New Hardstone Quarry at Ta' Klement, l/o Qala, Gozo

Environmental Planning Statement

August 1998

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CONTENTS

Appendices

Drawings

Drawing No.	Title	Scale
EIA5/2-1	Topography	1:12,500
EIA5/2-2	Site Location Plan	1:5,000
EIA5/2-3	Site Plan	1:2,500
EIA5/2-4	Existing Visual Characteristics	As Shown
EIA5/2-5	Existing Site Access	As Shown
EIA5/2-6	Rubble Wall Construction	As Shown
EIA5/2-7	Rubble Wall Construction Details	As Shown
EIA5/3-1	Geology	1:12,500
EIA5/4-1	Location of Geological Samples	1:2,500
EIA5/5-1	Land Use	1:2,500
EIA5/5-2	Land Use	1:2,500
EIA5/5-3	Site Access/Haulage Routes	1:7,500
EIA5/6-1	Location of Soil Samples	1:2,500
EIA5/6-2	Location of Soil Samples	1:2,500
EIA5/7-1	Natural Habitats	1:2,500
EIA5/7-2	Natural Habitats	1:2,500
EIA5/8-1	Agriculture	1:2,500
EIA5/8-2	Agriculture	1:2,500
EIA5/10-1	Cultural Assets	1:2,500
EIA5/10-2	Cultural Assets	1:2,500
EIA5/13-1	The Application	1:2,500
EIA5/13-2	Phasing of Mineral Extraction	1:1,250
EIA5/13-3	The Site	1:5,000
EIA5/13-4	View of Site Post Extraction: 1	As Shown
EIA5/13-5	View of Site Post Extraction: 2	As Shown
EIA5/13-6	View of Site Post Extraction: 3	As Shown
EIA5/13-7	Restoration Proposal: Section – Long Distance	1:2,500
EIA5/13-8	Restoration Proposal: Detail Section	1:5,000
EIA5/13-9	Restoration Proposal: Detail of Terracing	1:20
EIA5/13-10	Restoration Proposal: Vegetation Layout	As Shown

Photomontages

Photo No.	Title
EIA5/M1	Photomontage : View 1
EIA5/M2	Photomontage : View 2

0.0 NON-TECHNICAL SUMMARY

1.0 INTRODUCTION

Lino Bianco
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2.0 SITE LOCATION AND DESCRIPTION

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3.0 GEOLOGY

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4.0 MINERAL RESOURCES

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5.0 LAND USE

Dennis Theuma
B.A. (Hons)

6.0 PEDOLOGY

Joanne Muscat
B.Sc., M.Sc.(Agric.Sc.)

7.0 ECOLOGY

Sandro Lanfranco
B.Ed.(Hons.), M.Sc.

8.0 AGRICULTURE

Joanne Muscat
B.Sc., M.Sc.(Agric.Sc.)

9.0 AIR QUALITY AND NOISE

Ian Mifsud
B.Pharm. (Hons.), M.Sc. (EAEME)

10.0 CULTURAL HERITAGE

Lino Bianco
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11.0 PALAEONTOLOGY

Chares Galea Bonavia
B.Ch.D.

12.0 COORDINATED ASSESSMENT

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13.0 SITE DEVELOPMENT AND RESTORATION

