

3.2. Core Drilling

3.2.1. Borehole Logs (B1, B)

DEPTH BELOW WORKING LEVEL (m)		Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)	
						T.C.R. %	S.C.R. %	R.O.D. %	Blow count	'N' Value		U.O.	Disl.		
					<p>Compact, brown to dark brown, equidimensional, rough, medium grained slightly silty (&lt;5%) SAND and brownish grey, medium to coarse grained, flat and elongated, sub-rounded to sub-angular, rough GRAVEL, well graded. GRAVEL becomes pre dominant. Gravels of upto 70mm in diameter are found at 2.00m.</p> <p>Rock fragments of gabbro are found at 2.50m.</p> <p>3.50m - weakly cemented sand with gravel often interbedded with thin calcite veins</p> <p>4.00m - Grading light brown. WEAKLY CEMENTED SAND WITH GRAVEL, silty.</p> <p>4.75m - weak cementation, often calcite veins are found.</p> <p>7.50m - gravel fragments of carbonate limestone.</p> <p>These wadi gravel deposits are seemed to be originated as detrital deposit.</p>										
			10.00												

Client : SANYU CONSULTANTS INC.  
 Project : CORE DRILLING AT AL DHAID  
 Job No. : E-2145                      Borehole No. : B-1



ROBIO ONE

Drawing No. : E-4502

Method of boring : Rotary    Rel. Working Level (m) : 180.00  
 Type and Dia. (mm) of Drilling Tool : Wire-Line - Diamond HQ  
 Casing Depth (m) : 15.00    Started on : 11/06/95  
 Casing Dia. (mm) : 140    Ended on : 29/06/95

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.	
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Dist.
15.00		5.00										
				Light whitish brown, fine grained highly weathered, very weak to moderately weak friable, calcareous MUONSTONE. Recovered as lumps from 15.00m to 16.50m. Poor recovery. Small cracks have developed along the bedding planes at some places with patches of black pyralusite. 16.50m Development of orange brown oxidation. Highly fractured at about 16.80m and 18.00m to 18.10m. 18.65m very fine grained, smooth.	38	7	1			16.00		16.10
				Dark brown, highly fractured, weakly cemented, sub-rounded, elongated, gravel, CONGLOMERATE is found from 19.00m-19.35m and from 19.60m to 19.80m.	7	68	38			17.10		
		8.00			94	65	43			18.40		
					100	67	44			19.35		
					100	66	42			22.10		
										24.00		

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRAIA THICKNESS	STRAIA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	(blow count)	"N" Value		U.O.	Dial	
24.60	1.60				100	66	42			24.00			
					100	47	1			6			
11.40				<p>Massive, whitish with occasional brown stains, weak to moderately weak, moderately weathered CALCAREOUS LIMESTONE open slickensided joints, often interbedded with elongated, sub-rounded gravel, approximate 50% carbonate.</p> <p>26.80m - friable, highly fractured, very small voids of mm to 1cm in diameter are found.</p> <p>29.95m - highly weathered to form as lumps.</p> <p>30.00m - small voids are filled with dark brown, silty sand.</p> <p>31.00m-31.40m - highly fractured and again at 33.60m 33.90m and at 34.20m.</p> <p>35.90-36.15m Grading dark brown.</p>	100	88	51			25.00			
					93	91	57			7			
					97	87	68			8			
					100	64	40			9			
					99	82	57			10			
									35.90				
									37.00				

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Det.	
36.20		.20											
36.60		.40		Whitish, fine grained, moderately weak, moderately weathered CALcareous MUDSTONE presence of white carbonate along the bedding planes.	99	82	62			37.00			
		2.15		Whitish with occasional brown stains, moderately weak, moderately weathered, dolomitic LIMESTONE, fine grained, open slickensided joints, voids of upto 1cm in diameter are found, presence of carbonate is more evident.	99	93	74			12			
38.75				Whitish, very weak, highly weathered and covered as lumps upto 40.75m. CALcareous MUDSTONE approximate 35-65% carbonate.						39.00			
				40.75m - Grading weak to moderately weak, moderately weathered, fine grained, sub-vertical joints.	100	1	1			13			
				41.55m - 43.15m - highly weathered to completely weathered.						40.75			
				43.15m - competent, moderately weak, slightly weathered.						14			
		5.70		Core quality improving below 43.15m.	100	71	28			41.55			
					100	25	1			41.95			
					100	67	47			16			
44.45				Whitish with occasional brown stains, moderately weak, moderately weathered, open voids, GRAVELLY LIMESTONE Gravels usually elongate, sub-rounded cemented by a white carbonate cement						44.95			
				48.00m - Grading brown.									
				Highly weathered from 48.70m to 49.0m									
				49.30m - 50.00m. Competent, whitish with some brown stains, moderately weak, moderately weathered, horizontal/sub-horizontal joints.	91	84	71			17			
		4.55		dolomitic LIMESTONE, small open voids of maximum 1cm in diameter are found.									
				Gravels cemented by a white carbonate cement.						47.50			
					100	83	40			18			
					100	74	58			19			
										50.00			

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	S.A.P.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	Value		U.O.	Del.	
50.00		1.00				100	74	58					
				Whitish/ bluish grey, fine grained, slightly indurated, CALCAREOUS MUDSTONE, very closely spaced joints, absence of pyrolusite along the bedding planes.		100	92	84			50.00		
		5.90				100	88	56			51.70		
						100	95	60			52.80		
											54.80		
55.90				Whitish with occasional brown stains, moderately weak, slightly weathered, closed joints with silty brown sand. Elongated, sub-rounded gravel usually cemented by a white carbonate cement. GRAVELLY LIMESTONE.		98	72	66					23
57.35		1.45											
				White, fine grained, moderately weak, slightly weathered CALCAREOUS MUDSTONE, often interbedded with thin gravels at 64.15m and 65.65m - 66.15m. 64.75m - 65.65m - Grading pinkish white, soapy texture. 65.95m - 69.55m - Light bluish grey, weak to moderately weak, absence of pyrolusite and white carbonate along the bedding planes.		100	95	60			57.85		24
		4.65				75	95	60			58.60		25
						100	93	79			60.85		26
											63.85		

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Dist.	
		7.55			100	93	79			63.85			
					100	90	40			64.15	27		
					100	100	46				28		
										66.85			
					97	89	57				29		
										68.00			
69.55					95	92	81				30		
		1.25		Brown, moderately weak, moderately weathered, sub-rounded to sub-angular gravel weakly cemented together, open joints GRAVELLY LIMESTONE with occasional small voids (1cm). Presence of carbonate more evident below 70.0m. Highly fractured at 70.45m.						69.85			
70.80				Pinkish white, fine grained, moderately weak, moderately weathered CALCAREOUS MUDSTONE.	98	93	63				31		
		1.95											
72.75				Whitish with occasional brown stains, moderately weak, moderately weathered, very closely spaced joints, voids ranging from mm to maximum 1cm in diameter are found. dolomitic LIMESTONE. Voids often filled with greenish clay. 72.75m-72.95m - presence of black chert as thin nodules. 73.35-73.65m - Grading highly weathered.	98	93	59			72.85			
		1.70									32		
74.45				Pinkish white, fine grained, moderately weak, soapy texture, CALCAREOUS MUDSTONE. Highly fractured from 77.45m to 78.15m.						75.00	33		
		.55											

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Dist.	
		3.85			100	90	90			75.50			
					100	100	83			75.85	34		
		3.85			100	79	14					35	
										78.85			
		2.25		Weak, dark brown, highly weathered, highly weathered, sandy/clayey LIMESTONE Completely weathered to form silty sand of 81.00m. Poor core recovery.	95	68	23					36	
					100	64	33			80.00		37	
										81.10			
		.90		Brown, moderately weak, moderately weathered, sub-rounded gravels cemented by a dark brown, silty sand. GRAVELLY LIMESTONE with occasional small voids	100	84	67					38	
				81.70m Completely weathered to form silty sand.						81.85			
		6.00		Whitish, fine grained, moderately weak. CALCAREOUS MUDSTONE. sub-vertical joints. Highly fractured from 82.90m to 84.85m. Rock quality improves from 84.85m. Presence of black pyrolusite along the bedding planes. Often interbedded with elongated, sub-rounded gravels from 87.10m - 87.85m and 91.45m - 91.90m. Highly weathered from 88.15m - 90.55m and 92.80m - 93.75m.	100	59	3					39	
										84.85			
					92	90	60					40	
										86.65			
					89	89	62					41	
										87.85			
										90.85		42	

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	yr Value		U.D.	Dist.	
					47	20	67			90.85			
					94	76	1			91.35	43		
		8.85			99	53	34			93.70	44		
					100	16	1			93.95	45		
					98	43	20			96.70	45		
95.85													
		2.00		Whitish with occasional brown stains, moderately weak, slightly weathered, DOLOMITIC LIMESTONE often found with inclusions of sub-rounded gravels.	98	80	29			96.70	47		
98.85													
		2.15		Whitish, fine grained, weak to moderately weak, CALCAREOUS MUDSTONE Development of black pyrolusite along the bedding planes and sub-vertical joints.	97	73	20			99.70	48		
										102.70			

