
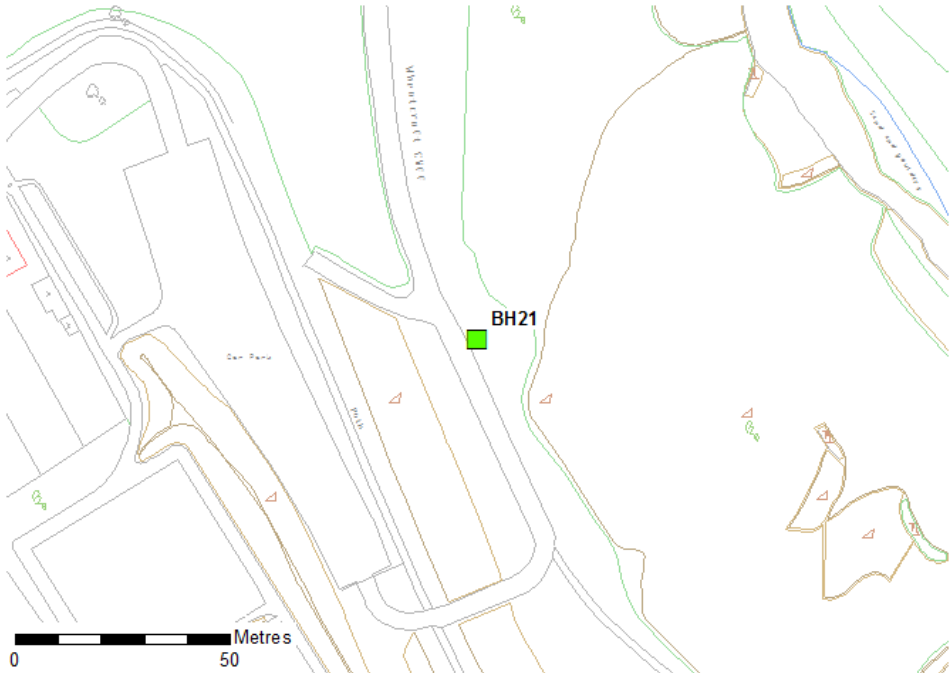
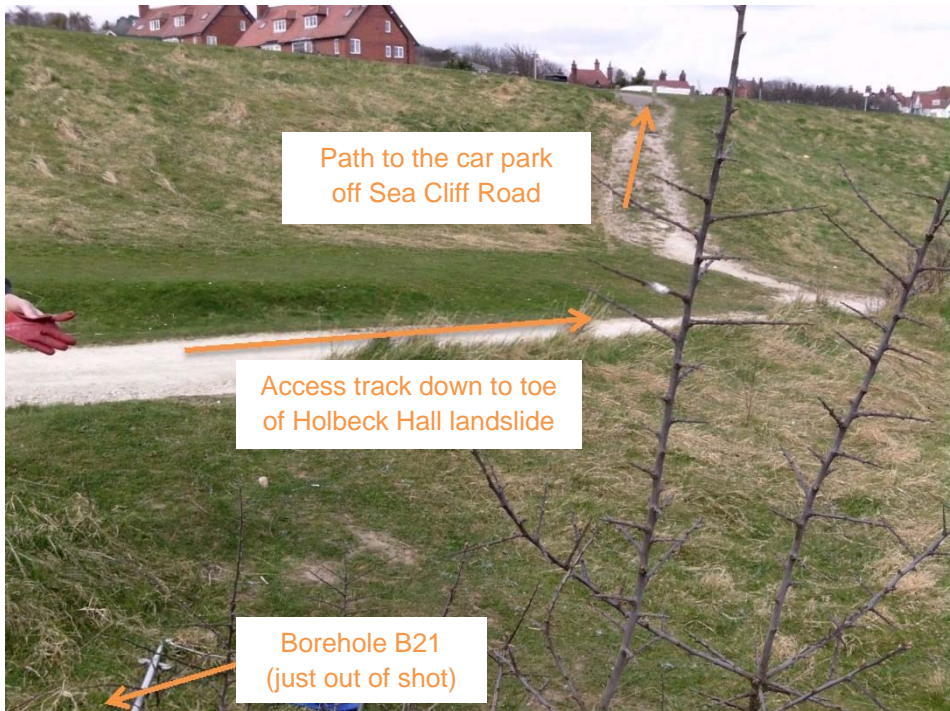




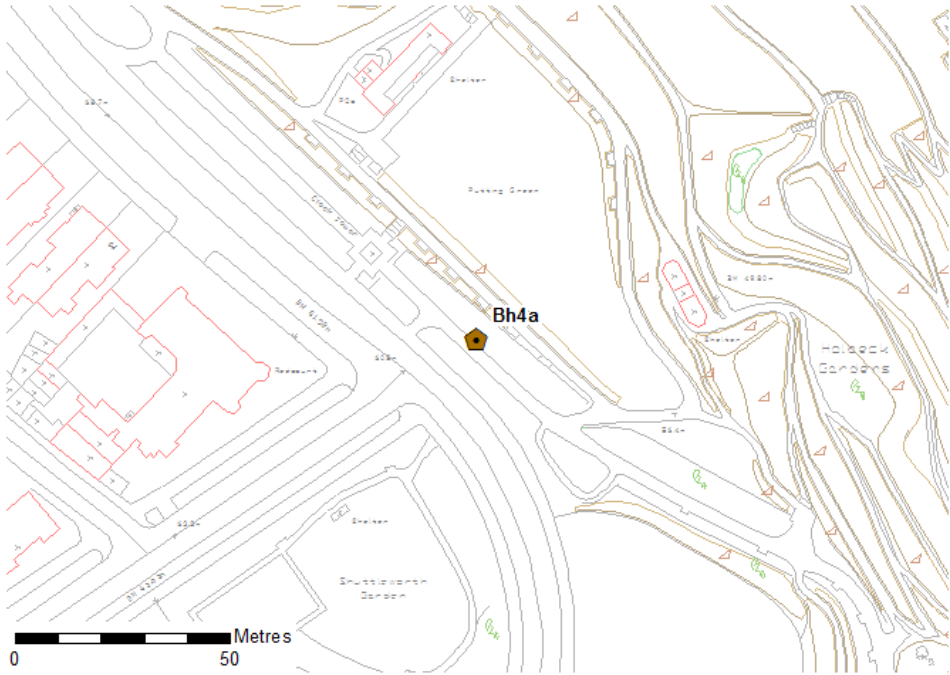




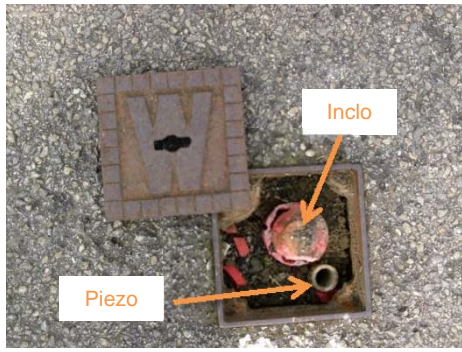
 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Seaward side of access track down the Holbeck Hall landslide, opposite path from middle of car park. In small clearing in middle of gorse thicket.	
Borehole	BH21	Inclinometer	
Map GPS Reference: TA 04980 86795			
Location Photo (looking west)			



