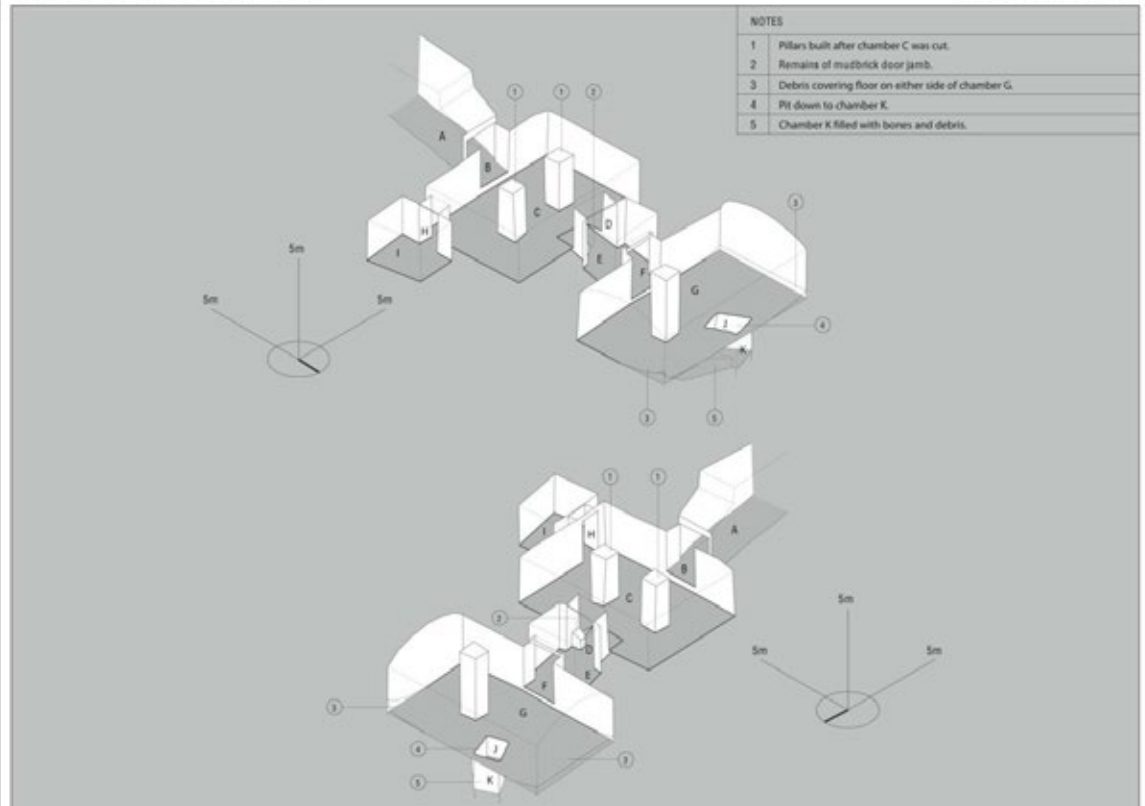
QV 74 - Duatentipet, Dyn. XIX, XX
Plan, sections 1:200

Surveyed May 14, 1981. Drawn September 9, 2007.



QV 74 - Duatentipet, Dyn. XIX, XX
Axonometrics 1:200

Surveyed May 14, 1981. Drawn November 14, 2007.



Drawings: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Remnants of mud brick walls were recorded by CNRS in 1985 on doorway (B) and on the east jamb of doorway (D), though the former is no longer extant. Both were built in the Roman period (Leblanc 1991). The tomb has been accessible at least since the time of R. Hay of Linplum (1826) who noted that the tomb was full of burned bones and pottery and described the painted figures as, "not so well executed" (Thomas 1966, 218). J. F. Champollion mentions damage of the wall painting caused by fire. TMP drawings record chamber (K) as being "filled with bones and debris" (TMP 1981). The tomb was most recently cleared by the Franco-Egyptian team in 1984, and between 1987-88.

There is evidence of bat activity, but no bats were sighted during the assessment period. The tomb is not open to visitation. Entrance doorway (B) has been partially rebuilt with a fired-brick lintel and has a metal grill door without mesh.

Condition

There is a rock overhang of 1m to the right above entrance doorway (B) composed of paleofan conglomerate debris. The loose rubble and boulders are held in a soil matrix, which could be easily eroded and threatens partial collapse as it is not supported by more stable marl rock.

The walls and ceilings still essentially retain their architectural form and the fissuring of the rock is not as severe as in other tombs. There are, however, a few large, deep losses in the walls where plaster and rock shard infill material has collapsed. There are also many smaller areas of surface loss, including both pre-fire and post-fire loss, which contribute to the fragmentary appearance of the surviving decoration. A large area of post-fire rock loss occurred above doorway (B); and elsewhere in the tomb on the east wall of antechamber (C) and on the north wall of side chamber (I), where loose rock fragments remain along the edges of the loss. There is a large open, east-west fracture in the ceiling of the chamber (C). Salt veins are present on the west wall of the burial chamber.

Fire blackening and heat-related deterioration is visible throughout the tomb. The level of blackening is not uniform from chamber to chamber and is overall not as severe as in other tombs. The fire-related darkening in chamber (C) is mustard brown in color and the lower parts of the walls are not blackened, most likely having been protected by sand and debris. The blackening in burial chamber (G) is darker in color with a matte appearance. There is heat-related pigment alteration throughout the tomb, most noticeably in the burial chamber where the paintings have a distinct overall reddish-brownish coloration, most likely yellow earth pigments altering to red. Some areas of plaster also have serious cracking and plaster detachment as a result of heat effects.

A comprehensive campaign of edging repairs has been undertaken throughout the tomb though no large plaster repairs were done. There is also evidence of localized areas of grouting as holes and drips of an acrylic-looking material are visible. Small cleaning tests were undertaken in various areas to attempt removal of the blackening. Insect nests were also removed. Treatment testing was undertaken by CEDAE-CNRS in 1989, but it is not clear what exactly was done at this time as some of the interventions may pre-date this intervention.

Deterioration Factors

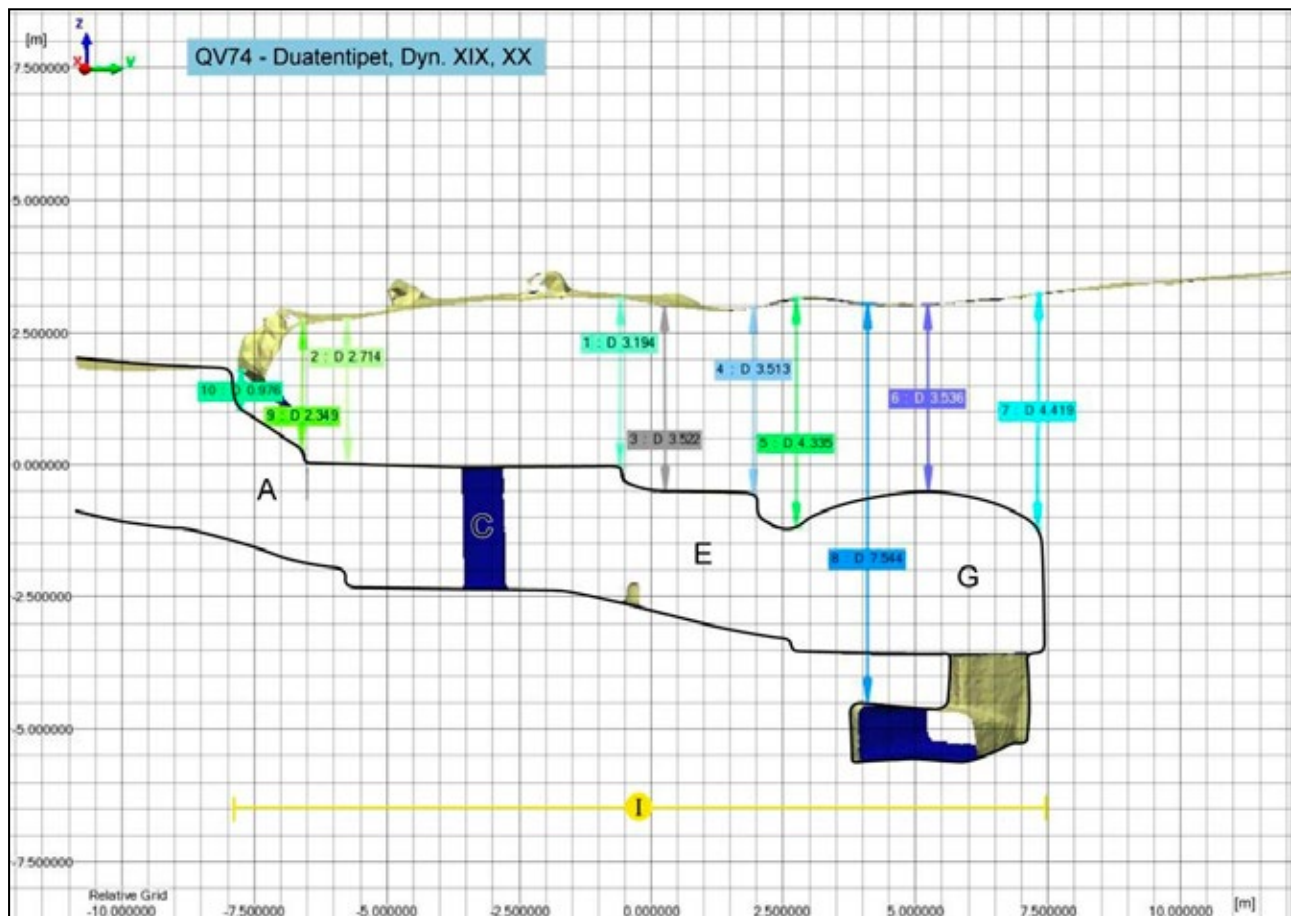
Loss of rock above entrance doorway (B) appears to be associated with exposure to rain water infiltration. Fire has also contributed to the current condition. The heat source may have been located in the rear chamber which suffered substantial loss of its decoration. The amount of pre-fire loss is substantial compared with post-fire loss, and could indicate a lengthy period of fire in this tomb with losses occurring over time.

Large losses in the decoration and rock walls throughout the tomb can be associated with the failure of the substantial packing material needed to fill voids in the walls, perhaps weakened further by exposure to fire. The thinness of the upper plaster layer has also led to extensive shearing and loss, also made worse by heat alteration from the fire.

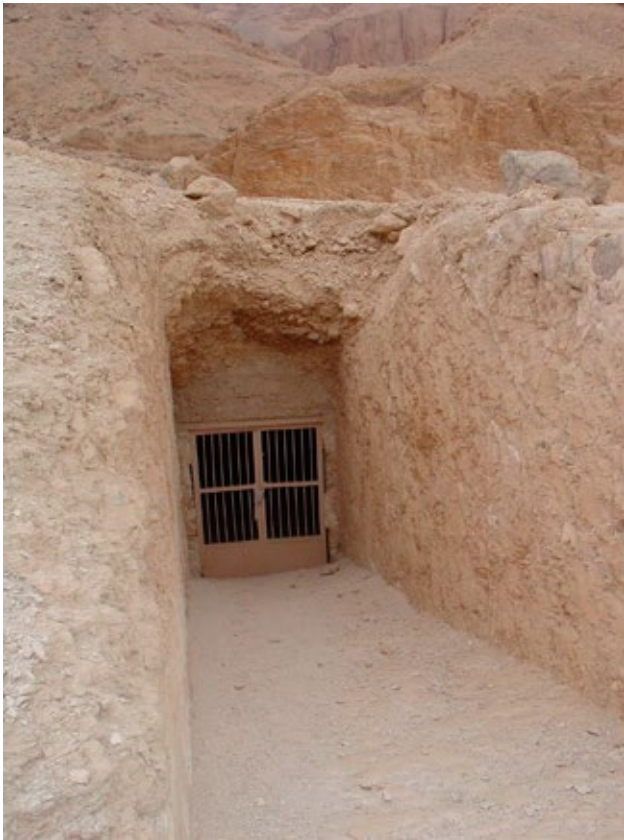
General Recommendations

An arched masonry cover is required over the entrance ramp for water infiltration protection. Removal of overhanging boulders and filling behind retaining walls is required. Stabilization of rock above the entrance doorway and in the east wall of pillared chamber (C) is recommended.

