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**Archeological Remains in
Wadi El Gemal-Hamata**



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1 Introduction Archeological surveys and excavations conducted/directed since 1991 by the author and colleagues in and on the immediate periphery of the region designated the Wadi El Gemal-Hamata Protected Area have recorded 38 sites ranging in date from Ptolemaic (late fourth/early third century BC) to Islamic. The sites include road stations, some of which are fortified wells (known to the Greeks and Romans as *hydreumata*) along the trans-desert routes between Berenike and Edfu/Koptos and along the Via Hadriana, a highway built in the second century AD and used until late antiquity and which, in the area under consideration here, ran parallel to the Red Sea coast.

The Via Hadriana originally extended from Antinoë/Antinoopolis on the Nile in Middle Egypt near modern Sheikh Ibada over to the coast near Ras Gharib and then paralleled the coast terminating at Berenike. There are also gold and beryl/emerald mines and associated settlements, animal tethering lines (used by crews that resupplied and carried quarry/mine products between the Eastern Desert and the Nile), cemeteries and late Roman sites (fourth-early sixth century AD) of unknown function. The latter may be Christian *laura* communities.

This list does not claim to be exhaustive; continued surveying of the region will undoubtedly reveal the existence of other ancient remains. Also not included in this study are the numerous secondary and minor ancient roads, routes and paths, and isolated graves and tombs in singles or small clusters that have been found throughout the region. For an earlier map locating some of the ancient sites discussed in this report see: D. Meredith, *Tabula Imperii Romani Sheet N.G. 36 Coptos* (Oxford: The Society of Antiquaries of London, 1958). This map is now quite dated. More recently see J. Keenan, S.E. Sidebotham and T. Wilfong, "Map Sheet 80" in R.J.A. Talbert, ed., *Barrington Atlas of the Greek and Roman World* (Princeton: Princeton University Press, 2000) and the corresponding *Map-by-Map Directory* vol. II, pp. 1170-1180. The author and his field teams have documented numbers of additional sites in the Eastern Desert, including in the

2 Current State of Knowledge (Annotated Bibliography)

Wadi El Gemal-Hamata Protected Area, since the publication of this atlas.

2.1 Ancient Sources

Pre-"classical" (prior to the late fourth century BC) and Islamic authors recorded their observations about the area under study. As a "classical" (Greco-Roman) specialist, the author cannot comment upon those. Ancient "classical" authors also discuss the region. These include Agatharchides, *On the Erythraean Sea*, who wrote in the second century BC using mainly third century BC sources. Strabo (*Geography*), in the last decades of the first century BC and the early decades of the first century AD, wrote about the region (especially the beryl/emerald mines and trans-desert roads). Pliny the Younger (*Natural History*) in the 70s AD also recorded the trans-desert roads and beryl/emerald mines. The mid-second century AD geographer Claudius Ptolemy (*Geography*) also referred to the beryl/emerald mines of Mons Smaragdus. The fourth century AD monk Epiphanius (*De Gemmis*), the fifth century AD Theban (Thebes in Upper Egypt) writer Olympiodorus (*History*) and the sixth century AD monk Cosmas Indicopleustes (*Christian Topography*)

also discussed the beryl/emerald mines of the Mons Smaragdus region (within the Wadi El Gemal-Hamata Protected Area). In general for the ancient classical authors dealing with Egypt see J. Ball, *Egypt in the Classical Geographers* (Cairo: Government Press, Bulaq, 1942).

An inscription written in Greek from the Roman period found at the hard stone quarry in Wadi Umm Wikala (at 26° 26.0' N/33° 39.60' E, well north of the Wadi El Gemal-Hamata Protected Area) and dated 10/11 AD also refers to an official (*archimetallarchos*) that oversaw activities at the beryl emerald mines (undoubtedly those in the Sekeit-Zabara-Nugrus region)[cf. S.E. Sidebotham, H. Barnard, J.A. Harrell and R.S. Tomber, "The Roman Quarry and Installations in Wadi Umm Wikala and Wadi Semna," *Journal of Egyptian Archaeology* vol. 87 (2001): pp. 138-141.].

2.2 Medieval Arab Sources

As mentioned above, the author is neither an Egyptologist nor an Islamicist. A brief overview, however, of medieval Arab sources on the beryl/emerald mines appears in J.H. Krammers and G. Weit, *Ibn Hauqal Configuration de la Terre (Kitab Surat al-Ard)*, Vol. 1 (Collection UNESCO d'oeuvres représentatives série arab)(Beirut: Commission internationale pour la traduction des chefs-d'oeuvre/Paris: G.-P. Maisonneuve & Larose, 1964): 147. E.W. Hume, *Geology of Egypt* Vol. II. *The Fundamental Pre-Cambrian Rocks of Egypt and the Sudan; their Distribution, Age and Character*, Part 1. *The Metamorphic Rocks* (Cairo: Government Press, 1934) also discusses Arabic sources dealing with the mines.

2.3 Nineteenth and Early Twentieth Century Sources

The bulk of the modern explorers, travelers and academics who studied the region concentrated upon the beryl/emerald mines and the main ancient roads (especially the Berenike-Edfu/Koptos routes). James Bruce, *Travels Between the Years 1765 and 1773, Through Part of Africa, Syria, Egypt, and Arabia into Abyssinia, to Discover the Source of the Nile* (London: J. and J. Cundee, 1812) alluded to the beryl/emerald mines, but he most likely never visited them personally. J. Cailliaud, in the employ of Mohammed Ali Pasha, was one of a number of Europeans working for that Egyptian ruler in the early nineteenth century. Cailliaud was the first "Westerner" to "rediscover" the beryl/emerald mines at Sekeit in November 1817 and noted this in his book *Voyage à l'oasis de Thèbes et dans les déserts de la Thébaïde* (Paris: Imprimerie royal, 1821). G. Belzoni visited the mines shortly thereafter [see his *Voyages en Égypte* (Paris: Galignani, 1822)]. N. L'Hôte, *Lettres écrites d'Égypte en 1838 et 1839* (Paris: F. Didot, 1840) published information on Sekeit. The Italian traveler G.B. Brocchi, *Giornale delle osservazioni fatte ne' viaggi in Egitto, nella Siria e nella Nubia*, vol. 2 (Bassano: Presso A. Roberti Tip. ed Editore, 1841) also wrote about the beryl/emerald mines. A.J. Letronne, *Recueil des inscriptions grecques et latines de l'Égypte* Vol. I (Paris: Imprimerie royal, 1842) published a drawing of the inscription on the small rock-cut temple of Serapis-Isis-Apollo at Sekeit and G. Forni, *Viaggio nell'Egitto e nell'alta Nubia*, vol. 2 (Milan: Tipografia di Domenico Salvi e. Comp., 1859) preserved a lengthy description of Sekeit. A. Bernand, *Pan du désert* (Leiden: Brill, 1977): pp. 167-177

(inscription no. 69) has a long discussion, text, and translation with relevant bibliography of the inscription on the small rock-cut temple at Sekeit.

Other travelers followed and were equally fascinated with the beryl/emerald mines in the region. Some were casual observers like J.G. Wilkinson, *A Handbook for Travellers in Egypt* (London: John Murray, 1847) while others were more academically/ scientifically inclined. This latter group included: O. Schneider, "Der aegyptische Smaragd," *Zeitschrift für Ethnologie* vol. 24 (1892); E.A. Floyer, *Étude sur le Nord-Etbai entre le Nil et la mer rouge* (Cairo: Imprimerie nationale, 1893) and his "Further routes in the Eastern Desert of Egypt," *The Geographical Journal* vol. 1 (1893). D.A. MacAlister, "The emerald mines of Northern Etbai," *The Geographical Journal* vol. 16 (July-December 1900) produced the first general map of the Sekeit-Nugrus area. Following these were a number of scientific publications especially on the beryl/emerald mines. These included E.S. Thomas, "The mineral industry of Egypt. Precious stones: Emeralds," *Cairo Scientific Journal* vol. 3 (1909). More general works on the geology of this portion of Egypt also contain descriptions of the beryl/emerald mines: E.W. Hume, "A Preliminary Report on the Geology of the Eastern Desert of Egypt, between Latitudes 22° N and 25° N," *Egypt, Survey Department, Cairo Paper no. 1* (1907) and J. Ball, *The Geography and Geology of South-Eastern Egypt* (Cairo: Government Press, 1912); K. Fitzler, *Steinbrüche und Bergwerke im ptolemäischen und römischen Ägypten ein Beitrag zur antiken Wirtschaftsgeschichte* (Leipzig: Verlag von Quelle & Meyer, 1910). See also L.P. Kirwan, "Studies in the Later History of Nubia," *Liverpool Annals of Archaeology and Anthropology* vol. 24, 1 and 2 (1937).