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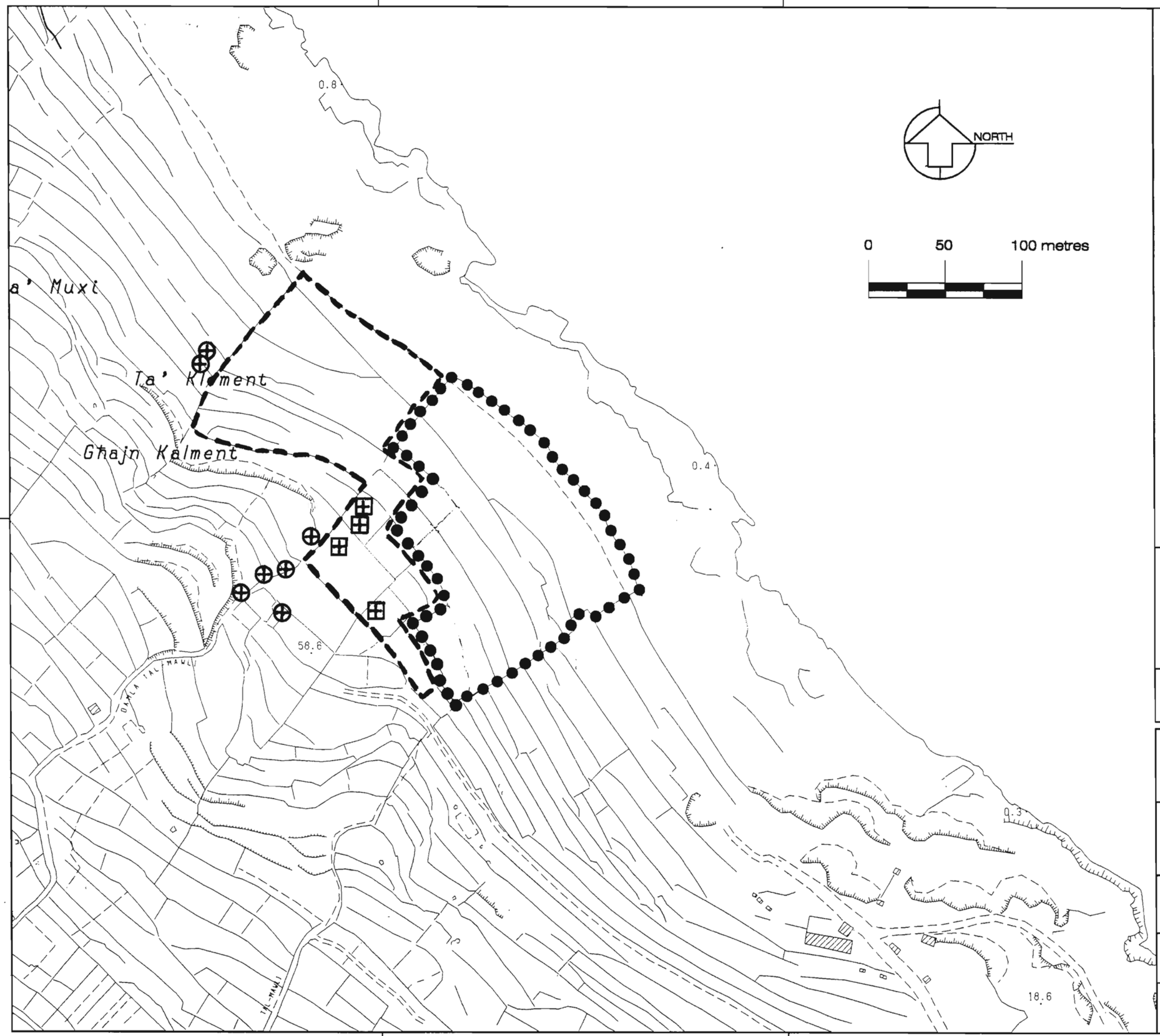

LEGEND :

- QUARRY COVERED BY PERMIT PA7412/97
- WALL, FIELD BOUNDARIES
- STEEP SLOPES
- SPOT HEIGHT
- PROPOSED QUARRY EXTENSION
- SITES OF Chrysanthemum segetum
- SITES OF Chrysanthemum segetum IDENTIFIED BY THE ENVIRONMENT PROTECTION DEPARTMENT

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ARCHITECTURAL & STRUCTURAL DESIGN STUDIO
ENVIRONMENTAL MANAGEMENT CONSULTANCY
URBAN PLANNING & DESIGN CONSULTANCY