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.I.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	"N" Value		U.D.	Dist.	
104.70		3.70			97	73	20			102.70			
105.70		1.00		Whitish with occasional brown stains, fine grained, moderately weak, moderately weathered GRAVELLY LIMESTONE.	98	93	33			105.70			
106.80		1.10		Whitish, fine grained, moderately weak CALCAREOUS MUDSTONE, slightly weathered, sub-horizontal joints. Absence of black pyroisite along the bedding planes.									
				Whitish with occasional brown stains moderately weak to weak, joints often infilled with silty sand. 111.70m - Grading more whitish, slightly weathered Voids often filled with clay, moderately weathered to slightly weathered. Rock quality improves below 117.80m. Gravels are usually elongated, sub-rounded to sub-angular. Gravels cemented by brown sand below 123.35m. Voids upto 30mm in diameter are found. DOLOMITIC LIMESTONE.	99	95	55			108.70			
		7.20			100	99	73						
					103	100	100			111.60			
					95	95	86			111.70	52		

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	"N" Value		U.D.	Dist.	
					95	95	86			114.70			
					96	90	50				54		
					100	90	51			117.55			
					100	100				117.70	55		
		9.35			98	94	87			120.70			
					92	88	48			121.85			
123.35					100	37	1			123.35			
		1.25		Light greenish, weak, moderately weathered, sub-rounded gravels cemented together by a white carbonate cement, fractured CONGLOMERATE.	100	67	26			123.70	59		
124.60					93	90	65			124.90			
		2.00		Light greenish grey, thinly laminated, moderately weak, CALCAREOUS MUDSTONE, sub-horizontal joints.									
126.60		.40		Light greenish, moderately weak to weak CONGLOMERATE, moderately weathered to highly weathered. 127.20m - 127.90m - Highly fractured.	89	62	56			126.70			
										129.45	62		

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T. Blow count	N Value	DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %				U.D.	Del.	
128.20		1.20											
				Whitish green, moderately weathered, moderately weak, open joints Occasional small voids are found. (1cm in diameter) Highly weathered below 132.0m. 133.0m - 135.70m. Whitish, thinly laminated, fine grained, moderately weak. DOLOMITIC LIMESTONE with occasional small voids.	89	62	56			129.45			
				135.70m- Highly to completely weathered so as to recover as carbonate lumps. very weak, very poor rock quality.	100	100	100			129.70	63		
					90	81	76					64	
										132.70			
		11.80											
					94	79	48					65	
										135.65			
					92	31	6					66	
										137.95			
					96	93	45					67	
										138.70			
					100	39	5					68	
										141.52			

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.I. (Blow count)	DEPTH (m)	SAMP.		Water Depth (m)
					I.C.R. %	S.C.R. %	R.O.D. %			U.D.	Dial	
141.80	1.80	1	9			100	39	5	141.52			
		2	9									
		3	9									
		4	9									
		5	9									
		6	9									
		7	9									
		8	9									
		9	9									
		10	9									
144.60	2.80	1	9	Whitish, fine grained, moderately weak, CALCAREOUS MUDSTONE. mudstone is more broken up and friable at depths.		94	59	13	141.70	169		
		2	9									
		3	9									
		4	9									
		5	9									
		6	9									
		7	9									
		8	9									
		9	9									
		10	9									
	8.40	1	9	Whitish grey, moderately weak to weak, interbedded with sub-rounded gravels from 145m - 145.20m. 147.45m - Whitish, very weak. Presence of carbonate more evident below 147.45m. Rock highly friable and broken into pieces. Rock quality improves from 148.55m to 151.0m. Thin bands of blackish chert at 151.0m. CALCAREOUS LIMESTONE. Highly weathered below 151.0m.		98	72	23	144.70		71	
		2	9									
		3	9									
		4	9									
		5	9									
		6	9									
		7	9									
		8	9									
		9	9									
		10	9									
		1	9			100	20	1	147.40			
		2	9									
		3	9									
		4	9									
		5	9									
		6	9									
		7	9									
		8	9									
		9	9									
		10	9									
		1	9			100	83	44			73	
		2	9									
		3	9									
		4	9									
		5	9									
		6	9									
		7	9									
		8	9									
		9	9									
		10	9									
		1	9			94	57	16			74	
		2	9									
		3	9									
		4	9									
		5	9									
		6	9									
		7	9									
		8	9									
		9	9									
		10	9									
									153.25			

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Del.	
167.10		1.00		Whitish grey, moderately weak GRAVELLY LIMESTONE, slightly weathered.									
171.65	4.55		<p>Greyish green, weak, fine grained CLAYSTONE with inclusions of sub-rounded gravels at 168.20m. 168.95m- Grading whitish grey with increased presence of carbonate. CALCAREOUS MUDSTONE? Presence of thin bands of gravelly limestone from 169.90m to 170.45m.</p>	94	87	40			168.70				
				97	59	31			83				
									171.10				
171.65	7.35		<p>Whitish, very weak, highly fractured, CALCAREOUS LIMESTONE, massive. Recovered as lumps of carbonate, friable, poor rock quality. Often completely weathered to form silty sand. Gravelly limestone becomes dominant from 176.70m to 177.70m.</p>	99	63	17			84				
									174.70				
				98	63	27			85				
									176.70				
				100	85	1			86				
					177.70								
				95	5	1			87				
									180.70				

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	S.A.M.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	TY Value		U.D.	Dist.	
181.00		2.00			95	5	1			180.70			
				Whitish, fine grained, very weak, highly weathered CALCAREOUS MUDSTONE.	97	15	6			182.70		88	
					100	1	1			183.70		89	
		6.70			97	33	5			186.70		90	
187.70				Whitish, moderately weak to weak, fine grained CALCAREOUS Limestone with occasional thin bands of very weak calcareous mudstone from 195.95m to 196.55m.	99	70	22			188.70		91	
				Often completely weathered Grading light green below 197.55m. Occasional small open voids of maximum 1cm in diameter are found.	100	75	52			189.70		92	
		4.30			99	57	34			192.70		93	

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					I.C.R. %	S.C.R. %	R.O.D. %	Blow count	"N" Value		U.O.	D.S.L.	
0.00													
		8.00											
						99	57						
										192.70			
						98	83				94		
										194.65			
						100	91	69			95		
										195.70			
						98	70	24			96		
										198.70			
						98	65	25			97		
200.00										200.00			

END OF BOREHOLE

REMARKS:-

Casing details:- 0.00m to 5.50m - 131mm  
0.00m to 15.00m - 114mm



Client : SANYU CONSULTANTS.  
 Project : CORE DRILLING,ALDHAID,SHJ  
 Job No. : E-2145 Borehole No. : B-2

swissboring

ROBIO

Drawing No. : E-4503

Method of boring : Rotary Rel. Working Level (m) : 154.00  
 Type and Dia. (mm) of Drilling Tool : Wire-Line - Diamond HG  
 Casing Depth (m) : 22.50 Started on : 05/07/95  
 Casing Dia. (mm) : 140 Ended on : 20/07/95

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	"N" Value		U.D.	Dist.	
7.30		7.30	○	Brown, fine to coarse SAND and GRAVEL GRAVEL elongated, sub-rounded to sub-oungular. 2.30m- cemented sand interbedded with gravel. 2.50m- whitish cemented by carbonate recovered as lumps. 3.00m- Grading to brown with cemented pieces. 3.80m- cemented wadi gravel gravel cemented together by silty sand. 4.50m- Grading dark brown with ophiolite gravel. 5.50m- Grading whitish, silty, presence of carbonate is more evident.						7.30			
7.60		.30	□	Whitish brown, weak, sub- rounded gravels, weakly cemented together by white carbonate. CONGLOMERATE.									
		2.40	■	whitish, fine grained, moderately weak, moderately weathered, very closely spaced joints, CALCAREOUS LIMESTONE. often with inclusions of gravel at 7.60m.	100	100	100			9.20	1		
10.00					98	98	83			10.45	2		

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N <sub>60</sub> Value		U.D.	DiL.	
10.55		0.55		Brown, weak, sub- rounded to sub-angular gravels, weakly cemented CONGLOMERATE. highly weathered.	98	98	83			10.45			
12.65		2.10		Whitish, moderately weak, moderately weathered GRAVELLY LIMESTONE with occasional open voids. Gravels elongated, sub- rounded to sub-angular. Joints infilled with silty sand.	65	62	58			12.20			3
17.60		4.95		Light brown, highly to completely weathered, very weak to weak CONGLOMERATE. Completely weathered to form as gravel sized fragments of 14.00m to 14.25m and from 15.65m to 15.85m. Gravels weakly cemented together by a white carbonate. Completely weathered from 17.20m to 17.60m.	95	85	51			14.25			4
					85	67	40			15.85			5
					56	31	26			17.60			6
20.00		2.40		Greenish grey, highly to completely weathered MUDSTONE with some inclusions of gravel. 18.45m - 20.00m - whitish, fine grained weak, CALCAREOUS MUDSTONE. Black pyrolusite is found along the bedding planes.	49	1	1			18.05			7
					93	71	56			18.80			8
					98	96	94						9
21.80		1.80		Light brown, weak to moderately weak, fine to medium grained sandy LIMESTONE. 21.50m - 21.80m - Grading to gravelly LIMESTONE. Gravels usually elongated, sub- rounded. Small open voids are found at 21.80m.						21.15			
		1.20		Whitish, fine grained, moderately weak, moderately weathered CALCAREOUS MUDSTONE with occasional black pyrolusite along the bedding planes and sub-vertical joints.	99	89	75						10
										23.65			