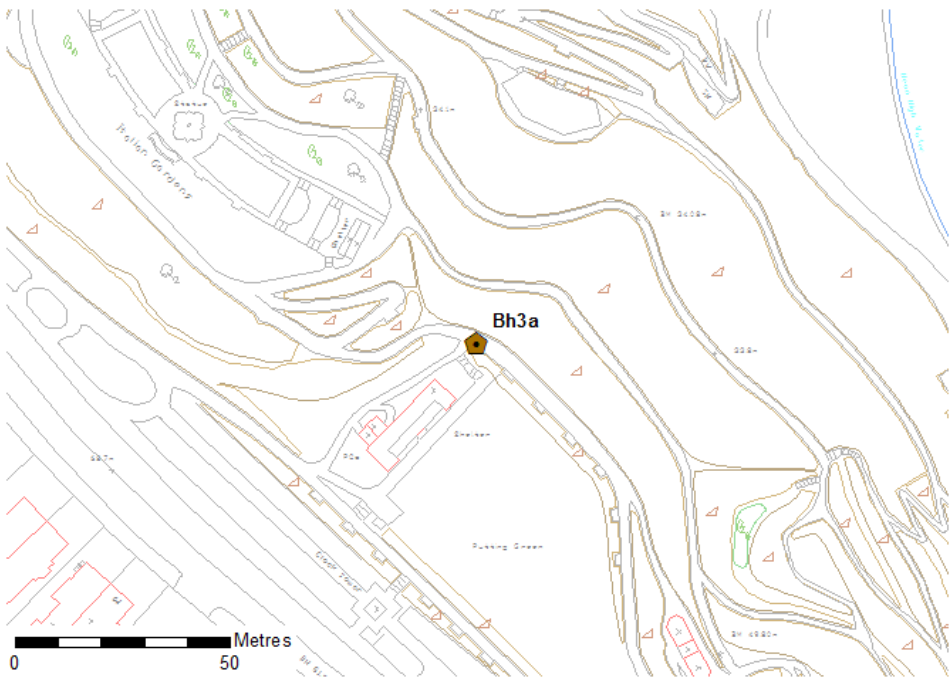

Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover and hinge ok but locking screw corroded and cover was not locked.• Concrete surround ok.• Vegetation ok, but may be an issue in summer.• No cap to inner tube.		
Known Depth	31.10m	Recorded Depth	2.48m
Comments	<ul style="list-style-type: none">• Large discrepancy between recorded and known depth, suggests borehole may have sheared.• No water recorded.• Dummy inclinometer went to 2.43m.		



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	<i>Scarborough – South Cliff</i>	At the top of the disabled access route down South Cliff Gardens, close to the Clock Tower and access point to Esplanade.	
Borehole	BH4	Piezometer - twin	
Map GPS Reference: TA 04693 87147			
Location Photo (looking north-west)			



Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok, 4 locking screws.• Concrete surround ok but starting to crack.• Double piezometer with automated loggers present.• Tarmac footpath – no vegetation issues.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	a) 27.70m b) 33.30m	Last Recorded Water Depth	a) 8.10m b) 8.40m	Record Date	2009 (Mouchel)
Comments					



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	At south-east corner of putting green, at the junction of the paths where the disabled access route bends round to the north.	
Borehole	BH2	Inclinometer	
Map GPS Reference: TA 04741 87131			
Location Photo (looking north-west)			



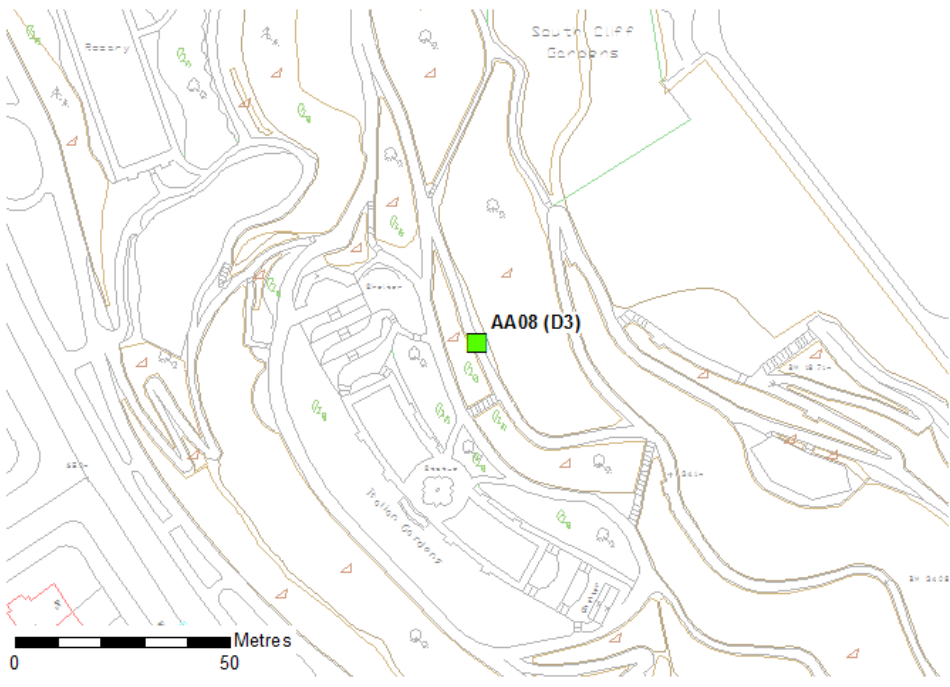

Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover ok, hinged at one corner (pivots).• Cover does not have a locking mechanism.• Inner tube has a cap which is damaged but functional.• Tarmac footpath – no vegetation issues.		
Known Depth	60.00m	Recorded Depth	61.00m
Comments	<ul style="list-style-type: none">• Water recorded at 48.1m.• Dummy inclinometer went to 60.95m.• Piezometer tube also present in borehole – depth of 1.35m with water recorded at 0.2m.		



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Footpath around bottom edge of putting green, at north-east corner.	
Borehole	BH3	Piezometer - triple	
Map GPS Reference: TA 04692 87229			
Location Photo (looking north-west)			



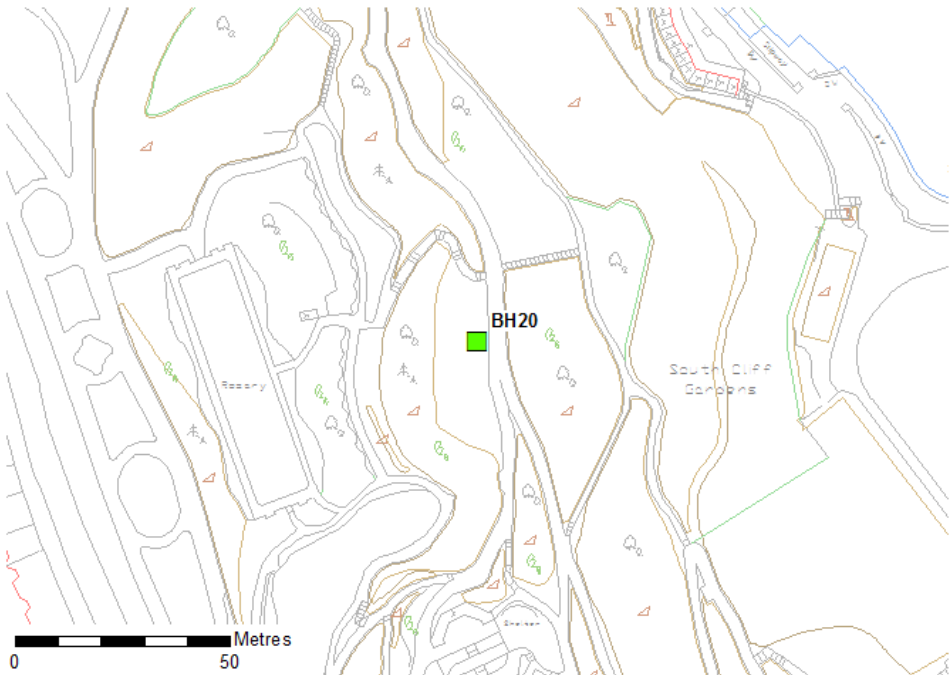
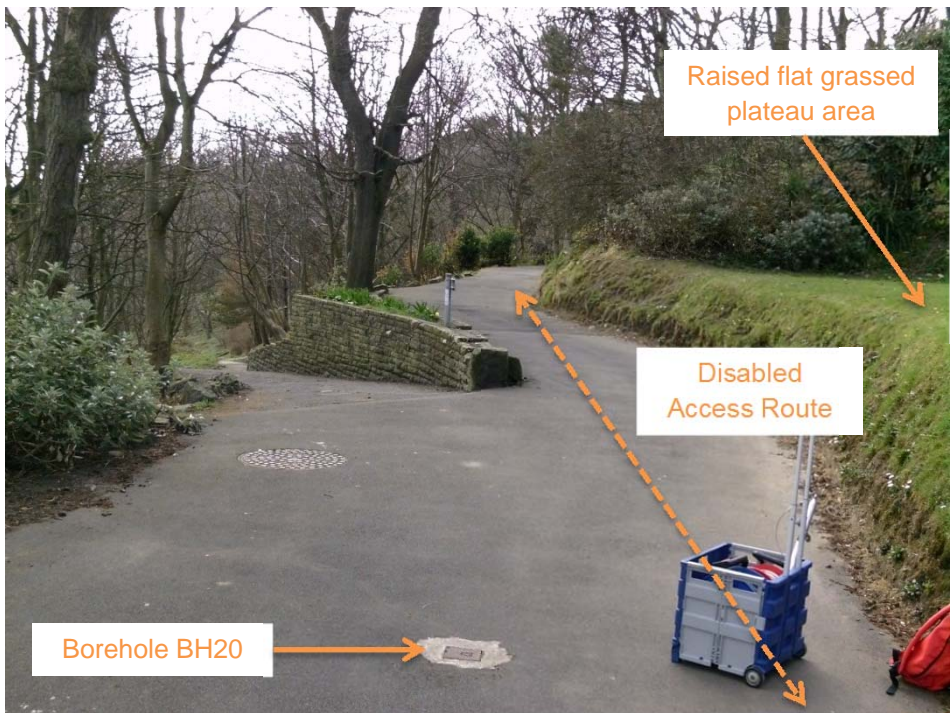
Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• 3 piezometer tubes with 2 automated data loggers.• In tarmac footpath – no vegetation issues.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	a) 12.28m b) 42.40m	Last Recorded Water Depth	a) 9.80m b) 37.49m	Record Date	2009 (Mouchel)
Comments					



