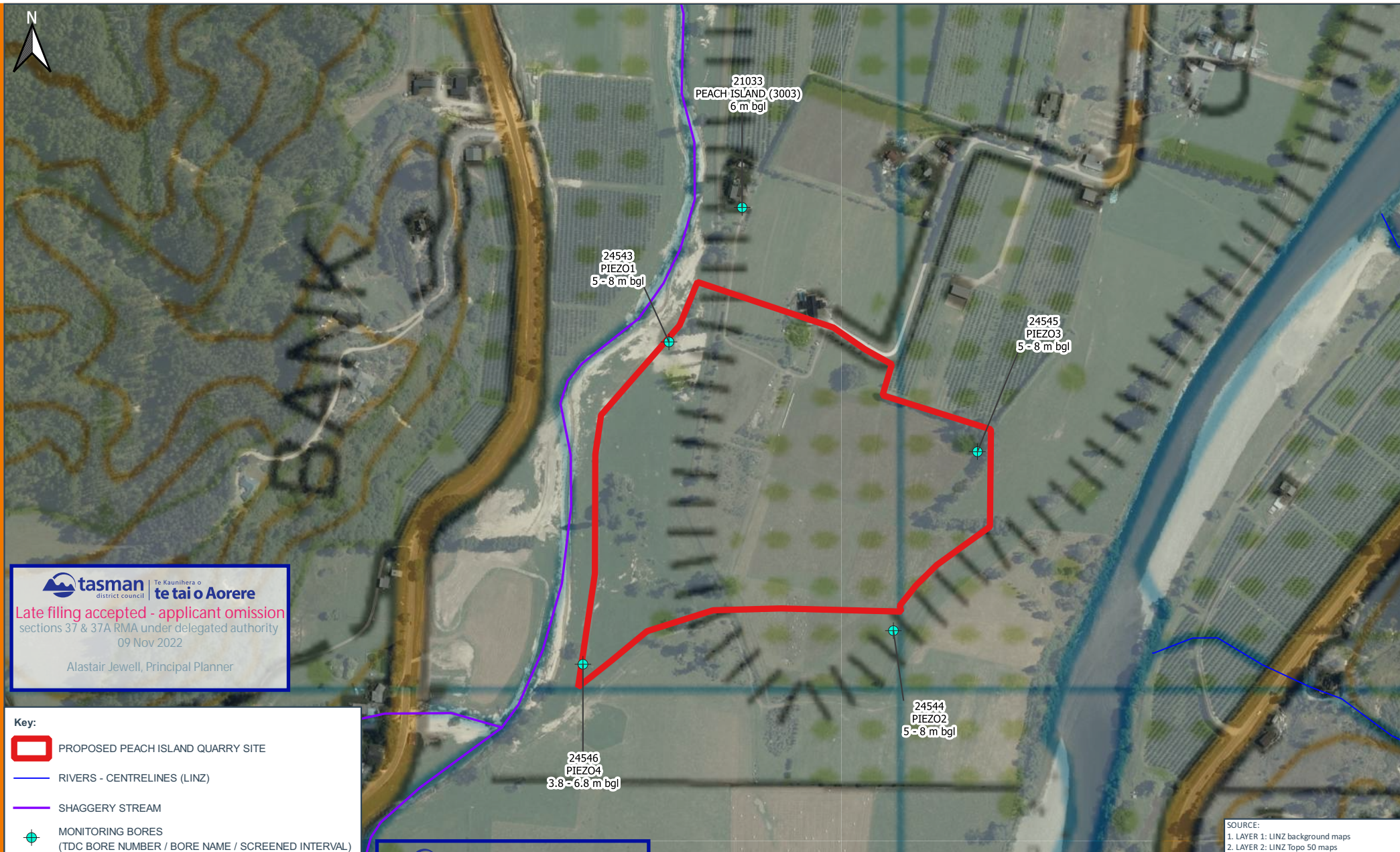


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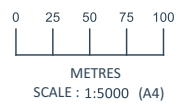
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tasman Te Kaunihera o te tai o Aorere
 district council
 Late filing accepted - applicant omission
 sections 37 & 37A RMA under delegated authority
 09 Nov 2022
 Alastair Jewell, Principal Planner

Key:
 PROPOSED PEACH ISLAND QUARRY SITE
 RIVERS - CENTRELINES (LINZ)
 SHAGGERY STREAM
 MONITORING BORES
 (TDC BORE NUMBER / BORE NAME / SCREENED INTERVAL)