Painted plaster near the entrance door frame requires protection during work on door. Limited stabilization of fragile areas of painted plaster within the tomb is also required to prevent further loss. The heat-altered condition of plaster may require stabilization treatments to be specifically formulated and trialed.



Overburden analysis shows the thickness of rock and the palaeofan conglomerate is between 2.3m at doorway (B) and 3.5m at chamber (G).



Entrance ramp (A) and doorway (B) have a rock overhang of 1m composed of marl on the west side and paleofan debris to the east. The loose rubble and boulders are held in a soil matrix, which could be easily eroded and threatens partial collapse as it is not supported by more stable marl.



Doorway (B) has a rebuilt fired-brick lintel and metal grill door without mesh.



There are surviving areas of painted plaster adjacent to entrance door (B). This area requires protection during any work on the door.



A large post-fire rock loss above doorway (B).



Chamber (C) has two surviving pillars.



Remnants of a Roman period mud brick wall on the east jamb of doorway (D).



Detail of one of the masonry-constructed pillars in chamber (C).



Entrance to shaft (J) in floor of burial chamber (I) continues to lower chamber (K).



Large post-fire loss on east wall of chamber (C). Some stabilization of rock is necessary in this area.



Large post-fire loss on north wall of side chamber (I)



Substantial packing was necessary to fill large voids in the walls. A large amount of this infill material has been lost in chamber (G).



As this tomb will not be open to visitation the large area of infill packing in chamber (G) does not require treatment but should be monitored.



West wall of chamber (G). There are large areas of loss of painting in this room but little post-fire loss. Note reddish color of paint layer and overall blackening in this chamber.



East side of chamber (G) showing pillar II and fragmentary survival of painting.



Heat alteration of pigments is most visible in burial chamber (G) where yellow earth pigments have altered to red. The lower parts of pillars and walls escaped fire damage. Note also white crystalline material from bat urine at top edge of painted plaster.



Lower parts of the walls in chamber (C) are not blackened having been most likely protected by sand and debris. Note mustard brown color of fire-related darkening in this chamber.



Note cracking and post-blackening losses of the thin upper decorated plaster layer.



Fragile, cracked and detached areas of plaster on east side of ramp (E).



Comprehensive campaign of edging repairs was carried out throughout the tomb in 1991 to secure areas of surviving painted plaster.



Above the edging repair, a possible cleaning attempt of blackened areas of painting was carried out.



Chamber (C) in 1987 photograph (Image: CEDAE).



Chamber (C) in 2008 showing same area with 1989/1991 edging repairs.



Chamber (I) in 1987 photograph (Image: CEDAE).



Chamber (I) in 2008 showing same area with 1989/1991 edging repairs.

TOMB INVENTORY

QV 75

<u>General Tomb Information</u>		
Tomb number	QV 75	Location Main wadi, north side
Other naming systems	Hay of Linplum – 8 east; Wilkinson – 1; Champollion – 16; Lepsius – 1; Brugsch –11	
Owner/ Attribution	Henutmira	
Owner Status	Princess – Queen (King's Daughter - King's Great wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber tomb)	
<u>Description</u>		
General Description	Short, moderately-sloped ramp (A) leads to multi-chambered tomb with an antechamber (C) with two central pillars. The chamber leads down a ramp (D) that runs through a smaller intermediate chamber (E) that contains a deep vertical shaft (H) leading to a small lower chamber (I). The ramp leads to the chamber (G), which originally contained four pillars, one of which collapsed.	
Decoration	Raised relief painted plaster. Most decoration has been lost. Remaining decoration primarily located in burial chamber on pillars and in patches on walls, especially in upper areas.	
Iconography	Iconography from the Book of the Dead, See Tomb Profile, Volume 1 and Leblanc 1988, 142-145.	
<u>Objects and Current Contents</u>		
Objects recovered	Found outside the tomb itself, pink granite sarcophagus (Cairo Museum #JE60137) with a sparrow-hawk head sarcophagus lid – they were reused and found at Medinet Habu; alabaster canopic jar with name of the queen found between QV 75 and 73, EAO #341) (Leblanc 1988); Ostrakon dated to Ramesside period with geometric pattern of ceiling and a plasterer's brush (Leblanc 1988, 136)	
Removal or clearance of contents	Study materials cleared from QV 75 by CNRS and SCA in October 2008: pile of animal bones and pottery sherds.	
<u>History of Use, Events, Research and Interventions</u>		
19 th Dyn.	Tomb construction	
20 th Dyn.	Looted by organized plunderers	Leblanc 1988, 136; 1993, 25
22 nd Dyn.	Tomb opened and the sarcophagus was transferred to Medinet Habu and reused by the Great Priest Harsiesis and the tomb was reused for a short period	Leblanc 1988, 146
Roman Period	Reused (2-3rd C. A. D.)	Leblanc 1988, 146
1826	Documentation by Hay of Linplum	Leblanc, 1989a, 25-38
1828	Documentation by Wilkinson	Leblanc, 1989a, 25-38
1829	Documentation by Champollion	Leblanc, 1989a, 25-38
1828-1829	Research and documentation by Rosellini	Leblanc, 1989a, 25-38
1844	Documentation by Lepsius	Leblanc, 1989a, 25-38

1854	Documentation by Brugsch	Leblanc 1989a, 25-38
1964	Documentation (text and sketch) and brief description by Porter and Moss	Porter and Moss, 1964, 768-769, 760 (plan)
1966	Documentation, (text and sketch) by Thomas	Thomas 1966
1981	Survey and measured drawings by TMP	TMP
1984	Archaeological clearing by CNRS-CEDAE	Leblanc, 1989, 136
1985	Photographic documentation by CEDAE	Leblanc, 1989
1986-87	Archaeological clearing by Franco-Egyptian mission	CNRS
1988	Tomb owner was identified by two inscriptions with the name of the queen found in 1986	Leblanc 1988, 136-138
1988	Survey and documentation by Laurent (CNRS)	CNRS
1989	Epigraphic survey by CNRS	CNRS mission report 1988-1990
Unknown	Covering of shaft in interior ramp	On-site inspection
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008 Oct	Removal of study materials by CNRS and SCA	GCI, CNRS
2009 Jan	Digital photographic documentation by CEDAE	GCI, CEDAE
Documentation and References		
Photographs	-CEDAE – 28448-28606 (Apr. 1985); -CNRS/CEDAE Plates: CCI – CCVI in Leblanc 1989.	
References	- Dodson and Hilton 2004; -Hay MSS 29821, 143; -Champollion, Maspero and Champollion Figeac 1844-89, 404 -Leblanc 1988; 1988a; 1989; 1989a; 1999 -Lepsius 1897-1913 text vol. iii, 225-6; MS 359; -Porter and Moss 1964, 760, 768-769;	-Sourouzian 1983, 365-371; -Rosellini MSS 284; -Siliotti and Leblanc 2002 -Thomas 1966, 188, 208-9, 214, 215, 218, 224-5 -Troy 1986; -Tyldesley 2006.

QV 75

Princess/Queen Henutmire

General Description

The tomb is entered through a short ramp (A), once stepped, leading into chamber (C) with two constructed pillars remaining. North of this chamber, a short ramp runs through a small intermediate chamber (E), which contains a deep vertical shaft (H) that leads to a small lower chamber (I). On axis with the entrance, the ramp then continues into the burial chamber (G) which originally contained four masonry constructed pillars; the northeast one is now collapsed. Remains of a later small stone structure, possibly a wall, survive in the southwest corner of this room.

The ramp (A) is cut into heavily weathered marl similar to other adjacent tombs in this part of the north side of the Valley. There is no paleofan debris layer over the tomb, unlike the adjacent tombs, which seems to have been removed for unknown reasons before the 1980s. Marl in the tomb contains many salt veins and fractures.

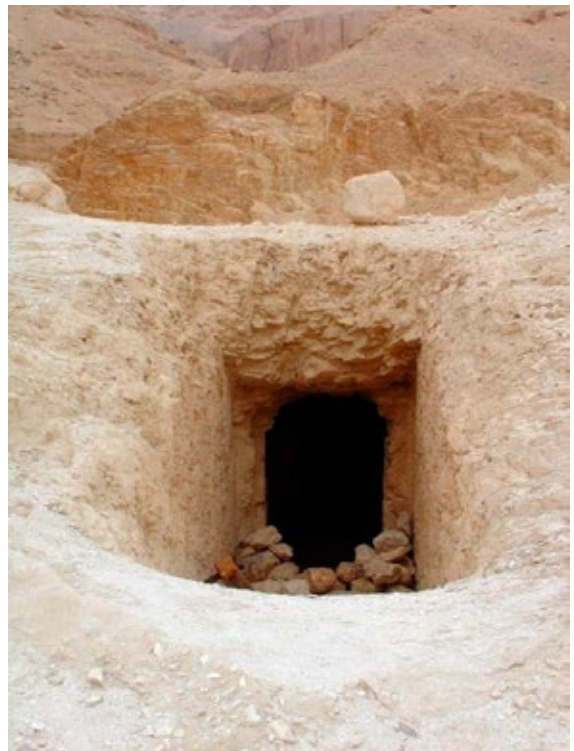
Generally, the interior rock quality is good, which allowed the tomb walls to be cut fairly straight. However, infilling with rock shards and plaster was still needed in localized areas. The walls were prepared first with a lower earthen-based layer followed by one or two upper finishing layers. The tomb floor is roughly cut and appears to be unfinished.

Large but fragmentary areas of raised relief painting and lower plaster layers survive throughout the tomb on walls, ceiling and remaining pillars. The paintings show evidence of severe heat-related damage but only some fire-blackening. The tomb was robbed and vandalized more than once in the late 20th Dynasty. The queen's sarcophagus was reused in the 22nd Dynasty and the tomb in the Roman period.

The tomb has been accessible at least since the time of R. Hay of Linplum (1826), as he recorded the poor condition of the tomb and the "apparent omission of the owner's name" (Thomas 1966, 218). E. Thomas noted that although the wall paintings in chamber (G) suffered fire damage, they were better preserved than in chamber (C) where salts affected the painting condition more than fire. TMP (1981) drawings record steps on ramp (A) which are now substantially damaged and are only still preserved along the ramp sides. Most recently the tomb was cleared by the French in 1984, and between 1986-87.



Entrance to the tomb as it appeared during the Franco-Egyptian excavation in the 1980s (Image: CNRS).