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			Blow count	S.P.T. Value	DEPTH (m)	SAMP.		Water Depth (m)				
					T.C.R. %	S.C.R. %	R.O.D. %				U.O.	DeL.					
24.60	1.80				99	89	75			23.65							
					94	94	89			11		24.65					
33.35	8.55			<p>Light brown, very weak, highly weathered sandy LIMESTONE. Joints infilled with silty sand.</p> <p>25.65m - Grading whitish, fine grained, moderately weak, moderately weathered, CALCAREOUS LIMESTONE, very closely spaced joints.</p> <p>27.65m - Grading brown.</p> <p>28.95m - Grading whitish. (presence of carbonate)</p> <p>30.50m - Occasional voids mm in diameter are found.</p> <p>32.10m - Becoming more sandy and gravelly.</p> <p>32.40m - Grading light greenish.</p>	96	93	78			12							
					97	78	67			13		27.65					
					100	100	100			14		29.65					
					85	66	65			15		30.00					
					74	65	63			16		30.65					
					89	70	58			17		33.65					
					35.95				<p>Dark brown, highly to completely weathered, GRAVELS, sub-rounded and generally elongated in shape. A highly fractured zone.</p> <p>34.30m - 34.50m - Completely weathered to form silty sand.</p> <p>34.60m - Thin nodules of chert is found?</p>					36.45			

DEPTH BELOW WORKING LEVEL (m)	SCOPE	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T. Value	DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %			U.D.	DI.C.	
				Light greenish to white, fine grained, weak to moderately weak CALCAREOUS LIMESTONE with occasional open voids. Presence of carbonate more evident below 36.65m. Voids are more frequent below 38.50m. 39.00m - 39.35m - Highly weathered Below 40.00m - voids are absent. 44.65m - 45.10m - Grading brown and sandy. 45.10m - Grading whitish.	89	70	58		36.45			
				46.90m - 48.30m - Grading brown, fine to medium grained.	95	75	1		36.65	18		
				Highly weathered with some gravels from 48.55m to 49.00m.								
				49.00m - Grading whitish, fine grained, very closely spaced joints.	96	81	47				19	
				50.20m - 51.70m - Light brown with occasional brown stains, moderately weak moderately weathered, sub-rounded gravels cemented together by white carbonate, DOLOMITIC LIMESTONE								
				51.70m - 53.95m - Becoming whitish, fine grained, weak/moderately weak, slightly weathered. Slightly fractured from 57.10m to 57.65m. small voids from mm to 2cm in diameter are found. Becoming sandy of 60.35m. 60.65m - 62.10m - Brown, smooth GRAVEL cemented together by fine sand.					39.65			
					100	100	73				20	
									42.30			
					100	100	86		42.65	21		
					89	76	52				22	
									45.65			
					100	91	45				23	
									48.30			
					100	100	77		49.65	24		
					97	97	78		50.65	25		

13.05

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			Blow count	S.P.F. % Value	DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %				U.D.	DaL	
		13.00			97	97	78			50.65			
					100	100	90			51.65	26		
					100	93	47			53.95	27		
					95	69	23			54.65	28		
					100	96	50			57.65	29		
					99	97	46			59.65	30		
					100	90	82			60.65	31		
					95	91	67			63.65	32		

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		S.A.P.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value	DEPTH (m)	U.D.	
62.10		1.0										
62.45		35		Dark brown, weak, CONGLOMERATE. Gravels usually sub-rounded and elongated.								
62.65		20		Whitish, weak, fine grained CALCAREOUS LIMESTONE.	96	91	67					
				Brown, weak to moderately weak, CONGLOMERATE. Cementation is brown sand and below 65.30m by white carbonate.						63.65		
		2.90									33	
65.55												
				White, fine grained, weak to moderately weak, CALCAREOUS LIMESTONE, often interbedded with thin bands of calcareous mudstone. Becoming gravelly below 69.95m.	97	89	65			65.95		
										66.65		34
		6.20									35	
										69.65		
71.75												
				Whitish brown, weak, CONGLOMERATE weakly cemented together by sand, often highly fractured. Light bluish chlorite? gravels are found below 72.55m. interbedded with thin bands of whitish, gravelly limestone at 72.65m - 72.85m with inclusions of thin nodules of chert.	97	70	70			71.65		
		2.50										37
										72.65		
74.25				Whitish, fine grained, weak to moderately weak, slightly weathered CALCAREOUS LIMESTONE with occasional thin bands of greenish mudstone. Highly fractured from 78.00m to 78.65m. Rock quality slightly improves from 78.65m. Voids filled with greenish mud below	98	84	57					
		.75										
										75.65		

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)	
					I.C.R. %	S.C.R. %	R.O.D. %	Blow count	"N" Value		U.D.	Dist.		
				80.35m. Becoming gravelly below 80.35m. 81.65m - 82.95m - CONGLOMERATIC LIMESTONE. 82.95m - Whitish to light brown, fine grained, weak, DOLOMITIC LIMESTONE. Very closely spaced joints.	98	84	57			75.65				
				Becoming gravelly from 84.65m to 84.75m. 84.75m - 90.70m - Grading whitish, fine grained.	100	89	36				39			
										77.60				
					100	43	12				40			
										78.65				
					100	95	69				41			
										81.65				
		13.00			90	78	59				42			
										83.30				
					100	100	67				43			
										84.65				
					100	99	77				44			
										87.65				
					100	100	56				45			
										88.90				

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)																																																																																																
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Dial																																																																																																	
90.70	2.70	100	100	56						88.90																																																																																																			
														100	100	46						46																																																																																							
																										90.65																																																																																			
																																					92.35	1.65	100	98	60	Light greenish grey, weak, fine grained slightly weathered MUDSTONE. Black pyrolusite is found along the bedding planes.																																																																			
																																																		93.65																																																											
																																																														100	74	14						48																																							
																																																																										94.50																																			
																																																																																						100	91	51						49															
																																																																																																		96.65											
99.65																																																																																																													
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																																				99	85	23						52																																																																	
																																																100.50																																																													
																																																												102.65																																																	

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value		U.D.	Dist.	
101.45		.45	9										
		3.20		Whitish, fine grained, weak to moderately weak CALCAREOUS MUDSTONE. Small cracks have developed along the bedding planes which exhibits black pyrolusite.	99	85	23			102.65			
104.65					100	68	52				53		
		5.10		Light whitish, weak, medium to coarse grained sandy LIMESTONE. Often thin calcite veins are found. Highly weathered with presence of medium sizes gravelks is found below 105.20m. 106.05m - Grading whitish, fine grained. Small open voids of maximum 1cm in diameter are found. 107.85m - Grading light brown with presence of chlorite.	97	82	43			105.65			
										108.65			
109.75					100	72	32				55		
		2.80		Brown, weak, fine to medium grained SANDSTONE, silky texture. 111.00m - Becoming more friable with occasional light greenish chlorite. Often interbedded with marl.	100	100	30			111.25			
										111.65	56		
112.55					97	85	46				57		
		1.45		Whitish, weak, LIMESTONE, medium grained, slightly fractured with occasional inclusions of gravel. Grading light brown below 114.00m. Very closely spaced joints. 114.25m - Highly weathered and recovered as gravelly sand sub-horizontal joints. Small cracks have developed along the bedding planes showing a silky texture. 118.55m - 118.85m - Weakly cemented conglomeratic limestone. 118.85m - Becoming whitish, fine grained weak, DOLOMITIC LIMESTONE.						114.65			

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value	DEPTH (m)	U.D.	
		7.50		120.85m Becoming light whitish, slightly fractured.	97	85	46			114.65		
					93	83	53			117.15	58	
					100	100	76			117.65	59	
					100	85	58			120.65	60	
121.50					95	65	24				61	
122.60		1.10		Light brown, weak, fissile, SHALE. Fissility may be due to the parallel deposition of micaceous constituents.						122.65		
123.15		.55		Light brown, weak, fine to medium grained sandy LIMESTONE.	45	45	1			122.85	62	
		3.85		Massive, whitish, fine grained, weak, CALCAREOUS LIMESTONE. very closely spaced joints. Small inclusions of gravel is found at 124.05m, slightly weathered. 128.20m - Grading light brown. 129.60m - 129.70m - Becoming gravelly	100	100	85			123.65	63	
					100	90	51				64	
					100	81	54			126.65		
										128.70	65	

