

**EXAMINATION OF THIN SECTIONS TO DETERMINE
THE EFFECTS OF
TURBO DRILLING ON CUTTINGS
PELICAN #5**

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Attention: Gary Kjellgren

REPORT F 6432/86 - Final

YOUR REFERENCE: LPD 1100

TITLE: Examination of thin sections to
determine the effects of turbo drilling
on cuttings

MATERIAL: Cuttings

LOCALITY: Pelican-5

IDENTIFICATION: 3924-3933 m, 4059-4068 m

DATE RECEIVED: 14 May 1986

WORK REQUIRED: Thin section examination

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1. INTRODUCTION

Two cuttings samples from Pelican-5 were received for thin section examination to investigate the petrographic effects of the turbodrill on the sandstone and claystone cuttings.

2. PROCEDURE

The samples were washed to remove drilling mud, dried and impregnated. Thin sections were then prepared in the normal fashion.

3. RESULTS

The cuttings consist of a mixture of lithologies and the effect of the turbodrill on each lithology was noted. These effects are discussed and illustrated by a series of plates in the following pages.

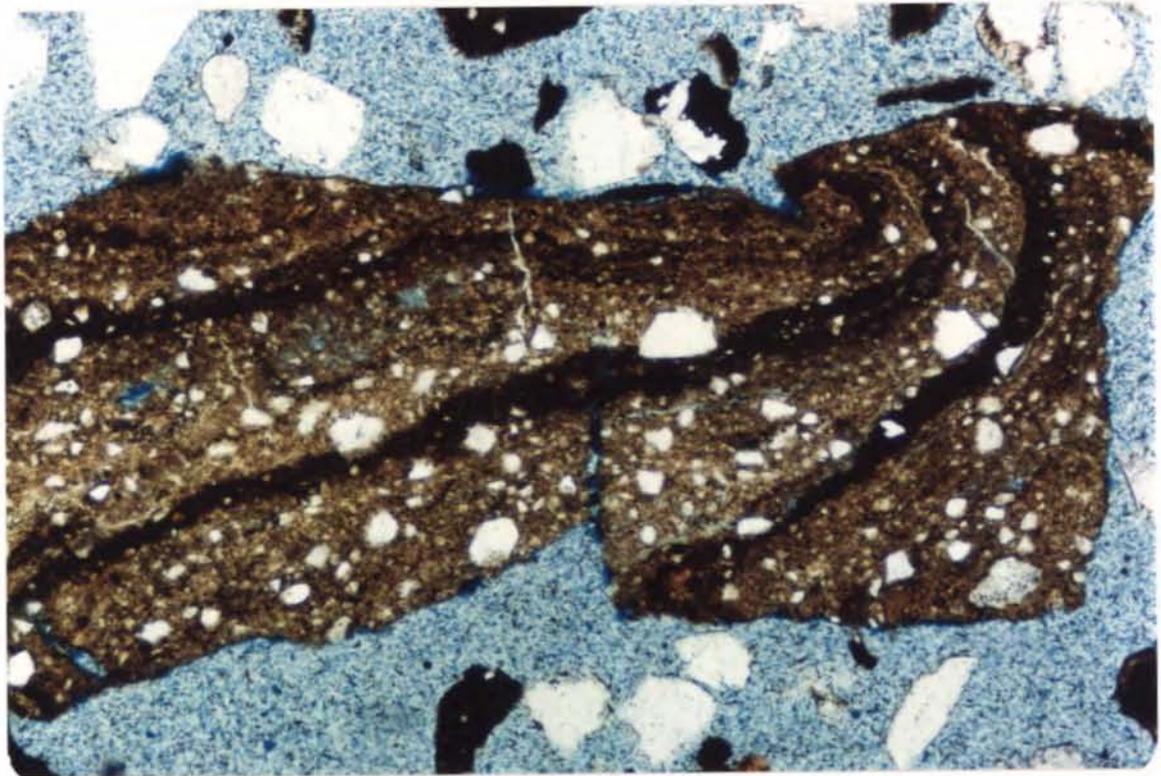


PLATE 1: 3924-3933 m PPL
Bedding in this silty shale cutting is clearly contorted by the turbobit. Carbonaceous bands in the shale are nearly inverted (upper right) and enable easy identification of these effects.
Field Width: 2.0 mm