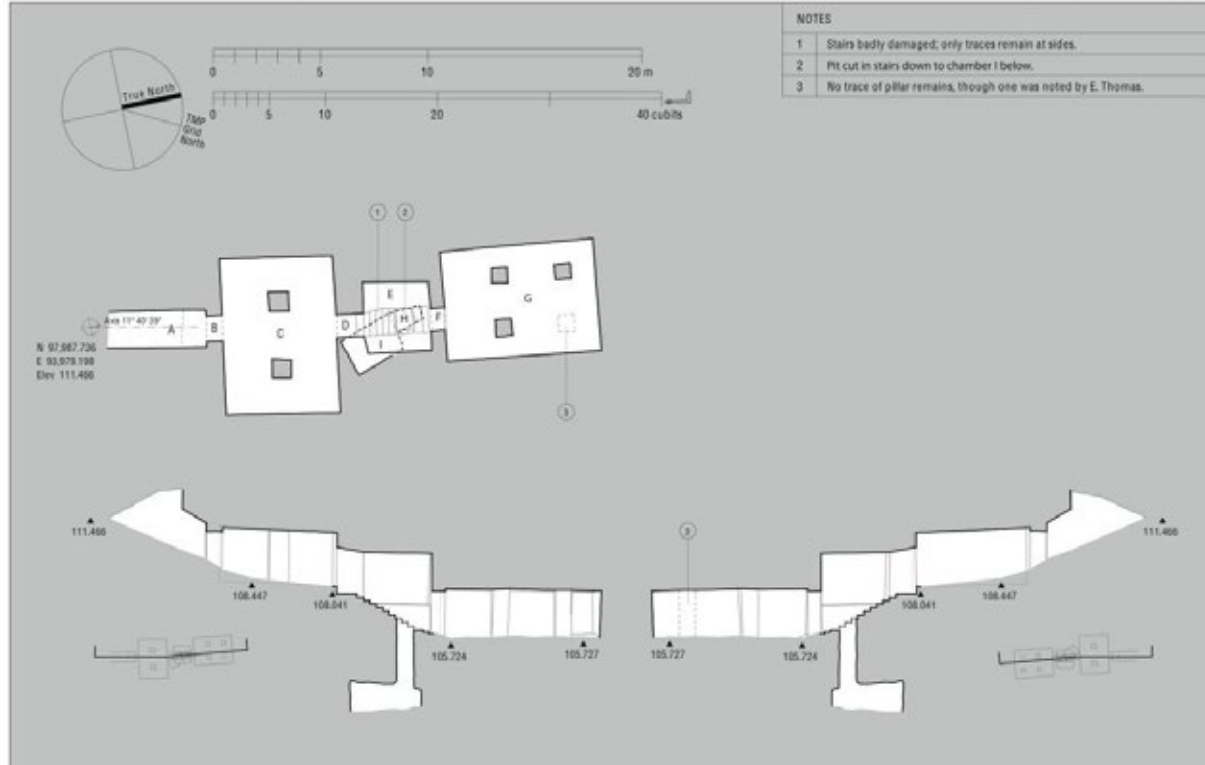


Short ramp (A) and entrance doorway (B). There is no door on this tomb.

QV 75 - Henutmire, Dyn. XIX

Plan, sections 1:200

Surveyed May 16, 1981. Drawn September 9, 2007.

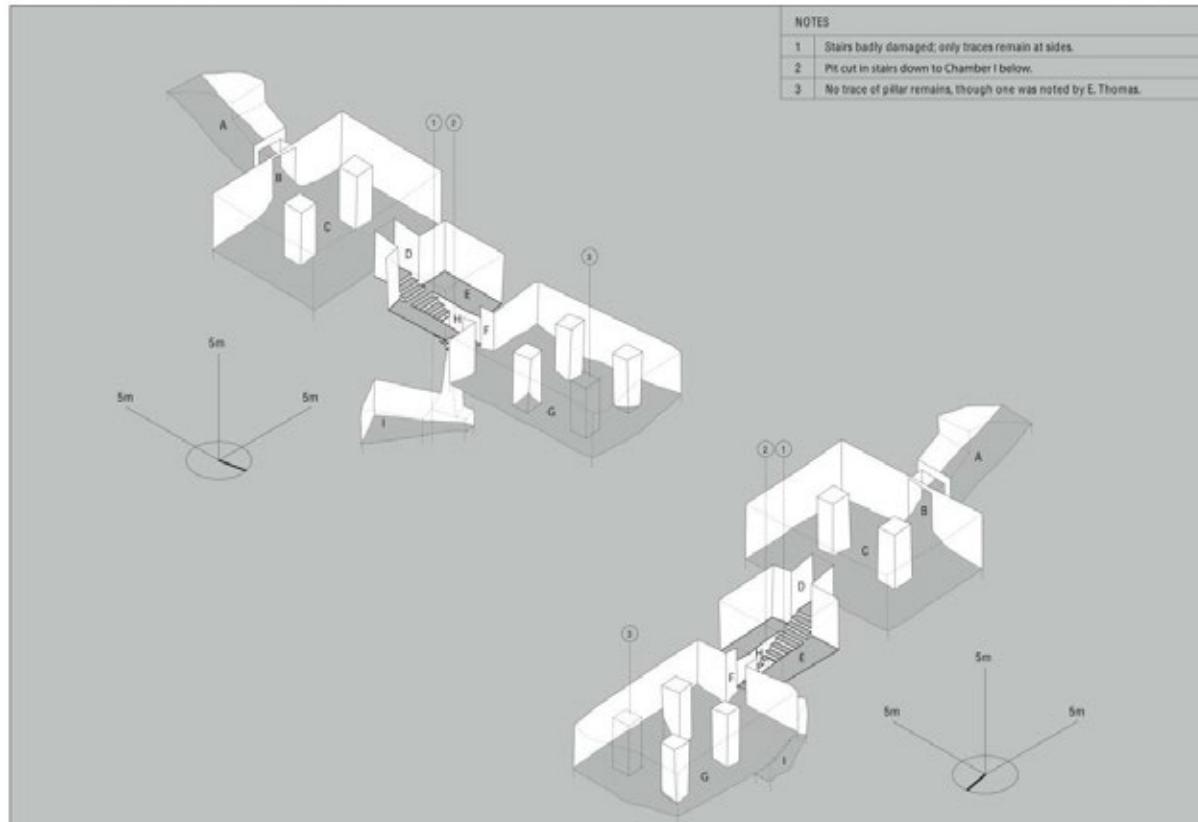


NOTES	
1	Stairs badly damaged; only traces remain at sides.
2	Pit cut in stairs down to chamber I below.
3	No trace of pillar remains, though one was noted by E. Thomas.

QV 75 - Henutmire, Dyn. XIX

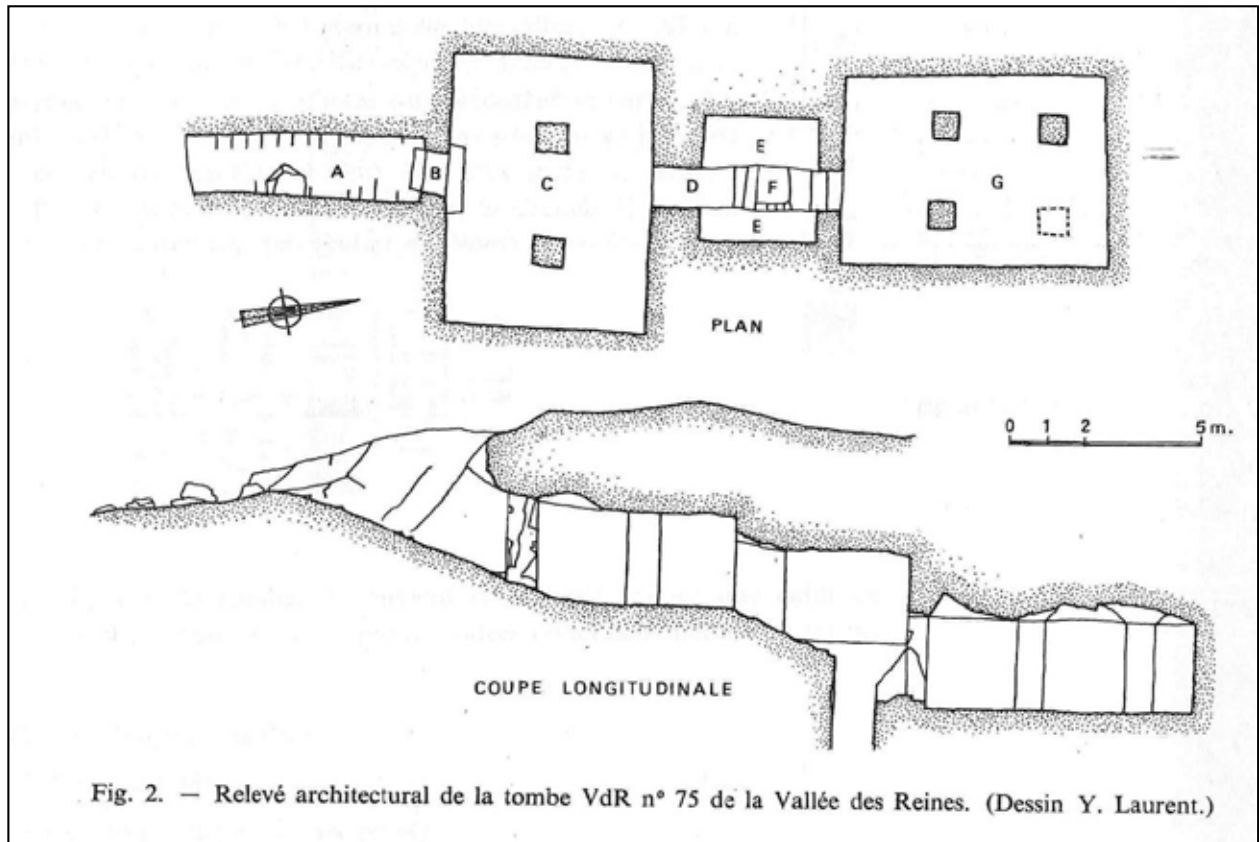
Axonometrics 1:200

Surveyed May 16, 1981. Drawn November 22, 2007.

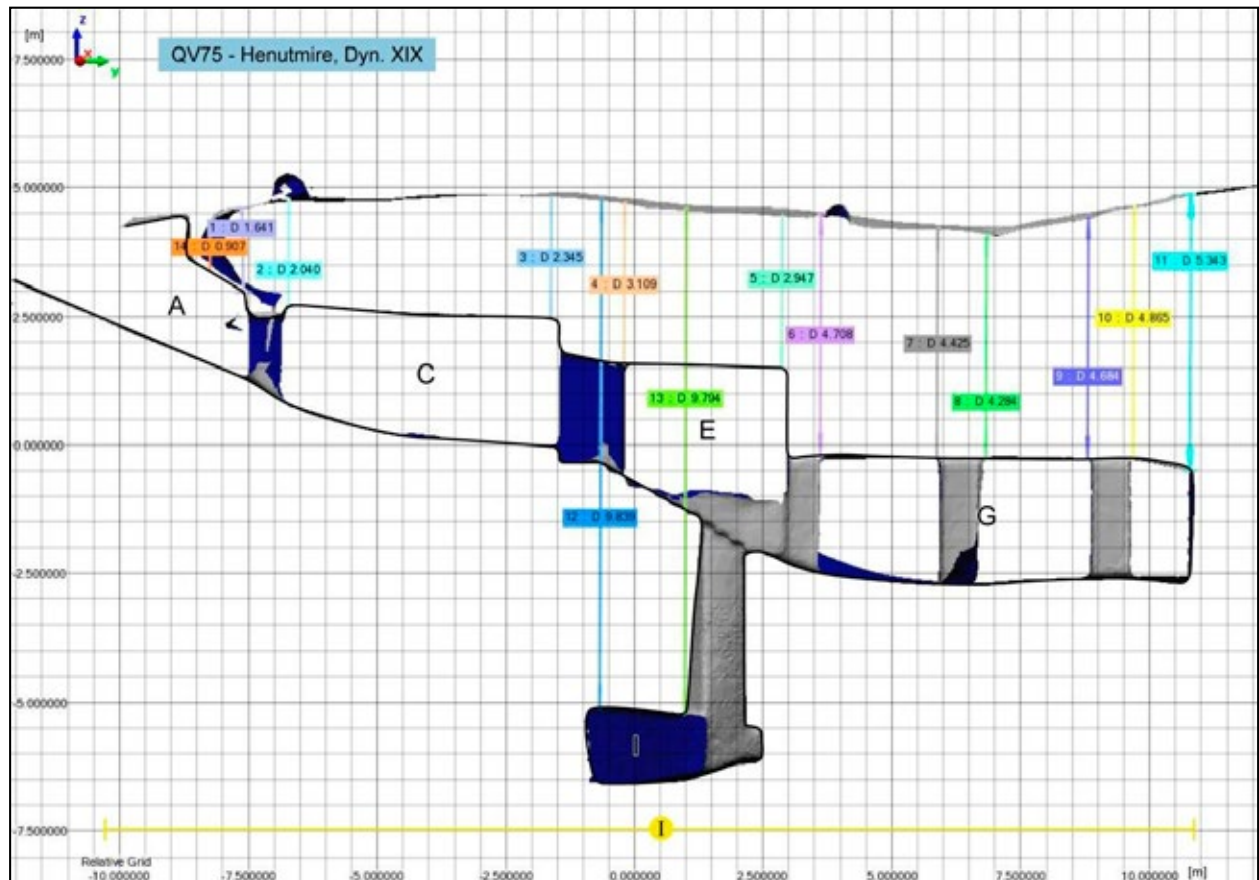


NOTES	
1	Stairs badly damaged; only traces remain at sides.
2	Pit cut in stairs down to Chamber I below.
3	No trace of pillar remains, though one was noted by E. Thomas.

Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawing: CNRS



QV 75 overburden analysis shows the thickness of rock above the tomb ranges from 2.0m at doorway (B) to 5.3m at chamber (G), and lower chamber (I) is at 9.8m below ground.

Currently the tomb is not open to visitation. A low boulder wall partially blocks the entrance doorway. There is no door.

The tomb has had extensive bat activity with crystalline deposits on the surface of the wall paintings and droppings found throughout. Bats were also noted during the February 2008 inspection. The location of the crystalline deposits indicates that the bats tend to roost directly on the upper edges of the paintings. Bird droppings were also noted on a column in the burial chamber as well as insect nests found throughout the tomb.

Condition

There are no steps extant in ramp (A); some plaster survives on ramp walls. Above the entrance are some hanging fragments of rock.

The tomb interior has no apparent structural risks or signs of instability of walls or ceiling. The tomb for the most part retains its rock-cut shape quite intact. The ceiling near entrance doorway (B) shows some collapse though this appears to be historic. The west door jamb of the doorway (B) also presents rock loss and some adjacent loose fragments.

The two constructed pillars in chamber (C) both survive to the ceiling with extensive remains of plaster. The ceiling has a very irregular surface and many micro-fractures in the rock, but no recent loss. On the west wall there is a large area of loss. In doorways (D) and (F) the lintels and jambs have localized loss and fracturing. The ceiling in burial chamber (G) presents major historic loss in the area of the missing northeast pillar but nothing post-fire. Some fracturing and salt veins also occur here.

The surviving areas of painting and plaster in the tomb have suffered severe fire damage. The paintings in chamber (C) are not fire-blackened but show signs of heat damage. The plaster layer appears to have been altered, and is now highly fragmented with a network of cracks that has destabilized many areas. Heat has also caused pigment alteration which is most notable in the changes from yellow to red of the iron oxide pigments. These are the most prominent surviving colors; though faint traces of green can be seen in more protected areas. The painted surface is rough in appearance and has suffered loss. In some areas the paint layer is almost entirely gone leaving only the unpainted raised relief plaster behind.

The condition of the decoration in the ramp and intermediate chamber (E) is similar though plaster and painting looks even more severely heat altered with a red-hued appearance.

Three of the four constructed pillars in the burial chamber (G) survive. The northeast pillar (rear, right pillar) has been lost. The remaining pillars have good survival of painted plaster. The ceiling has losses but all are fire-blackened, indicating that no post-fire losses have occurred. However, despite the blackening, there is less heat alteration in the burial chamber with areas of unaltered yellow paint remaining on pillars and walls and less cracking of the plaster as compared with other parts of the tomb. However, the burial chamber contains surviving plaster in the most endangered condition—large, very vulnerable areas, mostly separating from the rock and with evidence of fallen plaster on the floor. The rear wall of the burial chamber has salt accretions and there is almost no surviving decoration on this wall.

There is evidence of localized attempts of theft of areas of painting.

Very little previous conservation has been undertaken in this tomb. Only a few edging repairs are visible.

Deterioration Factors

A combination of factors have contributed to the fracturing and loss of rock in the tomb including the heavily jointed and fractured marl of the tilted block and its proximity to the top of a ridge, and the presence of salt veins.

Fire has caused heat-related damage to the paintings that includes both pigments and plaster layers. Large areas of loss of decoration throughout the tomb such as on the west wall of chamber (C) might also be due to the collapse of infill material weakened by fire. In addition, the long history of access to this tomb, its lack of a door and considerable bat activity has contributed to the tomb's overall deterioration.

General Recommendations

The tomb requires retaining walls, an arched cover, and a door to prevent water infiltration and the entry of rock debris, animals, and visitors.

Stabilization of rock fragments above the entrance door and monitoring of ceiling fractures is recommended.

Stabilization of fragile areas of surviving painted plaster is required to prevent further loss. The scope and nature of intervention will be wide ranging. The heat-altered condition of plaster may require stabilization treatments to be specifically formulated, trialed, and implemented.



Above: General view from chamber (C) toward short ramp D



Right: View from chamber (E) to short ramp D and tomb entrance



Ramp (A) once had steps, no longer extant. Plaster survives on lower part of ramp walls.



Above the entrance (B) are hanging fragments of rock.



A wooden ramp covers entrance to shaft (H).



Rock in southwest corner of burial chamber (G) which may have originally been part of a constructed wall.



Rock loss and some adjacent loose fragments at doorway (B) west jamb. (Image: CEDAE 2009).



Localized loss and fracturing can be seen on doorway (F) (Image: CEDAE 2009).



A large area of loss on the west wall in chamber (C) in 1985 (Image: CEDAE).



Same area in 2009. Little change in rock condition can be noted.



Extensive bat activity is observed throughout the tomb: Staining on ceiling and wall in intermediate chamber (E) and accumulation of bat droppings on floor of burial chamber (G).



Bird droppings on pillar in burial chamber (G).



Paintings are raised relief technique.



Only small traces of green paint survive.



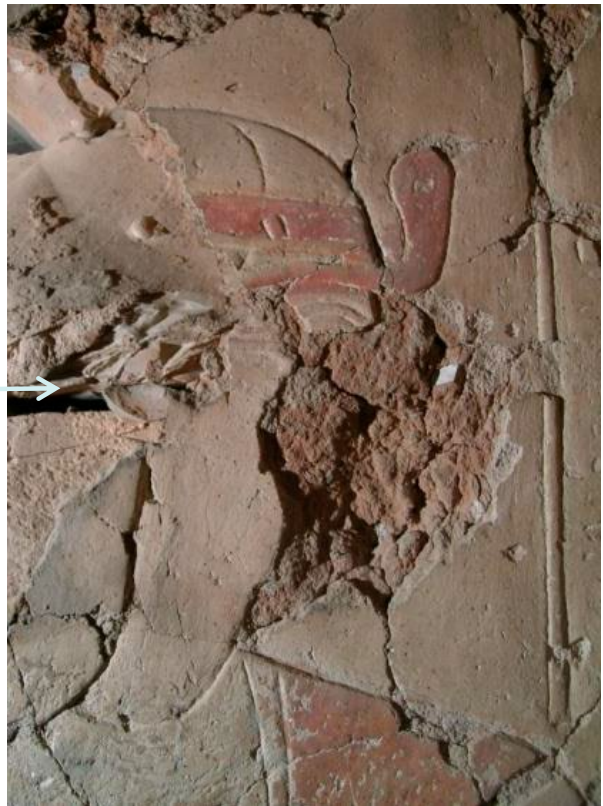
The paintings in chamber (C) have been damaged by fire. Though there is no fire-blackening the paint layer has altered and the plaster layer has been fired. The paintings are now highly fragmented with a network of cracks. In many areas the upper painted layer has been lost with only traces of paint surviving.



Pillar in chamber (C) are masonry constructed with fragmentary survival of painted plaster.



Surviving area of decoration on pillar in chamber (C).



The painted plaster has suffered severe fire damage in areas. Though not fire blackened, the pigments and plaster appear to have been altered by fire.



There is fragmentary survival of painting in chamber (G).



Lower areas of walls in burial chamber (G) are not fire blackened. The void in wall at left would have been filled with plaster and rock shards.



Note extent of surviving painted plaster on pillars of chamber (G) and that fire blackening was only on the upper parts of walls and on the ceiling. The lower parts of the walls and pillars escaped serious fire-related damage.



There is less heat alteration in this chamber with unblackened areas and partially unaltered yellow pigment present.



Fragmentary survival of painting in chamber (E). Though the lower plaster survives, the upper painted layer has suffered much loss. Bats also appear to roost on the edges of surviving plaster on this wall leaving staining and a line of white crystalline material at the tops of walls (indicated by red arrow).



Rear wall of burial chamber (G) has salt accretions and there is almost no surviving decoration on this wall.



Detail of salt accretions on rear wall of burial chamber (G).



There are vulnerable, at risk areas of decoration in burial chamber (G). Edges of the painted plaster are not secured and the infill material behind the plaster is loose. Fallen fragments were noted during the assessment.



<u>General Tomb Information</u>		
Tomb number	QV 80	Location Main wadi, north side
Other naming systems	Hay of Linplum – 3 east; Wilkinson – 8; Champollion – 10; Lepsius – 7; Thomas – A	
Owner/ Attribution	Tuy (Mut-Tuy)	
Owner Status	Queen (King's Great Wife)	
Dynasty/ Reign	19 th Dynasty / Rameses II	
Typology [Leblanc 1989]	Type II (Chamber tomb)	
<u>Description</u>		
General Description	A multi-chambered tomb on a central axis, with lateral chambers (G) perpendicular to axis. Ramp (A) with a narrow slope in middle leads to antechamber (C) with small chambers (K and M) to each side, followed by steep ramp (E) to burial chamber (G). The burial chamber has four pillars and three smaller side chambers (O, I, Q). A pit in the center of the chamber (G) is for the sarcophagus.	
Decoration	Painted plaster with raised relief. Most decoration has been lost, but the surviving areas of painting are of high quality.	
Iconography	Surviving wall decoration is very limited. Some verses of the Book of the Dead and protective deities can be found. See Tomb Profile, Volume 1.	
<u>Objects and Current Contents</u>		
Objects recovered	Shattered granite sarcophagus on floor of burial chamber; lid of canopic jar in the form of the head of the queen (Luxor Museum); approx. 80 <i>ushabti</i> in glass-frit paste showing the queen in her mummified forms and with text referring to Chapter 6 of the Book of the Dead; fragments of ceramic receptacles and wine jars, one of which bears an inscription referring to a grape harvest of the year 22 providing a date for the death of the queen; an alabaster stopper; two coins of Augustus; an ostrakon dated to Ptolemy II and Ptolemy IV (Lecuyot 1999, 34).	
Removal or clearance of contents	Study materials cleared or recorded from QV 80 by CNRS and SCA in October 2008: over 100 baskets of pottery sherds, bone and skull fragments, stacks of mudbricks, and fragments of a shattered, granite sarcophagus on floor in center of burial chamber (G).	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Sources and Comments
19 th Dyn.	Tomb construction	
Third Intermediate Period	Reused and severely damaged in antiquity, possibly as late as Ptolemaic and Coptic periods	Lecuyot 1999, 34; 2000, 45; Aston 2003
1826	Research and documentation by Hay of Linplum	Leblanc 1989a, 25-38
1828	Research and documentation by Wilkinson	Leblanc 1989a, 25-38
1829	Research and documentation by Champollion	Leblanc 1989a, 25-38
1844	Research and documentation by Lepsius	Leblanc 1989a, 25-38

