

Fig. 9. Map showing location of stratigraphic columns within NZMS 260 Sheet U21.

Stratigraphic Column No. 103

Grid Reference: Top Bottom

NZMS 260 U21

GPS Waypoint No(s): Wp 821

E: - 2809276

Region: Matapiro

N: - 6188366

Location: Ngaruroro River downstream of Whana Valley

Altitude: - 75 m

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Age	Strat. Unit		Scale (metres)	Lithology	Sampling interval	Facies	WP No.	Samples	Contacts	Description						
	Int.	N.Z.														
Late Pliocene		Upper Nukumaru Group	0 to 42													
											Mangaheia Group	Okauauwa Formation/Kikowhero Member	24 to 30	Cg ₁	Non fossiliferous greywacke conglomerate.	
													Kereru Formation	20 to 24	S ₁	Non cemented, non fossiliferous, massive, fine to medium sandstone. Conformably and gradationally overlies blue-grey siltstone.
															S ₆	
													Kereru Formation	14 to 16	Z ₁	
															S ₁	
													Kereru Formation	8 to 12	S ₆	
															Z ₂	Blue-grey, non cemented siltstone. Coarsens upsection and conformably overlain by fine to medium sandstone. Contains moderately to highly fossiliferous beds.
													Kereru Formation	2 to 4		

Stratigraphic Column No: 104
 Section: W2
 GPS Waypoint No(s):
 Region: Central Hawkes Bay
 Location: Omahaki
 NZMS 260 Sheet: U21

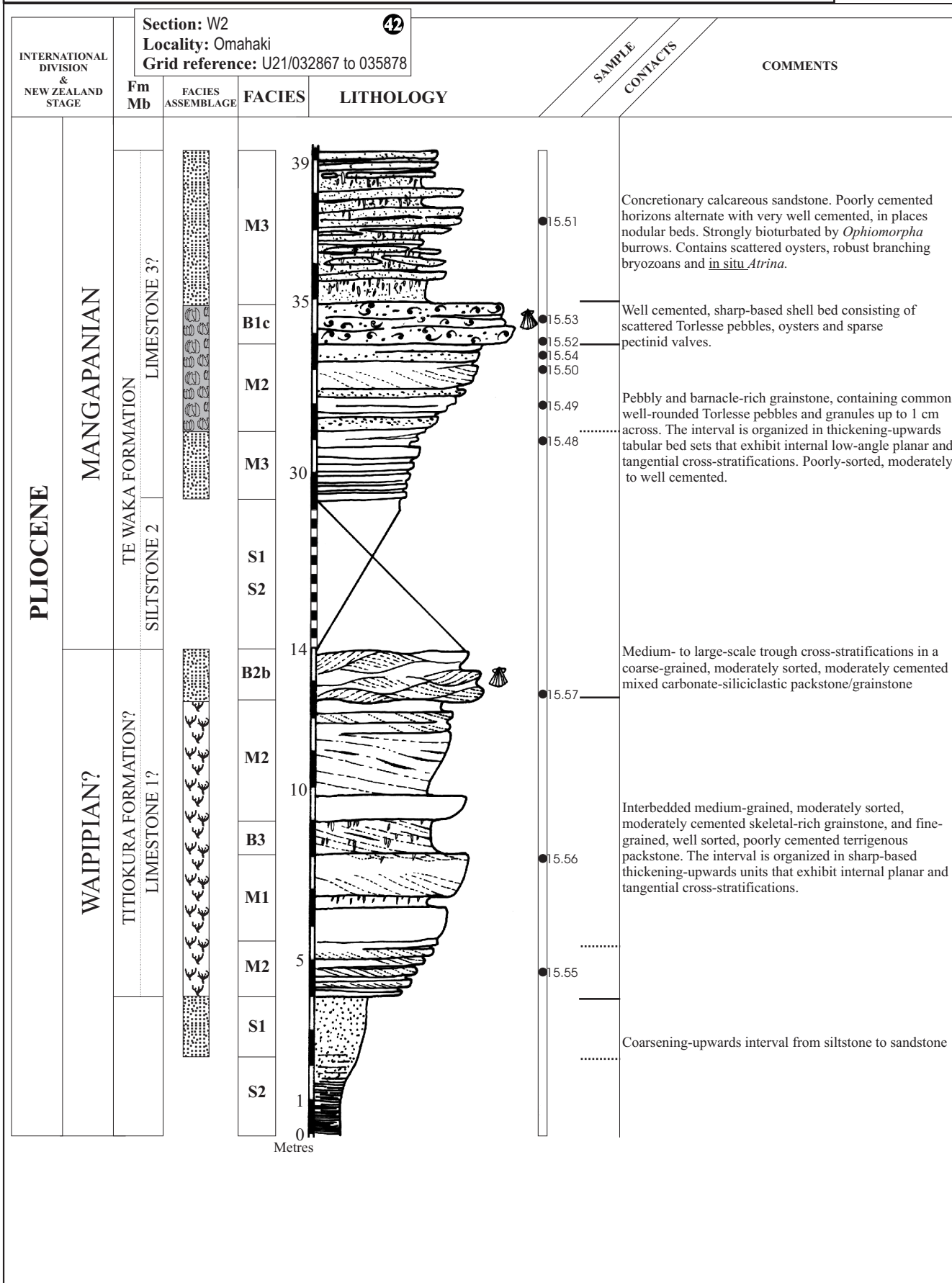
Grid Reference: Top Bottom
 E: 2803200-2803500 -
 N: 6186700-6187800 -
 Altitude: -