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.I.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	% Value		U.O.	Dat.	
		2.70			100	81	54			128.70			
129.70					100	86	79			129.65	66		
130.05		.35		Light brown, fine grained weak SANDSTONE									
130.65		.60		Light brownish green, friable, gravelly LIMESTONE, gravels weakly cemented									
		4.65		Whitish, fine grained, weak, CALCAREOUS LIMESTONE, slightly weathered. 134.80m - Grading light brown. Very closely spaced joints.	100	81	58				67		
					100	71	23			132.65	68		
135.30					98	82	28			133.80	69		
		1.45		Light brown, weak, fine to medium grained SANDSTONE. 135.85m - Grading to gravelly sandstone. dark brown gravels closely cemented together by sand.	97	97	71			135.65	70		
136.75		3.25		Light whitish to brown, fine grained, weak, DOLOMITIC LIMESTONE, moderately weathered. 139.35m - 140.05m - Weakly cemented GRAVEL. Gravels are elongated and sub-rounded in shape. Usually cemented together by sand. 140.05m - 141.65m - Whitish, fine grained, weak. Very closely spaced joints.	100	61	25			137.15	71		
					100	79	68			138.65	72		
					89	82	53			139.35	73		
										141.65			

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DEPTH BELOW WORKING LEVEL (m)	SOIL	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.I.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.A.R. %	R.O.D. %	Flow count	7" Value		U.O.	Del.	
141.65		1.65			89	82	53			141.65			
144.25		2.60		White, fine grained, weak CALCAREOUS MUDSTONE. Breaks along the bedding planes. Often recovered as lumps of white carbonate.	98	70	50			74			
				Whitish, fine grained, weak, CALCAREOUS LIMESTONE with presence small gravels at 144.40m. Becoming light greenish below 147.10m. (presence of serpentine?)	100	92	43			144.65			
				147.55m - 148.90m - Dark coloured weakly cemented gravel. Gravels are sub-rounded to sub-angular. Thin calcite veins are found often. Blue coloured gravels showing presence of glauconite? Presence of gravel more below 150.25m to 150.65m.	100	96	33			145.30			
		8.75			100	90	62			147.65			
					91	91	82			150.65			
					99	90	55			150.87			
										78			
										79			
										153.65			

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	COEFF. QUALITY			S.P.T.		DEPTH (m)	S&P		Water Depth (m)
					T.C.R. %	S.C.R. %	R.Q.D. %	Blow count	TV Value		U.D.	Dist.	
154.05		1.05			99	90	55			153.65			
				Brown, weak, fine to medium grained well-sorted SANDSTONE with occasional thin veins of calcite. Grading gravelly below 159.25m.	100	98	62				80		
		5.60								156.57			
159.65					94	89	74				81		
										159.65			
		1.50		Dark brown, weak, CONGLOMERATE. Elongated, sub- rounded to sub-angular gravels cemented together by sand. Thin calcite veins are found at 160.80m. Poorly sorted, highly weathered below 160.90m.	85	55	32				82		
161.15										161.15			
		2.50		Whitish, fine grained, weak, slightly weathered, CALCAREOUS LIMESTONE. Very closely spaced joints.	83	75	27				83		
163.65										162.65			
		2.00		Light brown, fine grained, weak, well-sorted SANDSTONE. Often thin calcite veins are found. Pink coloured. Micaceous constituents present at 165.40m.	98	78	75				84		
165.65										165.65			
		.35		Light whitish with occasional brown stains, fine grained, weak MUDSTONE.	98	90	74				85		
										168.55			

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow Count	"N" Value		U.D.	Dial	
168.25		2.25			98	90	74						
168.55		.30		Brown, fine grained, weak, SANDSTONE, poorly sorted.						168.55			
170.95		2.40		Whitish, fine grained, weak, CALCAREOUS LIMESTONE, slightly fractured. Often interbedded with thin bands of mudstone. (170.50m - 170.95m)	100	90	45					86	
73.75		2.80		Dark brown, fine grained, weak to moderately weak SANDSTONE (micaceous) well-sorted	100	100	88			171.65		87	
176.10		2.35		Whitish, fine grained, weak, sandy GRAVELLY LIMESTONE. Gravels are usually sub-rounded to sub-angular.	100	100	73			174.20		88	
176.70		.60		Dark brown to brown, friable, poorly sorted, weakly cemented GRAVEL. Cementation is usually sand. Gravels are rounded to angular in shape.	100	98	55			174.65		89	
		2.30		Whitish, fine to medium grained, weak, DOLOMITIC LIMESTONE. 177.85m - Grading with brown stains. Sub-horizontal joints with occasional thin bands of greenish mud. 179.80m - Brown stains are rarely present. Highly fractured. 183.25m - Recovered as lumps. 185.00m - Becoming light brown, more sandy. 185.85m - Becoming whitish in colour.	100	100	76			177.65		90	
										179.80			

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.Q. %	Blow count	"N" Value		U.O.	Del.	
		8.60			100	100	76			179.60			
					100	85	61			180.65			
					95	70	40						
										183.65			
					100	83	26						
										185.55			
					100	100	72						
										186.65			
187.60													
		1.35		Light brown, fine to medium grained, weak, well-sorted SANDSTONE.	100	95	95						
188.95													
		3.05		Light whitish with some brown stains (oxidation), weak to moderately weak, fine grained, MUDSTONE Breaks along the bedding planes 191.75m - Becoming whitish green. Brown stains are not found. Highly weathered and recovered as lumps below 192.15m. Rock quality improves below 192.65m. Highly fractured at 193.05m. 194.55m - Gravels elongated in shape is seen. 194.55m - Brown stains are found.	100	90	70			189.65			
					100	49	31			191.25			
										192.65			

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T. Blow count	S.P.T. 'N' Value	DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %				U.D.	Dist.	
		4.00			100	49	31			192.65			
					100	73	52			195.65		98	
196.00				Whitish, fine grained, weak CALCAREOUS LIMESTONE Highly weathered and recovered as lumps.	100	54	22			196.90		99	
		4.15			100	66	21			198.65			
200.15				Brown, fine to medium grained, weak, poorly sorted SANDSTONE. 201.40m - Light greenish brown, weakly cemented GRAVEL. 202.35m - Graining very weak, light greenish in colour. (greenish colour may be due to the presence of chlorite minerals.) Highly weathered below 202.35m.	96	86	57			201.65		1	
		3.05			100	83	39			202.40		2	
203.20				Whitish, fine grained, weak to moderately weak DOLOMITIC LIMESTONE, very closely spaced joints.	98	94	76			204.65		3	
		1.80			100	90	64			207.65		4	

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DEPTH BELOW CAS. WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SALP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	"N" Value		U.S.	Dist.	
206.45		1.40		Light greenish brown, weak, medium grained, gravelly SANDSTONE.	100	90	64						
210.75		4.30		Light pinkish brown, fine grained, weak, laminated, fissile, SHALE, Block pyrolusite is found along the bedding planes.	80	62	35			207.65			
										208.10	5		
210.75		7.25		Brown, weak, fine to medium grained well-sorted, SANDSTONE with occasional thin bands of rose quartz. 214.75m - Thin calcite veins are found. Microceous constituents are found along the minor fracture planes. 216.50m - Grading light green.	100	69	49			210.65			
											7		
					100	97	81			213.65			
											8		
					100	98	73			216.65			
					100	98	96			219.30			

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			Blow count	S.P.T. N Value	DEPTH (m)	SAMP.		Water Depth (m)	
					T.C.R. %	S.C.R. %	R.O.D. %				U.D.	Dist.		
220.30		2.30				100	98	96			219.30			
						100	100	97			219.65	10		
10.70				Greenish, massive, weak to moderately weak, CONGLOMERATE. Elongated, sub-rounded to sub-angular gravels. Often interbedded with thin bands of mud. Occasional calcite veins are found. Highly fractured at 226.90m, 227.85m - 228.65m, 230.65m - 231.20m and 233.40m - 233.70m.		99	99	79			221.85			11
						96	90	66			222.65			12
						100	91	71			224.95			13
						100	100	80			225.65			14
						97	55	33			228.65			15
						100	69	51			230.65			16
						65	34	18			233.80			17

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DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.I.		DEPTH (m)	SAND		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %	Bar count	N Value		U.D.	Dkt.	
233.70		2.70			65	34	18			233.80			
				Whitish, fine grained, weak to moderately weak, LIMESTONE with occasional thin bands of calcite and rose quartz are found. 235.40m - 238.80m - Graining light whitish, gravelly limestone. Gravels are elongated and sub-rounded in shape. The rock is cemented by white carbonate. 235.80m - Whitish, fine grained, weak to moderately weak LIMESTONE with occasional gravels.	100	96	84			234.65		18	
					100	92	23			235.25		19	
					97	73	45			236.95		20	
					100	100	81			237.65		21	
					100	92	42			238.30		22	
		10.30			100	98	55			240.65		23	
					100	100	79			242.45		24	
					100	86	33			243.65		25	
					100	66	59			246.65		26	