1854	Research and documentation by Brugsch	Leblanc 1989a, 25-38
1964	Research and documentation, brief History and description by Porter and Moss	Porter and Moss 1964, 769 (plan)
1966	Research and documentation by Thomas	Thomas 1966
1971-76	Archaeological clearing of tomb by CNRS-CEDAE	Leblanc 1989a, 45
1973 Mar, 1974 Apr	Photographic documentation by CEDAE	CEDAE
Unknown before 1974	Reconstruction of fired brick entrance jambs	CEDAE photos dated to April 1974
1981	Survey and measured drawings by TMP	TMP
1988	Survey and documentation by Laurent (CNRS)	CNRS
Between 1971-1981	Reconstruction of pillars in chamber (C) and installation door	Photographs; on-site inspection
Unknown	Shoring of antechamber and burial chamber	On-site inspection
Unknown	Storage of study materials	On-site inspection
Unknown	Microgravimetric survey with Electricite de France and CNRS	CNRS
2006-2009	GCI-SCA survey and condition assessment	GCI
2007	Mapping (H. Ruther, consultant) and digital CAD drawing of tomb from TMP survey by GCI	GCI
2008	GCI hydrologic and geologic preliminary assessment by Wüst (GCI consultant)	Wüst 2008, 63-67
Oct 2008	Removal of study materials by CNRS and SCA	GCI, CNRS
Jan 2009	Digital photographic documentation by CEDAE	CEDAE
Documentation and References		
Historic Photographs	-CEDAE photos # 22623-22643; 24357 – 24422 (Mar. 1973); 22809-22852 (Apr. 1974); -CNRS/CEDAE photos: Plates CCXII – CCXIV in Leblanc 1989a.	
References	-Aston 2003; -Dodson and Hilton 2004 -Hay MSS 19821; -Leblanc 1989; 1989a, 45; 1999 -Lecuyot 2000, 45; -Lepsius 1897-1913; -Porter and Moss 1926/64, 760, 769;	-Romano 1985, 72; -Schneider, 1977, 96-97; -Schumann Antelme, 1976, 28-31 -Siliotti and Leblanc 2002 -Thomas, 1966, 209, 214, 215, 217-8, 225; -Wüst 2008

QV 80 Queen Tuy

General Description

QV80, together with QV66 situated next to it, are the two largest tombs in Queens Valley, and have similar plans. QV80 is entered through a steep stepped ramp (A) covered by a modern masonry arch that leads down into antechamber (C). The entrance and first door (B) are partially rebuilt with fired brick and cement mortar, and five wooden posts and two beams have been installed to support the ceiling in the antechamber (C). Two lateral chambers (K) and (M) are situated on either side of (C). On axis with the tomb entrance, ramped corridor (E) leads to lower pillared burial chamber (G) with bench hewn from the rock wall. The four pillars were reconstructed sometime between 1974 and 1981 (based on CEDAE photographic evidence) using modern fired-brick. Two small side chambers (O) and (Q) are situated on either side of the southern end of chamber (G), and a niche (I) lies to the north, on axis.

The tomb is located on the north side of the wadi, in the middle part of the Valley, the surface of which is composed of a large colluvial debris fan. It is excavated into the upper part of Member I, which contains abundant salt minerals. A number of open joints and two fault planes in chambers (C) and (G) are present in the tomb, often filled by salt, that traverse the rock of the tomb from east to west. A large chert concretion present in the ceiling of chamber (G) adjacent to the NW pillar indicates a large fault zone.

The walls in the tomb are fairly flat as it was excavated out of compact marl and therefore little subsequent packing was required. However, the walls were roughly cut and still required a thick layer of plaster before the final decoration.

Areas of raised relief painted plaster survive throughout much of the tomb though only in a fragmentary state. These surviving areas have lost most of their paint layer and the surface is blackened from fire.

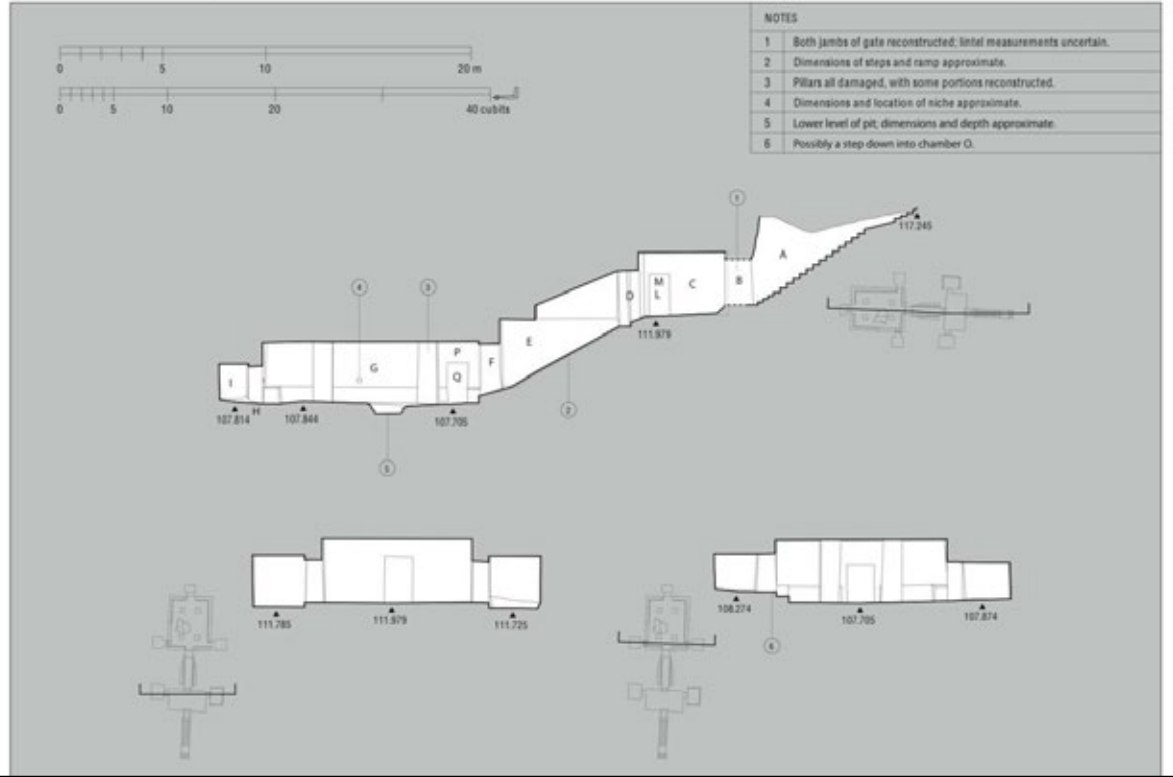


Approach to tomb and entrance ramp in 1974 (Image: CEDAE).

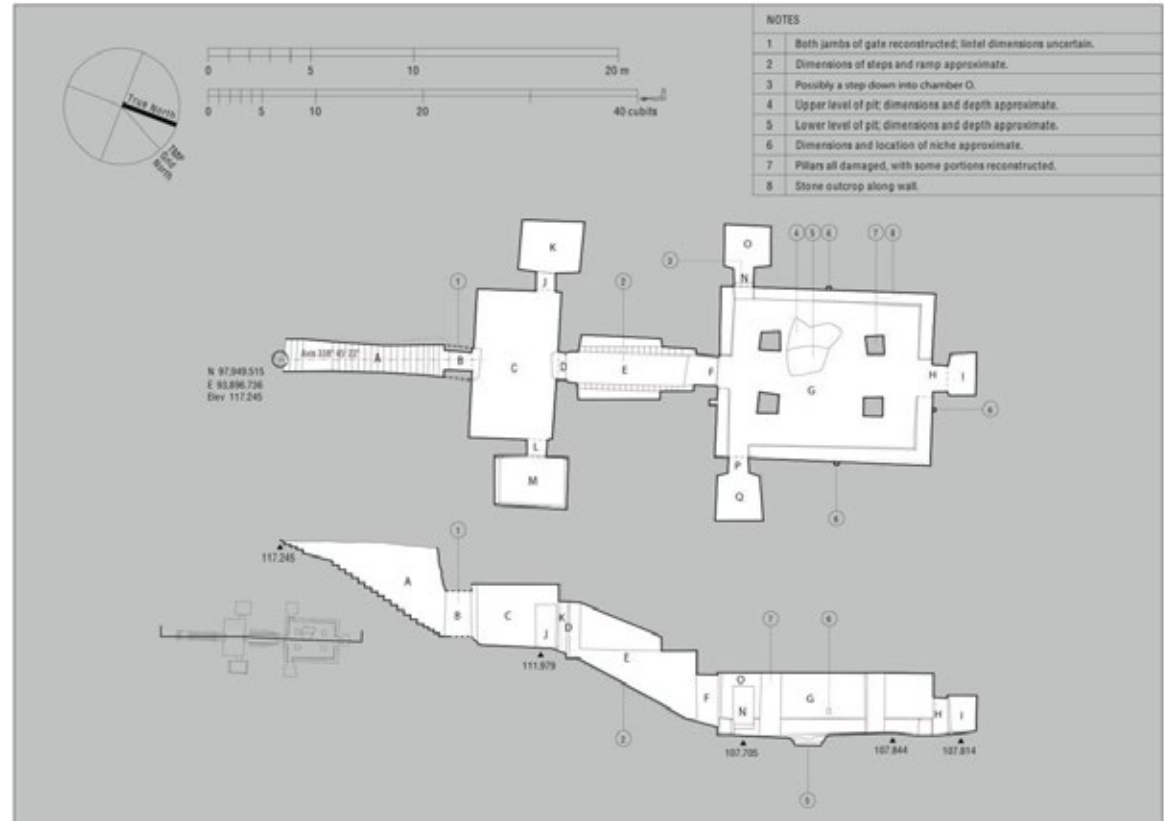


Arched cover and retaining walls on either side of entrance, with dry rubble wall at top of ramp as a barrier (later replaced by SCA with an iron gate).

Surveyed June 1-2, 1981. Drawn September 9, 2007.

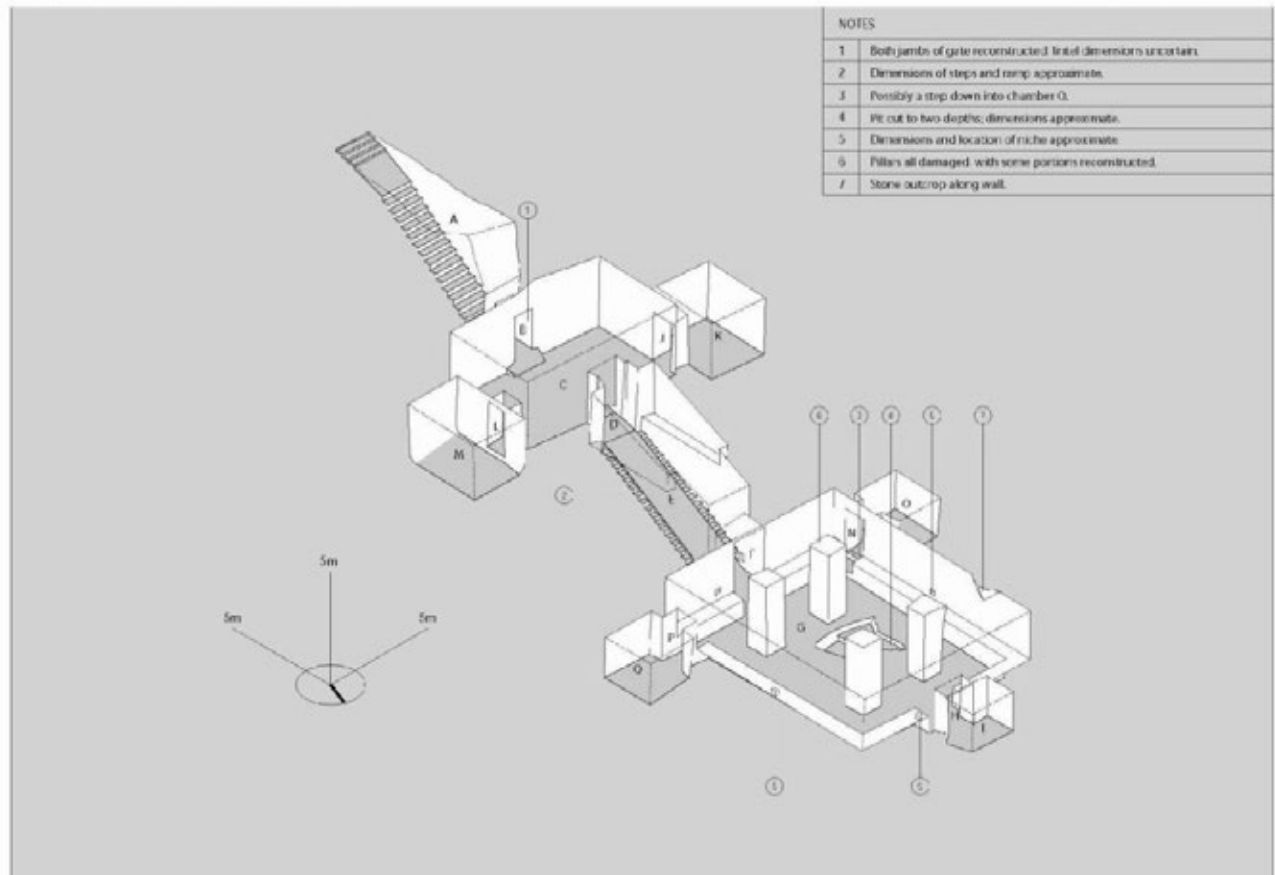


Surveyed June 1-2, 1981. Drawn September 9, 2007.