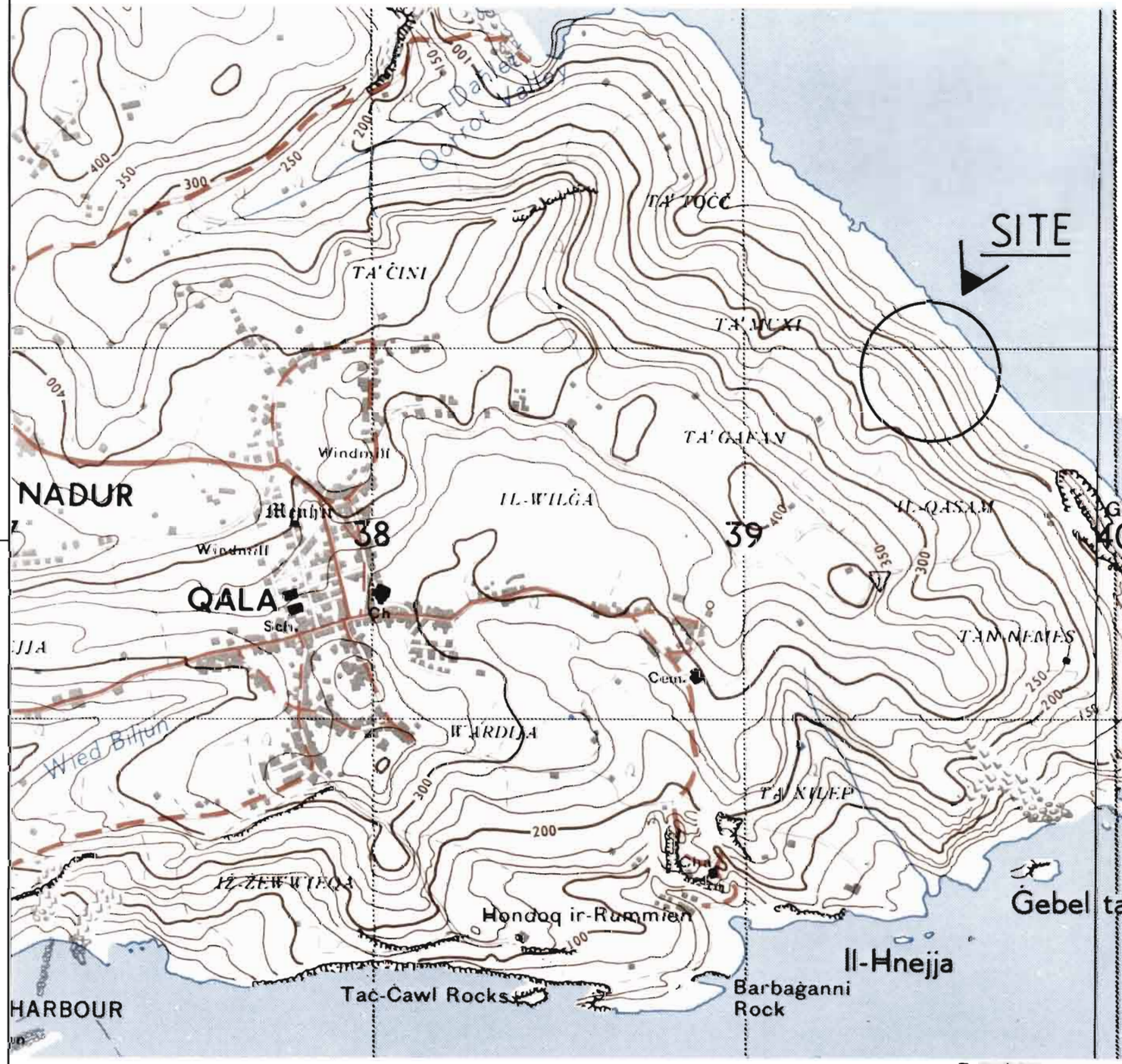
CLIENT :
ROAD CONSTRUCTION CO. LTD.
ZEBBUG ROAD, L/O VICTORIA
GOZO

PROJECT TITLE :
EXTENSION TO QUARRY
AT TA' KLEMENT, L/O QALA
GOZO

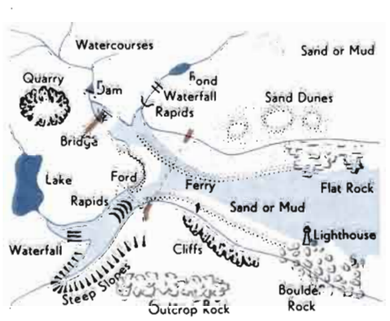
DRAWING TITLE :
LOCATION OF Chrysanthemum segetum

SCALE:	DATE:
1 : 2,500	MAY 2001

DRAWING NO.:
5_99_3



Trigonometrical Stations :- Main △
" " :- Minor ▽
" " :- Tertiary ○
Heights in feet given to ground level ---- 823
Contours (V.I. 25') 125 100 75
Water Tank
Spring
Reservoir
Groups of Trees
Main Roads
Secondary Roads
Minor Roads and Cart Tracks
Footpaths
Named Buildings, Others
Antiquities — Xlendi Tower
Church, Chapel, School — Ch Cha Sch
Hospital, Police Station — Hosp Pol Sta
Barracks, Cemetery — Bks Cem