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Footpath directly above the Italian Gardens, roughly in line with central pond feature.	
Borehole	D2	Piezometer - twin	
Map GPS Reference: TA 04600 87277			
Location Photo (looking south-east)			



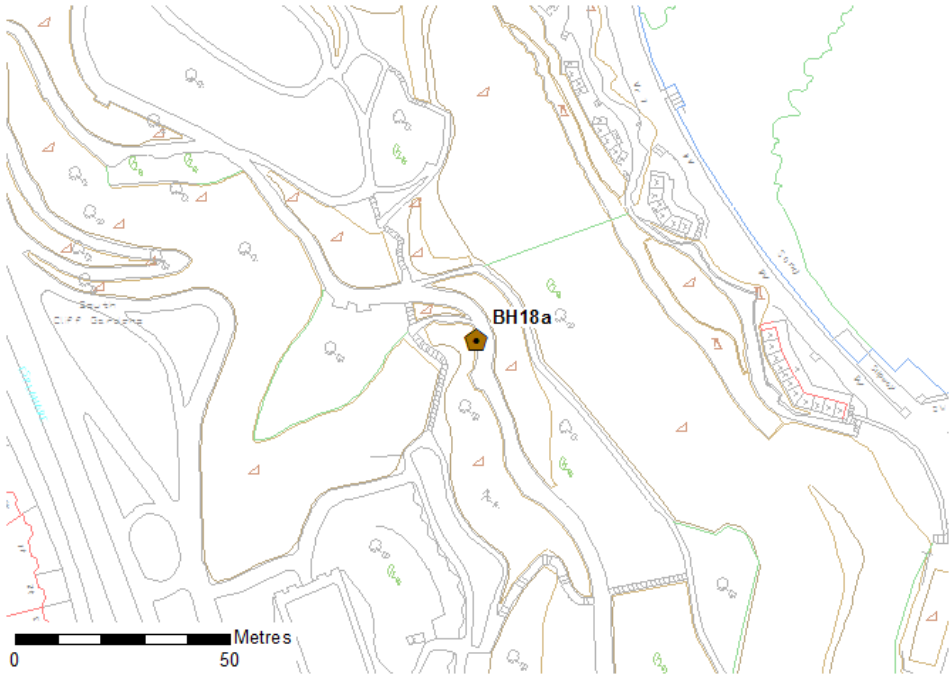

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Double piezometers with automated data loggers.• Tarmac footpath – no vegetation issues.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	a) 19.40m b) 5.04m	Last Recorded Water Depth	a) 6.11m b) 1.06m	Record Date	2009 (Mouchel)
Comments					



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinatorimeters and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Second parallel footpath below the Italian Gardens, close to bottom of steps and raised round manhole.	
Borehole	D3	Inclinometer	
Map GPS Reference: TA 04634 87314			
Location Photo (looking south-east)			



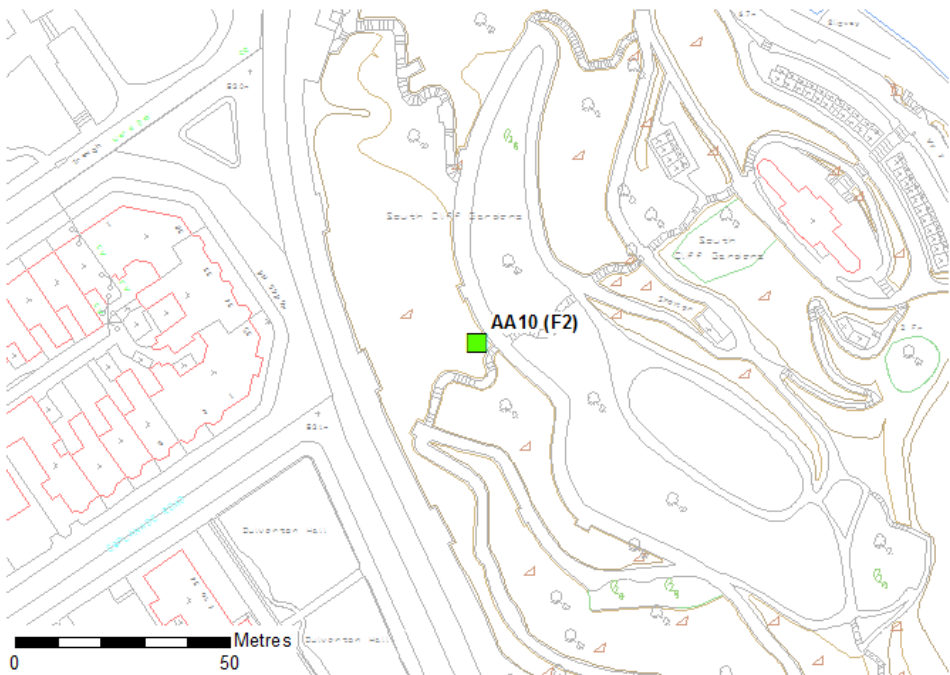
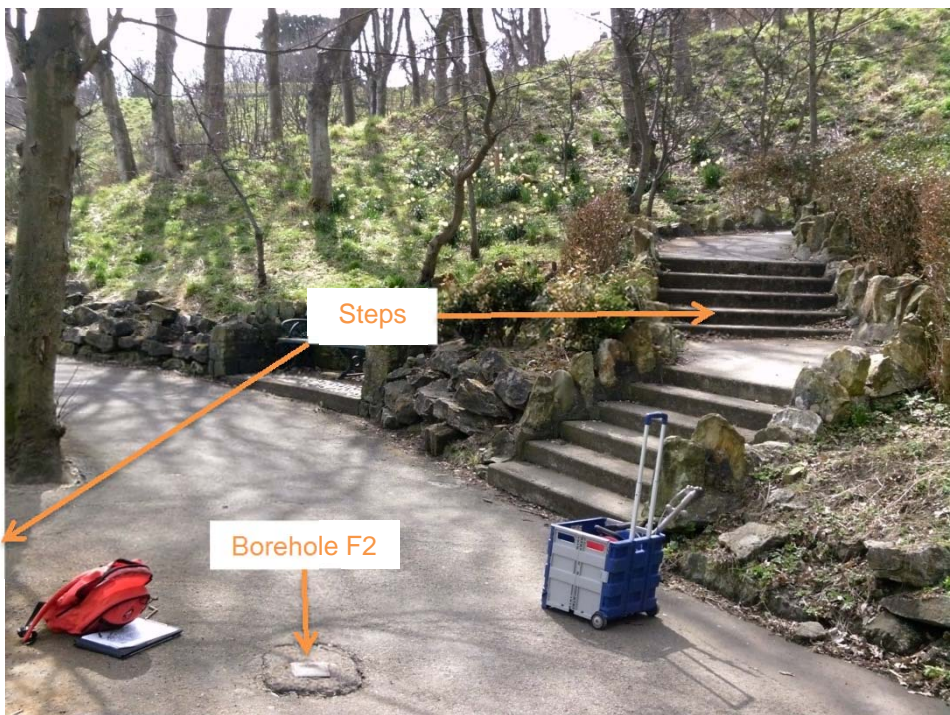
Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but locking screw is corroded.• Inner tube has bung present.• Tarmac footpath – no vegetation issues.		
Known Depth	24.80m	Recorded Depth	24.90m
Comments	<ul style="list-style-type: none">• Water recorded at 21.4m.• Dummy inclinometer went to 24.82m.• Measurements to top of outer tube.		



