

**REPORT ON EXCAVATION TRAINING AT THE
LANGEBAAN FOSSIL PARK
03.04.2000 – 14.04.2000**

Prepared for

**Earth Sciences Division
South African Museum**

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Prepared by

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1. INTRODUCTION

The Archaeology Contracts Office was requested to provide additional training to both museum staff as well as employees of the newly created West Coast Fossil Park, by extending the existing excavations on the remaining portion of “lag” deposit in the E Quarry at Langebaanweg. Ten days were allocated for the excavations.

Training covered the following:

- establishing a grid (using fixed points established during the 1998 excavations)
- basic excavation techniques (including use of vacuum cleaner)
- stratigraphy
- maintaining spatial and stratigraphic control over excavated material
- maintaining control of excavated deposit (bucket counts, bucket labels, bag labels)

Following the recommendations of the May 1999 report, a steel walkway was erected along two sides of the excavation (position shown in Figure 1). This now forms an excellent vantage point from which visitors can view the excavation and *in situ* bones in the old river channel, and has ensured a greater degree of protection for both the bones and remaining deposit by removing substantial human traffic from the surface of the lag deposit. During the excavation period, a number of tour groups, including schools, visited the site and were able to see excavations in progress.

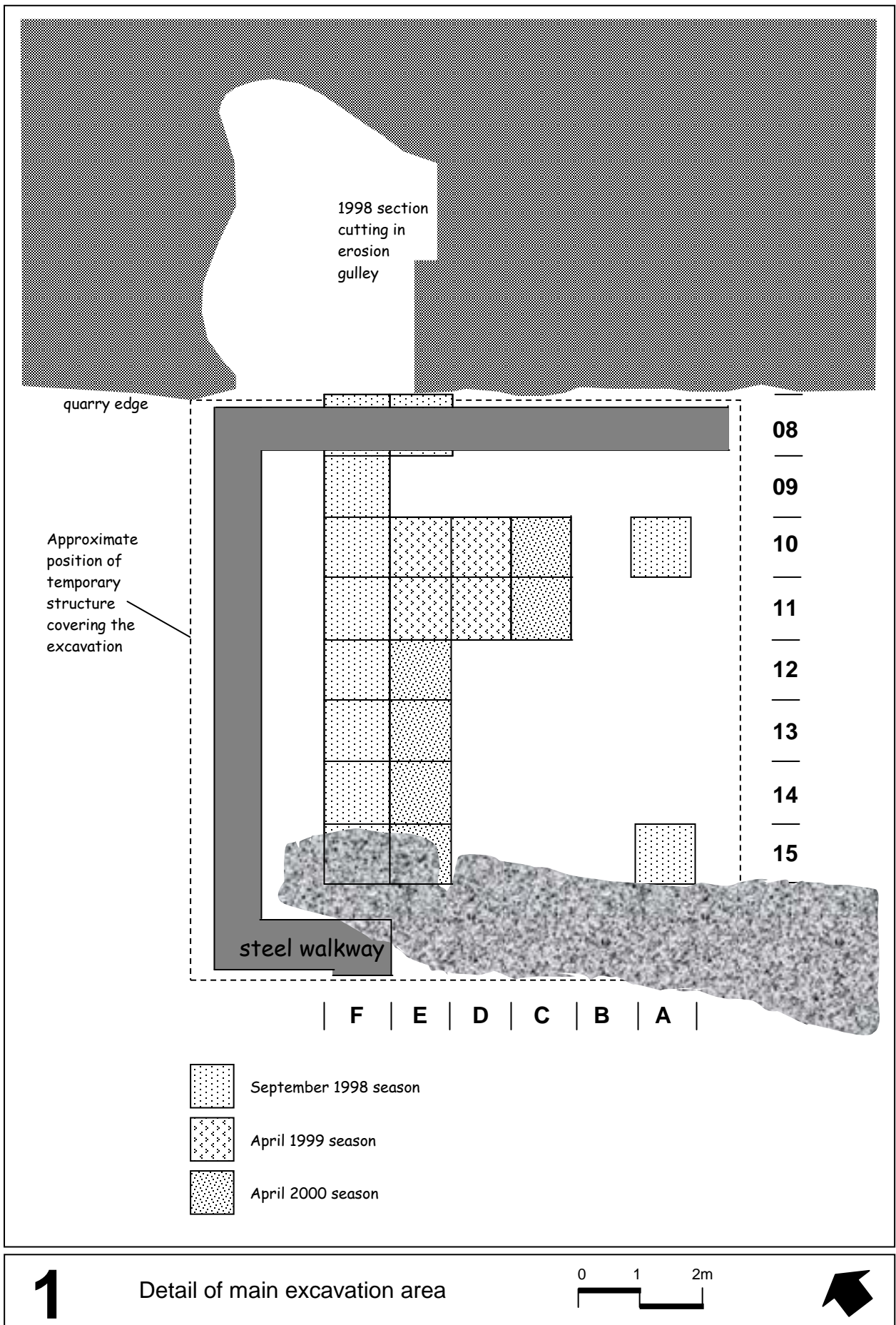
2. METHOD

Four new squares were excavated during the current training period. In addition, two incompletely excavated squares that had been started by Fossil Park staff following the 1999 training session were also completed. The position within the grid of all of these squares is shown in Figure 1. The deposit was excavated according to visible stratigraphy and as before, the technique of wetting the cemented deposit with water prior to excavation was employed. Large complete and semi complete bones were preserved *in situ* for public education purposes while wet deposit removed from around the bones was placed in large plastic bags and moved at the end of each day to the laboratory for wet sieving and drying. No sieving was undertaken by members of the excavation crew during the training period as this is being carried out by trained laboratory staff of the Fossil Park. A list of material that was excavated is presented in Appendix 1.

The addition of the steel walkway, in addition to its function as a tourist vantage point, was also intended to serve as base on which additional steel struts could be anchored for the purpose of setting up excavation platforms over the already exposed *in situ* bones. These platforms permit ongoing excavation of additional parallel, adjacent rows of squares without disturbing bones that have already been exposed (see plates 1&2). This was an interesting challenge given the uneven height of both the deposit and preserved bones. Both of these dictate the height at which the platform can be set. Some additional experimentation should be done to determine the optimal platform configuration.