More purely historical analysis in the Roman period of both the mines and roads in the region and the Roman military's involvement can be found in J. Lesquier, *L'Armée romaine d'Égypte d'Auguste à Dioclétien* (Cairo: Institut français d'Archéologie orientale du Caire, 1918); G.W. Murray, "The Roman Roads and Stations in the Eastern Desert of Egypt," *Journal of Egyptian Archaeology* vol. 11 (1925) and E.W. Hume (noted above under Medieval Arab Sources).

Later scientific analysis on the beryls/emeralds from the area can be found in A. Stella, "Contributo alla conoscenza dei giacimenti di berillo dell'alto Egitto," *Bolletino della Società geologica italiana* vol. 53 (1934) and M. Ismalun, "Émeraude et Bérils," *Bulletin de la Société royale de Géographie d'Égypte* vol. 21 (1943).

D. Meredith, a prolific writer in the 1950s on the Eastern Desert, published "The Roman Remains in the Eastern Desert of Egypt (continued)," *Journal of Egyptian Archaeology* vol. 39 (1953) which dealt mainly with the ancient roads and stations, but also fleetingly with the beryl/emerald mines. One should also note Abdel-Fattah Weheba, M. Riad and M.M.A. Setha, *South-East Egypt (Geographical Essays)* (Beirut: Beirut Arab University, 1974).

For synopses of the beryl/emerald mines see A. Lucas and J.R. Harris, *Ancient Egyptian Materials and Industries*, 4th reprint ed. (London: Histories and Mysteries of Man, 1989) and especially J. Sinkankas, *Emerald and Other Beryls* (Prescott, Arizona: Geoscience Press, 1989) and see also the entry "Smaragdus Mons," in *Paulys Realencyclopädie der classischen Altertumswissenschaften*.

Not much archeological work took place in the Eastern Desert, especially in the region under consideration here, between World War II and the late 1970s/early 1980s. See, however, G.W. Murray, *Dare Me to the Desert* (South Brunswick & New York: A.S. Barnes and Company, 1967/68); Murray conducted the bulk of his fieldwork between World War I and World War II.

For overviews of survey work conducted by our teams along the ancient roads between Berenike and the Nile at Edfu and Koptos see S.E. Sidebotham and R.E. Zitterkopf, "Routes Through the Eastern Desert of Egypt," *Expedition* vol. 37,2 (1995); S.E. Sidebotham, "Caravans Across the Eastern Desert of Egypt: Recent Discoveries on the Berenike-Apollinopolis Magna-Coptos Roads," in A. Avanzinni, ed., *I Profumi d' Arabia Atti del Convegno (Saggi di Storia antica* vol. 11); S.E. Sidebotham, "Overview of Archeological work in the Eastern Desert and Along the Red Sea Coast of Egypt by the University of Delaware-Leiden University, 1987-1995," *Topoi* 6,2 (1996); S.E. Sidebotham, R.E. Zitterkopf and C.C. Helms, "Survey of the Via Hadriana: The 1998 Season," *Journal of the American Research Center in Egypt* vol. 37 (2000); S.E. Sidebotham, "From Berenike to Koptos: Recent Results of the Desert Route Survey," *Topoi* supplement 3 (2002); S.E. Sidebotham, "Ptolemaic and Roman Water Resources and their Management in the Eastern Desert of Egypt," in M. Liverani, ed., *Arid Lands in Roman Times. Proceedings of a Conference held in Rome 9-11 July 2001*, forthcoming.

It should be noted that these ancient roads were not paved (in a manner as, for example, the Via Appia in Italy or the Via Egnatia in Greece), but were merely cleared of surface detritus, which was then formed into windrows along the borders of the thoroughfares. Cairns of piled stones marked the courses of the roads and, occasionally, signal towers also appeared along the routes [cf. S.E. Sidebotham and R.E. Zitterkopf, "Survey of the Via Hadriana: The 1996 Season," *Bulletin de l'Institut français d'Archéologie orientale* 97 (1997) and Sidebotham and Zitterkopf, "Survey of the Via Hadriana: The 1997 Season," *Bulletin de l'Institut français d'Archéologie orientale* 98 (1998) for illustrations of these typical Eastern Desert roads]. Interestingly, no milestones, so typical of Roman roads throughout the rest of the empire, have been found in the Eastern Desert (except, perhaps, two or three in Nubia and Lower Egypt)[cf. J.J. Hester, P.M. Hobler and J. Russell, "New Evidence of Early Roads in Nubia," *American Journal of Archaeology* 74,4 (1970: 385-389; Cf. *Corpus Inscriptionum Latinarum* III Supplement 6633, 14148(2), 14148(3); also U. Monneret de Villard, *La Nubia romana (Pubblicazioni dell'Istituto per l'Oriente)*(Rome: Istituto per l'Oriente, 1941): 34].

For recent archeological work at the beryl/emerald mines see I. Shaw, J. Bunbury and R. Jameson, "Emerald mining in Roman and Byzantine Egypt," *Journal of Roman Archaeology* vol. 12 (1999), but this article should be used with great caution as it is replete with errors. See also the entry by I. Shaw, "Sekeit-Zubara," in K.A. Bard, ed., *Encyclopedia of the Archaeology of Ancient Egypt* (London-New York: Routledge, 1999). For the beryl/emerald mines see also E. Stokstad, "Geology: Discovering the Original Emerald Cities," *Science* (January 28, 2000). For a chemical analysis of the beryls/emeralds see G. Giuliani, *et al.*, "Oxygen Isotopes and Emerald Trade Routes Since Antiquity," *Science* (January 28, 2000). For work conducted by our group at the beryl/emerald mining settlement at Sekeit see J.-L. Rivard, B.C. Foster and S.E. Sidebotham, "Emerald City," *Archaeology* vol. 55,3 (May/June, 2002) and B.C. Foster, J.-

L. Rivard, S.E. Sidebotham and H. Cuvigny, "Survey of the Emerald Mines at Wadi Sekeit 2000/2001 Seasons," in S.E. Sidebotham and W.Z. Wendrich, eds., contributors, *Berenike 1999-2000. Report of the 1999-2000 Excavations at Berenike (Egyptian Red Sea Coast) and the Survey of the Eastern Desert, including Excavations in Wadi Kalalat and Siket* (Los Angeles: Cotsen Institute of Archaeology, 2003), forthcoming. Our team conducted excavations at and surveys in the region of the beryl/emerald mining city at Sekeit in May-June 2002 and December 2002-February 2003.

More specifically for an overview of the ancient and early Islamic gold mines in the Eastern Desert see R. Klemm and D.D. Klemm, "Chronologischer Abriß der antiken Goldgewinnung in der Ostwüste Ägyptens," *Mitteilungen des deutschen Archäologischen Instituts Abteilung Kairo* vol. 50 (1994). There are many errors in the maps in this article and the dates for activities at the sites that the Klemms provide are not reliable in many cases. Most recently see D.D. Klemm and R. Klemm, "Ancient Gold Mining in the Eastern Desert of Egypt and the Nubian Desert of Sudan," in R. Freedman, ed., *Egypt and Nubia Gifts of the Desert* (London: The British Museum Press, 2002). Limited excavations have been conducted at a late Roman gold mining settlement, that at Bir Umm Fawakhir, but this site is along the paved road between Quseir and Quft, well north and outside of the Wadi El Gemal-Hamata Protected Area (cf. numerous publications on the gold mines and settlement at Bir Umm Fawakhir by C. Meyer. A recent discussion can be found in C. Meyer, L.A. Heidorn, W.E. Kaegi and T. Wilfong, *Bir Umm Fawakhir Survey Project 1993. A Byzantine Gold-Mining Town in Egypt* (Oriental Institute Communications no. 28)(Chicago: The Oriental Institute of the University of Chicago, 2000). Also, see D. Klemm, R. Klemm and A. Murr, *Gold of the Pharaohs-6000 years of gold mining in Egypt and Nubia*, *Journal of African Earth Sciences* 33(2001): pp. 643-659.

3 Tables

3.1 TABLE I: Description of Sites in and around Wadi El Gemal Protected Area

List of sites in and on the periphery of the Wadi El Gemal-Hamata Protected Area including modern/ancient name (where known), period of use, GPS coordinates and brief description

Numbers in brackets beneath site name indicates corresponding photo numbers, in section six of this report.