SOURCE:
 1. LAYER 1: LINZ background maps
 2. LAYER 2: LINZ Topo 50 maps



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tasman Te Kaunihera o te tai o Aorere
 received by email
 Wed 9 Nov 2022 @ 10:41 am



NO.	REVISION	DATE	BY
A	FINAL	NOV 22	RN

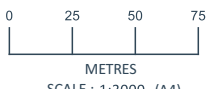
FIGURE
FIGURE 1: LOCATION OF GROUNDWATER QUALITY MONITORING BORES SAMPLED IN SEPTEMBER 2022 AT THE PROPOSED PEACH ISLAND QUARRY
 PROJECT
 PEACH ISLAND PROPOSED QUARRY - HYDROGEOLOGY



Key:

- CJ INDUSTRIES DOUGLAS ROAD QUARRY EXCAVATION / BACKFILL AREA
- USE OF SAMPLED GROUNDWATER BORES (TDC BORE NUMBER/NAME, SCREENED INTERVAL)
- DOMESTIC
- IRRIGATION
- ▲ OTHER
- TDC GROUNDWATER LEVEL CONTOURS 24 MARCH 2001 (MASL - NELSON 1955)
- TDC GROUNDWATER LEVEL CONTOURS 24 JANUARY 2006 (MASL - NELSON 1955)

SOURCE:
 1. LAYER 1: LINZ background maps
 2. LAYER 2: LINZ Topo 50 maps



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A	FINAL	NOV 22	RN
NO.	REVISION	DATE	BY

CLIENT
CJ INDUSTRIES LIMITED

FIGURE
FIGURE 2: LOCATIONS OF GROUDNWEATER BORES SAMPLED IN OCTOBER 2022 AT DOUGLAS ROAD

PROJECT
 PEACH ISLAND PROPOSED QUARRY - HYDROGEOLOGY

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Changes to Table 1: Summary of groundwater quality data at Peach Island from September 2022

Parameter/Bore	24546 (Piezo 4)	24544 (Piezo 2)	24545 (Piezo 3)	24543 (Piezo 1)	21033 (3003)	Proposed Peach Island Trigger Values	Unit
Date of collection	7/09/2022	6/09/2022	6/09/2022	7/09/2022	7/09/2022	-	-
Laboratory pH	6.6	7.6	7.6	6.5	6.6	<6.5 or >8.5	pH Units
Total Alkalinity	61	73	75	68	67	100	g/m ³ as CaCO ₃
Total Hardness	58	77	79	73	70	200	g/m ³ as CaCO ₃
Electrical Conductivity (EC)	14.1	17.3	17.4	16.3	16.1	-	mS/m
Dissolved Aluminium	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.1	g/m ³
Dissolved Arsenic	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.005	g/m ³
Dissolved Boron	0.008	0.009	0.009	0.01	0.011	0.7	g/m ³
Dissolved Cadmium	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.002	g/m ³
Dissolved Calcium	15.3	22	23	16.8	17.2	-	g/m ³
Dissolved Chromium	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005	0.025	g/m ³
Dissolved Copper	0.0009	0.0009	0.0005	0.001	0.02	1	g/m ³
Dissolved Iron	< 0.02	< 0.02	< 0.02	< 0.02	1.29	0.3	g/m ³
Dissolved Lead	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.005	g/m ³
Dissolved Magnesium	4.8	5.6	5.4	7.6	6.5	-	g/m ³
Dissolved Manganese	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.061	0.04	g/m ³
Dissolved Nickel	0.0039	0.0041	0.0011	0.0067	0.0048	0.04	g/m ³
Dissolved Sodium	6.2	4.6	4.8	4.2	4.8	200	g/m ³
Chloride	3	3.3	3.1	3.4	4.6	125	g/m ³
Total Ammoniacal-N	< 0.010	< 0.010	< 0.010	< 0.010	0.017	1.2	g/m ³
Nitrite-N	< 0.002	< 0.002	< 0.002	< 0.002	0.005	-	g/m ³
Nitrate-N	0.51	1.3	1.43	1.32	1.36	5.65	g/m ³
Nitrate-N + Nitrite-N	0.51	1.3	1.43	1.32	1.37	-	g/m ³
Sulphate	2.6	5	5	5.2	5.4	250	g/m ³
Escherichia coli	< 1	< 1	< 1	< 1	< 1	1 MPN/100ml	MPN/100 ml