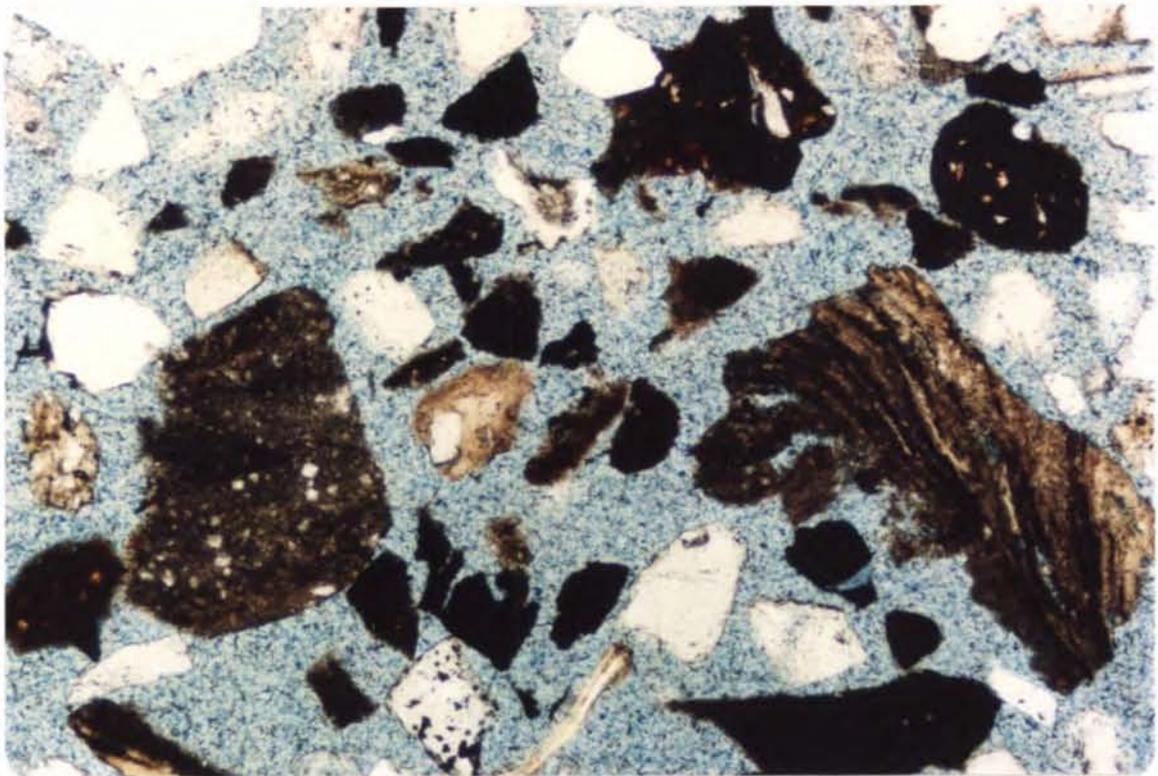


PLATE 2: 3924-3933 m PPL
The banded shale (right) is again clearly contorted by the turbobit. However the effect on the more carbonaceous (opaque) fragments is more difficult to determine. Rounding of the carbonaceous shale (top right) is likely to be an artifact of the bit. The shale towards the far left of centre appears to be largely unaffected by the bit. However the lack of clearly defined bedding makes this conclusion tentative.
Field Width: 2.0 mm