MODERN NAME	ANCIENT NAME	PERIOD	GPS COORDINATES	BRIEF DESCRIPTION
Dweig (1-2)	Falacro	Early Roman	24° 44.15' N/ 34° 25.57' E	Road station near juncture of ancient Berenike-Edfu and Berenike-Koptos roads

MODERN NAME	ANCIENT NAME	PERIOD	GPS COORDINATES	BRIEF DESCRIPTION
Umm Qariyeh/Umm Ushra (3-5)	unknown	Early Roman and probably Ptolemaic	24° 40.56' N/ 34° 32.61' E	Road station on ancient Berenike-Edfu/Koptos road
Wadi Gemal (6)	Apollonos	First-sixth c. AD	24° 32.11' N/ 34° 44.15' E	Major fort on ancient route from Berenike to Nile (at Edfu and Koptos)
Between Wadi Gemal and Gelli/Wadi Gemal South	unknown	Early and late Roman	24° 31.42' N/ 34° 44.20' E	Cemetery probably serving both Wadi Gemal and Gelli/Wadi Gemal South
Gelli/Wadi Gemal South (7)	unknown	First-second and fifth c. AD on & Islamic	24° 31.25' N/ 34° 44.41' E	Major settlement of unknown function a few km south of Apollonos
Sekeit* (8-33)	Senskis/Sensket e	First-fifth c. AD & possibly Ptolemaic	24° 37.95' N/ 34° 47.73' E	Major beryl/emerald mining settlement
Middle Sekeit* (34-38)	unknown	First-second and fourth c. AD	24° 39.45' N/ 34° 48.30' E	Beryl/emerald mining center
North Sekeit* (39)	unknown	Fifth-sixth c. AD	24° 39.84' N/ 34° 47.50' E	Beryl/emerald mining settlement
Umm Hieran	unknown	Late fourth-early sixth c. AD	24° 34.64' N/ 34° 51.67' E	About 190 structure site of unknown function, perhaps a Christian <i>laura</i> community
Umm Harba* (40-44)	unknown	Early and late Roman	24° 38.53' N/ 34° 49.59' E	Beryl/emerald mining settlement
Kab Marfu'a/Wadi Gemal North (45-47)	unknown	First/second-fourth/fifth c. AD	24° 32.61' N/ 34° 44.22' E	Perhaps beryl/emerald processing center
Nugrus* (48-56)]	unknown	Early and late Roman	24° 37.19' N/ 34° 46.39' E	Major beryl/emerald mining settlement
Nugrus West	unknown	Late fourth-early sixth c. AD	24° 37.14' N/ 34° 46.04' E	About 70-80 structures of unknown function, possibly a Christian <i>laura</i> community
Abu Rushaid*	unknown	Early Roman	24° 38.33' N/ 34° 45.88' E	Beryl/emerald mining settlement
Umm Kabu*	unknown	Early Roman on, perhaps Ptolemaic	24° 35.35' N/ 34° 53.57' E	Beryl/emerald mining site
Gebel Zabara* (57)	unknown	Roman & Islamic	24° 46.27' N/ 34° 43.08' E	Beryl/emerald mining settlement

MODERN NAME	ANCIENT NAME	PERIOD	GPS COORDINATES	BRIEF DESCRIPTION
Wadi Duba’*	unknown	Late first c. BC to early first c. AD	24° 34.65’ N/ 34° 53.93’ E	Beryl/emerald mining settlement and modern reworking
Abu Hegilig North	unknown	Late fourth to sixth c. AD	24° 25.22’ N/ 34° 55.46’ E	Road station on ancient route from Berenike to Nile (at Edfu/Koptos)
Abu Hegilig South (58-59)	unknown	Early Roman, perhaps late Roman, perhaps Ptolemaic	24° 23.94’ N/ 34° 59.48’ E	Road station on ancient route from Berenike to Nile (at Edfu/Koptos)
Abu Ghalqa	unknown	Fifth-sixth c. AD	24° 20.95’ N/ 35° 04.19’ E	Road station on ancient route from Berenike to Nile (at Edfu/Koptos)
Qabr Rijm/Shea’leq/ Mkbea’/Abu Ghurbon	unknown	Early and late Roman	24° 07.00’ N/ 35° 16.34’ E	Stop on Berenike-Nile road with few/no structures
Lahmi (60-62)	unknown	Ptolemaic, first-second and fourth c. AD	24° 09.92’ N/ 35° 21.81’ E	Small fort
Juncture Wadi El Gemal-Wadi Nugrus	unknown	Unknown, probably contemporary with Sekeit/Nugrus	24° 34.47’ N/ 34° 49.45’ E	Animal tethering lines
Wadi Gemal East (63)	unknown	mid second-fourth c. AD	24° 34.02’ N/ 34° 48.97’ E	Road station and settlement with animal tethering lines
Off ancient Via Hadriana	unknown	Early Roman	24° 26.70’ N/ 35° 04.63’ E	Cemetery west of ancient Via Hadriana
Bir Ria’da	unknown	Probably late Roman	24° 15.67’ N/ 35° 14.49’ E	Well and cemetery of about a dozen plus tombs/graves
Mweillah	unknown	Ptolemaic-early Roman	24° 13.33’ N/ 35° 03.98’ E	Gold mining settlement
Wadi Ghadir	unknown	Late fourth-sixth c. AD	24° 48.30’ N/ 34° 50.52’ E	Gold mining settlement
Wadi Ghadir	unknown	Probably Roman	24° 47.95’ N/ 34° 50.49’ E	Ancient tombs/graves
Umm Ud	unknown	Early 20 th c. British/possibly ancient	24° 48.71’ N/ 34° 41.63’ E	Gold mines
Helan	unknown	Early and late Roman	24° 37.53’ N/ 34° 34.92’ E	Settlement off Berenike-Nile road
Hangaliya	unknown	Ptolemaic-Roman	24° 50.32’ N/ 34° 35.89’ E	Gold mining settlement

MODERN NAME	ANCIENT NAME	PERIOD	GPS COORDINATES	BRIEF DESCRIPTION
Khashir	Novum Hydreuma	Unknown, but probably Ptolemaic-Roman	24° 11.06' N/ 34° 14.02' E	Station on ancient Berenike-Nile road
Abu Ghusun	Cabalsi (?)	Late fourth-fifth c. AD, perhaps also earlier	24° 23.24' N/ 35° 02.87' E	Station on ancient Berenike-Nile road
Mouth of Wadi Ghadir	unknown	Probably late Roman & modern Bedouin	24° 49.02' N/ 34° 59.73' E	Cemetery of about 37-40 graves
Umm Kebash	unknown	First-fourth/fifth c. AD	24° 42.85' N/ 34° 28.20' E	Stop on ancient Berenike-Nile road with few/no structures
Kurdumay	unknown	Roman, probably late	24° 52.53' N/ 34° 41.58' E	Gold mining settlement of about 60 structures, also modern British reworking
Seyhrig	unknown	Ptolemaic-early Roman and Islamic	24° 45.79' N/ 34° 18.90' E	Station on ancient Berenike-Edfu road

* Sites in this region collectively known as Mons Smaragdus ("Emerald Mountain") to the Romans

N.B. Not listed here are numerous segments of ancient (unpaved) cleared road segments, which, in many cases, are marked with cairns and/or towers. Through this zone pass segments of the following main ancient roads:

- Berenike (on the Red Sea)-Edfu/Koptos (on the Nile)
- Via Hadriana (from Sheikh 'Ibada on the Nile in Middle Egypt via Wadi Tarfa to near Ras Gharib and then south parallel to the Red Sea coast terminating at Berenike)

There are also segments of numerous secondary ancient roads, mountain paths (some artificially cut through passes which they traverse) and hundreds of ancient graves (most of which have already been robbed). An important safety issue in the Sekeit-Nugrus area is the large number of unmarked deep ancient mining shafts, which pose potential dangers of serious injury or death to those hiking/trekking in the region.

3.2 TABLE II: Condition and Status of Sites around Wadi El Gemal-Hamata Protected Area

MODERN NAME	RELATIVE SIGNIFICANCE	STATUS	CONDITION	THREATS
Dweig	Important fort near juncture of ancient Berenike-Edfu/Berenike-Koptos roads	Surveyed/ plan drawn	Very well preserved	Vandalism/antiquities robbing
Umm Qariyeh/Umm Ushra	Small, important fort on ancient Berenike-Edfu/Koptos roads	Surveyed/ plan drawn	Very well preserved	Vandalism/antiquities robbing

