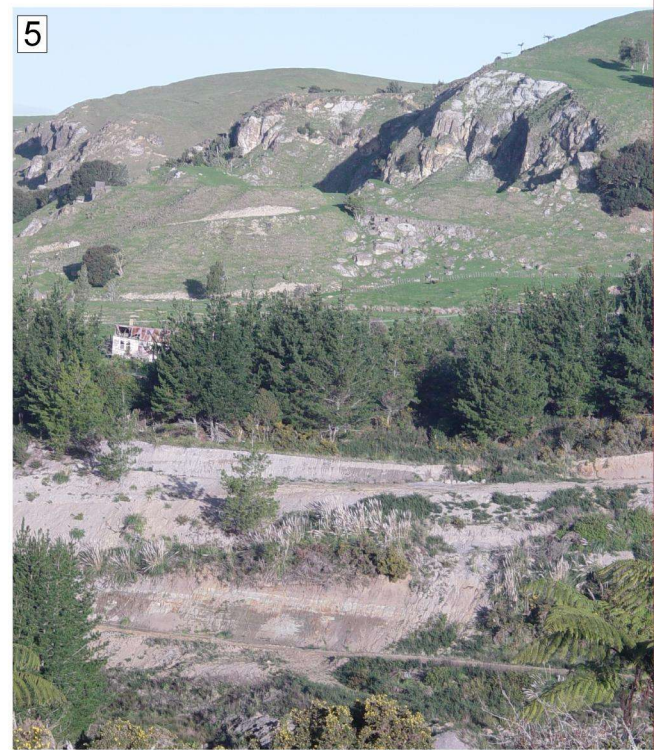
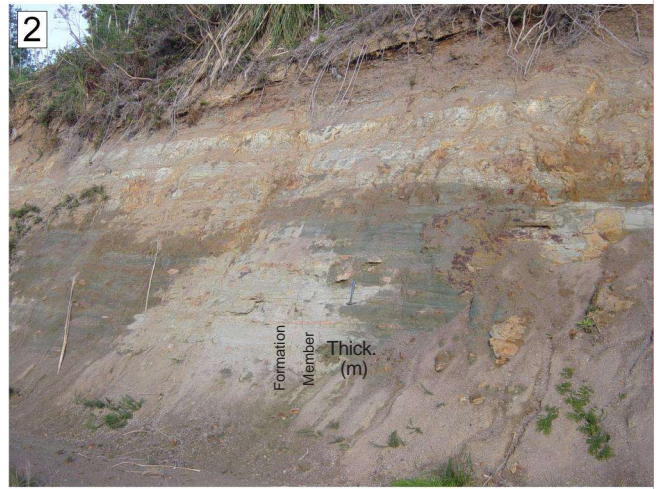


TA-16



Stratigraphic Column No: TA-17

Grid Reference:

NZMS 260 S14

Region: Te Akau

E: 2693952

Location: Dunphail Bluff, Elgood Road

N: 6393645

TA-17

NZMS 260 Sheet: S14/939936

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| Stage | Strat Unit | Scale (metres) | Strat Unit (old) | Lithology | Structures | Fossils | Facies | Photo No. | WO No. | Description |
|-------|-------------|----------------|------------------|-----------|---|--|---|---|---|--|
| e.Lwh | Glen Massey | 0-100 | | | <p>Top eroded</p> <p>Steep bluffy weath. profile, common honeycombed surface and occ. inclined burrows visible on surface</p> <p>Massive, faint bedding evident in places, bioturbated</p> <p>Massive, occ. with frittered weathering surface, near vertical profile</p> <p>Marked change in weath. profile, becomes steep to near vertical</p> <p>Mod to steep weathering profile, frittered surface, bioturb. features</p> <p>No exposures, mod to steep gradient covered with fallen blocks</p> <p>Irregularly flaggy</p> <p>No exposure, gentle to mod. weathering gradient, 10 m section condensed</p> <p>Gentle to mod. gradient, exposed on stream bank, slumping com.</p> <p>No exposure below Mangakotuku stream level</p> | <p>Scattered articulated and disarticulated pectins, often highly leached</p> <p>Abundant pectin and other large bivalves</p> <p>* Shell bed</p> | <p>S3</p> <p>S6</p> <p>L2</p> <p>C3</p> | <p>3-3264</p> <p>3-3263</p> <p>3-3262</p> <p>3-3261</p> <p>3-3260</p> <p>3-3259</p> <p>3-3258</p> <p>3-3257</p> <p>3-3256</p> <p>3-3255</p> <p>3-3254</p> <p>3-3253</p> <p>3-3252</p> | <p>9</p> <p>7</p> <p>8</p> <p>5-6</p> <p>3-4</p> <p>1-2</p> | <p>CALCAREOUS SILTY SANDSTONE: Light to medium brownish grey, well cemented, massive in appearance but faint centimeter scale horizontal bedding evident in the middle and upper part, bioturbated, very fine to fine calc. sst grading into silty sandstone to sandy siltstone, steep weathering profile, scattered articulated and disarticulated pectins.</p> <p>MASSIVE CALCAREOUS SILTSTONE: Light brownish grey, frittered weath. surface, well cemented, common mottled texture due to extensive bioturbation, disseminated fine glauconite pellets especially in the basal part, occ. articulated pectins, often highly leached.</p> <p>FLAGGY GLAUCONITIC LIMESTONE: Light brownish, flaggy with irregular, bifurcating seams rich in siliciclastics, highly fossiliferous containing lge bivalve fragments, disseminated glauconite pellets, medium to coarse grainstone.</p> <p>SANDY GLAUCONITIC LIMESTONE: Massive, dull greenish grey, mod. well cemented, massive, high concentration of glauconite, large burrows infilled with glauconitic sand seen in the basal part, large bivalve frags., poorly exposed.</p> <p>SILTSTONE: Dark grey weathers to an ochre-brown to purplish brown frittered surface, often with yellowish florescence, soft and sticky, predominantly non-calcareous, weakly to mod. calc. when shells are present, thin iron stained veinlets criss-cross the exposure surface, unit shows common slumping.</p> |