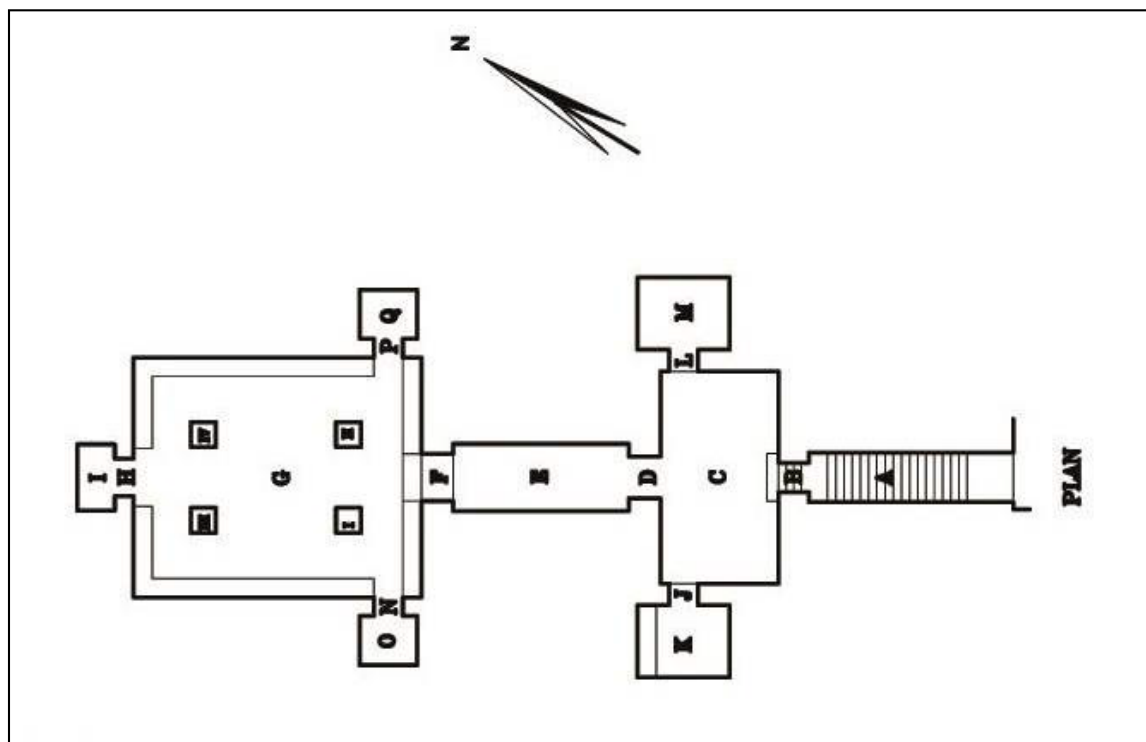


Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.

Surveyed June 1-2, 1981. Drawn October 14, 2007.



Drawing: Surveyed by TMP in 1981 and digital CAD drawings commissioned by GCI in 2007.



Drawing: CNRS

Although recorded by R. Hay of Linplum (1826) and K. R. Lepsius (1844), the tomb entrance was reburied by the time of E. Schiaparelli, and rediscovered and excavated by the Franco-Egyptian team in 1972-76. Many original pharaonic finds as well as vestiges of later occupation were recovered. E. Thomas relies on the notes of Hay and Lepsius for its description and probable location. Hay relates the form and layout of the tomb to those of KV and notes only parts of two figures in the "highest relief", which he says are of the best quality in the Valley. Hay also records the presence of plaster destroyed by fire, and the broken pillars, presumably in chamber (G).

Currently the tomb is not open to visitation. Substantial bat presence was noted and significant quantities of crystalline bat urine and bat feces have been observed and the resulting odor is strong. The tomb entrance is closed by a steel grid door covered with wire mesh that was covered with plastic sheeting by the SCA in November 2008 to prevent bats from entering during testing by the SCA Conservation Center methods of their removal (prior to this there was a small gap between the top of the door and the surround). There are also many insect nests covering the surfaces of the tomb.

Condition

Tomb rock is generally in good condition. Antechamber (C) has three major ceiling fractures and loss of rock in doorways (B) (D) (J) and (L). Fracturing is additionally present in the ceiling of side chambers (K) and (M), and in the ceiling of ramped corridor (E) and burial chamber (G), continuing to the east wall. There is little rock loss in the tomb in general except in doorways and the four pillars of the burial chamber, and immediately around the ceiling and wall fractures and faults, and none of it appears to be on-going.

Two principal fault zones are present in the tomb, one running laterally (east-west) in antechamber (C), and side chambers (K) and (M) where there is adjacent rock loss. The other fault zone is visible in the northwestern corner of the burial chamber (G), where the thick chert concretion is located. Extensive salt efflorescence and large crystal growth is present on the east wall of the burial chamber. Salt infill of fractures and faults is present throughout the tomb.

The survival of decoration is fragmentary. A large area of painting survives in antechamber (C) in the southeast corner where the lower half of the wall appears to have been protected from fire, perhaps from overplastering during later reuse of the tomb. There are traces of this overplastering still remaining on the surface, and only very small areas of paint are left. A small amount of plaster also survives on the upper areas of walls in this chamber but these areas are generally blackened and heat-damaged. The paintings in corridor (E) and burial chamber (G) have suffered severe fire damage. Only small patches of plaster survive where the paint layer has been essentially carbonized and the plaster layer is fractured from the heat. The side chambers have little surviving decoration, consisting mainly of fragments of lower, infill packing plaster, such as in the upper west side of chamber (K). Some decorated plaster survives in the east side of chamber (M). The wall paintings in QV 80 do not appear to have not been treated.

Previous interventions to stabilize the tomb include the erection in antechamber (C) of shoring to support the fractured ceiling rock. The shoring consists of two wooden horizontal beams, each supported by two wooden posts, and an additional fifth post in direct contact with the ceiling. The four pillars in burial chamber (G) were rebuilt using modern fired brick, and the axial door jambs (B), (D), and (F), have been similarly rebuilt, either partially or completely. Areas of wall rock loss adjacent to a door in chamber (C) were also filled. These rock stabilization interventions, both permanent and temporary, are in good condition. The ceiling of the entrance ramp (A) has also been rebuilt and an arched entrance cover, with retaining walls and stairway has been constructed.

Deterioration Factors

The tomb is cut into an area of rock with open joints and fault planes, often with salt infill. Additionally, widespread salt crystal growth is apparent on the rock surface along most of the east wall of chamber (G), indicating the high content of salts within the rock, mobilized by moisture, which continues to pose a threat to the stability of the rock through the expansion of fractures and faults where salts are present. The loss of rock in the doorways and the four pillars, also indicates that during the many decades that the tomb has been excavated, flooding has likely occurred, as these are the most exposed and fragile parts of the tomb structure.

Painting survives at the lower half of walls in the upper chambers of the tomb (C), (K) and (M), but a sediment line and the overall loss of decoration at the base of walls in the lower chambers suggest that the lower parts of the tomb have flooded in the past. CNRS photos from 1970s before clearing show extensive debris, presumably from flood.

The extensive loss of decoration, in most cases leaving the rock completely exposed, can be partially attributed to fire, partially to flooding in the lower parts of the tomb and to fracturing of the rock due to widening of joints filled with salt. Evidence of reuse in antiquity is also a principal reason for its poor condition.

General Recommendations

The existing shoring in antechamber (C) seems effective and stable but an assessment is needed to determine if these measures are sufficient to prevent ceiling rock loss.

The existing reconstruction of doorways and pillars is also effective and stable, and no further rock repairs are needed, with the possible exception of doorway (L).

Regular rock monitoring should be carried out to determine if there is continuing movement along the faults in the both chambers, and the ceiling fractures in the upper chamber.

Bats must be removed from the tomb and the door sealed to prevent further intrusions.

Because of the danger posed by the presence of salt in the tomb rock, flooding should be prevented by raising the level of the existing retaining wall adjacent to the entrance.

Stabilization of fragile areas of painted plaster is required to prevent further loss. Scope and nature of interventions will be quite wide ranging. The heat-altered condition of plaster may require stabilization treatments to be specifically formulated, trialed, and implemented.

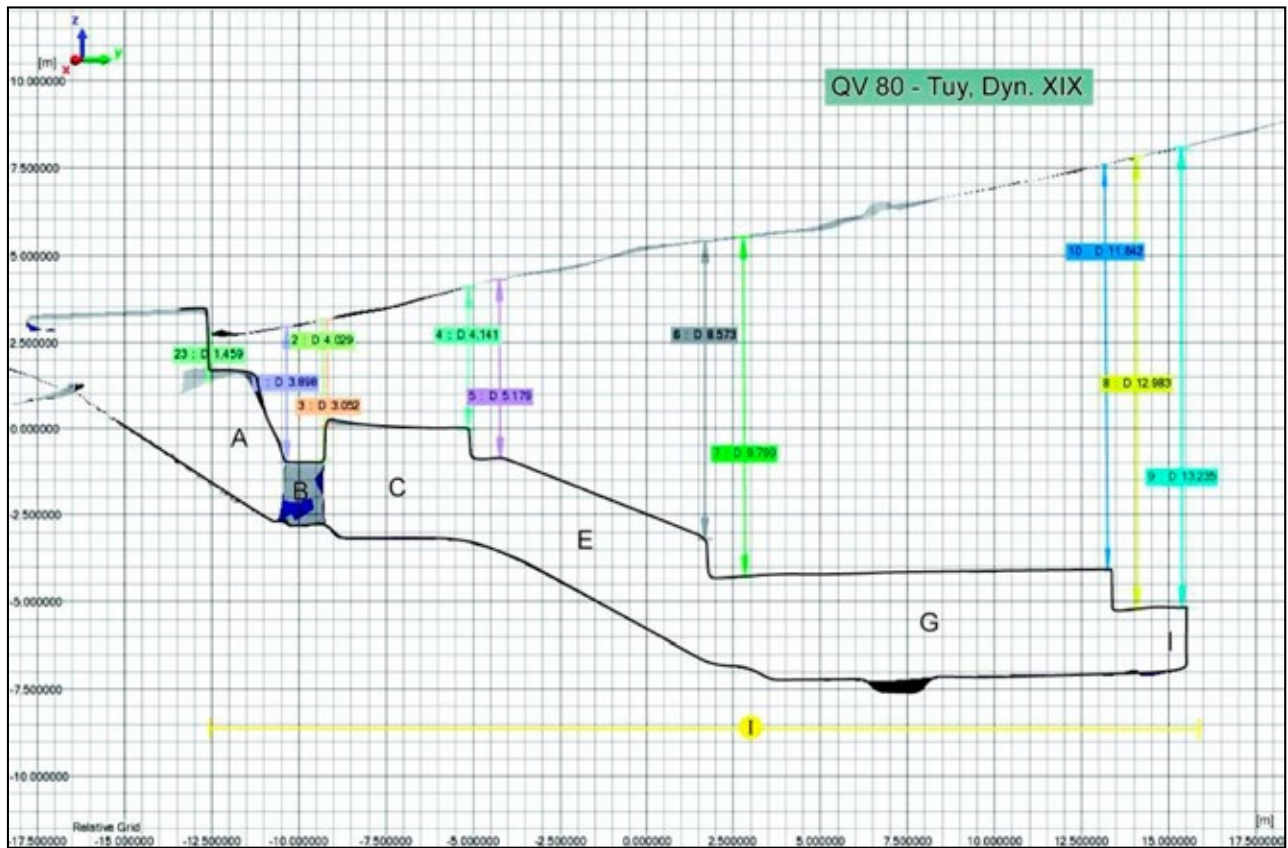
Visitor access to the entrance ramp should be prevented by the installation of a gate at the top. The current metal grill door covered with plastic sheeting at the bottom of the ramp should be replaced by a new grill door with intact mesh to permanently exclude bats and insects.