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)	
					T.C.R. %	S.C.R. %	R.O.D. %	Blow count	TV Value		U.D.	Dist.		
246.25		2.25			100	66	59							
250.05		3.80		Light greenish, weak to moderately weak, massive, CONGLOMERATIC LIMESTONE. Green colour may be due to the presence of chlorite minerals. 247.8m - 249.25m - Grading white, fine grained, weak to moderately weak LIMESTONE. 249.25m - 250.05m - Grading light greenish, conglomeratic limestone.	100	93	86			246.65		27		
					100	90	61			248.08		28		
										249.65				
252.25		2.20		Light brown, fine grained, weak to moderately weak MARLY LIMESTONE, often interbedded with thin calcite and rose quartz veins.	100	90	90					29		
254.10		1.85		Brown to light greenish, fine grained, well-sorted, weak, SANDSTONE without any visible bedding planes.	100	96	79			252.65		30		
										253.80				
254.10		2.90		Whitish, fine grained, weak to moderately weak, massive, MARLY LIMESTONE. 256.90m - 257.10m - Grading to light greenish in colour with occasional inclusions of gravel. 260.55m - Becoming light brown, very weak to weak. Highly to completely weathered. Completely weathered and recovered as sandy gravel below 260.55m to 261.55m. Highly fractured. Sub-horizontal joints with thin calcite veins. Rock quality improves from 264.10m. 266.85m - 267.35m - Becoming gravelly.	100	97	84					31		
					100	97	34			255.65		32		
										258.65				

BOREHOLE NO. B-2 PAGE 20/24

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.F. (Blow count)	S.P.F. Value	DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %				U.D.	DiL.	
					100	97	34			258.65			
					100	100	97			259.30		33	
					97	97	64			260.55		34	
					95	79	65			261.65		35	
					100	98	78					36	
		12.80			100	100	85			264.65			
					100	100	85			264.85		37	
					97	97	72			267.65		38	
					100	100	73			268.42		39	
					100	77	43					40	
269.80		.20		Light brown, fine to medium grained, very weak SANDSTONE						270.47			

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		DEPTH (m)	SAMP.		Water Depth (m)
					T.C.R. %	S.C.C. %	R.O.D. %	Blow count	N Value		U.D.	Dist.	
270.50		.50			100	77	43			270.42			
271.80		1.30		Light whitish brown, fine grained, thinly laminated, weak SHALE. Shows fissility along the bedding planes with presence of black pyrolusite.	94	94	67			270.65	41		
273.15		1.35		Whitish green, fine grained, weak to moderately weak, LIMESTONE sub-horizontal joints.	100	97	68					42	
274.45		1.30		Light greenish, highly weathered CONGLOMERATE, weak cementation.						273.65			
276.65		2.20		Whitish, thinly laminated, weak to moderately weak MARLY LIMESTONE, highly fractured. Presence of black pyrolusite along the minor fracture planes.	100	71	22			276.10		43	
276.65					100	75	1			276.65		44	
280.90		4.25		Whitish, fine grained, thinly laminated, weak to moderately weak SHALE, developed a fissility along the bedding planes. Presence of black pyrolusite along the bedding planes.	98	81	44			278.45		45	
280.90					98	87	51			279.65		46	
280.90		2.10		Whitish, fine grained, weak MARLY LIMESTONE, very closely spaced joints. Often interbedded with thin calcite veins.	100	95	76			281.60		47	
					100	92	40			282.65		48	
					97	92	65			285.65		49	

BOREHOLE NO. B-2 PAGE 22/24

DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	CORE QUALITY			S.P.T.		SAMP.		Water Depth (m)
					I.C.R. %	S.C.R. %	R.O.D. %	Blow count	N Value	DEPTH (m)	U.D.	
284.30		1.30										
285.80		1.50		Brown, fine grained, weak, SANDSTONE, well-sorted.	97	92	65				285.65	
286.25		.45		Light greenish, weak, highly weathered, CONGLOMERATE, weakly cemented, often interbedded with thin calcite veins.								
				Whitish, fine grained, weak, MARLY LIMESTONE. Presence of black pyrolusite along the minor fracture planes. 287.85m - 288.30m - Becoming sandy limestone. 288.30m - 288.65m - Grading light brown, with presence of gravels. 288.65m - 289.25m - Becoming greenish in colour, highly fractured, weakly cemented CONGLOMERATE 289.25m - 293.35m - Whitish, fine grained, weak, highly fractured MARLY LIMESTONE. 293.35m - Grading brown, thinly laminated, weak, presence of micaceous constituents. 295.25m - 295.90m - Grading gravelly.	97	65	18				50	
					96	59	50				287.40	51
					100	88	25				288.65	52
		9.65									291.65	
					100	76	21				293.05	53
					93	86	53				294.65	54
					100	58	28				297.65	55
295.90				Light whitish brown, thinly laminated.								

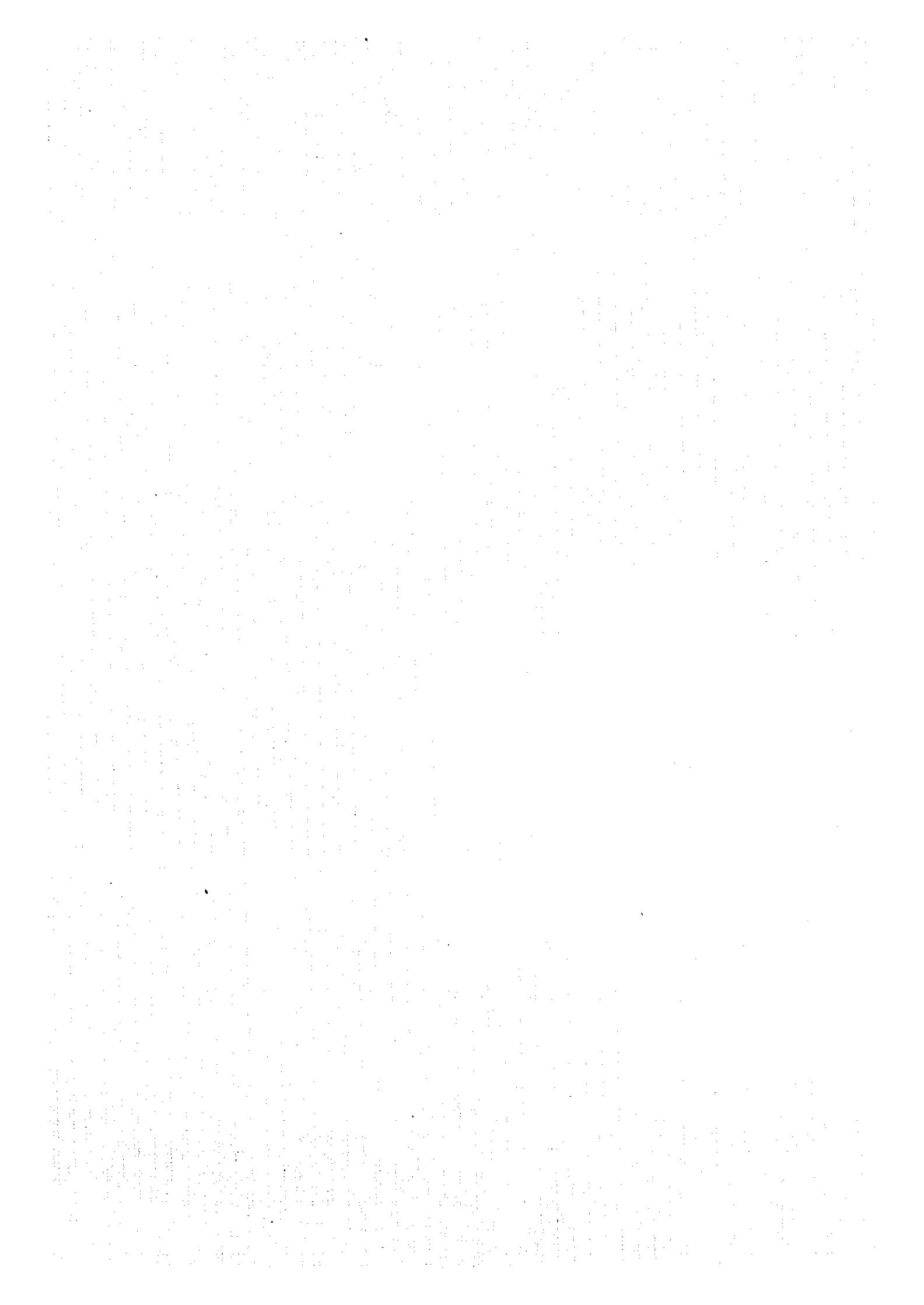
DEPTH BELOW WORKING LEVEL (m)	Scale	STRATA THICKNESS	STRATA SYMBOL	DESCRIPTION OF STRATA	COR. QUALITY			Blow count	S.P.T. Value	DEPTH (m)	SAND		Water Depth (m)
					T.C.R. %	S.C.R. %	R.O.D. %				U.O.	Diab.	
297.65		1.65		weak SHALE, shows fissility along the bedding planes. Recovered as lumps below 297.10m.	100	58	28			297.65			
300.00		2.35		Whitish with occasional brown stains, weak to moderately weak, slightly gravelly LIMESTONE. Becoming whitish, fine grained, weak, MARLY LIMESTONE below 299.0m.	100	100	76			299.70	56		
					100	90	65			300.00	57		

END OF BOREHOLE

REMARKS:-

Approximate 50% waterloss is noted at 26.0m.  
Casing details - 0.00m to 30.00m - 114mm.