3. DISCUSSION

While analysing the way in which excavation platforms could be attached to the existing steel walkway, it became obvious that in this and in future excavations, the optimal configuration favours working parallel to the longest length of the steel walkway perpendicular to the slope



of the deposit. The selection of the squares for excavation during this season is determined primarily by the location of the platform, but in addition, Dr. Smith had indicated that we should attempt to excavate squares alongside the Phosphorite outcrop that defines the southern edge of the river channel (lag) deposit.

With these factors in mind, and taking into consideration the size of the field crew, it was determined that 4 new squares (E12 – E15) and two partially completed squares (C10, C11) could be excavated in the time allocated. The location of these squares is shown in Figure 1.

Loose, surface material was removed from all squares until more compact, *in situ* material was encountered. Unlike the last season when we had to deal with two differing types of deposit (white lag and brown lag), the deposit in this part of the trench has been more similar to what we had encountered during the first period of excavation. This deposit is predominantly composed of what we call “brown lag” although pockets of white material are present throughout. During the earliest days of this seasons excavations, we had attempted to keep the white and brown material separate, but this proved too difficult and we removed both together as “brown lag” or in some instances it was called “mixed lag”.

Two observations need to be highlighted. Excavation revealed no large bones in C11 and almost nothing in C10. We believe that this could be an indication that bone is disappearing toward the south east. To be more precise, the depth of lag deposit seems to diminish and probably indicates that the base of the river channel sloped down at this point possibly due to the effects of the phosphate rock. The activities of mining have probably removed a part of the lag deposit from this region, that is preserved elsewhere in the excavation area. The other observation is that in E14 we seemed to be getting indications that we may be close to the underlying QSM deposit. We had noticed increasing whiteness of the deposit and in places there was highly cemented material around the bone such as that found around the bone along the channel edge/QSM interface during the initial excavations.

A number of large bones were uncovered and left in place for display purposes. As before these bones seem to have come from Sivatheres, but as can be seen from the sorting, many other smaller animals (frogs, rodents etc) are preserved with the bone/soil lag.

4. RECOMMENDATIONS

4.1 The next season of excavation should focus on squares D15-12 and E9 and D9. Hopefully the excavation of the latter squares will expose more of the channel edge.

4.2 A copy of this report should be submitted to SAHRA as fulfillment of the permit conditions.

5. EXCAVATION CREW

Dave Halkett (ACO)

Tim Hart (ACO)

Dr. Roger Smith & Ms. Georgina Stringer (SAM),

Magdalene Coetzee, Nicky Engelbrecht & Johnny Willemse (West Coast Fossil Park).