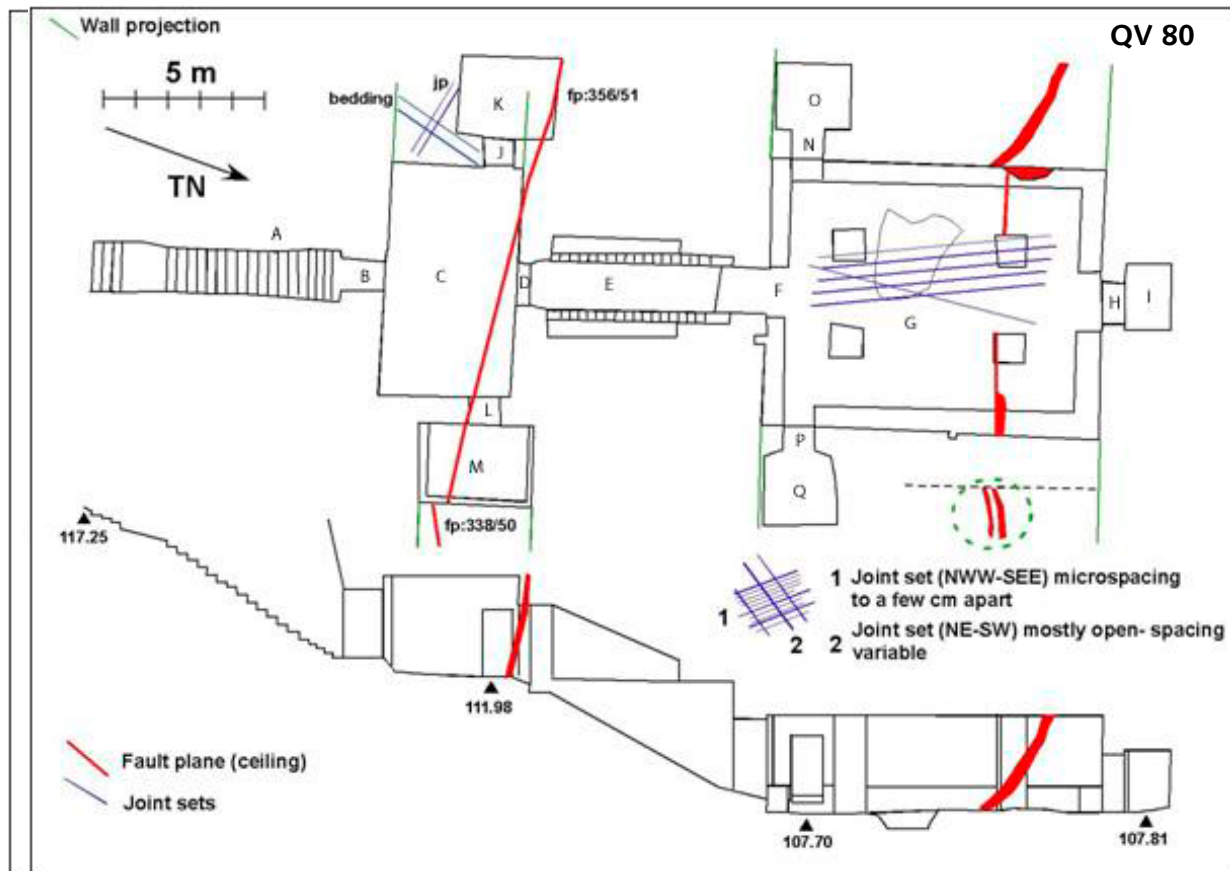
Reconstructed entrance and stepped ramp (A).



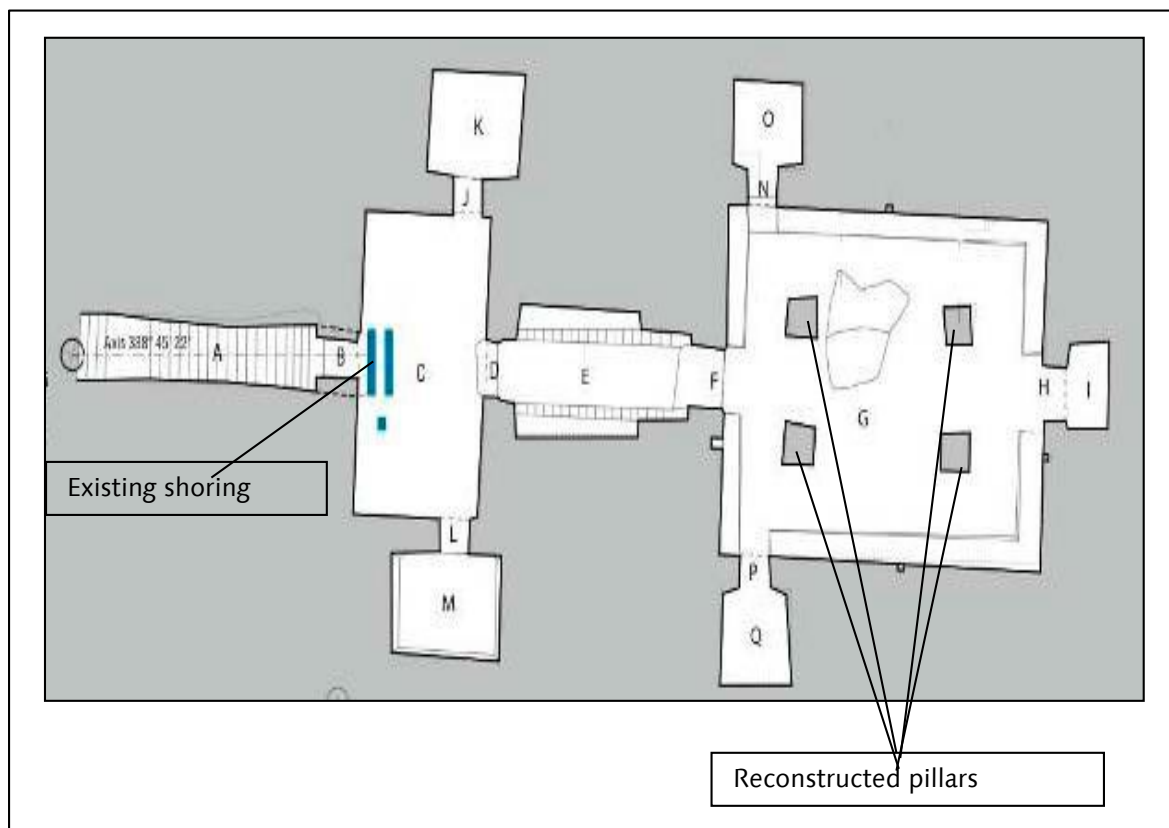
Ramp (A) after the archaeological clearing by CNRS-CEDAE in 1971-76 (Image: CNRS)



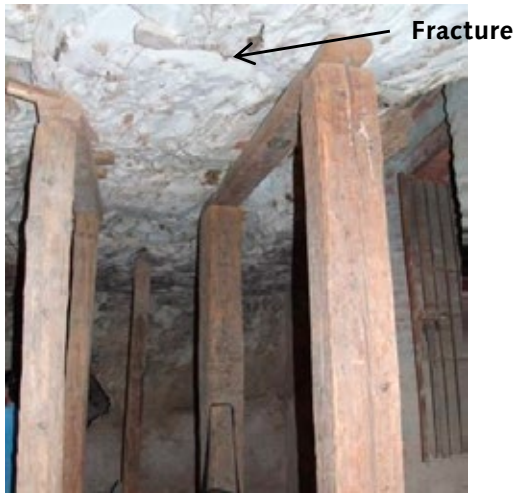
Overburden section showing that its thickness ranges from 3m above antechamber (C) to 13m above the burial chamber (G)



Geologic and structure analysis showing two major fault zones that traverse the tomb laterally, and two joint sets and their relationship to the bedding.



Location of shoring and reconstructed pillars in QV 80.



Shoring of ceiling in antechamber (C) with rock fracture.



Fault plane in ceiling of antechamber (C) continuing to doorway (L) with adjacent rock loss.



Shored ceiling area in antechamber (C) with fault to the left and fracture to the right.



Fracture in ceiling of antechamber (C).



Ramped corridor (E) showing carved ledges of side walls and areas of loss, and rebuilt doorway (F).



Corridor (E) before the clearing by CNRS-CEDAE in 1971-76 (Image: CNRS)



Reconstructed pillars in burial chamber (G) and door jambs of doorway (F) built using modern fired bricks.



Chamber (G) before clearing and reconstruction of pillars (Image: CNRS 1974)



Doorway (J) of side chamber (K). Some rock loss is visible.



NW pillar in chamber (G), showing surviving top of the rock pillar and reconstructed part below. Thick chert concretion on fire-blackened ceiling indicates major fault zone. Areas of plaster survive at tops of pillars and on ceiling.



Salt infill of fault zone in antechamber (C).



Substantial salt efflorescence and large crystal growth on east wall in chamber (G).



Bats were seen during the assessment and their urine and feces is clearly visible throughout the tomb.



Bats in chamber (K).



Red setting out lines are visible on the stone in burial chamber (E).



Chamber (C), southeast corner showing large area of surviving decorated plaster.



Detail of the decorated plaster from chamber (C) in 1974 photograph (Image: CEDAE).



East side of corridor (E). Lower parts of the walls were built up with rocks.



Surviving area of decoration in corridor (E).



Right upper side chamber (M): small fragments of painted plaster appear heat damaged; paint layer looks to have been carbonized. In some areas the upper plaster layer has been lost which could be due to the fire damage.



Upper parts of the walls in antechamber (C) have only small patches of surviving plaster that are blackened and heat damaged from fire.



Lots of insect nests cover the surfaces of the tomb.

QV 84, 85, 86 – Unfinished

General Description

All three of these tombs are very shallow and unfinished. They are attributed to the 20th Dynasty. QV 84 is located on south side of the north branch of the main wadi, between QV 50 and 51. West and south walls are partly cut. QV 85 is located between QV 51 and 52. Ramp walls (east and west) were cut with partially finished surfaces.

QV 86 is located northwest of QV 55 and just south of the ancient dam. Rock cut slopes toward the west. There is a shallow pit in the floor. Construction was stopped because of poor rock quality in the area (Leblanc 1989, 239).

Condition

South wall of QV 84 shows deterioration from weathering. Several engravings on the rock surface are observed.

Marl rock of QV 85 is weathered and exposed to rainfall. There are vertical fractures at south and north corners and an area of loss in the east wall of the ramp.

Marl rock surface is heavily weathered and fractured along joints at QV 86. Rock surface also presents damage due to exposure to water.

Deterioration Factors

Exposure to water and weathering damage and the poor quality of rock that the tombs are cut into largely contribute to their deterioration.