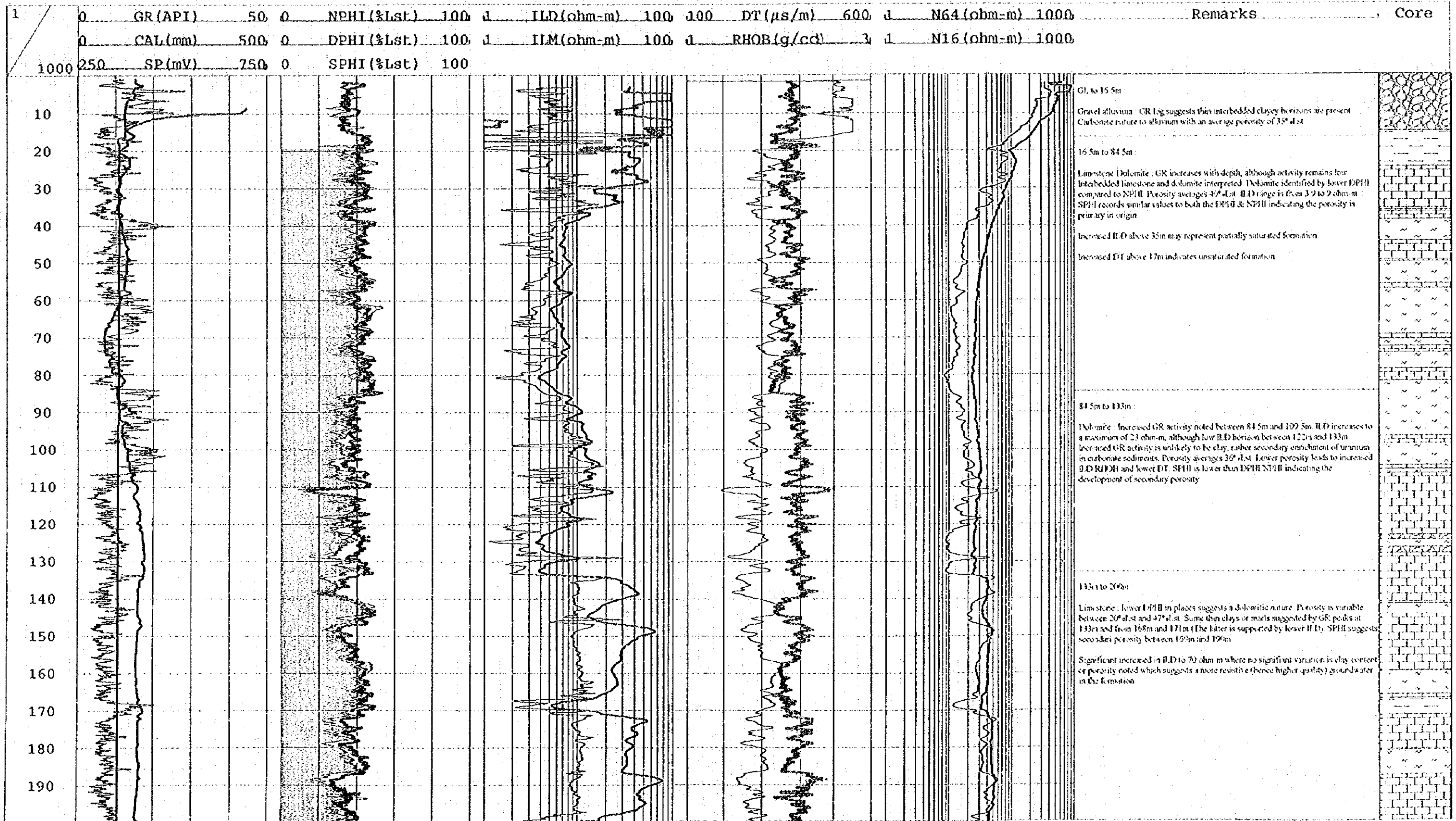
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## COMPOSITE WELL LOG

Geophysics and Water Resources

Date	August 1995	Datum	AvL	Borehole Record			Casing Record			Drilling Method	Rotary - Airlog	Logging Schedule	Corrections Applied
WELL ID	BH-1	Stickup	+0.50m	Size	From	To	Size	From	To	Fluid Type	Water	GR, CAL, TAP, CNO, DTMP, HYD, RHOB, DRIB, LSD, NPFI, LSS, SSS, 56 C, N16, SP, ILM, I.D., FVS, DT	GR corrected for 36mm diameter and 4 RHOB & NPFI borehole compensated standard correction applied to DT, CNO corrected to 25°C
MWR ID		Delta Z	0.02m	113mm	GL	6m	113mm	GL	15.0m	Level	At surface		Plot No. 1 of 3
Nothing	278548	TD Driller	200m	113mm	6m	16.5m				Rmf			Interval: GL to 200m
Fasting	393803	TD Logger	200m	96mm	16.5m	200m				Rm		Remarks	Depth: 200m
Location	Al Dhaid	Top Logger	AGL							Rmf TMP		Operhole logs merged at 15.0m. 2nd logging run recorded after surface casing removed.	Scale: 1:1000
Region	Sharjah, UAE	Recorded By	A. Slat							Rm TMP			