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Stratigraphic Column No: 104
 Section: W2
 GPS Waypoint No(s):
 Region: Central Hawkes Bay
 Location: Omahaki
 NZMS 260 Sheet: U21

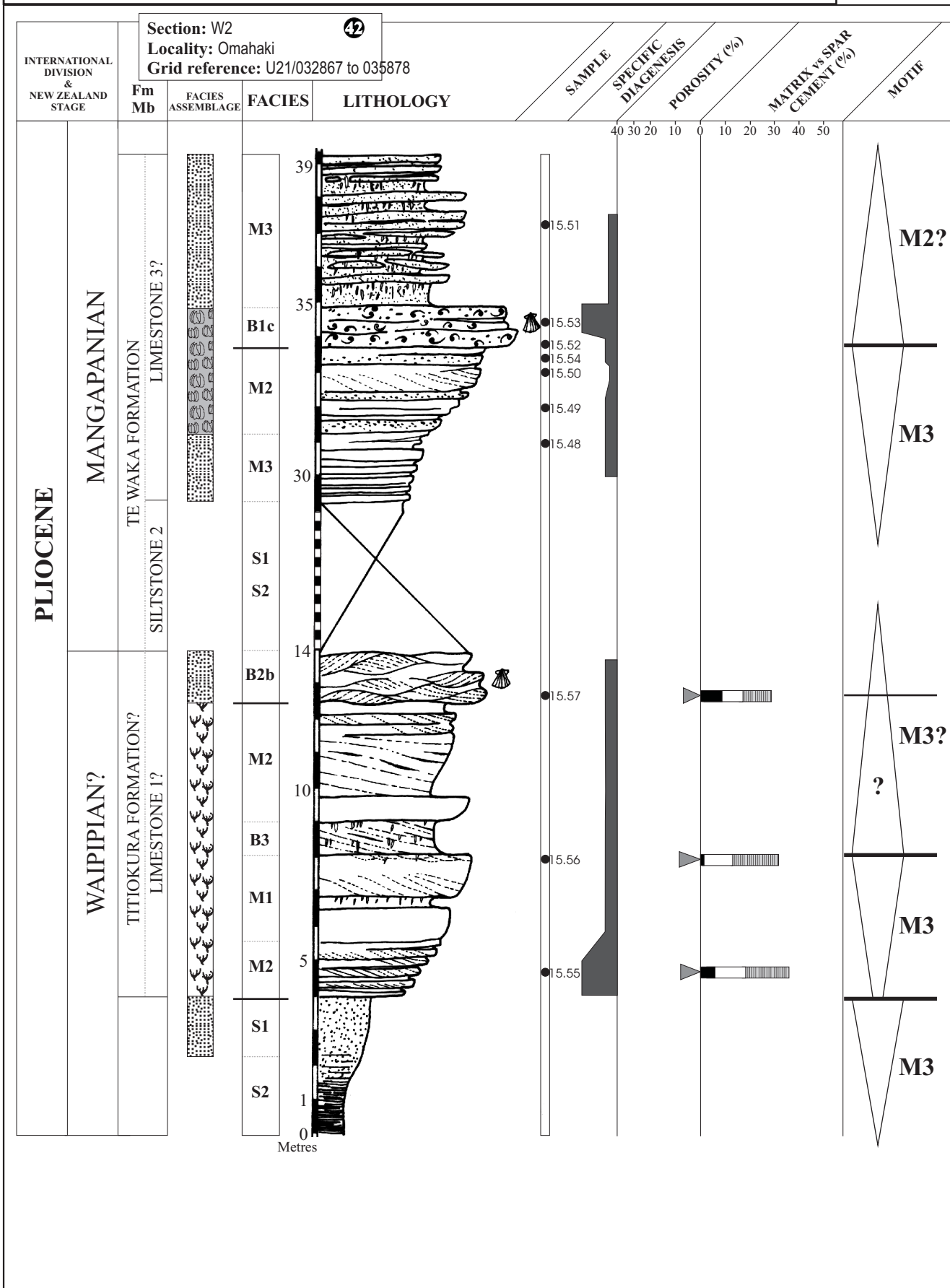
Grid Reference: Top Bottom
 E: 2803200-2803500 -
 N: 6186700-6187800 -
 Altitude: -

