

## SEDIMENT THIN SECTION DESCRIPTION

139-858A-17X-1 (13–16 cm)

GENERAL LITHOLOGY: Anhydritic claystone.

MINERALS:	PERCENT	SIZE	MORPHOLOGY ( $\mu\text{m}$ )	TEXTURE AND COMMENTS
Quartz	28–35	70–100	Subhedral to anhedral.	Detrital grains variably replaced; ragged outline.
Anhydrite	25–35	100–200	Subhedral to euhedral.	High relief, highly birefringent, prominent cleavage.
Clay	20–30	Very fine-grained.	Anhedral.	Olive green, appears to infill in the matrix.
Pyrite	0.1	<10	Subhedral.	Clusters of fine-grained pyrite occur in places.

GENERAL COMMENTS: Silty clay mostly replaced by euhedral anhydrite and felted masses of olive green hydrothermal clay. Crystals filling vugs when examined at high magnification.

## SEDIMENT THIN SECTION DESCRIPTION

139-858A-18X-2 (50–60 cm)

GENERAL LITHOLOGY: Altered sediment.

MINERALS:	PERCENT	SIZE	MORPHOLOGY ( $\mu\text{m}$ )	TEXTURE AND COMMENTS
Quartz and Feldspar	5–10	20–40	Anhedral to subhedral.	Detrital grains, ragged and partly replaced.
Aphanitic matrix	30–40	Very fine-	Euhedral. grained.	Detrital and diagenetic clay.
Anhydrite	2–5	500–1000	Subhedral to Euhedral.	Authigenic crystals growing in the sediment. May fill fractures in places.
Clay	40–50	Fine-grained.	Anhedral.	Olive green, authigenic, infilling and replacing the sediment.
Magnetite	0.1	20	Anhedral.	Ragged grains.
Carbonate	Tr.	20–30	Anhedral to subhedral.	

GENERAL COMMENTS: Hemipelagic sediment partly altered to authigenic anhydrite and olive green felted masses of clay.

## SEDIMENT THIN SECTION DESCRIPTION

139-858A-18X-CC

GENERAL LITHOLOGY: Altered sediment.

MINERALS:	PERCENT	SIZE	MORPHOLOGY ( $\mu\text{m}$ )	TEXTURE AND COMMENTS
Quartz/ Feldspar	20–30	100–200	Anhedral to subhedral.	Detrital grains variably replaced and altered.
Anhydrite	30–40	500–1000	Euhedral to subhedral.	Authigenic crystals growing in sediment.
Clay	30–40	Fine-grained.	Anhedral.	Irregular patches of dark olive green clay.
Pyrite	0.1–0.2	5–10	Subhedral.	Fine-grained, clustered together. Appear to be growing in a dark detrital mineral, possibly a ferromagnesian mineral such as hornblende.

GENERAL COMMENTS: Siltstone variably altered by anhydrite and olive green clay.

## SEDIMENT THIN SECTION DESCRIPTION

139-858A-24X-1 (11-13 cm)

GENERAL LITHOLOGY: Hemipelagic claystone.

MINERALS:	PERCENT	SIZE	MORPHOLOGY ( $\mu\text{m}$ )	TEXTURE AND COMMENTS
Quartz	10-15	30-60	Anhedral.	Detrital grains highly ragged.
Mica	2-4	50-70	Subhedral.	Platy grains, highly birefringent.
Aphanitic matrix	30-40	Fine-grained.	--	Very fine-grained clays; birefringent, not identifiable.
Authigenic clay	30-40	Very fine-grained.	--	Olive green clays infilling the matrix and partly replacing the sediment.
Anhydrite	1-4	600-800	Euhedral.	Clear, cleaved, high relief anhydrite crystals forming authigenically in sediment.
Pyrite	1-2	20-100	Subhedral to euhedral.	Different forms: framboids filling burrows; crystal network in microbreccia.

GENERAL COMMENTS: Very thick section. Hemipelagic claystone, partly recrystallized; clays are coarser grained and birefringent. Quartz appears recrystallized. Authigenic anhydrite is growing in the sediment. Delicate network of fine framboidal pyrite filling burrows. Invaded by green authigenic clay, which fills the open spaces and replaces the sediment.