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	On the disabled access route, below the Rose Garden, next to the grassed plateau area. Close to fork in path and manhole cover.	
Borehole	BH20	Inclinometer	
Map GPS Reference: TA 04602 87393			
Location Photo (looking south)			

Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but locking mechanism is broken.• Concrete surround ok.• Cap to inner tube present.• Tarmac footpath – no vegetation issues.		
Known Depth	46.50m	Recorded Depth	31m
Comments	<ul style="list-style-type: none">• Water recorded at 0.1m and rose to ground level during measuring.• Dummy inclinometer went to 31.08m.• Discrepancy between known depth and recorded depth suggests that borehole may be sheared at depth.		

 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	On disabled access route, close to sharp bend and raised bench.	
Borehole	BH18	Piezometer - twin	
Map GPS Reference: TA 04577 87469			
Location Photo (looking south)			

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Double piezometers with automated data loggers.• Tarmac footpath – no vegetation issues.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	a) 16.00m b) 19.00m	Last Recorded Water Depth	Not available	Record Date	Not available
Comments	<ul style="list-style-type: none">• Further north along same footpath as BH20 (disabled access route).• Another double piezometer borehole is close by, which is not automated but has a diver (small square metal cover, inner tubes both have caps).				

 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclonometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	On the disabled access route above the oval grassed area which is above the Clock Café. Between the sets of steps which go up to the highways structure and down to the grassed oval.	
Borehole	F2	Inclinometer	
Map GPS Reference: TA 04465 87567			
Location Photo (looking south)			

Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover and hinge ok, but no locking mechanism. • Footpath has sunken slightly around the tarmac surround. • Bung to inner tube present. • Tarmac footpath – no vegetation issues. 		
Known Depth	30.50m	Recorded Depth	30.15m
Comments	<ul style="list-style-type: none"> • Water recorded at 13.6m. • Dummy inclinometer went to 30.35m, but on first attempt only went 9.96m. • Measurements to top of metal lid (edge of inner tube too uneven to measure to). 		



A great place to live, work & play

Scarborough Borough Council

Condition Survey of Inclinometers and Piezometers – 22/4/2013



Royal HaskoningDHV
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Location

Scarborough – South Cliff

Footpath behind the Clock Café at the northern end, between flights of steps.

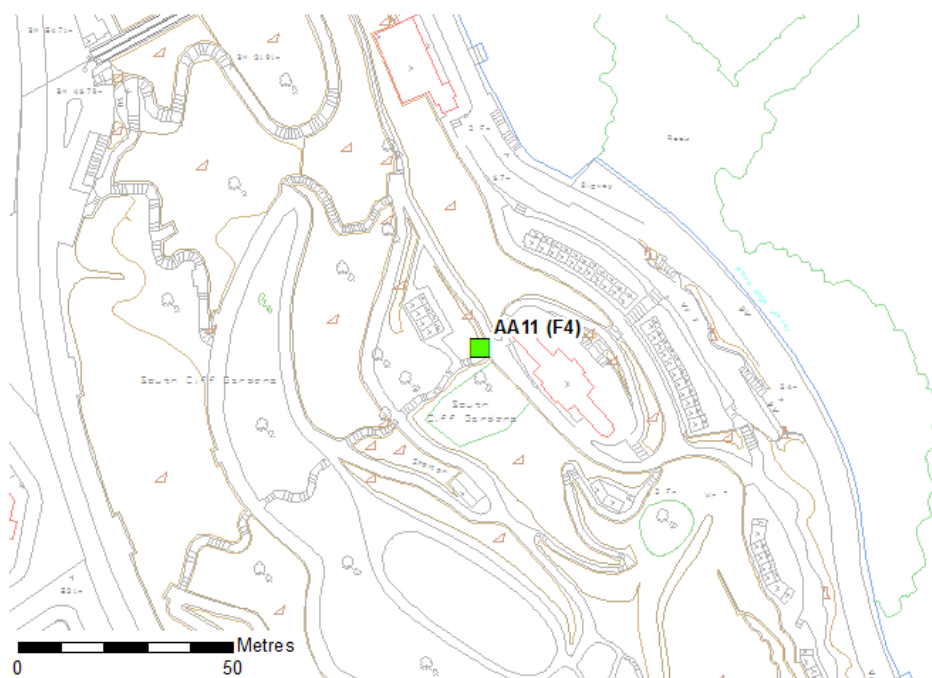
Borehole

F4

Inclinometer

Map



GPS Reference:
TA 04523 87604



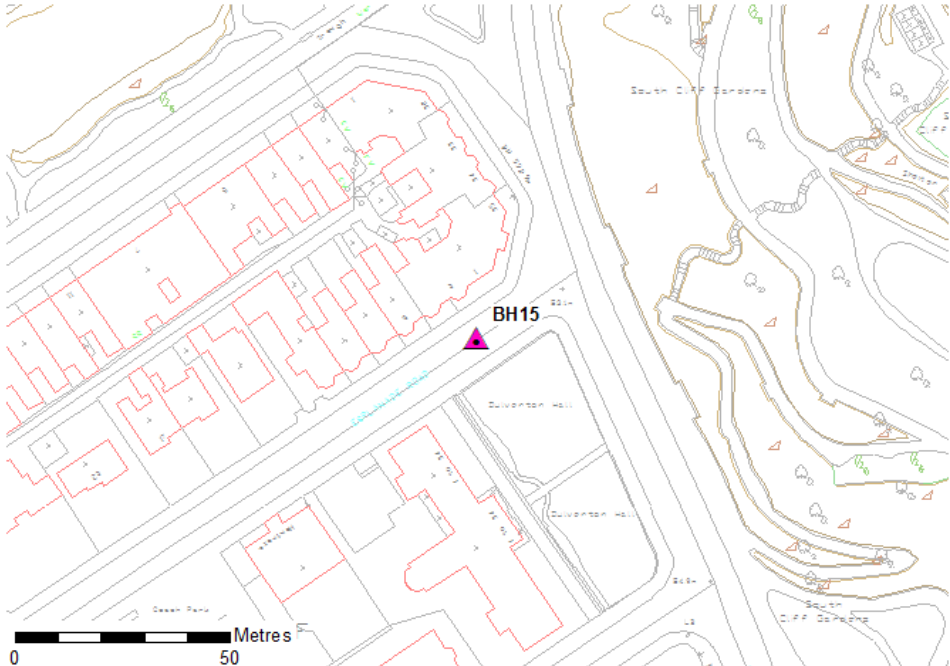
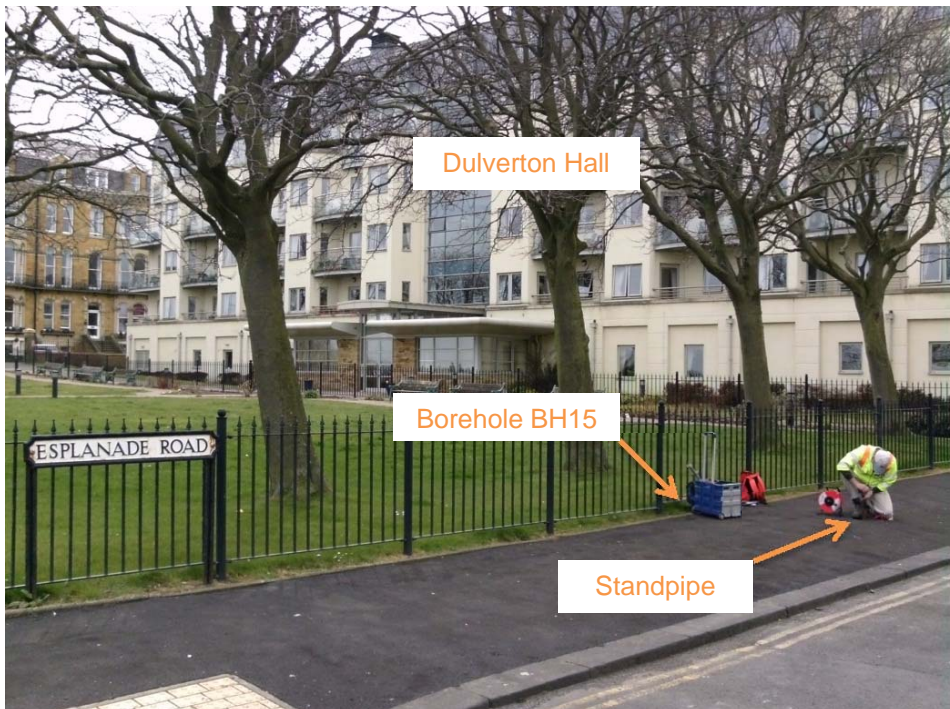