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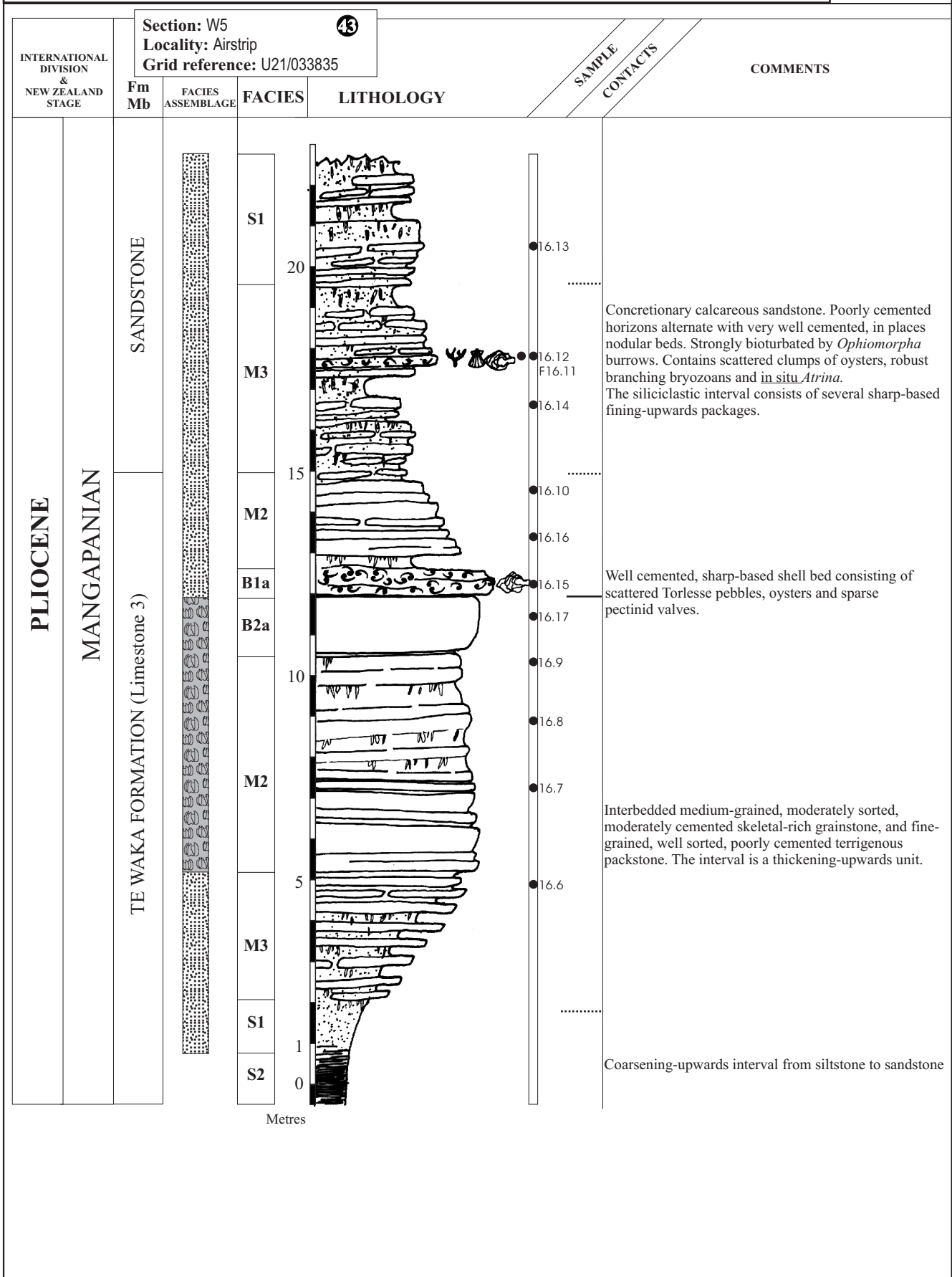