5 cm

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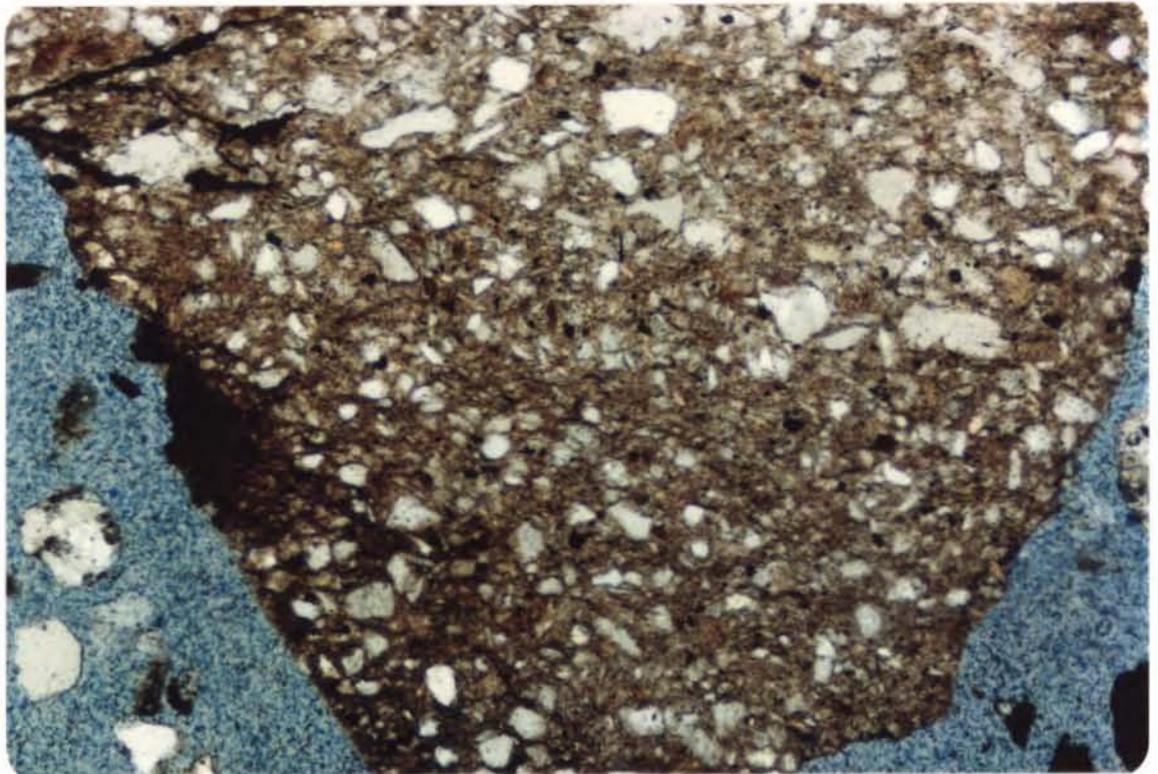


PLATE 3: 3924-3933 m PPL
This silty shale appears to be unaffected by the turbobit as do the other large (>2 x 2 mm) cuttings. These large cuttings may be cavings.
Field Width: 2.0 mm