3.2.2. Geophysical Logs (B1, B2)

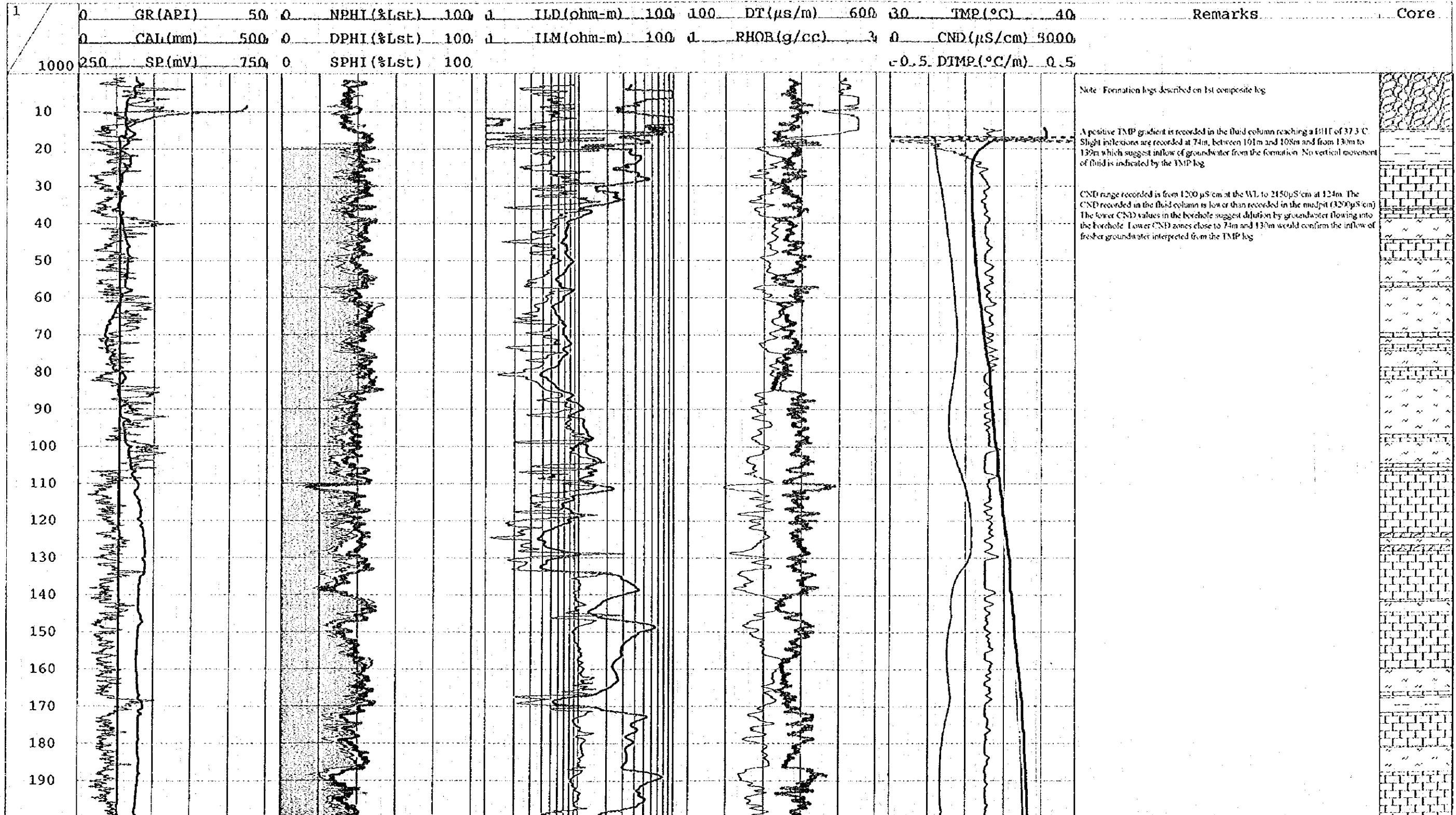


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## COMPOSITE WELL LOG

Geophysics and Water Resources

Date	August 1995	Datum	AGL	Borehole Record			Casing Record			Drilling Method	Rotary Core	Logging Schedule	Corrections Applied
WELL ID	BH-1	Stickup	+0.56m	Size	From	To	Size	From	To	Fluid Typ	Water	GR, CAL, TMP, CND, DTMP, ILLD, RHO, DR, DPHI, SP, SPHI, SSN, NFI, N16, SF, ILM, ILO, FWS, DT	GR corrected for 26mm diameter and 0.81100 & NFI borehole compensated standard correction applied to DT, CND corrected to 25°C
MWR ID		Delta Z	0.02m	110mm	GL	6m	113mm	GL	15.0m	Level	At surface		
Northing	275858	TD Driller	200m	113mm	6m	16.5m				Rmf			Plot No 2 of 3
Easting	393803	TD Logger	200m	26mm	16.5m	200m				Rm		Remarks	Interval GL to 200m
Location	Adhaid	Top Logger	AGL							Rmf TMP		Openhole logs merged at 15.0m. 2nd logging run recorded after surface casing removed. TMP, CND, DTMP logs recorded in polymer mud filled borehole	Depth 206m
Region	Sharjah, UAE	Recorded By	A. S. ...							Rm TMP			Scale 1:1000



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## COMPOSITE WELL LOG

Geophysics and Water Resources

Date	August 1993	Datum	AGL	Borehole Record			Casing Record			Drilling Method	Rotary Coring	Logging Schedule	GR, CAL, TMP, CND, DIMP, OH, RHOD, DRHO, MSD, NPHI, LSS, SSS, N64°N16°SP, JUM, I.D., FWS, DT	Corrections Applied	GR corrected for 96mm diameter and 2.81HOB & NPHI borehole compensated stand-off correction applied to DT, CND corrected to 25°C.
WELL ID	RH-1	Stickup	0.5m	Size	From	To	Size	From	To	Fluid Type	Water			Plot No. 3 of 3	
MWR ID		Delta Z	0.02m	140mm	GL	6m	53.5mm	GL	20m	Level	18.3m AGL			Interval GL to 200m	
Northing	2778548	ID Driller	200m	113mm	6m	16.5m				Rmf				Depth 200m	
Easting	393803	ID Logger	200m	96mm	16.5m	200m				Rmf TMP			Remarks	Scale 1:1000	
Location	Al Dhaid	Top Logger	AGL							Rmf TDP			Fluid logs recorded in PVC casing, some 37 days after open-hole logging and well development		
Region	Sharjah, UAE	Recorded By	A. Saeed												

