Appendix B Borehole Logs



Project: Richmond South Reservoir Coordinates: 1614404 E 5421094 N

Client:Tasman District CouncilRef. Grid:NZTMDepth:10.15 mProject No.:5-G3104.09R.L.:Not establishedInclination:90°Location:Refer Location PlanDatum:Azimuth:0°

520 Hill Street, Richmond TESTS CORE DRILLING INSTALLATION DETAILS HOLE GRAPHIC LOG SPT BLOW COUNTS OR SHEAR VALUE % SPT 'N' VALUE TOTAL CORE
RECOVERY (%
DRILLING
METHOD DEPTH (m) **SORE TYPE GEOLOG** BASE OF I & WATER I R.L. (m) CASING MAIN DESCRIPTION / DETAIL DESCRIPTION **NOTES** / OTHER TESTS Clayey SILT, some sand, trace of gravel; brown. Soft, wet, moderate plasticity. Gravel, fine; sand, fine. Organic soil with grass and fine rootlets. And fine rootlets.

Medium to coarse GRAVEL; grey. Subrounded to angular. Black plastic liner and PVC pipe fragment. RENCH PQ Lost core Gravelly SILT, some cobbles, some sand and some clay, grey. Soft to firm; wet; low plasticity. Cobbles maximum 80mm size. PQ 100 Clayey COBBLES with some gravel, some sand and some silt, light orange brown. Dense; moist; well graded; gravel, medium to coarse; sand fine; silt and clay, plastic. Cobbles maximum 150mm 1.09-1.10m - SWL 1.10m on 24/6/2020 (8am) at 9m depth PQ 100 SPT:Split spoon 12// 44 8/10/13/13 2-Lost core PQ 50 Clayey fine to coarse GRAVEL with some sand and some silt; light orange brown, indistinctly bedded. Very dense; moist. Some loss of fines in recovered sample from 2.70-3.00m. 0-0 0 3-SPT:Split spoon آھے >50 12/12/19/7 for 40mm PΩ 85 RUBBLE ZONE. Medium to coarse gravel. Few cobbles have been cored and recovered. Some clay and silt recovered at the base. 00 0 Lost core

RUBBLE ZONE. Medium to coarse gravel with cobbles.

Clayey fine to coarse GRAVEL with some sand, some silt, some cobbles and trace of boulders; light orange brown. Very dense; moist; well graded; subrounded to angular, slightly to moderately weathered sandstone gravel; sand, fine; silt and clay, low plasticity. Boulder at 4.20-4.30m estimated to 200mm size. PQ 80 Rotary 0 25// SPT:Split spoon م م 20/28/2 for 5mm Wireline 0000 GRAVELS PQ 100 Triple Tube, 0-00 PQ 100 10 MOUTERE Lost core PQ Size, 0 5// 3/7/27/13 g RUBBLE ZONE. Medium to coarse gravel. SPT:Split spoon 6->50 PQ 100 00 000 Clayey fine to coarse GRAVEL with some sand, some silt, some 00 0-00 PQ 100 cobbles and trace of boulders; light orange brown. Very dense; moist; well graded; subrounded to angular, slightly to moderately weathered sandstone gravel; sand, fine; silt and clay, low plasticity. Boulder at 7.80-7.90m estimated to 200mm size. 200 0000 PQ 100 000 22// SPT:Split spoon 000 >50 19/23/8 for 25mm 000 PΩ 100 0000 8-0 0 Lost core
RUBBLE ZONE. Medium to coarse gravel with cobbles, PΩ 67 00 RUBBLE ZONE. Medium to coarse gravel with cobbles, subrounded to angular.

Clayey fine to coarse GRAVEL with some sand, some silt and minor cobbles; light orange brown. Very dense; moist; well graded; subrounded to angular, slightly to moderately weathered sandstone gravel; sand, fine; silt and clay, low plasticity. 00 PQ 100 → 0 41// 9-SPT:Split spoon مه >50 000 for 55mm PQ 100 Gravelly COBBLES with some clay, some silt and some boulders; orange brown. Very dense; moist; poorly graded. Slightly weathered sandstone cobbles and boulders, strong.