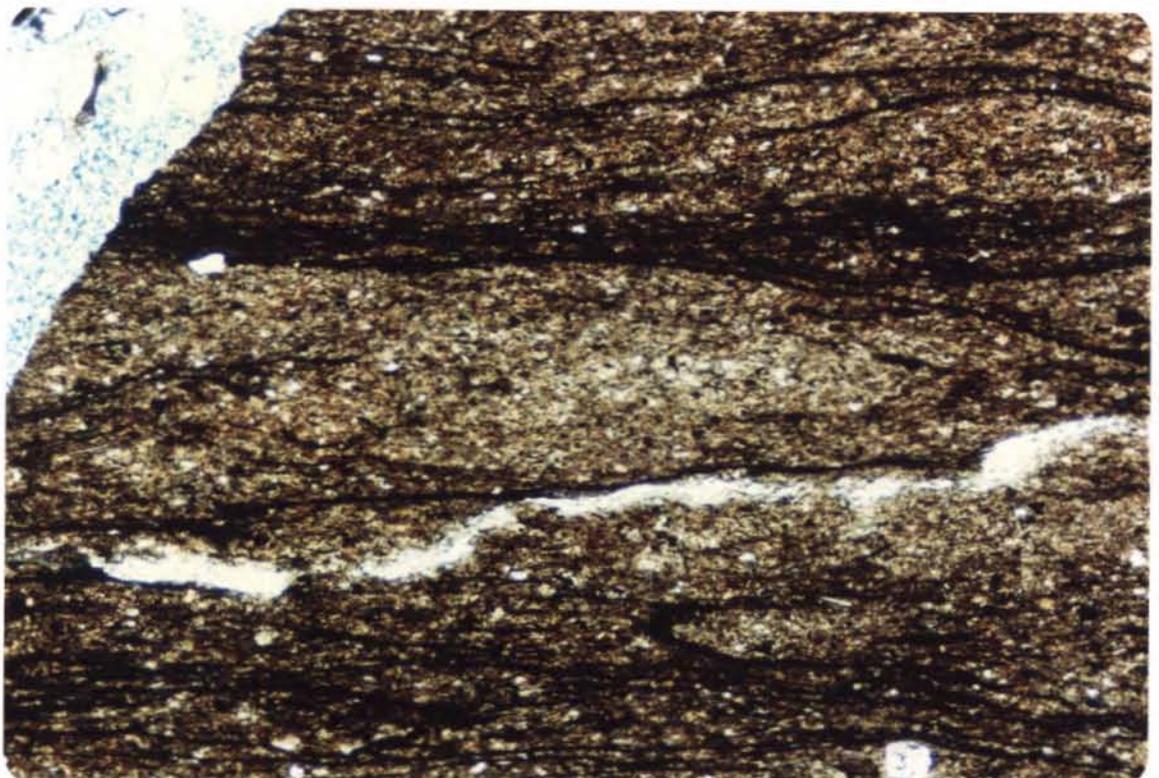


PLATE 4: 4059-4068 m PPL
This large shale fragment also appears to be unaffected by the turbobit.
Field Width: 2.0 mm