Location Photo



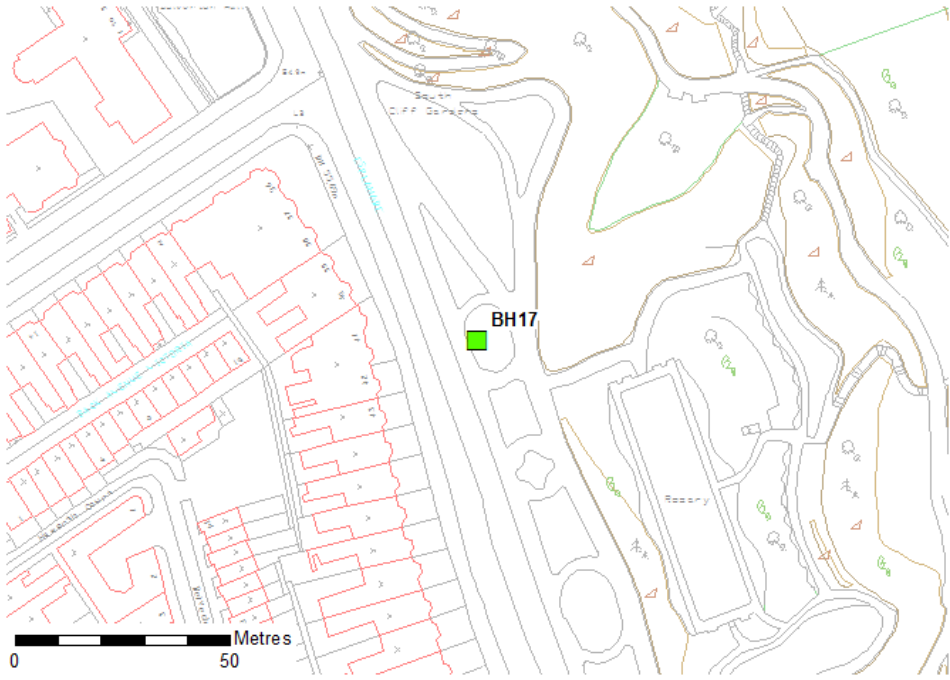

(looking east)



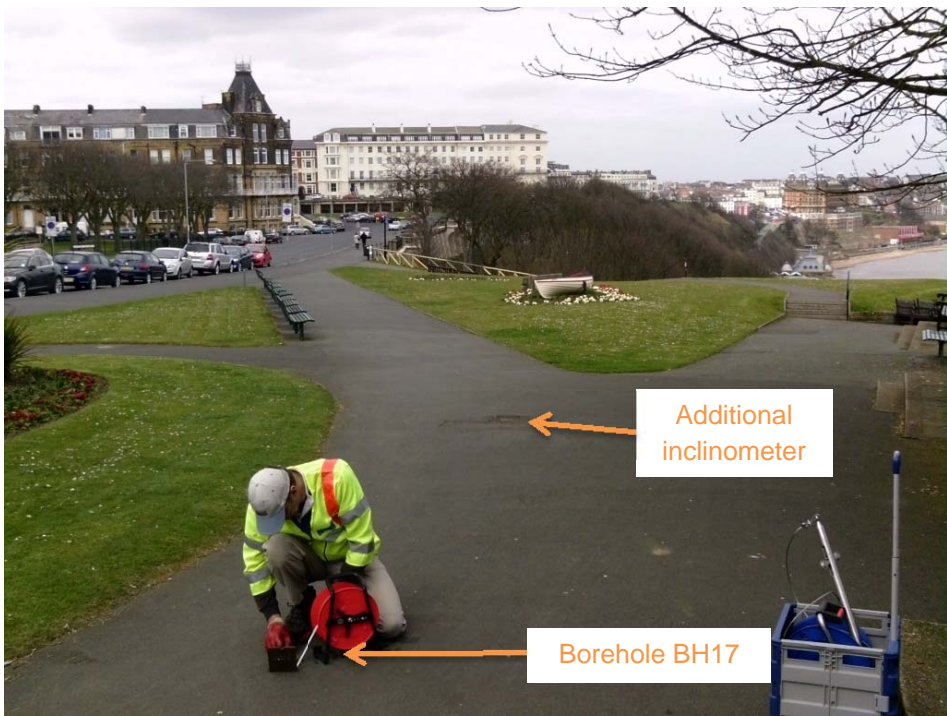


Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but lock corroded and inoperable.• Concrete surround ok.• No cap to inner tube.• Tarmac footpath – no vegetation issues.		
Known Depth	20.17m	Recorded Depth	20.00m
Comments	<ul style="list-style-type: none">• Water recorded at 14.4m.• Dummy inclinometer went to 20.05m.• Measurements to top of inner tube.		




 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	In gardens of Dulverton Hall, on north-west boundary line adjacent to fence (on Esplanade Road side).	
Borehole	BH15	Piezometer	
Map GPS Reference: TA 04408 87539			
Location Photo (looking south)			



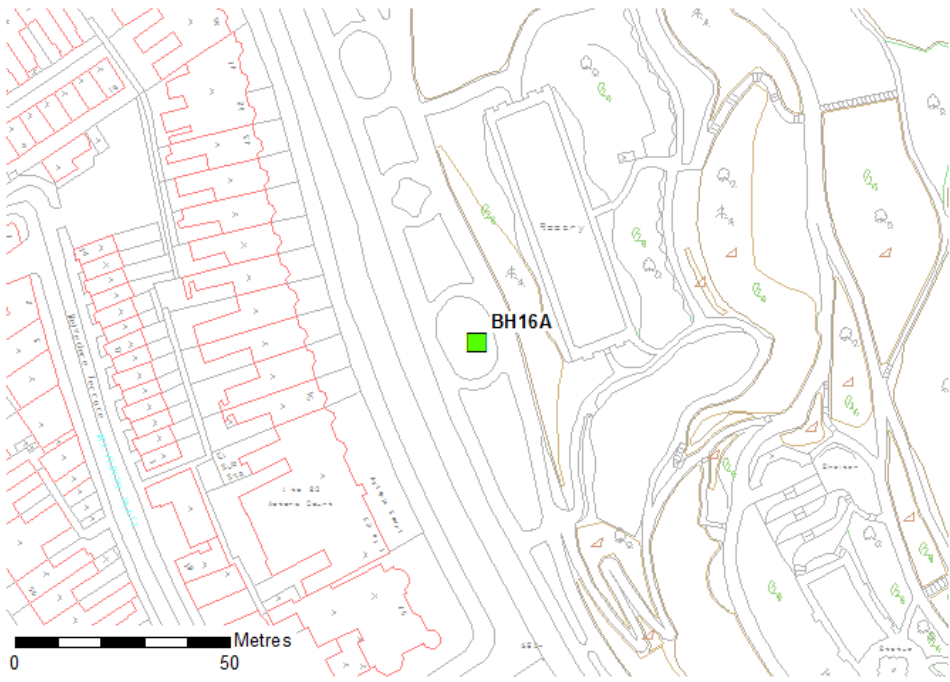

Condition Photos					
	Borehole BH15 inside gardens		Standpipe in footpath next to gardens		
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but no locking mechanism.• Concrete surround ok.• No internal cap.• Vegetation ok – short mown grass, well maintained.				
Recorded Depth to Instrument	55.2m		Recorded Depth to Water	41.2m	
Known Depth to Instrument	57.00m	Last Recorded Water Depth	Not available	Record Date	Not available
Comments	<ul style="list-style-type: none">• There is also a standpipe in the footpath on Esplanade Road (outside of gardens) directly in line with Borehole BH15.• Standpipe – cover and hinge ok, but locking screw is corroded and sticking up (should be removed or cut off to prevent trip hazard for pedestrians), internal cap, no vegetation issues (in tarmac footpath).• Standpipe – depth of 17.58m with no water recorded.				