Notes:

BOREHOLE SOIL LOG A4 - WSP RICHMOND SOUTH RESERVOIR GPJ WSP-OPUS2019 VER11X GDT 27/8/20

SPT hammer energy ratio 98%

Started: 22/06/2020 Finished: 24/06/2020

Drilling Co.: CW Drilling Drilling Rig: Hanjan D8

Logged by: T Fischer Checked by: H Hendrickson



1614404 E 5421094 N Richmond South Reservoir Coordinates: Project:

Tasman District Council NZTM Client: Ref. Grid: Depth: 10.15 m 5-G3104.09 Project No.: R.L.: Not established Inclination: 90°

Refer Location Plan 520 Hill Street, Richmond Azimuth: 0° Location: Datum:

	520 Hill Street, Richmond												
				45	Н	TESTS		RE		RILL	ING		z
GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING	BASE OF HOLE & WATER LEVEL	NOTES / OTHER TESTS	INSTALLATION DETAILS
	END OF BOREHOLE AT 10.15m - Target Depth Reached		=		>50	36// 50						SPT:Solid nose. Double bounce at 3rd interval (>50).	
BOREHOLE SOIL LOG A4 - WSP. RICHMOND SOUTH RESERVOIR.GPJ. WSP-OPUS2019_VER11X.GDT 27/8/20	END OF BOREHOLE AT 10.15m - Larget Depth Reached		11			for 0mm						Std Interval (250).	

Notes:

Started: 22/06/2020 Finished: 24/06/2020 SPT hammer energy ratio 98% CW Drilling Hanjan D8 Drilling Co.: Drilling Rig:

T Fischer Checked by: H Hendrickson Logged by:



BH001 Core Photographs



BH01 - Box 1



BH01 - Box 2

1



BH001 Core Photographs



BH01 - Box 3



BH01 - Box 4



BH001 Core Photographs



BH01 - Box 5



1614402 E 5421140 N Richmond South Reservoir and Pipelines Coordinates: Project:

NZTM Tasman District Council Ref. Grid: Depth: 20 m Client: 5-G3141.09 Project No.: R.L.: Approx. 62.6 m Inclination: Vertical

Refer Location Plan Datum: Location:

					TESTS	СО	RE	DF	RILLI	ING				
MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING	CASING	BASE OF HOLE & WATER LEVEL	NOTES / OTHER TESTS	INSTALLATION DETAILS		
Hand dug	_62	-											50 mm blank my to turbon	
Sandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, subangular Clavev fine to coarse GRAVEL with some cobbles and minor		1-	0-0		 11// 7/9/10/9	 	PQ 8	85						Jack man 03
sub-rounded. clay, low-plasticity Clayey fine to coarse GRAVEL with trace cobbles; light brown. Dense; wet; well-graded; sub-angular; clay, plastic	_	2		35 35		PQ	90						occupation of chicacters of	
2.00-2.50m - lines washed out		=	0 0 0	 		PQ	65						a ctoo	
2.50-2.60m - gravels become sub-rounded to rounded Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; subrounded to rounded; clay, non-plastic	60	=	0000											
3.00-3.20m - fines washed out		3-	000	50+	19// 12/13/14/11	PQ	95				SPT:5 mm remaining			
3.60-3.80m - fines washed out	58	- - - - 4-			 			j Br						
4.50.4.90m fines washed out		· =				PQ	95	Rotary Corin			SPT:45 mm remaining			
			0-00	50+ 	18// 14/16/20	PQ	80	Size, Triple					000	
		5 -	00.00		 	PQ	90						llow Ove	
Sandy fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; moist; well-graded; sub-angular to sub-rounded; clay, non-plastic 5.30-6.00m - fines washed out but core staying together	_		0000			PQ	75						negree of the management of th	
Clayey fine to coarse GRAVEL with trace sand; light brown. Very densel moist; well-graded; sub-rounded to rounded.		6-		50+	20// 15/16/19	PQ	100				SPT:80 mm remaining		nack 50	
Fine to coarse GRAVEL with some clay and minor cobbles:	56	=		 									leyers be	
light brown. Very dense; wet; well-graded; sub-rounded; clay, hard, low-plasticity 6.80-7.70m - fines washed out		7-	0000	i		PQ	90				SPT:110 mm remaining		Walton park washed gray	
	_	° 0		50+ 	 25// 14/22/11 	PQ	90						Waltor	
Fine to coope CDAVEL with some class light brown Very	- 4	0000	\ '	 	PQ	50								
dense; wet; sub-rounded; well-graded. Fine to coarse GRAVEL with some clay; light brown, very soft;	_54			 	PQ	60								
plasticity Sandy fine to coarse GRAVEL; light brown. Very dense; wet; sub-rounded: well-graded.		9-	0000	50+	45	PQ	75				SPT:Double bouncing, no movement, 340 mm remaining			
light brown. Very dense; wet; sub-angular; well graded; clay, \[\low-plasticity, soft. \]		=	<u>7</u>	li				-						
	August Sandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, subangular to sub-rounded. Clay, low-plasticity, gravel, well-graded, sub-angular to sub-rounded. Clay, low-plasticity. Clayey fine to coarse GRAVEL with trace cobbles; light brown. Dense; well-graded; sub-angular to sub-rounded. Clay, low-plasticity. Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; sub-angular; clay, plastic subrounded to rounded. Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; sub-rounded to rounded; clay, non-plastic subrounded to rounded, clay, non-plastic sub-rounded to rounded, clay, non-plastic. Sandy fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; moist; well-graded; sub-rounded to rounded, clay, non-plastic. Sandy fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; moist; well-graded; sub-rounded to rounded, clay, non-plastic. Sandy fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; moist; well-graded; sub-angular to sub-rounded; clay, non-plastic. Clayey fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; wet; well-graded; sub-rounded to rounded. Fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; wet; well-graded; sub-rounded; clay, hard, low-plasticity and, low-plasticity dense; wet; well-graded; sub-angular; clay, wet, low plasticity sandy fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded; sub-angular; clay, wet, low plasticity sandy fine do coarse GRAVEL with some clay; light brown. Very dense; wet; sub-angular; clay, wet, low plasticity sandy fine do coarse GRAVEL with some clay; light brown. Very dense; wet; sub-angular; clay, wet, low plasticity sandy fine do coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; wet; sub-angular; vell gr	Sandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, subangular Clayey fine to coarse GRAVEL with some cobbles and minor sand; light brown. Dense; moist, well-graded; sub-angular to sub-rounded. clay, low-plasticity Clayey fine to coarse GRAVEL with trace cobbles; light brown. Dense; well-graded; sub-angular; clay, plastic 2.00-2.50m - fines washed out 2.50-2.60m - gravels become sub-rounded to rounded Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; sub-rounded to rounded; clay, non-plastic 3.00-3.20m - fines washed out 4.50-4.80m - fines washed out 4.50-4.80m - fines washed out Sandy fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; moist; well-graded; sub-rounded to rounded to rounded. clay, non-plastic. 5.30-6.00m - fines washed out but core staying together Clayey fine to coarse GRAVEL with some clay and plasticity of the sub-rounded to rounded. Clayey fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; wel; well-graded; sub-rounded to rounded. Fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; wet; well-graded; sub-rounded; clay, hard, low-plasticity 6.80-7.70m - fines washed out Fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded. Fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded. Fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded. Fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded. Fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded. Fine to coarse GRAVEL with some clay; light brown. Very dense; wet; well-graded; sub-angular, clay, wet, low plasticity Sandy fine to coarse GRAVEL with some clay; light brown. Very dense; wet; sub-angular, well graded; clay, fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very	Sandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, sub-angular to sub-rounded. Clayey fine to coarse GRAVEL with some cobbles and minor sub-rounded. Clay, low-plasticity. Clayey fine to coarse GRAVEL with trace cobbles; light brown. Dense; weit, well-graded; sub-angular to sub-rounded. Claye, plastic to coarse GRAVEL with trace cobbles; light brown. Dense; weit, well-graded; sub-angular; clay, plastic to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; subrounded to rounded. 