Changes to Table 1: Summary of groundwater quality data at Peach Island from September 2022

Parameter/Bore	24546 (Piezo 4)	24544 (Piezo 2)	24545 (Piezo 3)	24543 (Piezo 1)	21033 (3003)	Proposed Peach Island Trigger Values	Unit
Total Petroleum Hydrocarbons	Non-detect	Non-detect	Non-detect	Non-detect	Non-detect	Any detection >0.1 g/m ³	g/m ³
VOC compounds	Non-detect	Non-detect	Non-detect	Non-detect	Non-detect	Any detectable presence	g/m ³
Notes: Values highlighted in grey indicate exceedance of proposed trigger value							

Table 1: Summary of groundwater quality data at Douglas Road from October 2022

Parameter/Bore	20927 (51 Douglas Rd)	Exposed Groundwater in Excavation	21555	24306	24345	Proposed Peach Island Trigger Values	Unit
Location	Cross gradient (Drinking-water supply bore)	Upgradient (CJ Industries Quarry at 83 Douglas Road)	Downgradient (Applicants bore)	Downgradient (Drinking-water supply bore)	Downgradient (Drinking-water supply bore)	-	-
Date of Collection	25/10/2022	25/10/2022	25/10/2022	25/10/2022	25/10/2022	-	-
Laboratory pH	7.4	7.9	7.2	7.2	7.4	<6.5 or >8.5	pH Units
Total Alkalinity	54	210	71	76	98	100	g/m ³ as CaCO ₃
Total Hardness	57	220	81	82	96	200	g/m ³ as CaCO ₃
Electrical Conductivity (EC)	14.3	46.1	19.3	19.7	22.9	-	mS/m
Dissolved Aluminium	0.004	1.92	< 0.003	< 0.003	< 0.003	0.1	g/m ³
Dissolved Arsenic	< 0.0010	0.0045	< 0.0010	< 0.0010	< 0.0010	0.005	g/m ³
Dissolved Boron	0.009	0.032	0.014	0.015	0.016	0.7	g/m ³
Dissolved Cadmium	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.002	g/m ³
Dissolved Calcium	16	68	22	22	27	-	g/m ³
Dissolved Chromium	< 0.0005	0.0038	< 0.0005	< 0.0005	< 0.0005	0.025	g/m ³
Dissolved Copper	0.003	0.0054	0.0043	0.0053	0.0066	1	g/m ³
Dissolved Iron	0.03	1.98	< 0.02	< 0.02	< 0.02	0.3	g/m ³
Dissolved Lead	< 0.00010	0.0025	0.00028	0.00037	0.00032	0.005	g/m ³
Dissolved Magnesium	4.1	12	6.3	6.2	7.1	-	g/m ³
Dissolved Manganese	< 0.0005	1.69	< 0.0005	< 0.0005	< 0.0005	0.04	g/m ³
Dissolved Nickel	< 0.0005	0.0142	< 0.0005	0.0009	0.0007	0.04	g/m ³
Dissolved Sodium	3.9	7.5	5.3	4.9	5.5	200	g/m ³
Chloride	3.9	10.3	5.1	4.6	5	125	g/m ³
Total Ammoniacal-N	< 0.010	0.99	< 0.010	< 0.010	< 0.010	1.2	g/m ³
Nitrite-N	< 0.002	0.007	< 0.002	< 0.002	< 0.002	-	g/m ³
Nitrate-N	0.6	0.015	1.42	1.13	0.65	5.65	g/m ³

Table 1: Summary of groundwater quality data at Douglas Road from October 2022

Parameter/Bore	20927 (51 Douglas Rd)	Exposed Groundwater in Excavation	21555	24306	24345	Proposed Peach Island Trigger Values	Unit
Nitrate-N + Nitrite-N	0.6	0.022	1.42	1.13	0.65	-	g/m ³
Sulphate	4.2	13.3	7.5	5.9	4.7	250	g/m ³
Escherichia coli	< 1	400	< 1	< 1	< 1	1 MPN/100ml	MPN/100mL
Total Petroleum Hydrocarbons	Non-detect	Non-detect	Non-detect	Non-detect	Non-detect	Any detection >0.1 g/m ³	g/m ³
VOC Compounds	Non-detect	Non-detect	Non-detect	Non-detect	Non-detect	Any detectable presence	g/m ³

Notes: Values highlighted in grey indicate exceedance of proposed trigger value