Stratigraphic Column No: 107	Grid Reference: Top	Bottom	NZMS 260 U21 107 1 of 2
GPS Waypoint No(s): Wp 936	E: 2803002	-	
Region: Omahaki	N: 6185832	-	
Location: Southern end of Glenross Range south of airstrip, Kohurau Station	Altitude: 675 m	-	
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Age	Strat. Unit		Scale (metres)	Lithology	Sampling interval	Facies	WP No.	Samples	Contacts	Description
	Int.	N.Z.								
Late Pliocene	Mangapanian	Mangaheia Group	Te Waka Formation (cycle 3)	21						<p>Stacked bodies of mixed siliciclastic-bioclastic medium- to coarse-grained sand-sized shellhash-dominated sheets, typically 0.1-0.15 m thick. Beds are differentially cemented and stacked in planar to moderate-scale cross-bedded patterns. Contains common <i>Phialopecten thomsoni</i> and <i>Crassostrea ingens</i>.</p>
				20						
				19						
				18						
				17						
				16						
				15						
				14						
				13						
				12						
11										
10										
			Te Waka Formation (cycle 2)	9						<p>Orange-brown, non cemented, massive to laminated fine to medium sandstone with siltstone stringers 1-2 cm thick. Base of sandstone is not exposed.</p>
				8						
				7						
				6						
				5						
				4						
				3						
				2						
				1						

mud	fine med coarse	fine med.	coarse granu. pebb. cobb. bould.
silt	sand	gravel	

Stratigraphic Column No: 108	Grid Reference: Top	Bottom	NZMS 260 U21 108 1 of 2
Section: W5	E: 2803300	-	
GPS Waypoint No(s):	N: 6183500	-	
Region: Central Hawkes Bay	Altitude:	-	
Location: Airstrip	Author: V. Caron		
NZMS 260 Sheet: U21			



Stratigraphic Column No: 108
 Section: W5
 GPS Waypoint No(s):
 Region: Central Hawkes Bay
 Location: Airstrip
 NZMS 260 Sheet: U21