mud
silt
sand
gravel

TA-17

2 of 3



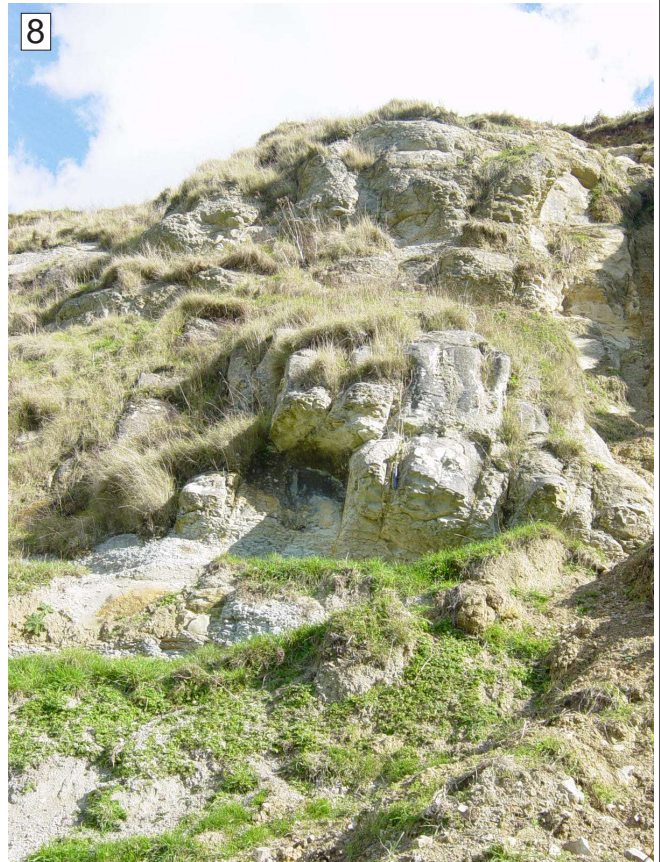
TA-17

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7



8



9



Stratigraphic Column No.: Ak-6

Grid Reference: Top

Bottom

NZMS 260 S15

Region: Aotea-Kawhia

E: 2694164

Location: Johnstone's farm, Waikhowa Road,
Te Pahu-Karamu, Whatawhata

N: 6367423

AK-6

NZMS 260 Sheet: S15/941674

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Author: A. Tripathi

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| Stage | Strat Unit | Scale (metres) | Strat Unit (old) | Lithology | Structures | Fossils | Facies | Photo No. | WO No. | Description |
|-------|-------------|----------------|------------------|-------------------|--|---|---|---|---|-------------|
| Lwh | Glen Massey | 0 to 90 | Ahirau | <p>Top eroded</p> | <p>Break in weathering profile</p> <p>Interbedded transition very glauconitic</p> <p>Sharp erosive contact</p> | <p>Rare occ. pectins</p> <p>Abund. scattered small bivalves, <i>dentalium</i>, <i>panopea</i>, occ. oyster frag., gastropods</p> <p>Scattered pectins, and other large bivalves</p> | <p>S2</p> <p>S6</p> <p>C2-C3</p> <p>L4-L5</p> <p>L5</p> | <p>3-3335</p> <p>3-3334</p> <p>3-3333</p> <p>3-3332</p> <p>3-3331</p> <p>3-3330</p> <p>3-3329</p> <p>3-3328</p> <p>3-3327</p> <p>3-3326</p> <p>3-3325</p> <p>3-3324</p> | <p>INTERBEDDED SANDY MUDSTONE AND CALC. MUDDY SANDSTONE: Medium dull greyish, alteration of weakly cemented massive sandy mudstone and 15-20 cm mod. cemented calcareous muddy sandstone, fossiliferous with abundant often leached bivalves, <i>dentalium</i>, oyster fragments and gastropod.</p> <p>CALC. SILTY SANDSTONE: Light brownish to bluish grey, well cemented, overall massive in appearance, however over massive interval faint horizontal bedding is often discernible from weathering breaks and occasional honey-combed intervals, bluffy near vertical weathering profile, highly calcareous very fine to fine sandstone grading into silty sandstone, bioturbated, rare scattered bivalves.</p> <p>MASSIVE CALC. SILTSTONE: Light greyish to bluish grey, massive, fine siltstone, highly calcareous, mod. glauconitic in places.</p> <p>GLAUC. CALC. SILTSTONE: Dull greenish grey, mod. cemented, massive often with frittered surface, fine calc. siltstone with high concentration of glauconite, grades above into weakly to mod. glauconitic calc. siltstone.</p> <p>INTERBEDDED GLAUCONITIC LIMESTONE & MASSIVE CALC. SILTSTONE: Dull brownish grey to greenish grey, alteration of 20-30 cm highly glauconitic limestone and massive glauconitic siltstone, common scattered pectins.