2.50-2.60m - gravels become sub-rounded to rounded. Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; subrounded to rounded, clay, non-plastic. 3.00-3.20m - fines washed out 4.50-4.80m - fines washed out 58 Sandy fine to coarse GRAVEL with some clay and trace cobbles; light brown. Very dense; moist; well-graded; sub-rounded to rounded, clay, non-plastic to sub-rounded to rounded, clay, non-plastic 5.30-6.00m - fines washed out but core staying together Clayey fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; moist; well-graded; sub-rounded, clay, non-plastic 5.30-6.00m - fines washed out but core staying together Clayey fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; wet; well-graded; sub-rounded, clay, non-plastic 6. 56 Fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; wet; well-graded; sub-rounded; clay, non-plastic 9. Fine to coarse GRAVEL with some clay, light brown. Very dense; wet; well-graded, sub-rounded; clay, non-plasticity 9. Fine to coarse GRAVEL with some clay, light brown. Very dense; wet; well-graded, sub-rounded; clay, non-plasticity 9. Fine to coarse GRAVEL with some clay, light brown. Very dense; wet; well-graded, sub-rounded, clay, non-plasticity 9. Fine to coarse GRAVEL with some clay, light brown. Very dense; wet; well-graded; sub-rounded, cla	Sandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, sub-angular to sub-rounded clay, low-plasticity Clayey fine to coarse GRAVEL with some cobbles; light brown. Dense; moist; well-graded; sub-angular to sub-rounded clay, low-plasticity Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Dense; moist well-graded; sub-angular clay, plastic Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; sub-onuded to rounded. 2.50-2.60m - gravels become sub-rounded to rounded Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; wet; well-graded; sub-onuded to rounded, clay, non-plastic sub-rounded to rounded, sub-angular to sub-rounded; clay, non-plastic sub-angular to sub-rounded; sub-rounded to rounded. Fine to coarse GRAVEL with some clay and manual trace cobbles; light brown. Very dense; wet, well-graded; sub-rounded; well-	Sandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, sub-angular to sub-rounded. Caly, low-plasticity, gravel, well-graded, sub-angular to sub-rounded. Caly, low-plasticity sub-rounded sub-graded; sub-angular to sub-rounded. Caly, low-plasticity sub-rounded to rounded. Caly, low-plasticity sub-rounded to rounded caly, low-plasticity sub-rounded to rounded. Caly, low-plasticity sub-rounded to rounded caly, low-plasticity sub-rounded to rounded. Sub-rounded to rounded caly, low-plasticity sub-rounded to rounded caly, light brown. Very dense; welt, well-graded, sub-rounded to rounded. Fine to coarse GRAVEL with some clay and minor cobbles: light brown. Very dense; welt, well-graded, sub-rounded to rounded. Fine to coarse GRAVEL with some clay, light brown. Very dense; welt, sub-rounded caly, light brown. Very dense; wet, well-graded, sub-rounded caly, light brown. Very dense; wet, well-graded, sub-rounded caly, light brown. Very dense; wet, well-graded, sub-rounded caly, light brown. Very dense, wet, well-graded, sub-angular caly, well-graded. Fine to coarse GRAVEL with some clay, light brown. Very dense, wet, sub-rounded caly, light brown. Very dense, wet, sub-rounded, sub-angular to lay. Page 2012 to 2012 t	MAIN DESCRIPTION Main DESCRIPTION Hand dug Sandy CLAY with aome gravels and sand and trace cobbes, light brown. Very soft, moist, low-plasticity, gravel, well-graded, sub-nounded or brounded, clay, hosp-plasticity gravel, well-graded, sub-nounded or brounded. Clay, low-plasticity gravel, well-graded, sub-nounded or brounded. Clay, low-plasticity gravel, well-graded, sub-nounded or brounded. Clay, low-plasticity gravel, well-graded, sub-nounded to rounded. Clay, low-plasticity gravel, well-graded, sub-nounded or brounded. Clay, low-plasticity gravel, well-graded, sub-nounded to rounded. Clay, low-plasticity gravel, well-graded, sub-nounded or brounded. Sandy fine to coarse GRAVEL with some sand and trace cobbles. Light brown. Very dense, well, well-graded; sub-nounded or brounded. Sandy fine to coarse GRAVEL with some clay and trace cobbles. Light brown. Very dense moist, well-graded; sub-nounded or brounded. Sandy fine to coarse GRAVEL with some clay and trace cobbles. Light brown. Very dense moist, well-graded; sub-nounded to rounded. Sandy fine to coarse GRAVEL with some clay and trace cobbles. Light brown. Very dense moist, well-graded; sub-nounded to rounded. Sandy fine to coarse GRAVEL with some clay and trace cobbles. Light brown. Very dense moist, well-graded; sub-nounded to rounded. Sandy fine to coarse GRAVEL with some clay and minor cobbles. Light brown. Very dense moist, well-graded; sub-nounded to rounded. Sandy fine to coarse GRAVEL with some clay and minor cobbles. Light brown. Very dense moist, well-graded; sub-nounded to rounded. Sandy fine to coarse GRAVEL with some clay and minor cobbles. Light brown. Very dense, wet, well-graded; sub-nounded well-graded. Sub-nounded well	MAIN DESCRIPTION Barrier Barrie	MAIN DESCRIPTION Bandy CLAY with some gravels and sand and trace cobbels, light brown. Very soft, moist, low-plasticity, gravel, well-graded, sub-nounded, clay, non-plasticity sub-nounded, clay, non-plastic sub-nounded, non-plastic sub-nounded, non-plastic sub-nounded, non-plastic sub-nounded, non-plastic sub-nounded, no	MAIN DESCRIPTION Part Par	MAIN DESCRIPTION A PART OF THE ANALYSIS AND A P	MAIN DESCRIPTION / DETAIL DESC	MAIN DESCRIPTION JOHN	MAN DESCRIPTION / DETAIL DESCR	