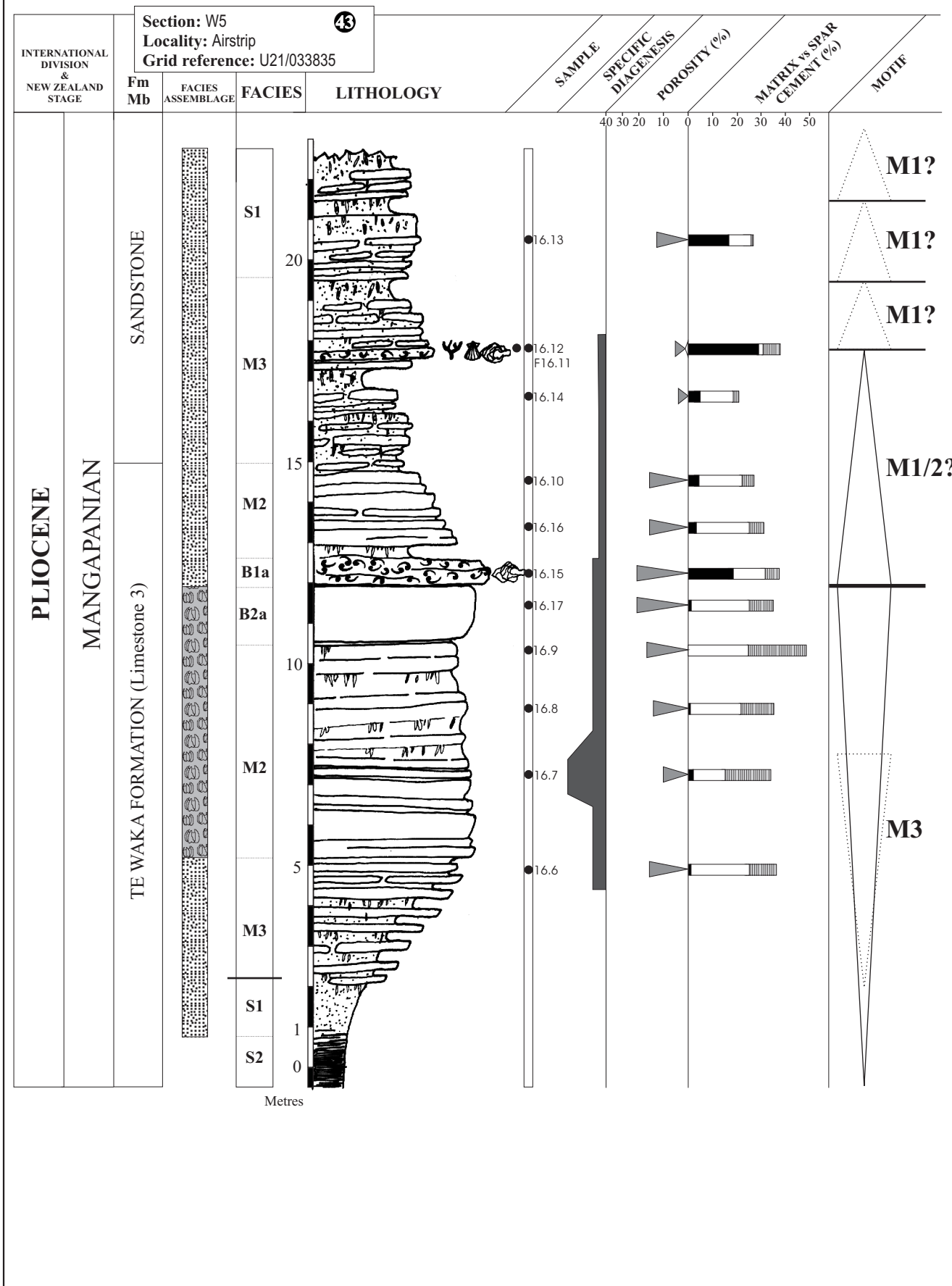
Grid Reference: Top Bottom
 E: 2803300 -
 N: 6183500 -
 Altitude: -

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Top left: overview of limestone portion of section.



Top right: Contact between lower oyster-rich bed and upper pebbly limestone interval, separated by 0.15 m of shellhash.