MODERN NAME	RELATIVE SIGNIFICANCE	STATUS	CONDITION	THREATS
Wadi Gemal	Remains of largest Roman military fort in Eastern Desert	Surveyed/ plan drawn	Mediocre, most of two walls washed away	Vandalism/antiquities robbing/flooding
Between Wadi Gemal and Gelli/Wadi Gemal South	Cemetery of minor importance	Not surveyed/ no plan drawn	Mediocre	Vandalism/antiquities robbing/vehicular traffic
Gelli/Wadi Gemal South	Very large, major settlement	Not surveyed/ no plan drawn	Very good	Vandalism/antiquities robbing/vehicular traffic
Sekeit	Major site in this zone, several hundred buildings, rock-cut temples	Surveyed/ plan drawn/ excavations begun	Very good to excellent	Robbing/ vandalism/ Uncontrolled tourism/flooding
Middle Sekeit	Important site with large ancient ramps, mining shafts, some buildings	Partially surveyed	Very good	Robbing/uncontrolled tourism/□natural erosion
North Sekeit	Important site with numerous buildings, a cemetery and mine shafts	Surveyed/ plan drawn	Very good	Vandalism/robbing
Umm Hieran	Site of secondary importance	Surveyed/ plan drawn	Good	Vandalism/ robbing/ flooding
Umm Harba	Important site (less so than Sekeit, more so than Umm Hieran)	Sketch plan drawn	Excellent	Vandalism/robbing/ uncontrolled flooding
Kab Marfu'a/Wadi Gemal North	Major site with numerous well preserved buildings, temple on side of mountain	Partially surveyed and plan partially drawn	Excellent	Vandalism/robbing/ uncontrolled tourism/natural erosion
Nugrus	Major site in this zone with about two dozen buildings in superb condition, hundreds of others in ruins	Partially surveyed and plan partially drawn	Mediocre to Excellent	Vandalism/robbing/ uncontrolled tourism/ natural erosion/ modern mining activities (Nuclear Materials Authority)
Nugrus West	Minor site of secondary importance	Not surveyed/ no plan drawn	Good	Vandalism/robbing
Abu Rushaid	Site of secondary importance	Not surveyed/ no plan drawn	Good	Vandalism/robbing, mining activities
Umm Kabu	Site of secondary importance	Not surveyed □no plan drawn	Mediocre to good	Vandalism/robbing
Gebel Zabara	Important site	Not surveyed/ no plan drawn	Good to excellent	Vandalism/robbing/ uncontrolled tourism

MODERN NAME	RELATIVE SIGNIFICANCE	STATUS	CONDITION	THREATS
Wadi Duba'	Site of minor importance	Not surveyed/ no plan drawn	Poor to mediocre	No real threats likely
Abu Hegilig North	Site of secondary importance	Surveyed/ plan drawn	Excellent	Vandalism/robbing/ uncontrolled tourism
Abu Hegilig South	Important site	Surveyed/ plan drawn	Excellent	Vandalism/robbing/ nearby modern quarrying (hard stone, company unknown)/ uncontrolled tourism
Abu Ghalqa	Minor site	Surveyed/ plan drawn	Poor	No real threats likely though there is nearby modern mining activity
Qabr Rijm/ Shea'leq/ Mkbea'/ Abu Ghurbon	Minor site, ancient camp, no real structures here	Not surveyed/ no plan drawn	Poor	No real threats likely other than natural erosion
Lahmi	Important site	Surveyed/ plan drawn	Very good	Vandalism/robbing/ uncontrolled tourism
Juncture Wadi Gemal-Wadi Nugrus	Site of secondary importance	Surveyed/ plan drawn	Good	Flooding/vehicular traffic
Wadi Gemal East	Important site	Surveyed/ plan drawn	Good-excellent	Vandalism/robbing/ uncontrolled tourism/ flooding/ vehicular traffic
Off ancient Via Hadriana	Minor site	Not surveyed/ <input type="checkbox"/> no plan drawn	Good	Vandalism/robbing
Bir Ria'da	Minor site	Not surveyed/ <input type="checkbox"/> no plan drawn	Mediocre	Vandalism/robbing
Mweillah	Site of secondary importance	Sketch plan drawn	Good	Vandalism/robbing
Wadi Ghadir	Site of secondary importance	Not surveyed/ <input type="checkbox"/> no plan drawn	Good	Vandalism/robbing
Wadi Ghadir	Site of secondary importance	Not surveyed/ no plan drawn	Good	Vandalism/robbing
Umm Ud	Site of secondary importance as an antiquity, but interesting example of early 20 th c. gold mine	Not surveyed <input type="checkbox"/> no plan drawn	Good	No real threats likely

MODERN NAME	RELATIVE SIGNIFICANCE	STATUS	CONDITION	THREATS
Helan	Site of secondary importance	Surveyed/ sketch plan drawn	Mediocre	Vandalism/robbing/flooding
Hangaliya	Important ancient gold mining settlement in this zone	Not surveyed/ no plan drawn	Good	Vandalism/robbing/modern reworking (rumors of pending gold mining)
Khashir	Site of secondary importance	Surveyed/ plan drawn	Mediocre	No real threats likely
Abu Ghusun	Site of secondary importance in very poor state of preservation	Surveyed/ plan drawn	Poor	Nearby modern mining activity
Mouth of Wadi Ghadir	Site of minor importance	Not surveyed/ no plan drawn	Mediocre	Vandalism/robbing
Umm Kebash	Site of minor importance, ancient camp, no standing structures	Not surveyed/ no plan drawn	Poor	Natural erosion
Kurdumay	Important secondary site	Not surveyed/ no plan drawn	Mediocre to good	Vandalism/robbing
Seyhrig	Important secondary site	Surveyed/ plan drawn	Good	Vandalism/robbing/natural erosion

The major threats throughout the region (and the Eastern Desert as a whole) are human, mainly vandalism and robbing. Only a few of the sites seem to be threatened by organized mining/quarrying activities.

Note: A Large Ptolemaic-Roman gold mining settlement at Sukkari (technically out of the PA) is the site of a modern joint Egyptian-Australian operation. Fortunately, we have drawn a plan of this site, but it is a pity that such a large and important ancient settlement is being destroyed.

3.3 TABLE III: Proposed Status for Visitor Management of Archeological Sites in Wadi El Gemal-Hamata Protected Area

The table below shows a list of archeological sites in and on the periphery of the Wadi El Gemal-Hamata Protected Area, proposed status of sites for visitor management/sensitivity to public visitation/additional study of sites that should be undertaken. Those sites listed in **Bold** require additional archeological documentation (noted below).

The proposed status of the sites is NOT permanent, but should be adjusted so that most become more accessible once site plans, architectural elevation drawings, limited excavation and suggested architectural conservation/restoration and the requisite protection have been completed/provided. The status of each of these sites may also be altered once protective measures have been instituted.

- Open: Anyone can visit at any time.
- Restricted: Site has 24-hour security guards, and visitors are required to have tickets/authorization, and will be monitored.
- Closed: No visitors until further notice.

SITE	PROPOSED STATUS FOR VISITOR MANAGEMENT
Dweig	Restricted
Umm Qariyeh/Umm Ushra	Restricted
Wadi El Gemal	Open
Btwn Wadi El Gemal & Gelli/Wadi El Gemal South	Open
Gelli/Wadi Gemal South	Restricted
Sekeit	Restricted
Middle Sekeit	Restricted
North Sekeit	Restricted
Umm Hieran	Open
Umm Harba	Closed
Kab Marfu'a/Wadi Gemal North	Restricted
Nugrus	Restricted
Nugrus West	Open
Abu Rushaid	Restricted
Umm Kabu	Open
Gebel Zabara	Restricted
Wadi Duba'	Open
Abu Hegilig North	Restricted

SITE	PROPOSED STATUS FOR VISITOR MANAGEMENT
Abu Hegilig South	Restricted
Abu Ghalqa	Open
Qabr Rijm/Shea'leq/Mkbea'/Abu Ghurbon	Open
Lahmi	Restricted
Juncture Wadi Gemal-Nugrus	Restricted
Wadi El Gemal East	Restricted
Off Ancient Via Hadriana	Open
Bir Ria'da	Open
Mweillah	Restricted
Wadi Ghadir (1)	Restricted
Wadi Ghadir (2)	Restricted
Umm Ud	Open
Helan	Restricted
Hangaliya	Restricted
Khashir	Open
Abu Ghusun	Restricted
Mouth of Wadi El Ghadir	Open
Umm Kebash	Open
Kurdumay	Restricted
Seyhrig	Restricted

The proposed status of the sites is NOT permanent, but should be adjusted so that most become more accessible once site plans, architectural elevation drawings, limited excavation and suggested architectural conservation/restoration and the requisite protection have been completed/provided. The status of each of these sites may also be altered once protective measures have been instituted.

4 Management Recommendations for Sensitive Sites The following sites are most likely to attract interested laypersons and (those in **Bold** have the potential to become important archeological attractions within the zone through a combination of state of preservation and/or size and ease of access):

- Dweig

- Wadi El Gemal
- **Sekeit**
- Middle Sekeit
- Umm Harba
- **Kab Marfu'a**
- **Nugrus**
- Gebel Zabara
- Abu Hegilig South
- **Wadi El Gemal East**
- Seyhrig

4.1 Management Recommendations

I would recommend controlled access to all the sites listed above (under sensitivity), which would include fences, signs and guards, and I would strongly urge the highest level of protection for sites listed in **Bold** (under sensitivity). These latter sites should have restricted access to vehicular traffic, posted markers, designated paths from which visitors should not stray and alert, omnipresent, and well-informed guards. Floodwater diversion schemes should also be established for some of these sites.