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Opposite no. 42 Esplanade. In footpath behind the floral beds, close to the Rose Garden entrance to South Cliff Gardens.	
Borehole	BH17	Inclinometer	
Map GPS Reference: TA 04499 87420			
Location Photo (looking south-east)			



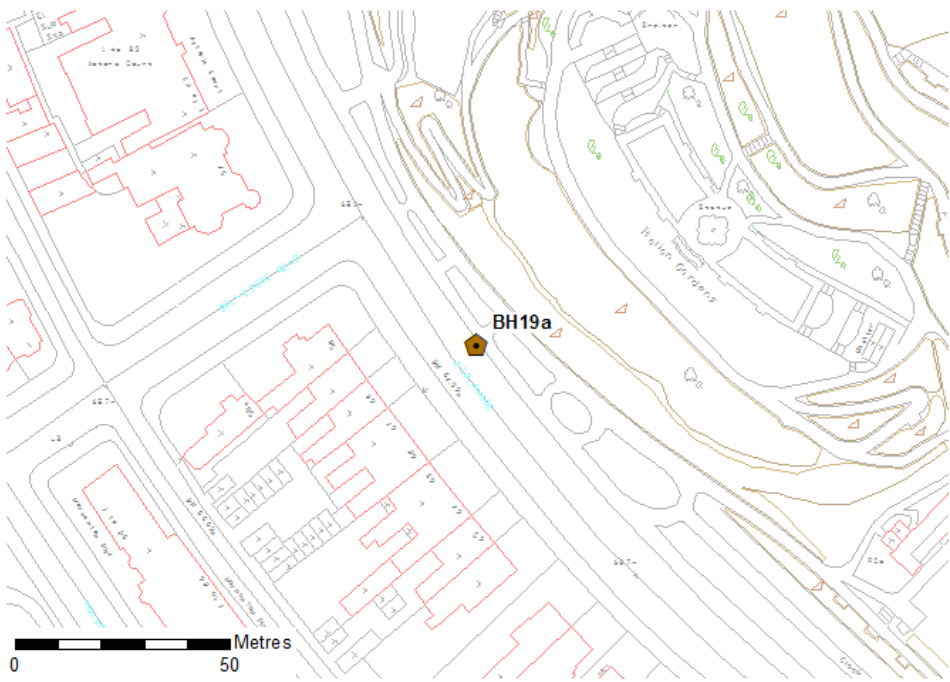
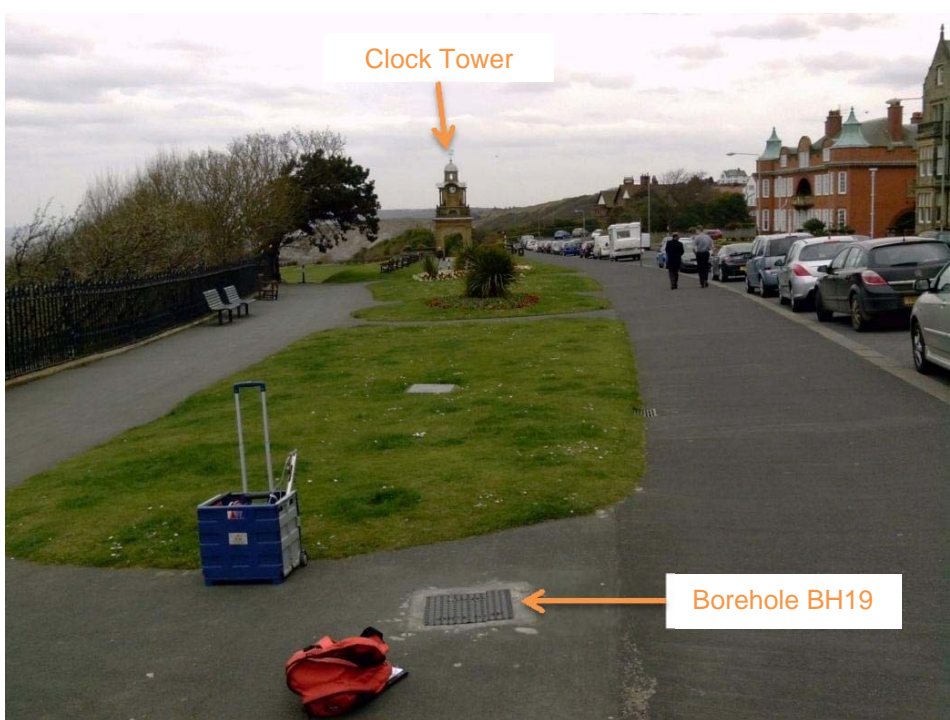
Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover has slight damage – back right corner is fractured across from the locking screw hole to hinge, but cover still functions as a whole.• Hinge ok.• Locking screw missing.• No internal cap to tube.• Tarmac footpath – no vegetation issues.		
Known Depth	50.00m	Recorded Depth	48.30m
Comments	<ul style="list-style-type: none">• Water recorded at 38.1m• Dummy inclinometer went to 48.05m• There is another inclinometer borehole (not measured) approximately 5m to the north of BH17 (between the oval floral bed and boat floral bed). See photo (looking north). <div></div>		



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Access from entrance into South Cliff Gardens (opposite 44 Esplanade), borehole is in the gully/valley area to left of footpath opposite entrance to Rose Gardens.	
Borehole	E2	Piezometer - twin	
Map GPS Reference: TA 04529 87434			
Location Photos	 Looking south out from 'valley' bottom.		



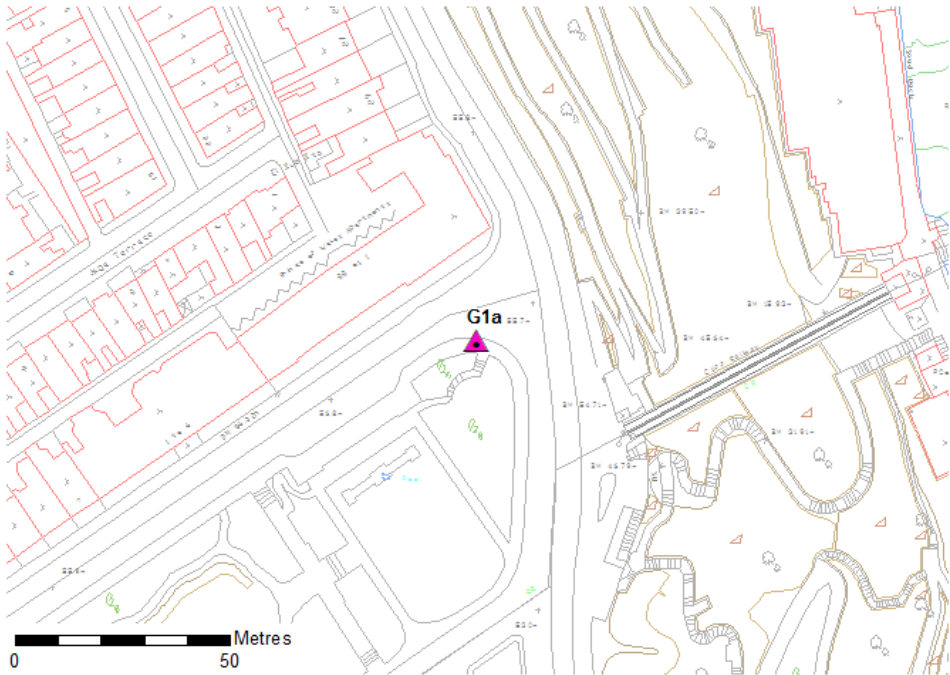

	<div></div> <div>Tree with white paint marking</div> <div>Borehole E2</div> <p>Looking north in to 'valley' from footpath.</p>					
Condition Photos	<div></div> <div></div>					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Vegetation could be a problem in summer, likely to completely hide the borehole.• Double piezometer with automated data loggers.					
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available		
Known Depth to Instrument	a) 16.85m b) 8.20m	Last Recorded Water Depth	a) 3.60m b) 1.24m	Record Date	2009 (Mouchel)	
Comments	<ul style="list-style-type: none">• Close to double-trunk tree which has a white cross painted on it.					