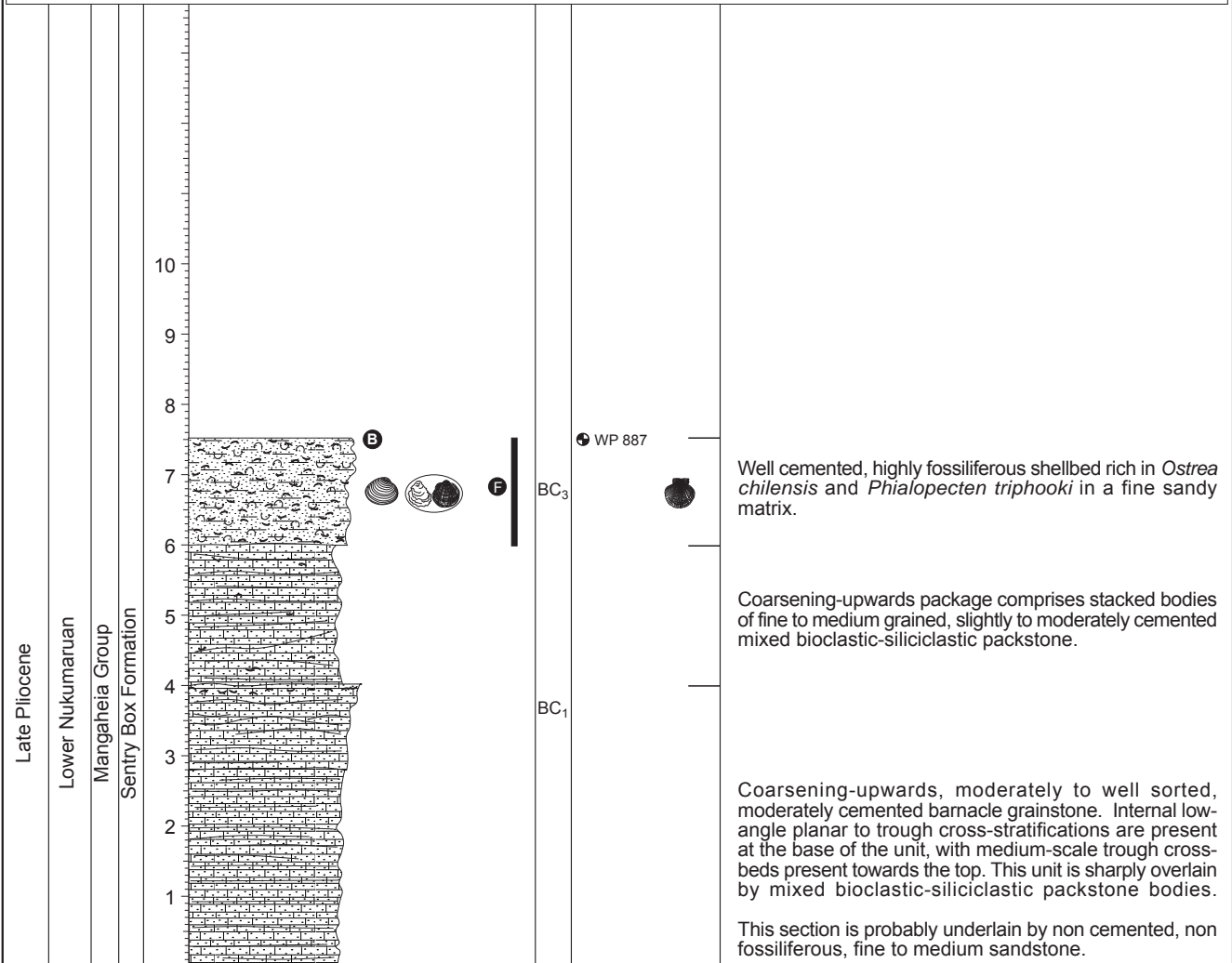
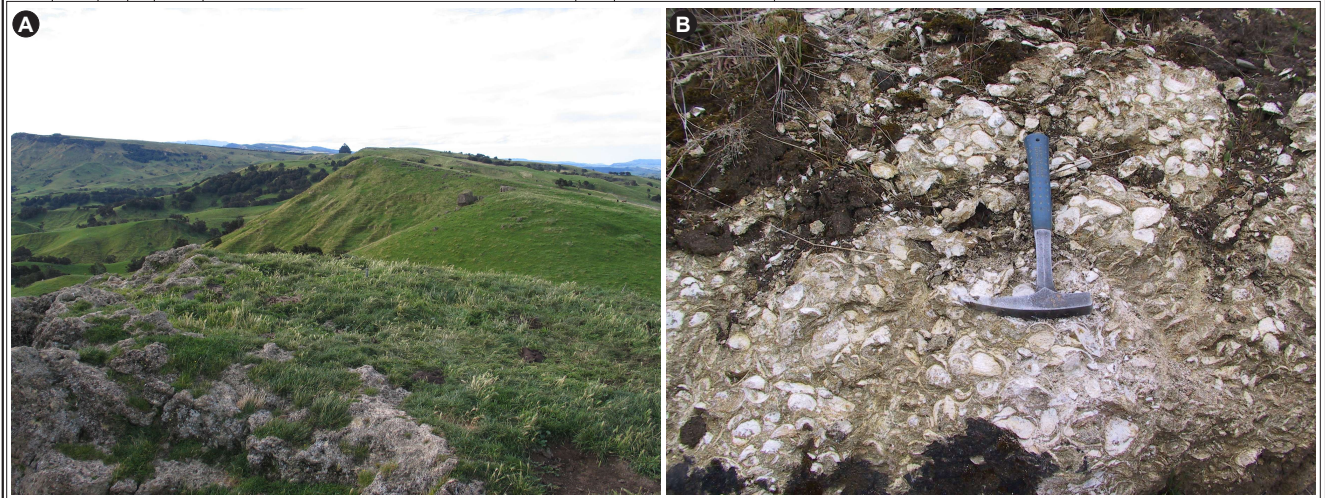
Bottom right: Close-up of contact between upper and lower limestone intervals. Note the abundant oyster valves in the lower interval.