</p> <p>FLAGGY LIMESTONE: Light brownish to greyish white, lowermost 1-1.2 m interval above the contact is mass., grades upsection into poorly to mod. flaggy, flags 6-10 cm separated by thin recessive seams, horizontally bedded fine to medium sparry grainstone to packstone, common scattered whole bivalves and coarse shell hash mainly of pectins, especially in the upper transition to interbedded calc. siltstone and lst, common disseminated glauconite pellets.</p> <p>MASSIVE SANDY MUDSTONE: Dull medium greyish, weakly to mod. cemented often crumbly and sticky when wet, massive with only faint horizontal bedding apparent in places, scattered leached bivalves, gastropod and <i>dentalium</i>.</p> <p>Lower contact of the unit not exposed.</p> | |

AK-6

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Stratigraphic Column No: Ak-15

Grid Reference: Top

Bottom

NZMS 260 S15

Region: Whatawhata

E: 2691961

Location: Quarry Road, Te Pahu-Karamu,
Whatawhata

N: 6364878

AK-15

NZMS 260 Sheet: S15/919648

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Author: A. Tripathi

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| Stage | Strat Unit | Scale (metres) | Strat Unit (old) | Lithology | Structures | Fossils | Facies | Photo No. | WO No. | Description |
|-------|--------------|----------------|------------------|-----------|--|--|-------------------------|-----------------------|--------|--|
| Lwh | Manga-kotuku | 0-100 | | | Gradational contact Massive to poorly flaggy, horizontally bedded Poorly to mod. flaggy thin indistinguishable seams Mod. flaggy, flags 5-10 cm, recessive siliciclastic rich seams, horizontally bedded Abruptly gradational facies transition Break in weathering profile, steep near vertical profile up-section | Extensively burrowed extensively burrowed intervals | L5 L4-L5 S6 S2 | 2 3 4 5 6 | | CALC SILTY SANDSTONE: Dull brownish grey, mod. cemented, extensively bioturbated with large inclined tubular burrows up to 4-5 cm visible on surface, few burrows penetrate below from overlying limestone, fine calcareous silty sandstone, lower contact not exposed. MASSIVE TO MOD. FLAGGY LIMESTONE: Creamish to buff, massive to moderately flaggy distinctly fine textured variably silty grainstone grading into wackestone, frequent extensively bioturbated intervals indicated by bedding parallel solution cavities, occ. fine disseminated glauconite pellets. CALCAREOUS SILTSTONE: Light greyish to brownish grey, massive with frittered weathering surface, fine calcareous siltstone, unit is poorly exposed. CALCAREOUS SILTY SANDSTONE: Light bluish to brownish grey, well cemented, overall massive in appearance but faint bedding is apparent from bedding parallel recessive horizons, extensively bioturbated, prominent bluff near vertical profile. |
| | Wai-areu | | | | | | | | | |
| | Elgood | | | | | | | | | |
| | Dunphail | | | | | | | | | |
| | Glen Massey | | | | | | | | | |

mud
silt
fine
coarse
sand
medium
fine
coarse
gravel

AK-15

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