I would also strongly urge that a number of these sites have detailed, architect-quality measured plans and elevations of the most important structures drawn as soon as possible. In addition, it is essential that architectural consolidation, conservation and restoration be undertaken to arrest the effects of human and natural depredations at those sites listed below in **Bold**. All of the sites below are in need of detailed planning/elevations and consolidation work:

- **Wadi El Gemal South**
- **Middle Sekeit**
- **Umm Harba**
- **Kab Marfu'a**
- **Nugrus** (of the first five listed in bold here, Nugrus is by far the most important)
- Abu Rushaid
- **Gebel Zabara**
- **Mweillah**
- Wadi Ghadir
- Helan
- **Hangaliya**

- Kurdumay

A small team (4-5 people) could complete surveys (drawing architect quality plans and some elevation drawings) of the sites listed above using a total station. Completion of this proposed survey work would take about eight months (broken into six or seven separate segments). Each segment (at current costs) would be about \$7,000 each (minus salaries). While drawing measured plans using a total station has begun at some of the sites (Middle Sekeit and Nugrus) and sketch plans of others have been made (Umm Harba, Mweillah, Helan), better documentation is urgently needed before further human and natural depredations occur, which would result in irretrievable loss of data.

I also would strongly suggest limited archeological excavations at the following sites:

- Wadi El Gemal South
- Kab Marfu'a
- Nugrus

Excavation is far more expensive, involving many staff and laborers, and more time-consuming than survey work, but could be conducted (if adequately funded) with useful results on an annual basis each winter. Time allotted for excavation at each site would depend upon the objectives/questions posed, size of team, time available in the field, funding and permission from the SCA and Egyptian military security.

5 Photographs

The included photos are those of the better preserved and more important archeological sites in the Wadi El Gemal-Hamata Protected Area. All photos are by S.E. Sidebotham.