General Recommendations

It is recommended to leave them as they are, since they are only shallow trenches.



QV 84



QV 85



QV 86

TOMB INVENTORY

QV 95

<u>General Tomb Information</u>		
Tomb number	QV 95	Location Behind Deir er-Rumi, between Valley of the Rope and Valley of the Three Pits
Other naming systems	None	
Owner/ Attribution	Unknown	
Owner Status	N/A	
Dynasty/ Reign	20 th Dynasty / Unknown	
Typology [Leblanc 1989]	Type III (Chamber tomb)	
<u>Description</u>		
General Description	This unfinished tomb has a single long rectangular chamber with a deep side niche to the east, the end of which partially connects with the exterior, and with a shallower but wider niche in the west wall, and other smaller niches towards the rear of the chamber.	
Decoration	No decoration but <i>mouna</i> plaster is extant in small areas of walls	
Iconography	N/A	
<u>Objects and current contents</u>		
Removal or clearance of contents	Study materials cleared or recorded from QV 31 by CNRS and SCA in October 2008: 31 crates of bones, linen, plaster fragments, wood and pottery	
<u>History of Use, Events, Research and Interventions</u>		
Date	Use, Events, Research and Interventions	Source and Comments
20 th Dyn.	Tomb construction, left unfinished	
Roman Period	Reused and niches were excavated to accommodate figurines	Lecuyot and Gabolde 1998
Coptic Period	Reused as a meditation space	Lecuyot and Gabolde 1998
1906 (?)	Schiaparelli cleared and recorded the tomb.	Schiaparelli 1923-1927, 126, 42 and fig 39, cf. NS 35f; Thomas 1966, 183
1927	Winlock visited and noted about the tomb	Winlock 1926, 7-8
1965	Miss Needler examined the tomb and Deir er-Rumi for Thomas which includes a plan	Thomas 1966, 183
Unknown before 1968	Door installation	GMT vol. I-4
1988	Research and documentation by CEDAE-CNRS	CNRS
Unknown (still in use as of 2009)	Used as storage for artifacts recovered at Deir er- Rumi and other parts of QV	On-site inspection
<u>Documentation and References</u>		
Historic Photographs	Derchain 1959, 22	
References	-Derchain 1959 -Lecuyot and Gabolde 1998, 663 -Schiaparelli 1923-1927, 126;	-Thomas 1966, 183-184 - Winlock 1926, 7-8;

QV 95

Anonymous

General Description

This tomb has a single long rectangular chamber with a deep side niche to the east, the end of which partially connects with the exterior, and with a shallower but wider niche in the west wall, and other smaller niches towards the rear of the chamber.

On the west wall of the chamber in the side niche are very localized remains of wall plaster which appear to be made of earth and straw, referred to as *mouna* in descriptions of adjacent parts of the Deir er Rumi site, and is associated with the Coptic use of the Queens Valley. The presence of the plaster within the tomb has not been described in written sources and presumably dates from the Coptic period of re-use of the tomb when the area in front of the tomb entrance was the site of a Coptic church and monastery, Deir er-Rumi.

The tomb is cut into highly jointed, fractured, and inclined marl beds. A marl layer, 1.5m thick, runs laterally (E-W) and diagonally through the tomb, and shows evidence of deformation due to geologic block rotation. This layer is visible on the very steep exterior slope surface immediately above the tomb doorway. Between the shale and marl layer below is a 1-2 cm thick layer of anhydrite fill. The side niche is cut out of the layer of marl.

The tomb was recorded by the Italian mission in 1906 and most recently cleared by the Franco-Egyptian team. According to Lecuyot, the tomb was probably unfinished and belongs to the 20th dynasty and originally had four niches on each side of the rectangular chamber. It was later reused when the area in front of the tomb was constructed first as a Roman sanctuary and then as a Coptic monastery

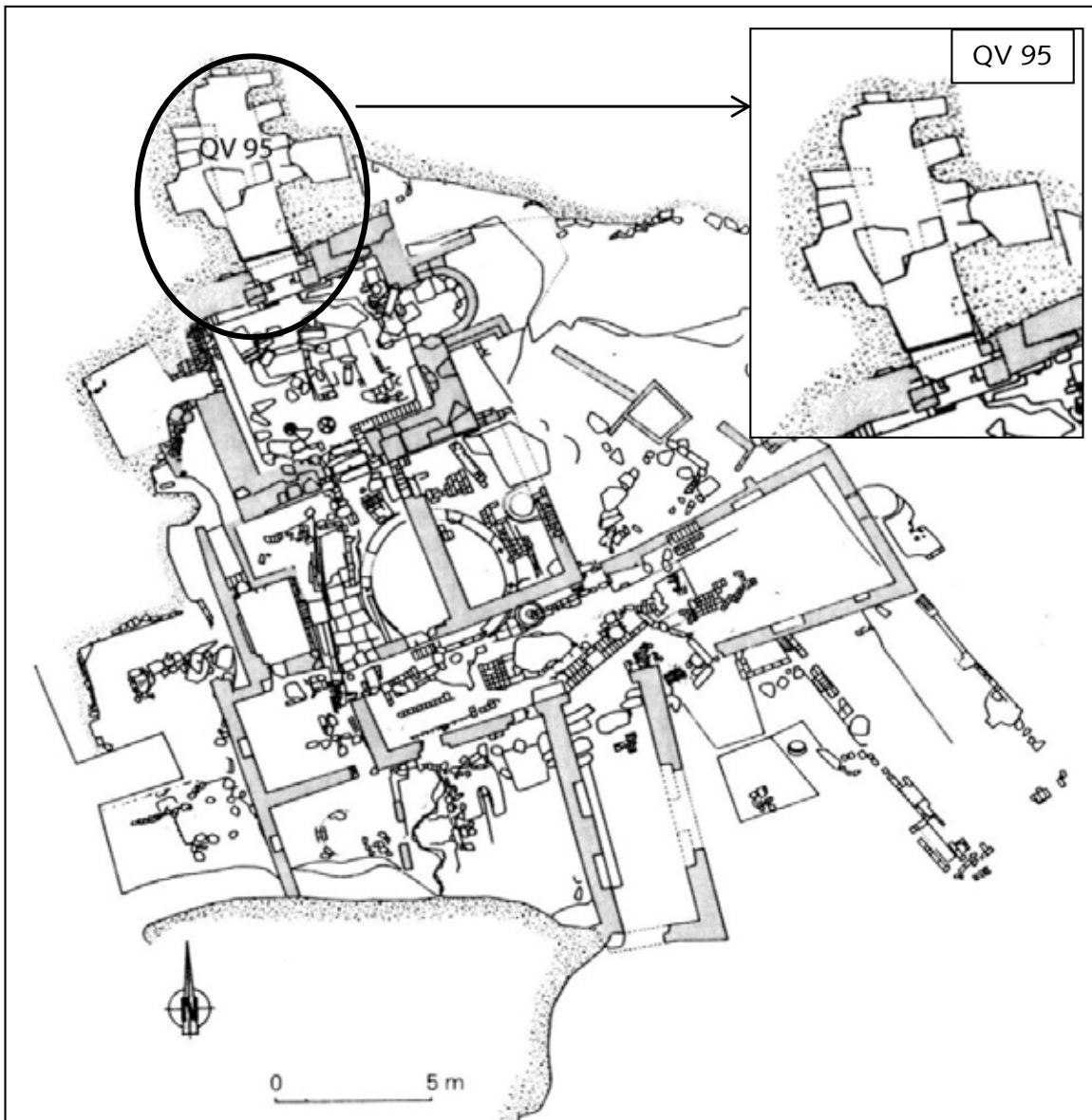
The tomb is currently not open to the public and is closed by a metal grill door. It is used as storage for artefacts from the monastery. There is evidence of insect (wasp) and bird nesting and bat roosting in the tomb.



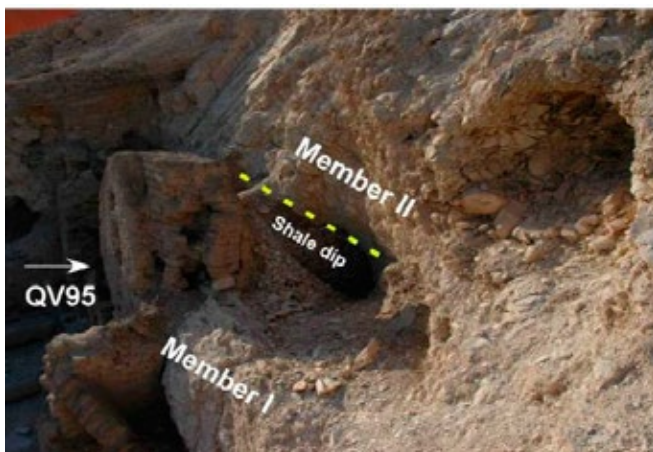
Tomb entrance, as part of Deir er Rumi.



Tomb interior, seen from entrance.



Plan of Deir er-Rumi and QV 95 (CNRS; after Pezin and Lecuyot 2007)



Geological stratigraphy of tomb exterior.

Condition

The highly fractured and heavily jointed marl layers present areas of localized loss in the walls and ceiling, particularly on the east side of the chamber at the corner of the niche to the east. There is a wide vertical crack running through the east and west walls of the chamber, but wall plaster remains are located over it on the west wall, so it appears to be stable.

The presence of a layer of marl running through the tomb and on the surface of the rock slope above the tomb door does not currently pose a structural threat to the tomb, but it could in the future due to its weaker, more clay-rich nature, if exposed to water. The rock surrounding the tomb door presents areas of loss in the lower half on the east side, and is highly fractured on the west side.

Salt efflorescence is present on rock surfaces and along fractures of the bedrock, and are also potential sources of rock damage in the future if exposed to water.

The small fragments of wall plaster in the west niche present areas of detachment, particularly along the edges. There are signs of flood debris on the floor. The walls and ceiling are covered with black deposits presumably due to fires, and urine deposits are found on the rock ceiling and wall surfaces as well, due to the prior habitation by bats. Bird nesting and dropping in the tomb is ongoing.

Deterioration Factors

Highly fractured rock and areas of loss in the tomb are due largely to the inherent clay-rich qualities of the rock, and the paucity of the wall plaster remains is due to its fragile nature and possibly the reuse of the tomb, including present use for storage, although it is not known what the plaster's original extent was within the tomb. We also don't know to what extent the space was plastered. The presence of flood debris indicates that water has also been a cause of fracturing of internal rock.

General Recommendations

The hole in the bedrock of the east niche, currently plugged with dry-laid fired brick to prevent unauthorized entrance in the tomb, should be sealed to prevent rain water from entering the tomb as well. This could be done with mortared limestone masonry in place of the fired bricks.

The remains of the earth plaster should be stabilized with edging repairs and grouting as needed.

The marl layer present on the rock slope surface above the tomb entrance should also be sealed to prevent rain water exposure. This could be done with a covering layer of mortar or with the insertion of an impermeable membrane over it.

The rock cut doorway should be stabilized with masonry infilling of areas of loss.

The steel screened door of the tomb should be sealed in order to prevent birds and bats from entering, and if the tomb needs to be used for storage in the future it should be done in a more organized fashion to avoid mechanical loss of wall surfaces.



Overview of geology in tomb interior.



Extant plaster on west wall.

Fractured marl inside tomb, above entrance.



Fractured rock in main chamber

Side niche cut from shale with opening blocked with fired brick.

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The Valley of the Queens Project is a collaboration of the Supreme Council of Antiquities and the Getty Conservation Institute from 2006–2011. The project involved comprehensive research, planning and assessment culminating in the development of detailed plans for conservation and management of the site. Volume 1 of the report records the research and assessment undertaken for these aspects.

Volume 2 of the report is the condition summary of the 111 tombs from the 18th, 19th, and 20th Dynasties in the Valley of the Queens. This includes a summary of tomb architectural development, the geological and hydrological context, wall painting technique and condition assessment of the paintings and structural stability of the tombs.