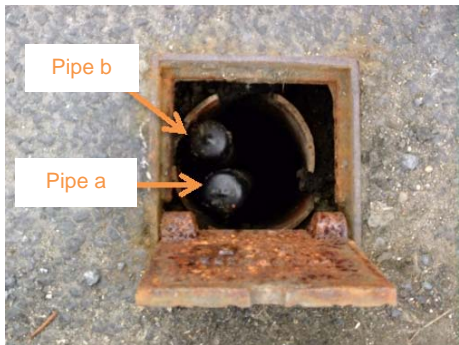
 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclonometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	<i>Scarborough – South Cliff</i>	In footpath behind floral beds, opposite no. 50 Esplanade.	
Borehole	BH16A	Inclinometer	
Map GPS Reference: TA 04528 87356			
Location Photo (looking north)			



Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover and hinge ok, not locked. • Concrete surround is ok. • No cap to inner tube. • Tarmac footpath – no vegetation issues. 		
Known Depth	51.50m	Recorded Depth	52.8m
Comments	<ul style="list-style-type: none"> • Water recorded at 38.85m. • Dummy inclinometer went to 52.45m. • Series of three inclinometer in close proximity, based on markings on footpath these are assumed to be: <ul style="list-style-type: none"> ○ Northern = BH16A ○ Middle = BH16 ○ Southern = AA05 		



 <i>A great place to live, work & play</i>	Scarborough Borough Council		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Condition Survey of Inclonometers and Piezometers – 22/4/2013			
Location	<i>Scarborough – South Cliff</i>	Opposite no. 60 Esplanade. In path between 4 th and 5 th floral beds/grassed verge from clock tower.	
Borehole	BH19	Piezometer - twin	
Map GPS Reference: TA 04570 87253			
Location Photo (looking south-east)			



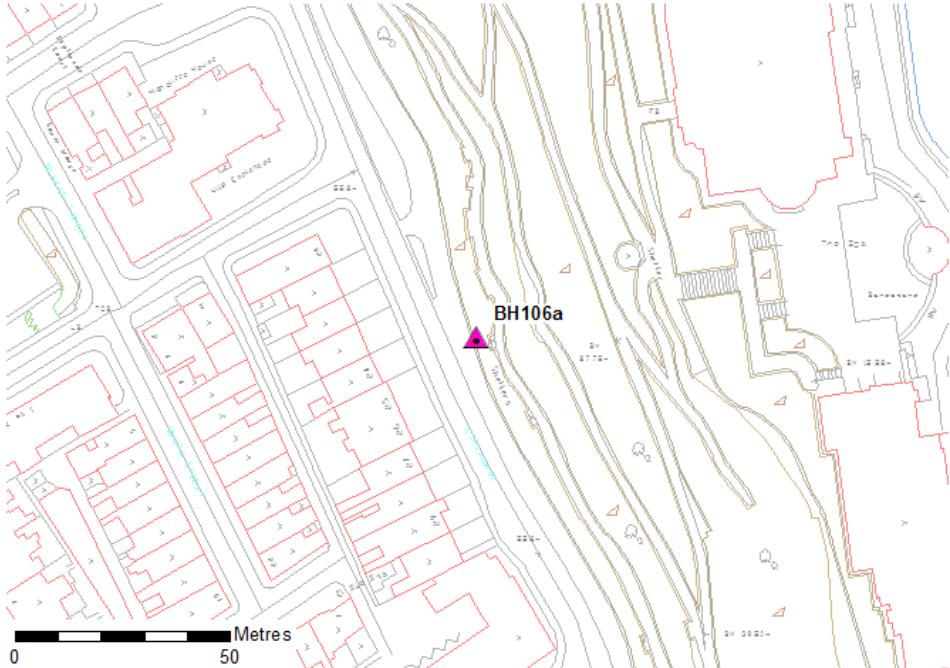
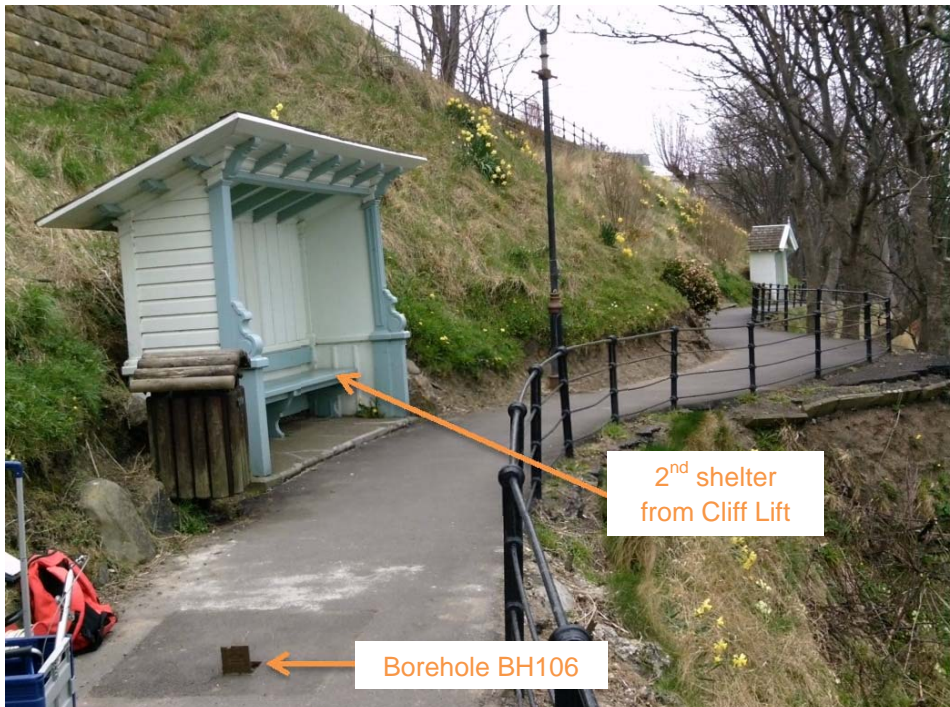
Condition Photos	<div></div> <div></div>					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Tarmac footpath – no vegetation issues.• Double piezometer with automated data loggers.					
Recorded Depth to Instrument	Not available		Recorded Depth to Water		Not available	
Known Depth to Instrument	a) 11.00m b) 16.50m	Last Recorded Water Depth	Not available	Record Date	Not available	
Comments						


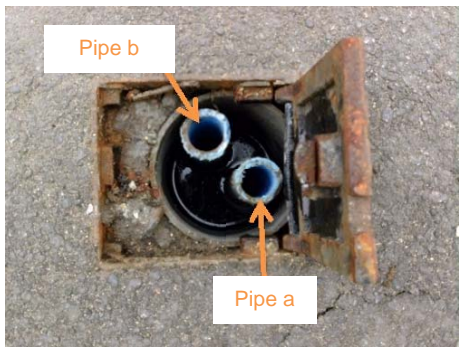
 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Corner of Prince of Wales Terrace, in the parking bays at the kerb line, close to the stepped entrance to prince of Wales gardens	
Borehole	G1	Piezometer - twin	
Map GPS Reference: TA 04398 87693			
Location Photo (looking south)			