Photo 1: Dweig



Photo 1: Dweig



Photo 4: Umm Qariyeh Umm Ushra



Photo 5: Umm Qariyeh Umm Ushra



Photo 6: Wadi Gemal

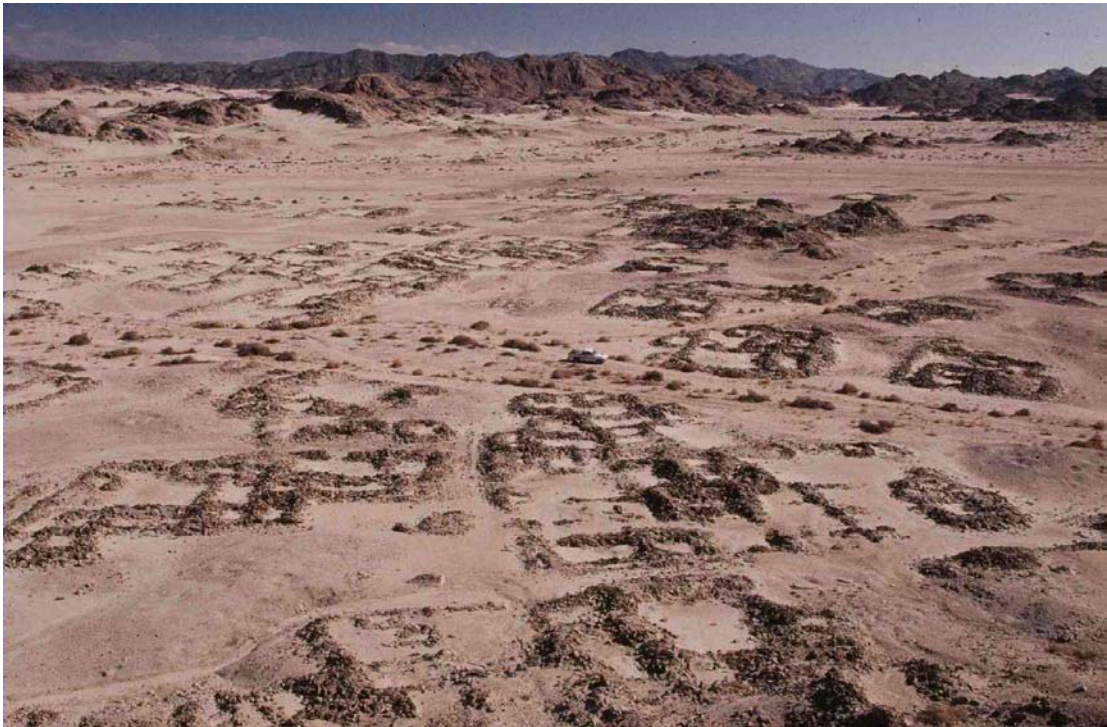


Photo 7: Gelli Wadi Gemal South



Photo 8: Sekeit

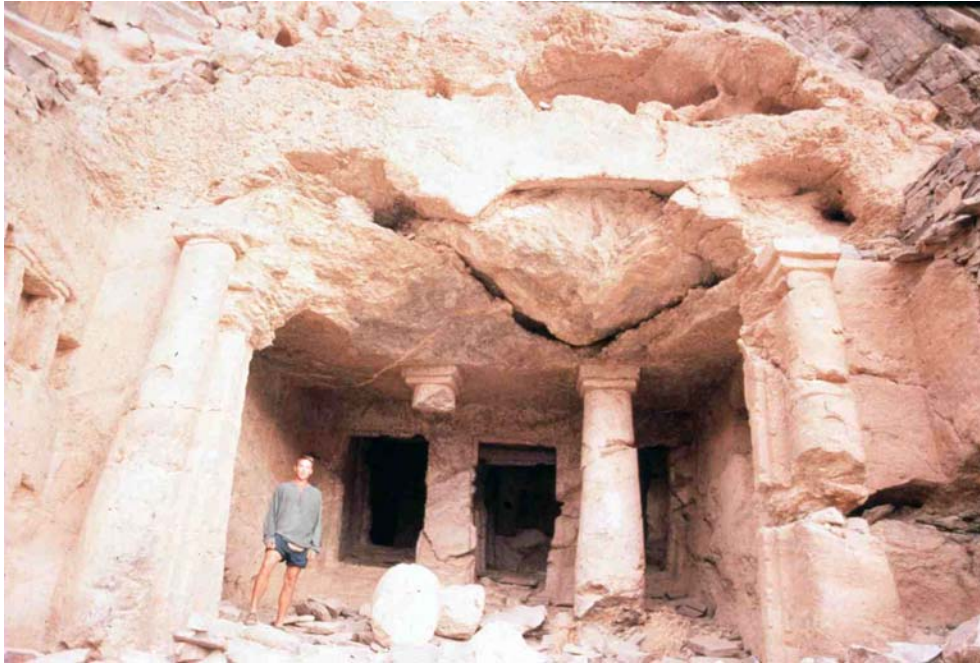


Photo 9: Sekeit

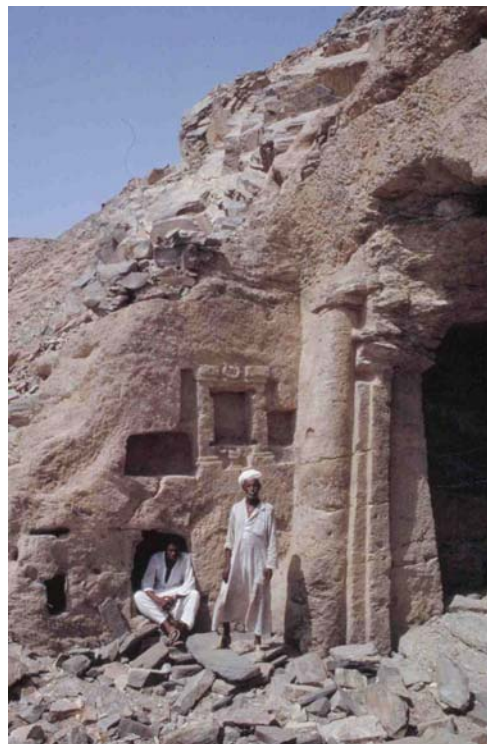


Photo 10: Sekeit



Photo 11: Sekeit

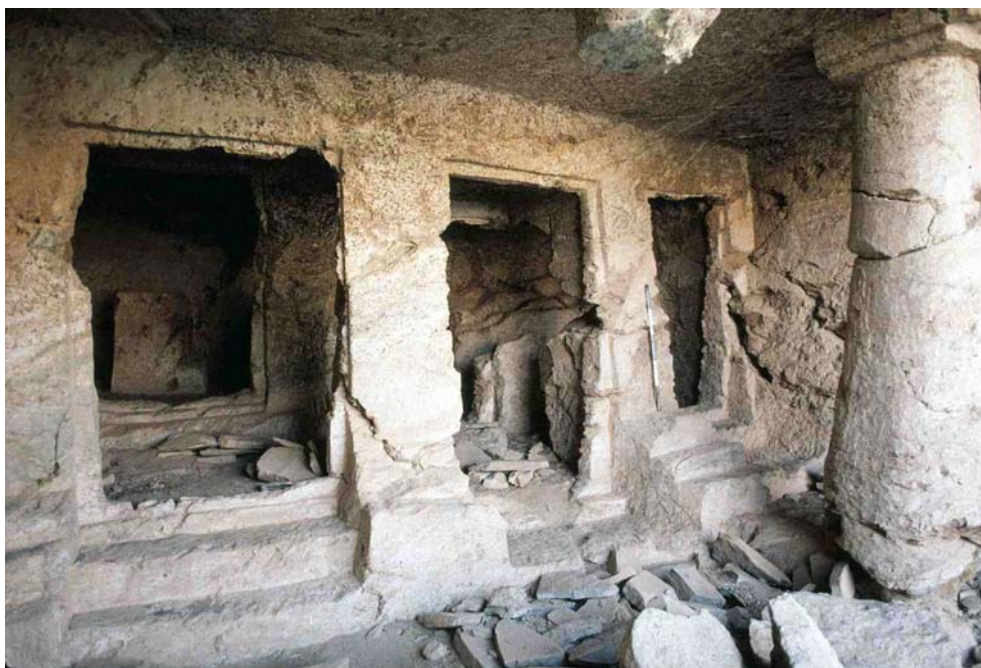


Photo 12: Sekeit

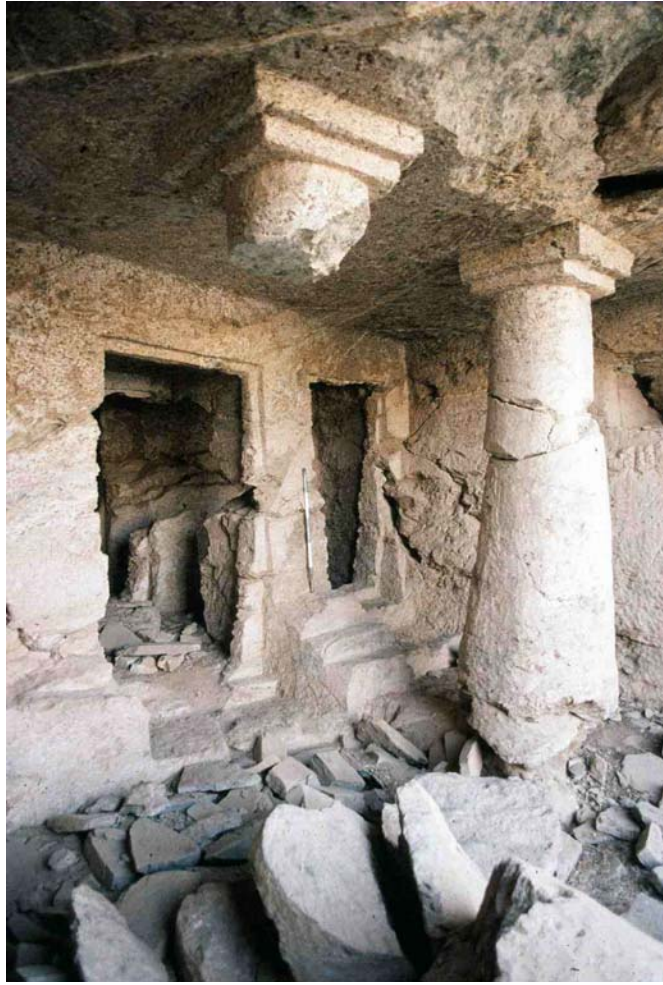


Photo 13: Sekeit

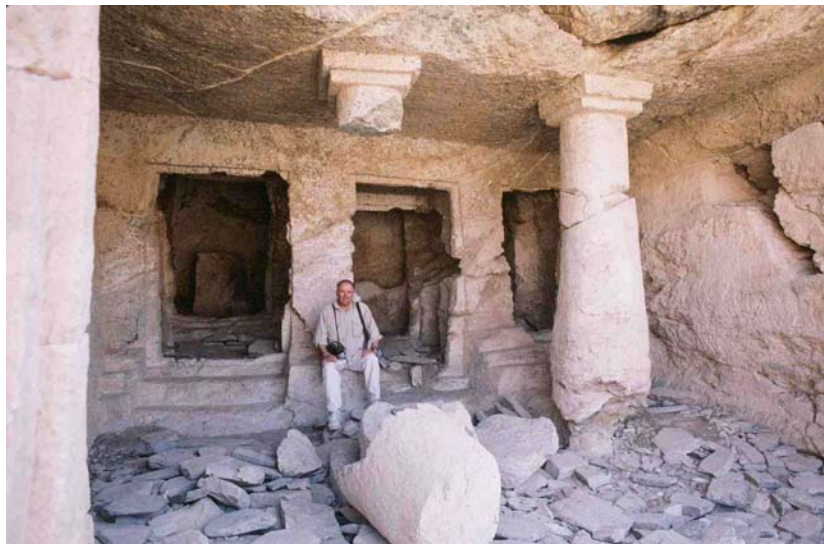


Photo 14: Sekeit



Photo15: Sekeit

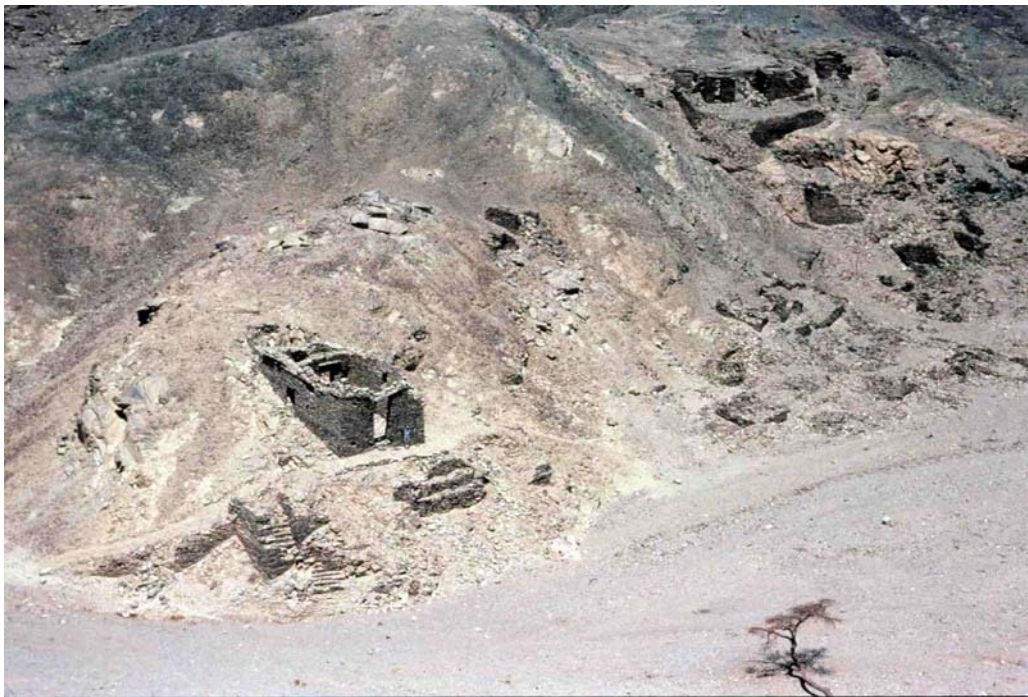


Photo 16: Sekeit

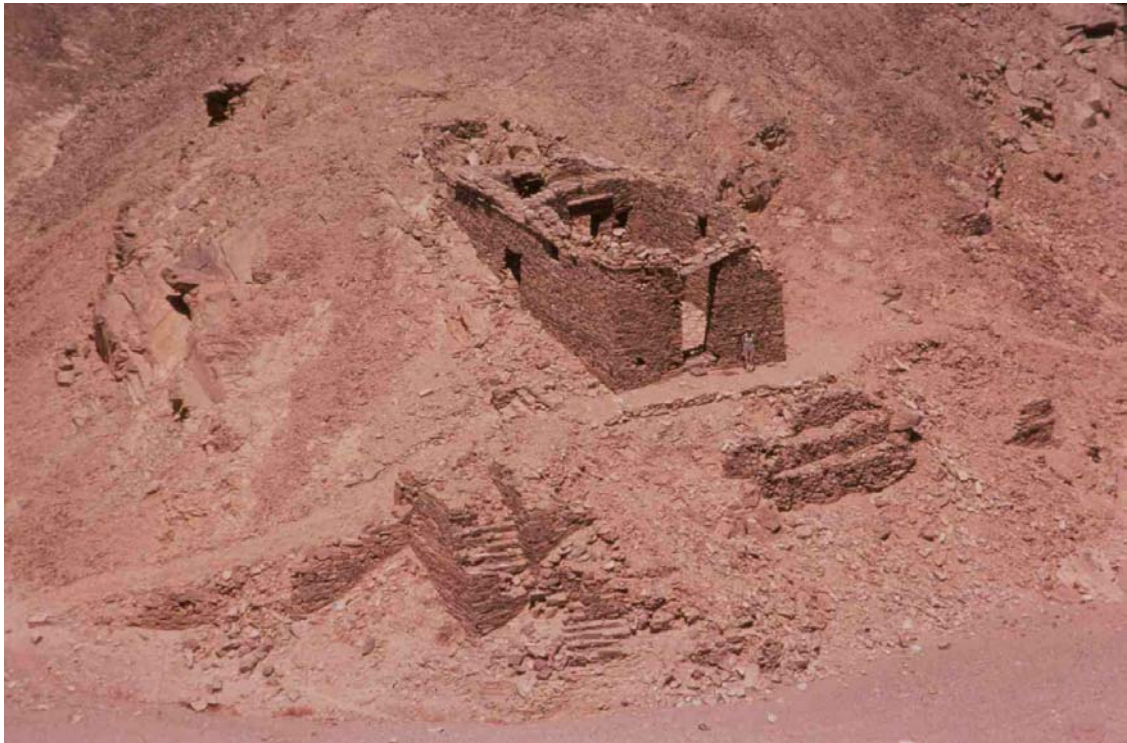


Photo 17: Sekeit



Photo 18: Sekeit