NORTH

0 250 500 metres

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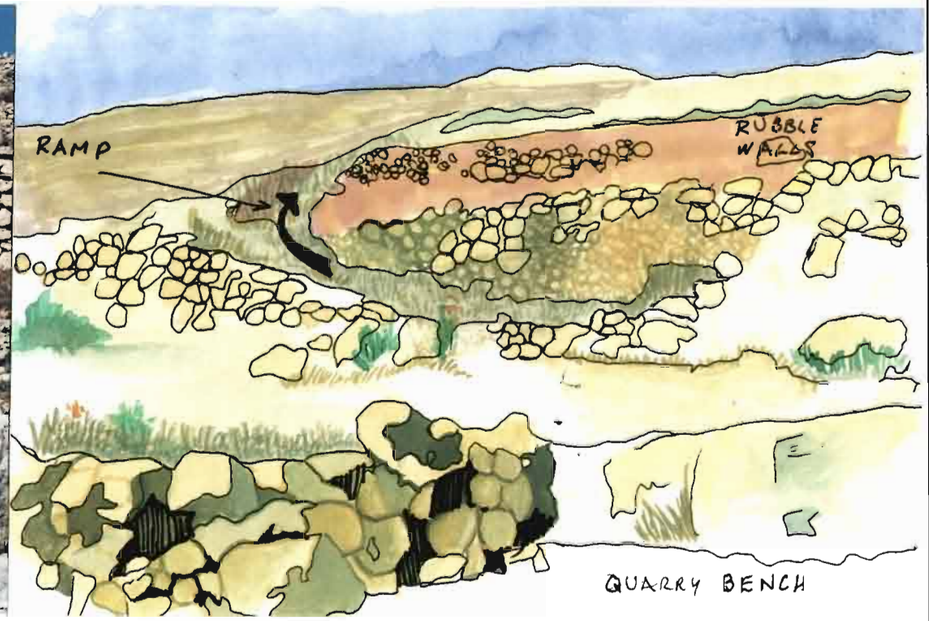
PROJECT TITLE :
NEW HARDSTONE QUARRY
AT TA' KLEMENT, L/O QALA
GOZO

DRAWING TITLE :
TOPOGRAPHY

SCALE: 1 : 12,500
DATE: AUG '98

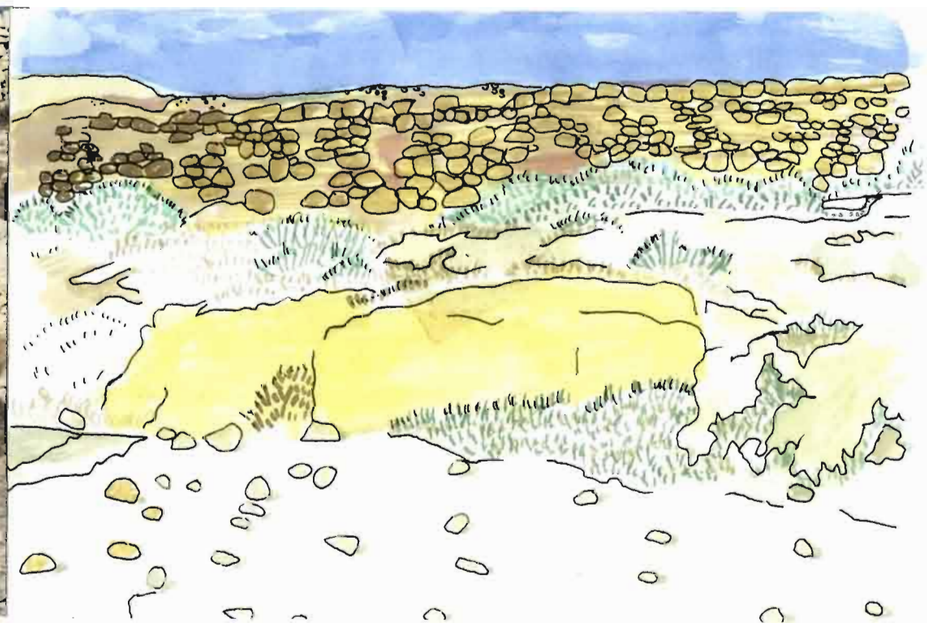
DRAWING NO.:
EIA5/2-1

Based on:
The topographical map of the Maltese Islands,
Sheet 1: Gozo and Comino, 1984 edition.



A : A system of poorly maintained pathways and built ramps provide access to field terraces at different levels. Evidence of quarry is present in the foreground.

B : Old quarry bench (?) showing excessive weathering and erosion-related features. At the background, there is a typical continuous rubble wall.