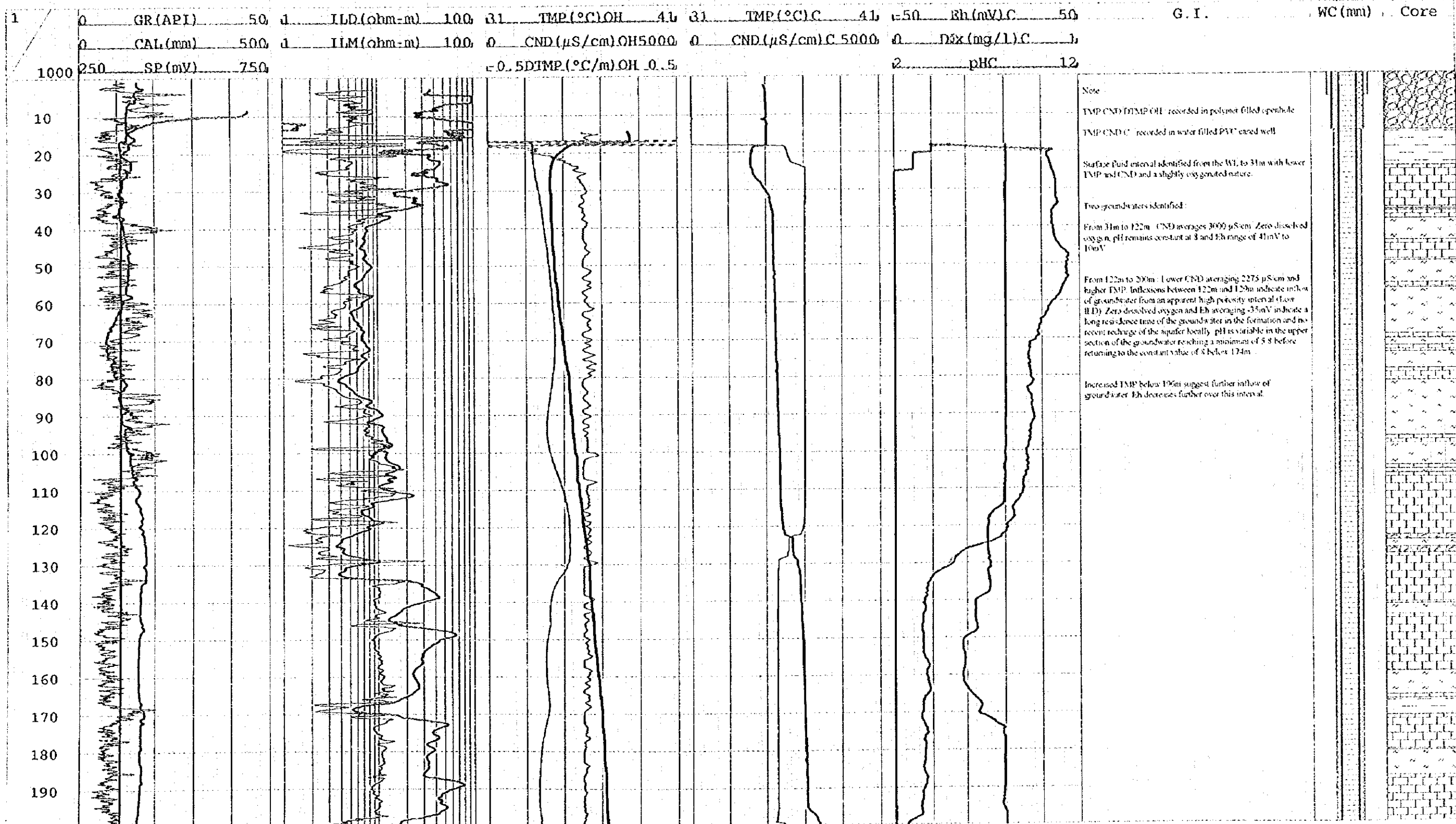


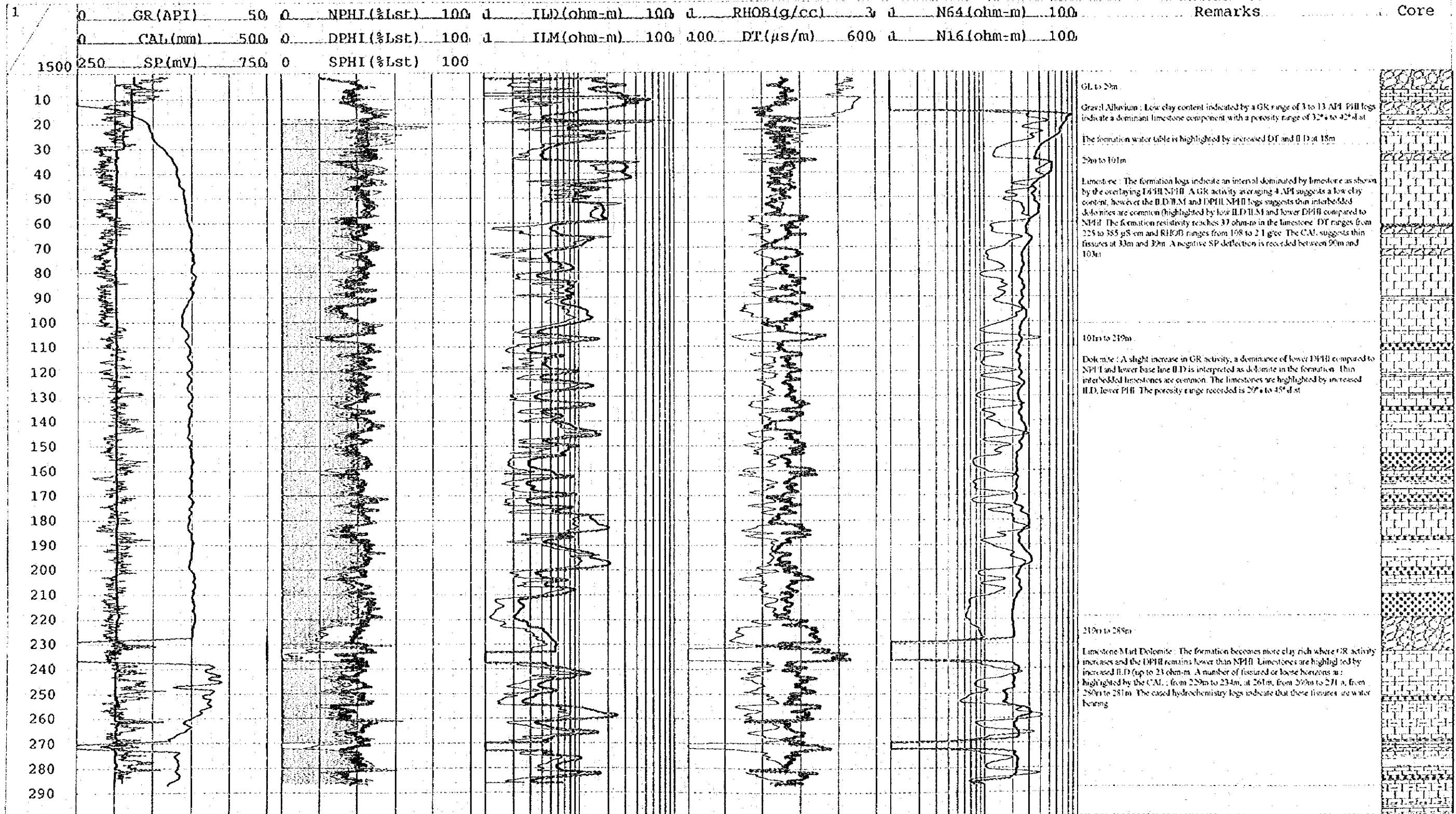
图 4.5.25. 物理檢層結果

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## COMPOSITE WELL LOG

Geophysics and Water Resources

Date		Datum		Borehole Record			Casing Record			Drilling Method		Logging Schedule		Corrections Applied	
WELL ID	204-2	Stickup	0.50m	Size	From	To	Size	From	To	Fluid Type	Water	GR, CAL, TMR, CND, DTMF, HYD, RHO, DRIP, LSD, NPFI, LSN, SSN, NSI, NIS, SP, ILM, ILD, FAS, DT	GR corrected for 80mm diameter and RHO, B & NPFI borehole compensation standard correction applied to DT, CN corrected to 25°C	Plot No	1 of 1
MWR ID		Delta Z	0.02m	193mm	GL	22.5m				Level	12.0m				
Northing	2780638	ID Driller	300m	111.5mm	22.5m	30.0m				Rinf					
Fasting	389518	ID Logger	288m	96mm	30.0m	300.0m				Rin		Remarks	Openhole logs merged at 23.0m and 268m	Interval	GL to 300m
Location	Al Dhaid	Top Logger	AGL							Rinf TMR				Depth	288m
Region	Sharjah, UAE	Recorded By	D. Cogswell							Rin TMR				Scale	1:1500

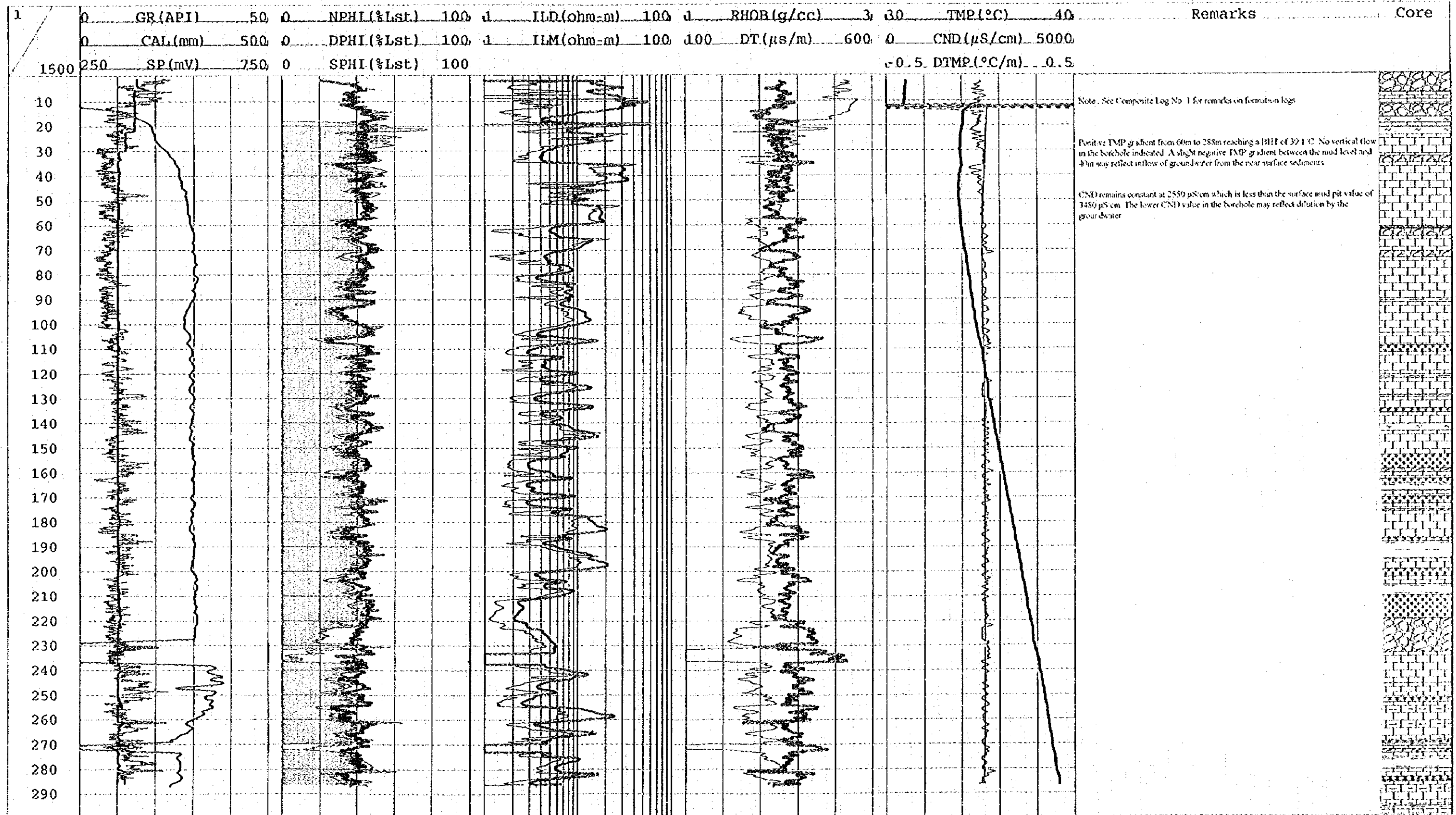


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## COMPOSITE WELL LOG

Geophysics and Water Resources

Date	August 1995	Datum	AGL	Borehole Record			Casing Record			Drilling Method	Rotary Logging	Logging Schedule	GR, CAL, TMP, CND, DTMP, HYD, RHOB, DPHI, ILS, NPHI, LSS, SSN, NSI, N16, SP, ILM, B.D., FAS, DT	Corrections Applied	GR corrected for 35mm diameter and 1 RHOB & NPHI borehole compensated standard correction applied to DT, CND connected to 25°C
WELL ID	BH-2	Stickup	0.5m	Size	From	To	Size	From	To	Fluid Type	Water			Plot No. 2 0 3	
MWR ID		Delta Z	0.02m	119mm	GL	22.5m				Level	12.1m			Interval GL to 300m	
Northing	27806AS	TD Driller	35m	111.5mm	22.5m	30.0m				Rmf				Depth 288m	
Easting	389518	TD Logger	288m	96mm	30.0m	330.0m				Rm				Scale 1:1500	
Location	Al Dhulif	Top Logger	AGL							Rmf TMP			Remarks		
Region	Sharjah, UAE	Recorded By	D Cogswell							Rm TMP			Openhole logs merged at 23.1m and 268m		
													TMP, CND, DTMP recorded in mud filled openhole		



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## COMPOSITE WELL LOG

Geophysics and Water Resources

Date	August 1995	Date	AGL	Borehole Record			Casing Record			Drilling Method - Rotary Core		Logging Schedule		Corrections Applied
WELL ID	BH-2	Stickup	+0.5m	Size	From	To	Size	From	To	Fluid Type	Water	GR, CAL, TMP, CND, DIMP, HYD, RHOD, DRHO, LSO, NPH, LSN, SSN, N6P, N15P, RUM, LLD, FVS, DE	GR corrected for 26mm diameter at RHOD & NPH borehole components. Standoff correction applied to DE, C corrected to 25°C	
MWR ID		Delta Z	0.02m	110mm	GL	22.5m	112mm	GL	30m	Level	15.6m (AGL)		Plot No 3 of 3	
Northing	2387658	ID Driller	30m	113.5mm	22.5m	30.6m	50.8mm	GL	288m	Rmf		Remarks	Interval GL to 30m	
Easting	389518	ID Logger	288m	96mm	30.6m	250.0m				Rm		HYD logs recorded inside 50.8mm PVC casing immediately after well development	Depth 288m	
Location	Al Dhaid	Top Logger	AGL							Rmf TMP			Scale 1:1500	
Region	Sharjah, UAE	Recorded By	D Cogswell							Rm TMP				