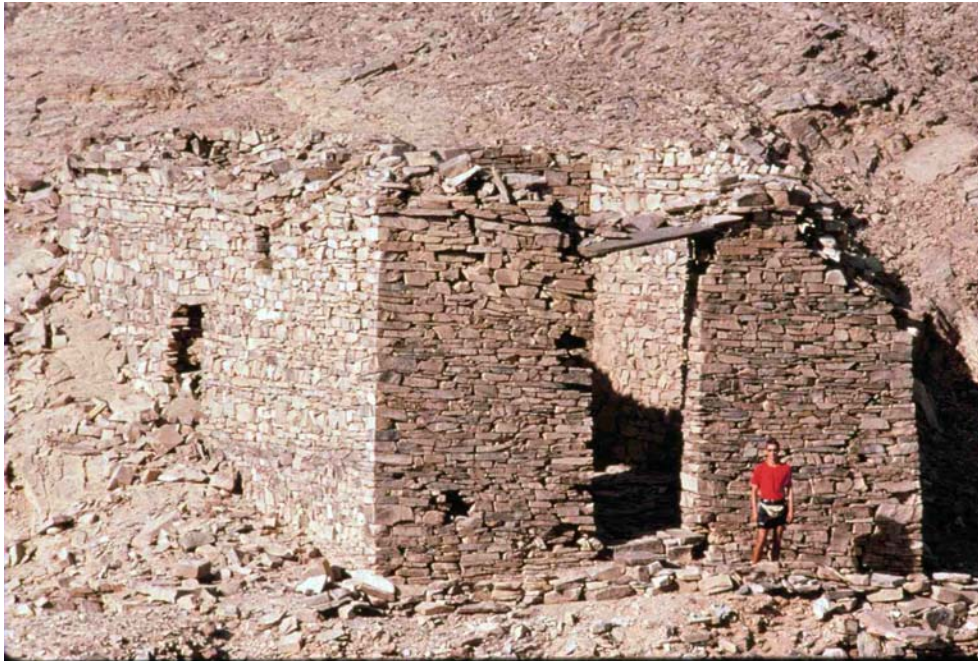


Photo 19: Sekeit

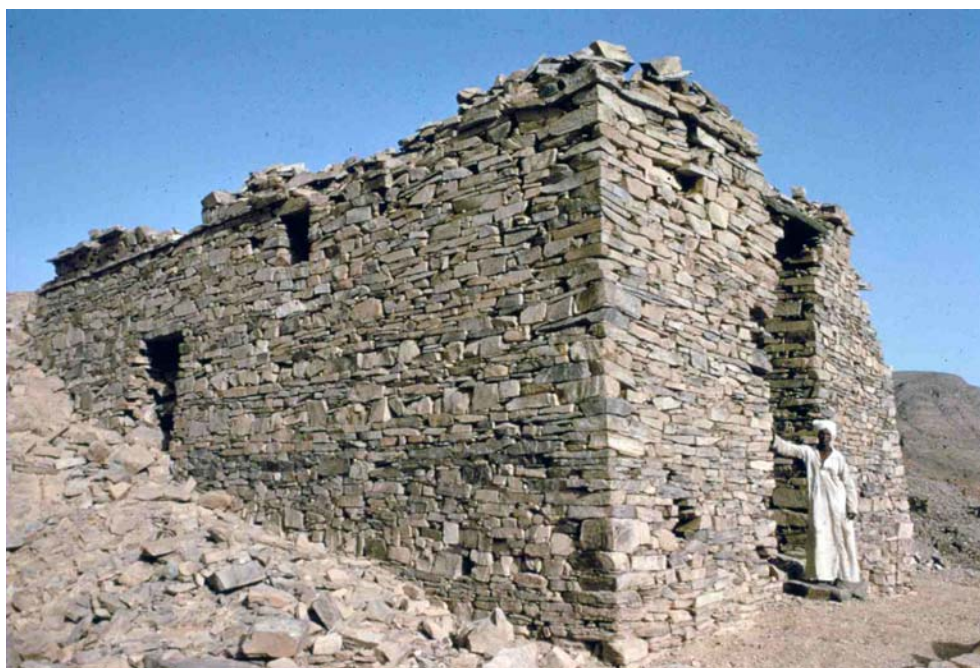


Photo 20: Sekeit



Photo 21: Sekeit

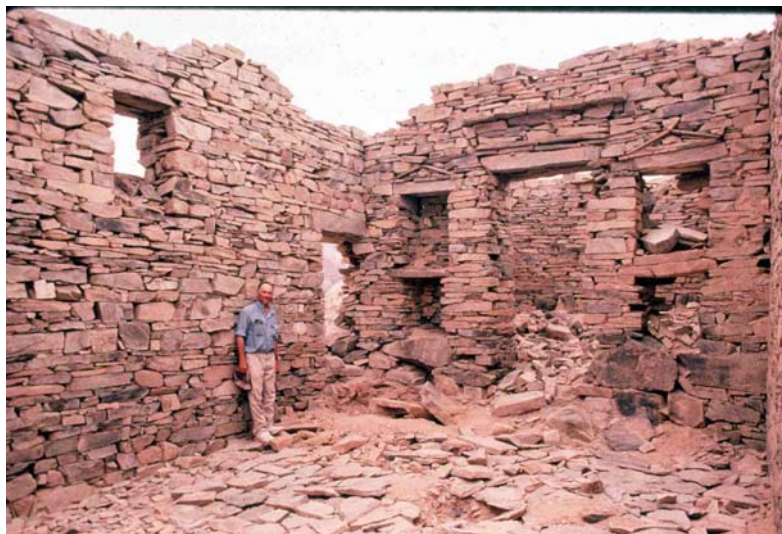


Photo 22: Sekeit



Photo 23: Sekeit

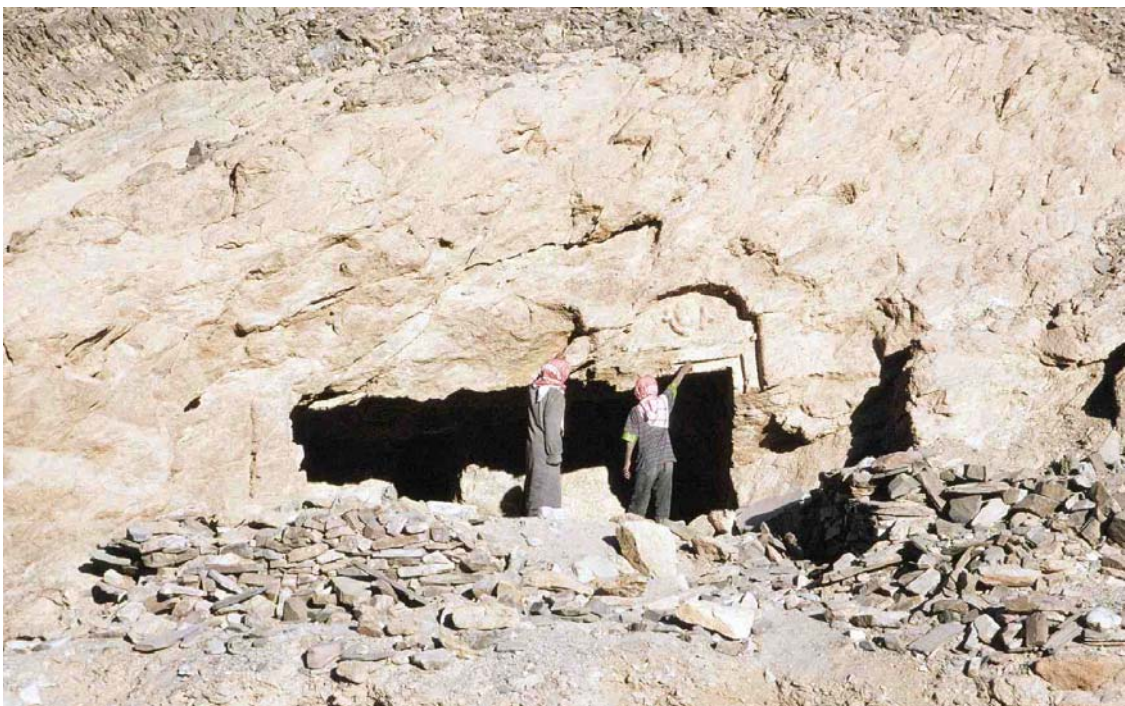


Photo 24: Sekeit

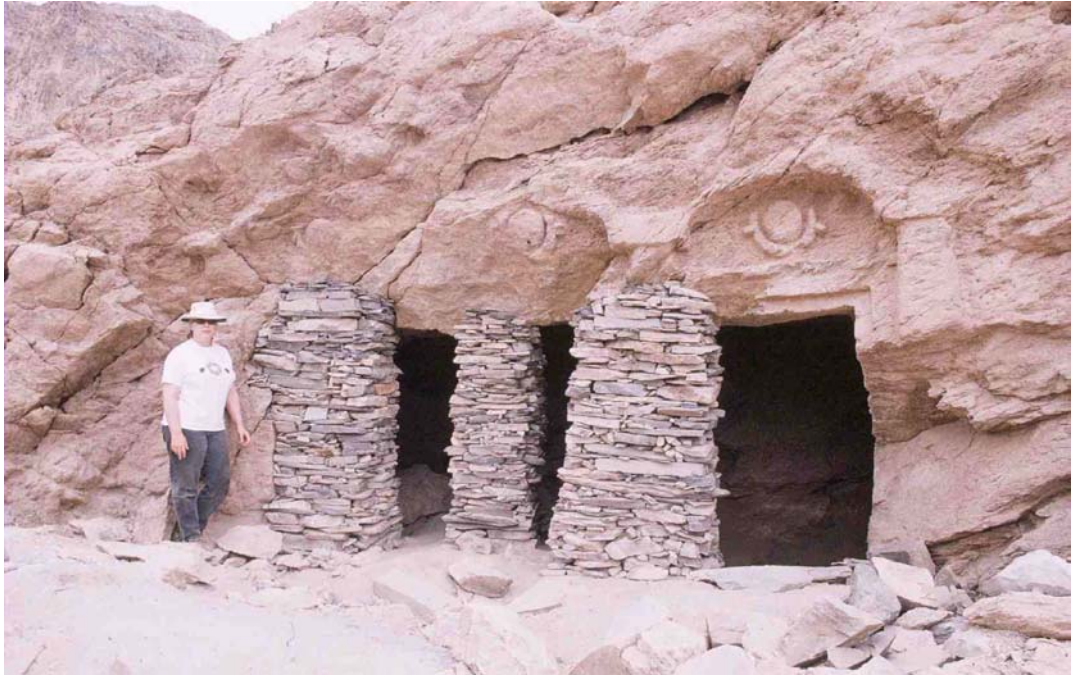


Photo 25: Sekeit



Photo 26: Sekeit

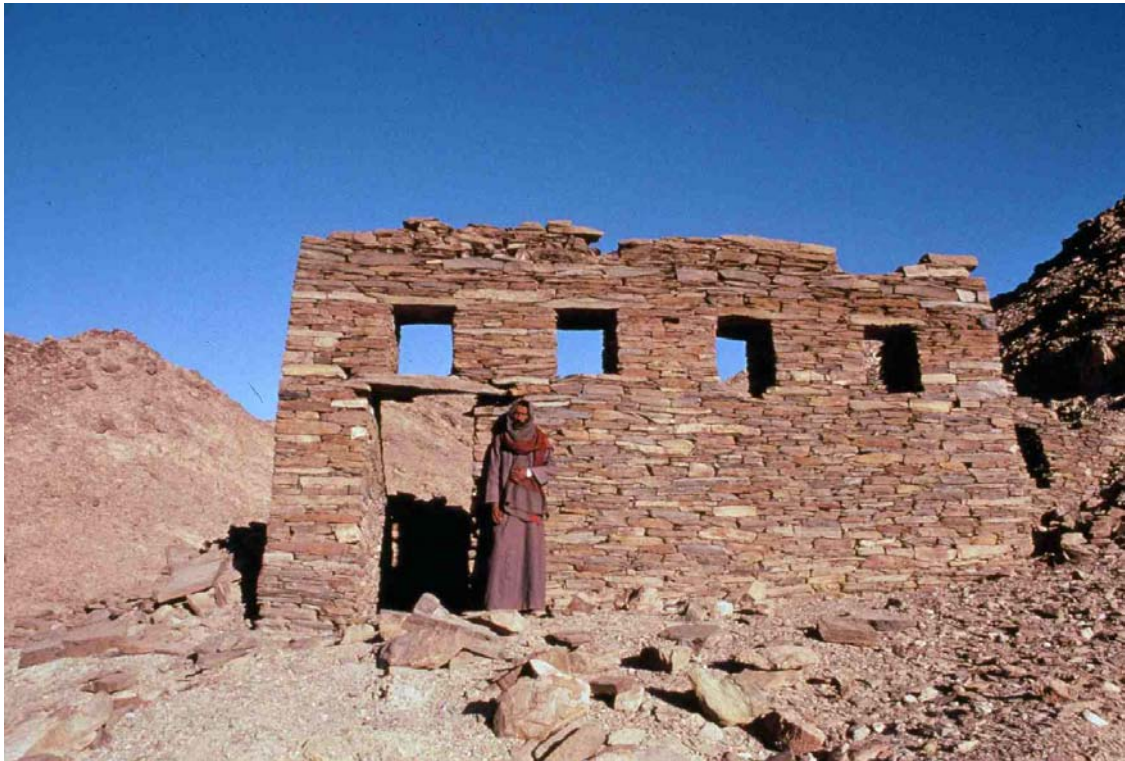


Photo 27: Sekeit



Photo 28: Sekeit



Photo 29: Sekeit



Photo 30: Sekeit



Photo 31: Sekeit



Photo 32: Sekeit



Photo 33: Sekeit



Photo 34: Middle Sekeit



Photo 35: Middle Sekeit



Photo 36: Middle Sekeit



Photo 37: Middle Sekeit



Photo 38: Middle Sekeit



Photo 39: North Sekeit