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PROJECT TITLE :
NEW HARDSTONE QUARRY
AT TA' KLEMENT, L/O QALA
GOZO

DRAWING TITLE :
EXISTING SITE ACCESS

SCALE:	DATE:
As Shown	AUG '98

DRAWING NO.:
EIA5/2-5

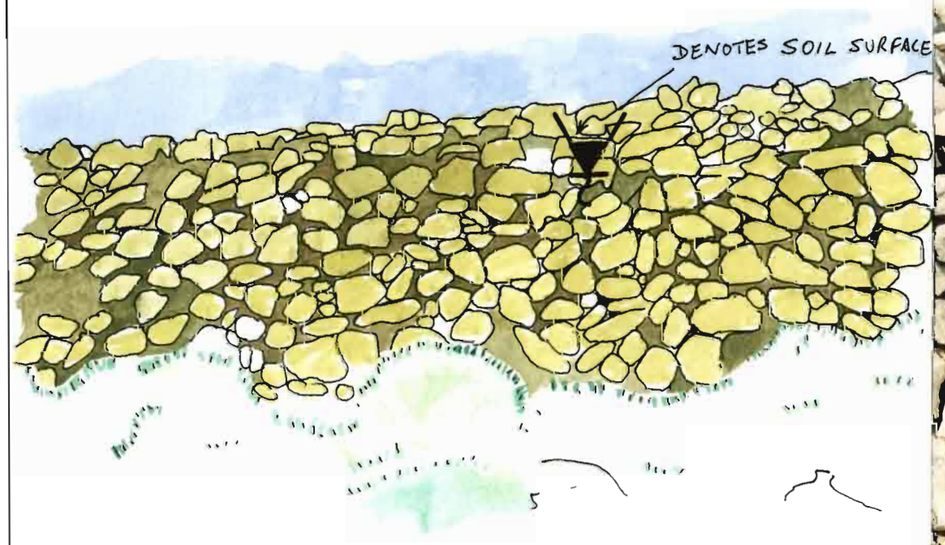
A: Continuous, quasi uninterrupted, rubble wall characterize the area.

B: Weep-holes, where present, occur at regular intervals in rubble wall construction.

C: Detail of weep hole.

The main visual feature in the landscape, seen from any distance off the coast, is rubble walls going up from the coast to Ta' Miju Road. Although rubble walls patterns still match the terraced field boundaries, the materials with which they are constructed vary. Variations in materials used in the erection of these rubble walls strongly match the geology of the area. Thus, rubble walls up to about 50m off the coast are built out of Lower Coralline Limestone while others are built out of Globigerina Limestone. This explains why the rubble walls closer to the shore, though poorly maintained, have weathered better than others higher up the plateau. Where present, weep holes are present at regular intervals.

Rubble walls are actually recycled inert waste resulting from past quarrying activities.