Bottom left: Close-up of a sample of the limestone.



Stratigraphic Column No: 110	Grid Reference: Top	Bottom	NZMS 260 U21 110 1 of 1
GPS Waypoint No(s): Wp 887	E: 2804042	-	
Region: Whanawhana	N: 6180637	-	
Location: Awapai Station above entrance gate	Altitude: 446 m	-	
COLUMN 44 OF V. CARON (2002) INCORPORATED INTO THIS SECTION - see Column 111			
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Age	Strat. Unit	Scale (metres)	Lithology	Sampling interval	Facies	WP No.	Samples	Contacts	Description



mud	fine med. coarse	fine med.	coarse granu. pebb. cobb. bould.
silt	sand	gravel	

Stratigraphic Column No: 111	Grid Reference: Top	Bottom	NZMS 260 U21 111 1 of 2
Section: Wh1	E: 2804100	-	
GPS Waypoint No(s):	N: 6180200	-	
Region: Central Hawkes Bay	Altitude:	-	
Location: Awapai Gate	Author: V. Caron		
NZMS 260 Sheet: U21			

INTERNATIONAL DIVISION & NEW ZEALAND STAGE		Fm Mb	FACIES ASSEMBLAGE	FACIES	LITHOLOGY	SAMPLE CONTACTS	COMMENTS
PLIOCENE NUKUMARUAN SENTRY BOX FORMATION						44	<p>Well cemented shell bed packed with oysters and pectinids (<i>Phialopecten triphooki</i>) in a micritic matrix.</p> <p>Coarsening-upwards massive bedded, fine- to medium-grained, poorly cemented terrigenous/skeletal packstone.</p> <p>Coarsening-upwards, moderately to well sorted, moderately cemented barnacle grainstone. Sedimentary structures include thickening-upwards horizontal tabular bed sets with internal low-angle planar cross-stratifications towards the base and cross-laminated medium-scale trough and sigmoidal structures towards the top, below a sharp surface.</p>



Stratigraphic Column No: 113	Grid Reference: <i>Top</i>	<i>Bottom</i>	NZMS 260 U21 113 3 of 3
GPS Waypoint No(s): Wp 827-829	E: 2809666	2809409	
Region: Whanawhana	N: 6177152	6177489	
Location: Matapiro Road on Napier side of Whana Valley	Altitude: 287 m	262 m	
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Age	Strat. Unit	Scale (metres)	Lithology	Sampling interval	Facies	WP No.	Samples	Contacts	Description							
										Int.	N.Z.					
Late Pliocene	Upper Nukumaru Group															
	Mangaheia Group															
	Okauauwa Formation/Whakamaruru Member							<p>Pebbly shellbed. Macrofossils mostly as casts, although common <i>Tawera</i> are present. Passes gradationally over a few centimetres into siltstone.</p> <p>Coarse sand to fine pebble greywacke conglomerate. Slightly to moderately cemented, with very well sorted, well rounded lesoidal/oblate to spheroidal clasts.</p>								
			<table border="1"> <tr> <td>mud</td> <td>fine silt</td> <td>fine sand</td> <td>med. sand</td> <td>coarse sand</td> <td>granu. pebb.</td> <td>cobb.</td> <td>bould.</td> </tr> </table>	mud	fine silt	fine sand	med. sand	coarse sand	granu. pebb.	cobb.	bould.					
mud	fine silt	fine sand	med. sand	coarse sand	granu. pebb.	cobb.	bould.									