5 cm

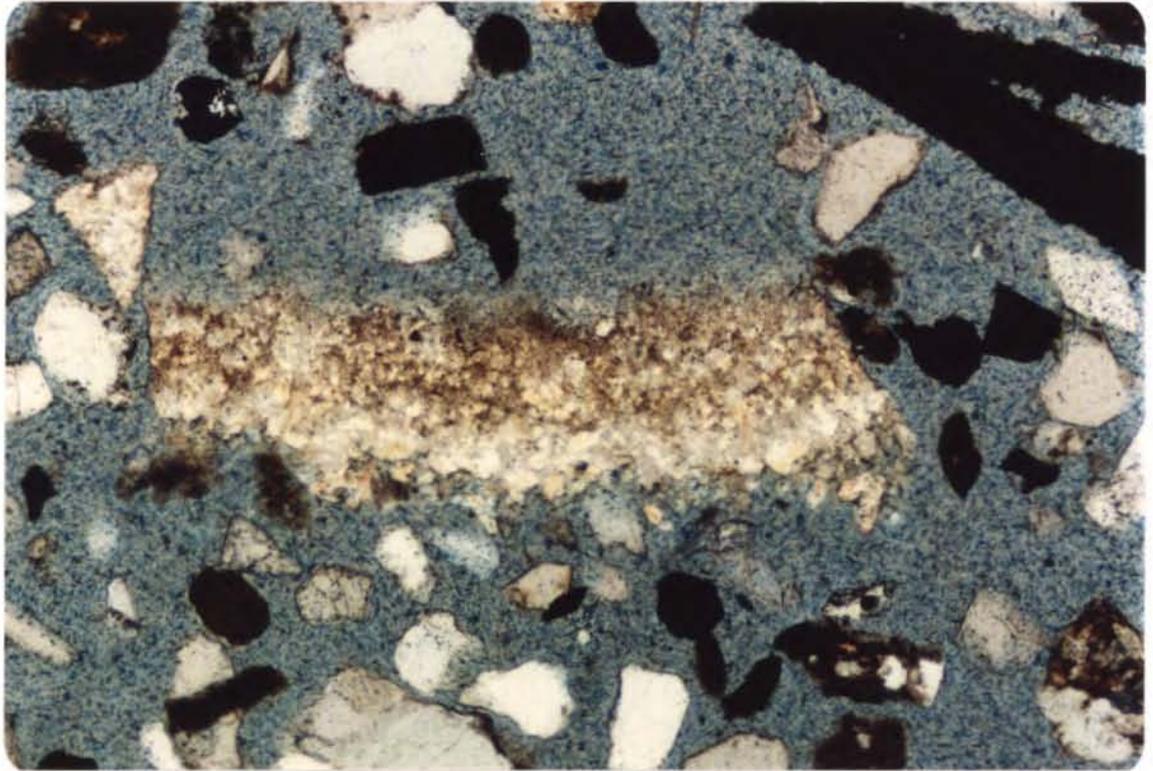


PLATE 5: 4059-4068 m

PPL

Bedding of this siltstone (centre) is slightly warped. The coaly fragment (upper right corner) also appears to be slightly contorted with unleafing occurring along the bedding plane.

Field Width: 2.0 mm

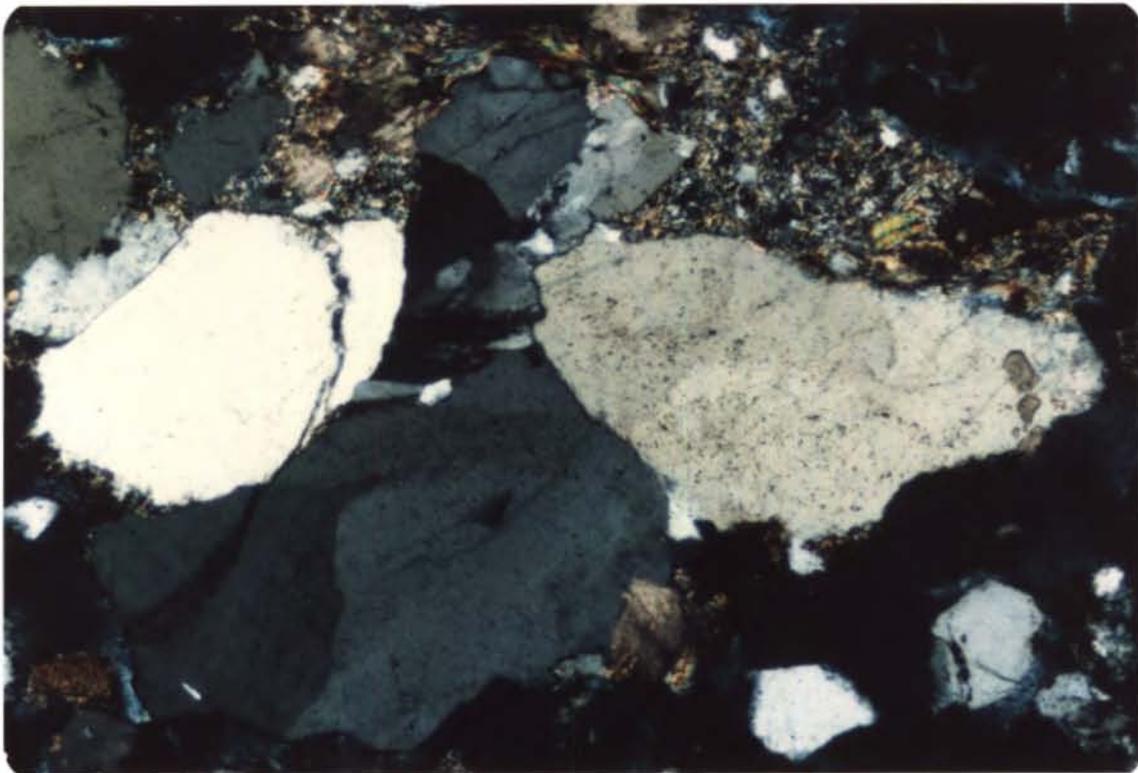
5 cm

456008



6

PPL



7

Crossed Nicols

PLATES 6 AND 7: 4059-4068 m

The effects of the turbobit on the sandstones is again difficult to determine as they are generally broken into individual quartz grains (Plates 1-5). However the larger sandstones show no signs of alteration rims or smearing of clays.

Field Width: 2.0 mm