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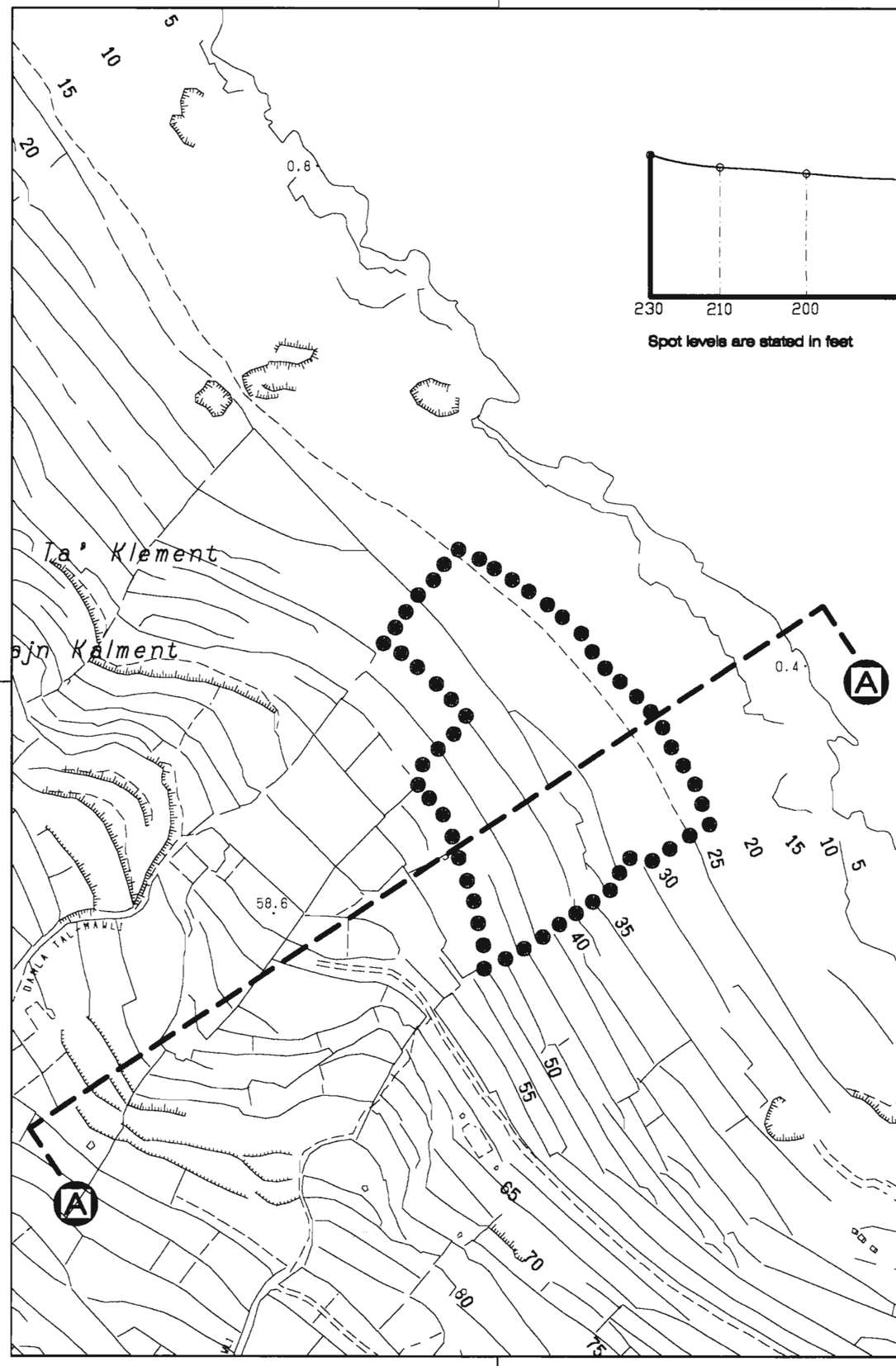
PROJECT TITLE :
NEW HARDSTONE QUARRY
AT TA' KLEMENT, L/O QALA
GOZO

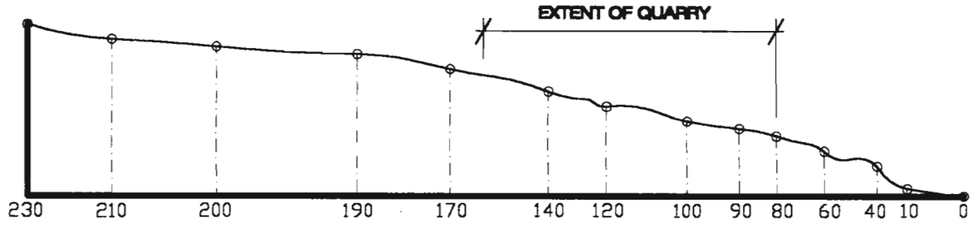
DRAWING TITLE :
RUBBLE WALL CONSTRUCTION

SCALE: As Shown

DATE: AUG '98

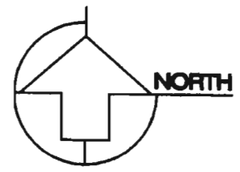
DRAWING NO.:
EIA5/2-6





Spot levels are stated in feet

SECTION A-A



LEGEND :