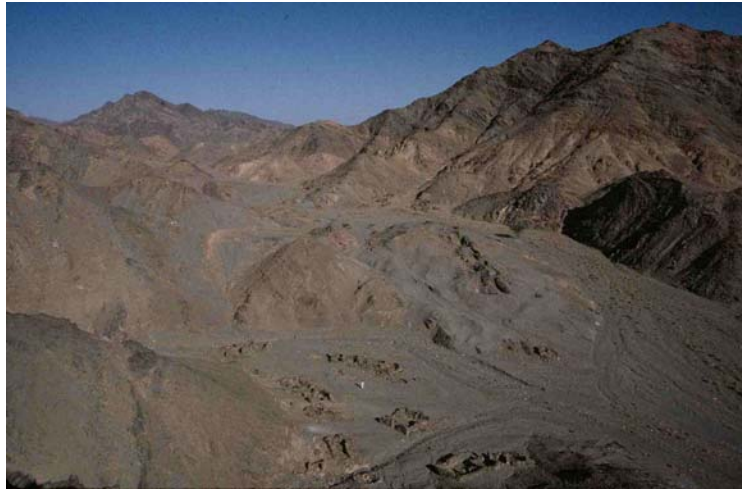


Photo 40: Umm Harba



Photo 41: Umm Harba



Photo 42: Umm Harba



Figure 43: Umm Harba



Photo 44: Umm Harba



Photo 45: Kab Marfu'a



Photo 46: Kab Marfu'a



Photo 47: Nugrus

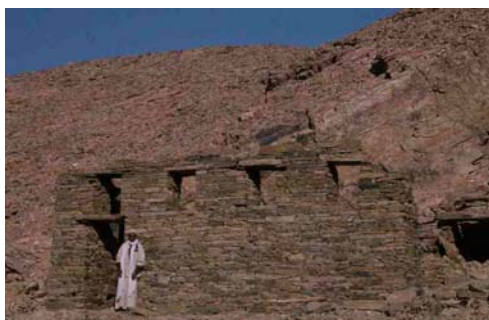


Photo 48: Nugrus



Photo 49: Nugrus



Photo 50: Nugrus



Photo 51: Nugrus



Photo 52: Nugrus



Photo 53: Nugrus



Photo 54: Nugrus



Photo 55: Nugrus



Photo 56: Nugrus



Photo 57: Gebel Zabara



Photo 58: Abu Hegilig South



Photo 59: Abu Hegilig South



Photo 60: Lahmi



Photo 61: Lahmi



Photo 62: Lahmi



Photo 63: Wadi Gemal East

6 Map of the Wadi El Gemal-Hamata Protected Area with Archeological and Historical sites of interest marked.