Thalassa Matthews (UCT)



1
The excavation area in the E Quarry at Langebaanweg showing the temporary structure protecting the site from the elements, and the steel walkway that has been erected. The location of this seasons excavated squares is indicated with arrows.



2
Squares E15-E12 in the process of excavation. The temporary excavation platform can be seen covering part of the exposed 1998 trench.

APPENDIX 1

INVENTORY OF EXCAVATED MATERIAL

DATE	SQUARE	LAYER	BAG TYPE	QTY	STATUS
04.04.2000	E12	brown lag	military sandbag	3	bulk unsieved
04.04.2000	E12	white lag	small clear plastic	½	sieved
04.04.2000	E12	surface	military sandbag	¼	bulk unsieved
04.04.2000	E13	brown lag	military sandbag	3	bulk unsieved
04.04.2000	E13	white lag	small clear plastic	½	sieved
04.04.2000	E13	surface	military sandbag	¼	bulk unsieved
04.04.2000	E14	brown lag	military sandbag	4	bulk unsieved
04.04.2000	E14	brown lag	white feed bags	2	bulk unsieved
04.04.2000	E14	white lag	military sandbag	1	bulk unsieved
04.04.2000	E14	surface	military sandbag	¼	bulk unsieved
04.04.2000	E15	brown lag	military sandbag	3	bulk unsieved
04.04.2000	E15	white lag	military sandbag	1	bulk unsieved
04.04.2000	E15	surface	military sandbag	¼	bulk unsieved
05.04.2000	E12	brown lag	military sandbag	5	bulk unsieved
05.04.2000	E13	brown lag	military sandbag	4	bulk unsieved
05.04.2000	E14	brown lag	military sandbag	5	bulk unsieved
05.04.2000	E15	brown lag	military sandbag	4	bulk unsieved
05.04.2000	E15	QSM-like from gulley	military sandbag	5	bulk unsieved
06.04.2000	E12	brown lag	military sandbag	6	bulk unsieved
06.04.2000	E13	brown lag	military sandbag	9	bulk unsieved
06.04.2000	E13	dissolved chunks brown lag	military sandbag	1	bulk unsieved
06.04.2000	E14	brown lag	military sandbag	10	bulk unsieved
06.04.2000	E15	brown lag	military sandbag	3	bulk unsieved
07.04.2000	E12	brown lag	military sandbag	3	bulk unsieved
07.04.2000	E13	brown lag	military sandbag	6	bulk unsieved
07.04.2000	E14	brown lag	military sandbag	4	bulk unsieved
10.04.2000	E12	brown lag	military sandbag	4	bulk unsieved
10.04.2000	E13	brown lag	military sandbag	3	bulk unsieved
10.04.2000	E14	brown lag	military sandbag	1	bulk unsieved
11.04.2000	E12	brown lag	military sandbag	4	bulk unsieved
11.04.2000	E13	brown lag	military sandbag	3	bulk unsieved
11.04.2000	E14	brown lag	military sandbag	1	bulk unsieved
11.04.2000	E15	brown lag	military sandbag	1	bulk unsieved
11.04.2000	C11	surface	military sandbag	1	bulk unsieved
11.04.2000	C11	mixed lag	military sandbag	2	bulk unsieved
12.04.2000	E12	brown lag	military sandbag	3	bulk unsieved
12.04.2000	E13	brown lag	military sandbag	1	bulk unsieved
12.04.2000	E14	brown lag	military sandbag	2	bulk unsieved
12.04.2000	C11	mixed lag	military sandbag	9	bulk unsieved
13.04.2000	E12	brown lag	military sandbag	2	bulk unsieved
13.04.2000	E13	brown lag	military sandbag	2	bulk unsieved
13.04.2000	E14	brown lag	military sandbag	1	bulk unsieved
13.04.2000	C11	mixed lag	military sandbag	2	bulk unsieved
13.04.2000	C10	mixed lag	military sandbag	3	bulk unsieved
14.04.2000	E12	brown lag	military sandbag	1	bulk unsieved
14.04.2000	E13	brown lag	military sandbag	1	bulk unsieved
14.04.2000	E14	brown lag	military sandbag	1	bulk unsieved
14.04.2000	E15	brown lag	small clear plastic	2	bulk unsieved
14.04.2000	C10	mixed lag	military sandbag	3	bulk unsieved
14.04.2000	C11	mixed lag	military sandbag	1	bulk unsieved