- SITE BOUNDARY
- WALL, FIELD BOUNDARIES
- STEEP SLOPES
- TRIGONOMETRICAL STATION
- SPOT HEIGHT
- CONTOURS

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PROJECT TITLE :
NEW HARDSTONE QUARRY
AT TA' KLEMENT, L/O QALA
GOZO

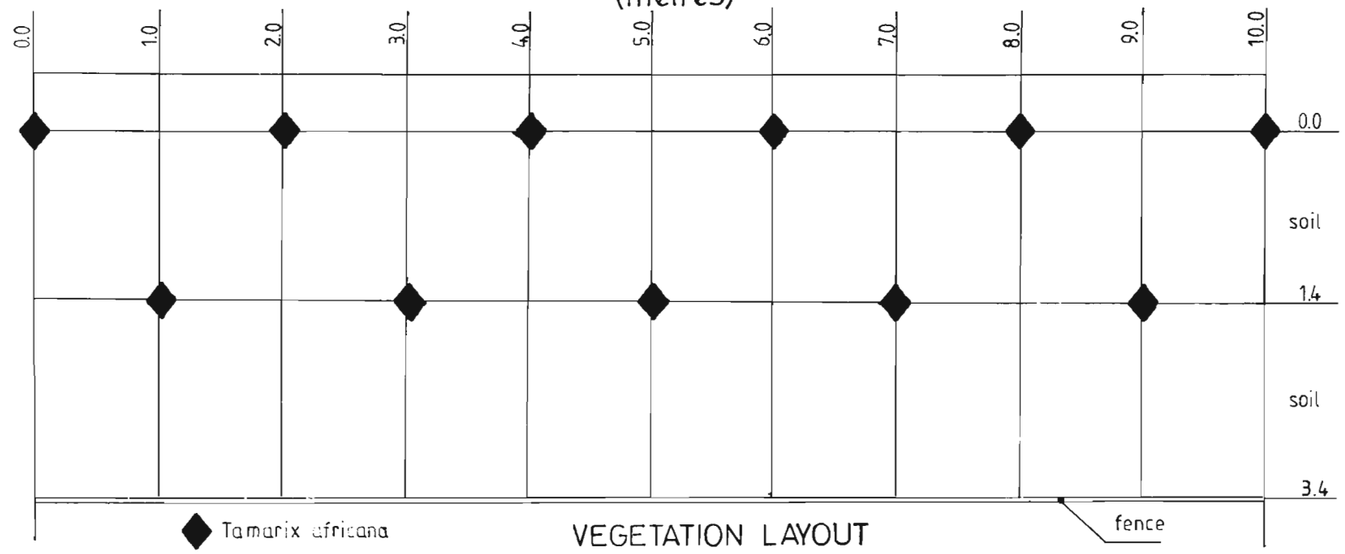
DRAWING TITLE :
RESTORATION PROPOSAL:
Section - Long Distance

SCALE:	DATE:
1:2,500	AUG '98

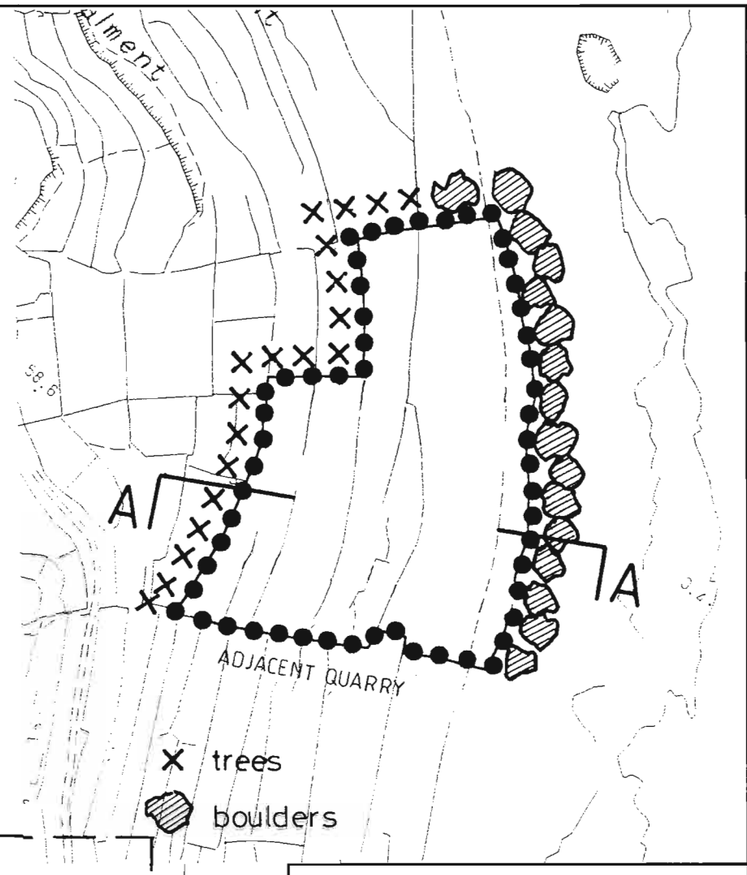
DRAWING NO.:
EIA5/13-7

Scale:1:50

SECTION A-A
(metres)