Logged by:

SPT hammer energy ratio 98%. Groundwater at 3.26 m 29/6/20.

Started: 27/06/2020 Finished: 27/06/2020 CW Drilling Hanjan D8 Drilling Co.: Drilling Rig: Checked by: H Hendrickson R Weston



1614402 E 5421140 N Richmond South Reservoir and Pipelines Coordinates: Project:

NZTM Tasman District Council Ref. Grid: Depth: 20 m Client: 5-G3141.09 Project No.: R.L.: Approx. 62.6 m Inclination: Vertical

Location:

Refer Location Plan Datum:

	Richmond												
				r)		TESTS		RE		RILLI			z
GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING	BASE OF HOLE & WATER LEVE	NOTES / OTHER TESTS	INSTALLATION DETAILS
	Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; moist; well-graded; sub-rounded to rounded; clay, hard, moist to dry 10.20-10.50m - some fines washed out, gravel becomes sub-angular to -subrounded	52	11—		50+	35	PQ	100				SPT:Double bouncing, 305 mm reamining, low plasticity	
	Clayey fine to coarse SAND with some gravel; light brown. Very dense; moist; well-graded; clay; hard; gravel, well-graded. Clayey fine to coarse GRAVEL with some sand; light brown. Clayey fine to coarse GRAVEL with some sand; light brown. Very dense; moist; well-graded; sub-rounded to rounded; clay, low-plasticity, hard, moist to dry;	50	13-				PQ	100					creen
	13.40-13.60m - fines washed out	-	-		50+	31	PQ	85				SPT:Double bouncing, no movement, 355 mm remaining	C wells
MOUTERE GRAVELS	Sandy fine to coarse GRAVEL with some clay; light brown.moist; gravel, well-graded, sub-rounded to rounded. Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; moist; well-graded; sub-rounded to rounded; clay, low-plasticity, hard, moist to dry Sandy fine to coarse GRAVEL with some clay; light brown. Very dense; moist; well-graded; sub-rounded to rounded. Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; moist; low-plasticity; well-graded; sub-rounded to rounded; clay, low-plasticity, hard, moist to dry	48	14				PQ	95	PQ Size, Triple Tube, Wireline Rotary Coring				Walton park washed gravel pack. 50 mm slotted uPvC wellscreen
	Clayey fine to coarse GRAVEL; light brown. Very dense; moist; well-graded; sub-rounded to rounded (some fines washed out) Clayey fine to coarse GRAVEL with some sand and trace cobbles; light brown. Very dense; moist; well-graded, sub-rounded to rounded; clay, low-plasticity, hard, moist to dry; Sandy fine to coarse GRAVEL with some clay; light brown. Very dense; moist; well-graded; sub-rounded to rounded.	46	17—	00000	50+	 	PQ	85				SPT:Double bouncing, no movement, 355 mm remaining	i i
	very dense; moist; well-graded; sub-rounded to rounded. 17.30-17.40m - fines washed out 17.60-17.80m - dark brown staining on gravels	_					PQ	85					
	Clayey fine to coarse GRAVEL; light brown. Very dense; moist; well-graded; sub-rounded to rounded (some fines washed out)		18 - - -	0-00			PQ	90					
	Sandy fine to coarse GRAVEL with some clay and minor cobbles; light brown. Very dense; moist; fine to coarse; sub-rounded to rounded.	44	19—				PQ	100					
	Fine to coarse GRAVEL with some sand and clay; light brown. Very dense; moist; well-graded; Clay, low plasticity 19.50-19.70m - fines washed out	-			50+	 43	PQ	90				SPT:Double bouncing, no movement, 330 mm remaining	
	END OF BOREHOLE AT 20m - Target Depth Reached tes:					Started:	27	7/06/	/202	20		Finished: 27/06/2020	

Logged by:

SPT hammer energy ratio 98%. Groundwater at 3.26 m 29/6/20.

Started: 27/06/2020 Finished: 27/06/2020 Hanjan D8 Drilling Co.: CW Drilling Drilling Rig: Checked by: H Hendrickson R Weston

BOREHOLE SOIL LOG A4 - WSP RICHMOND RESERVOIR.GPJ WSP-OPUS2019 VER11X.GDT 11/9/20







BH02 - Box 1



BH02 - Box 2

1







BH02 - Box 3



BH02 - Box 4



BH002 Core Photographs



BH02 - Box 5



BH02 - Box 6



BH002 Core Photographs



BH02 - Box 7



BH02 - Box 8



BH002 Core Photographs



BH02 - Box 9



BH02 - Box 10