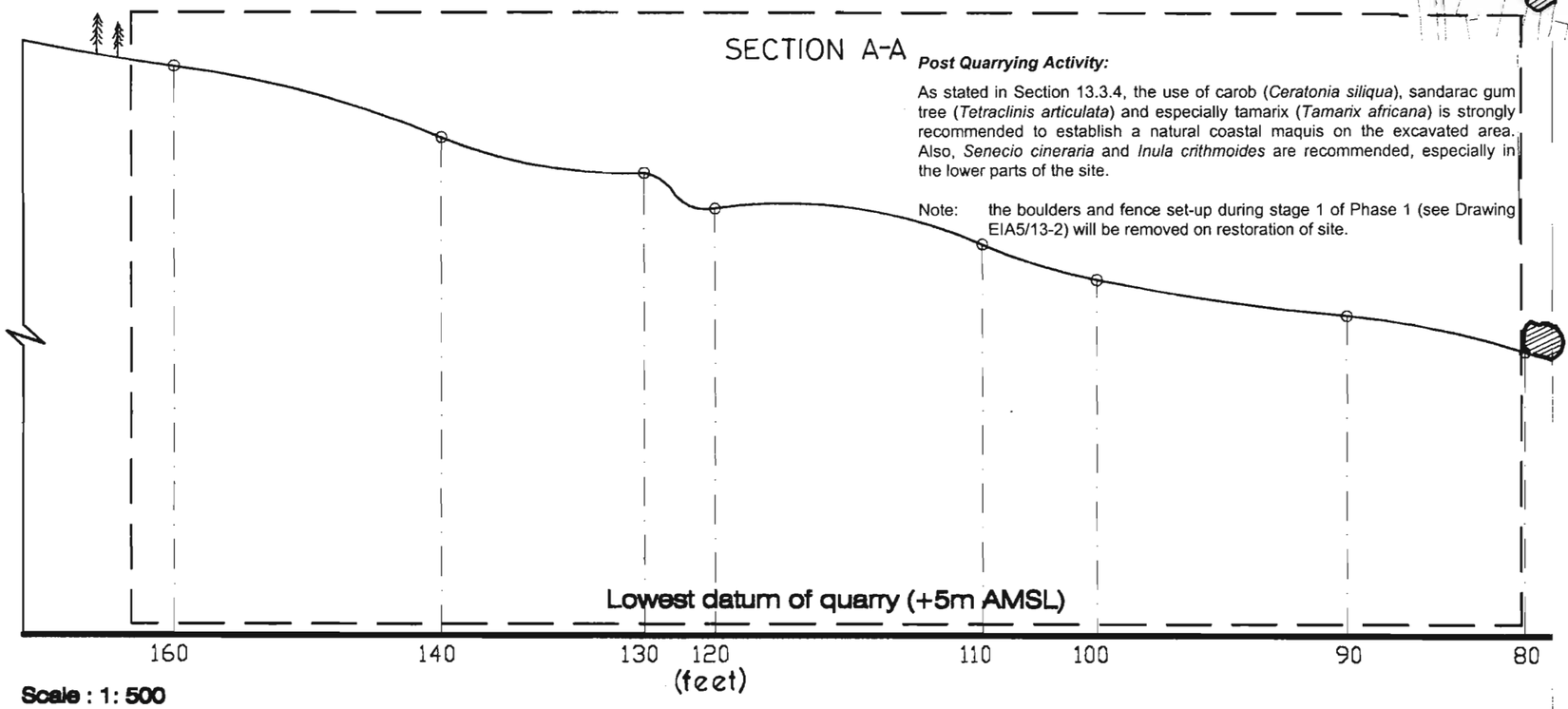


VEGETATION LAYOUT
DURING SITE DEVELOPMENT



EXTENT OF QUARRY

SECTION A-A



Scale : 1: 500

Post Quarrying Activity:

As stated in Section 13.3.4, the use of carob (*Ceratonia siliqua*), sandarac gum tree (*Tetraclinis articulata*) and especially tamarix (*Tamarix africana*) is strongly recommended to establish a natural coastal maquis on the excavated area. Also, *Senecio cineraria* and *Inula crithmoides* are recommended, especially in the lower parts of the site.

Note: the boulders and fence set-up during stage 1 of Phase 1 (see Drawing EIA5/13-2) will be removed on restoration of site.

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DRAWING TITLE :
RESTORATION PROPOSAL:
Vegetation Layout

SCALE: As Shown

DATE: AUG '98

DRAWING NO.: EIA5/13-10