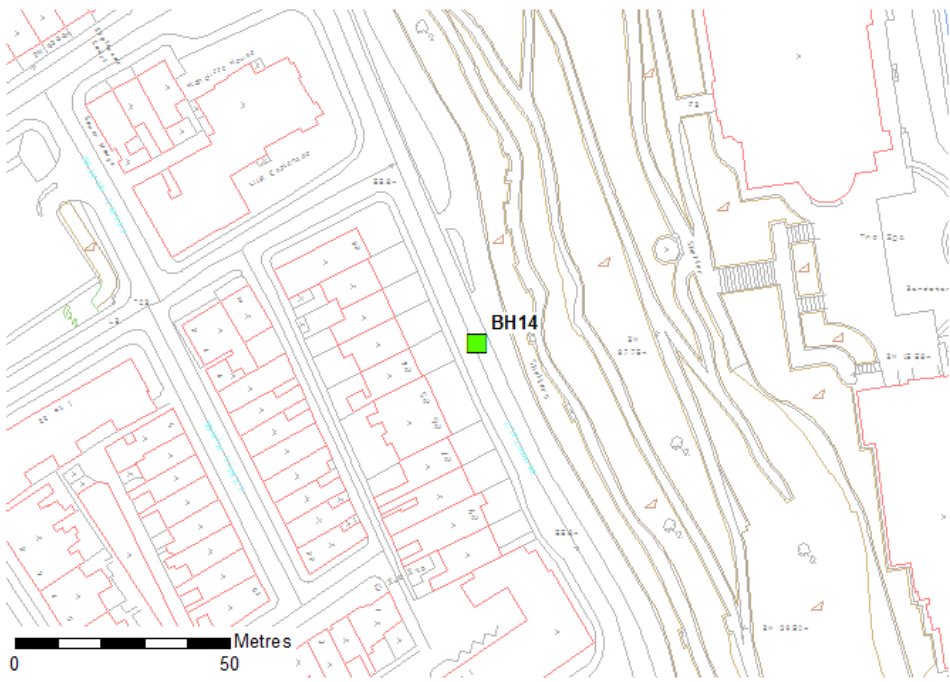
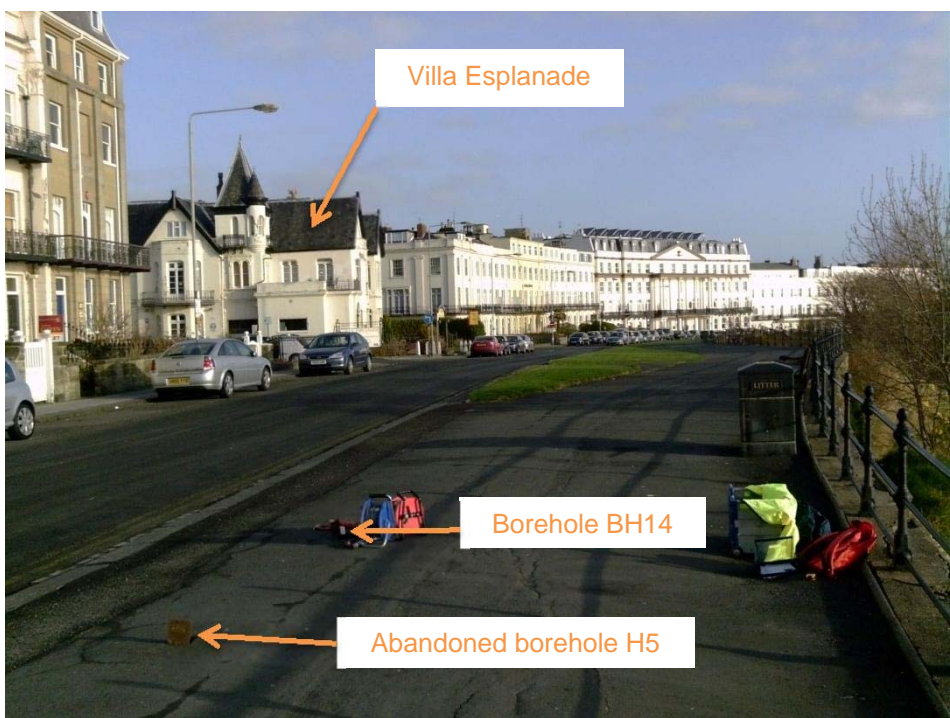
Condition Photos						
Condition	<ul style="list-style-type: none">• Cover and hinge ok, no locking mechanism.• Caps to inner tubes.• Double piezometer.• In tarmac road – no vegetation issues.					
Recorded Depth to Instrument	a) 36.40m b) 2.0m		Recorded Depth to Water		a) dry b) dry	
Known Depth to Instrument	a) 36.40m b) 2.10m	Last Recorded Water Depth	a) 36.31m b) 2.10m	Record Date	2009 (Mouchel)	
Comments	<ul style="list-style-type: none">• Pipe a is closest to the kerb line, and pipe b is closest to the road.• Both inner tubes were dry apart from damp/wet sediment at the bottom of the tubes.					



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	<i>Scarborough – South Cliff</i>	At the footpath junction at the end of the 3 rd 'zig-zag' down the path at side of Cliff Lift. Close to lamppost 38.	
Borehole	G2	Inclinometer	
Map GPS Reference: TA 04426 87708			
Location Photo (looking south)			


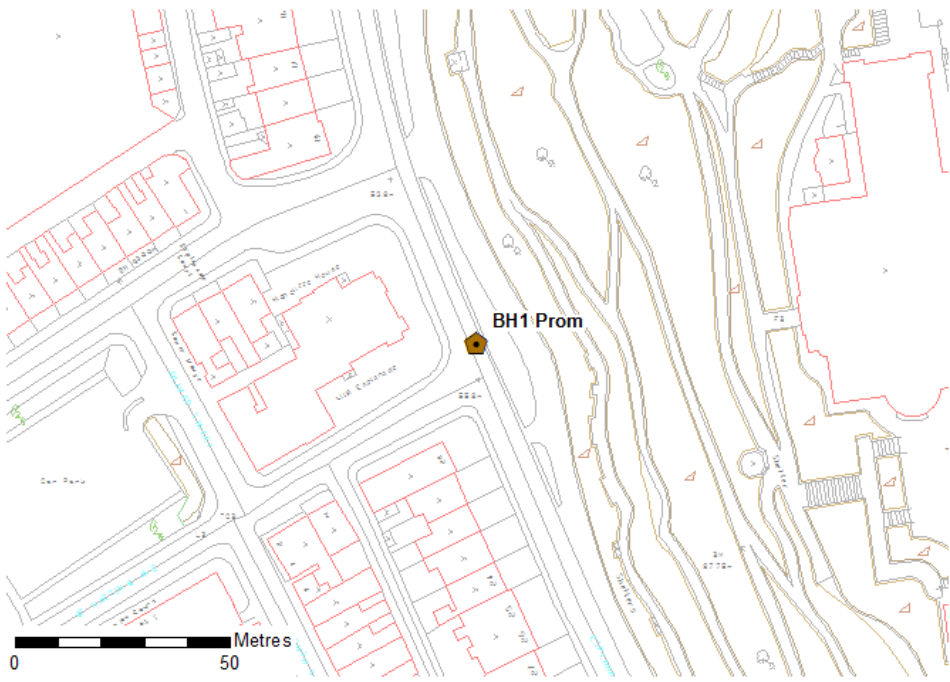
Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover and hinge ok though quite stiff. Not locked, mechanism corroded. • Concrete surround ok. • No cap to inner tube. • Tarmac footpath – no vegetation issues. 		
Known Depth	40.60m	Recorded Depth	40.40m
Comments	<ul style="list-style-type: none"> • Water recorded at 40.0m. • Dummy inclinometer went to 40.90m • Measurements to top of inner (red) tube. 		



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 22/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Between 1 st and 2 nd shelters on first parallel footpath beneath Esplanade (heading from Cliff Lift). Close to Borehole G2. North of lamppost 23.	
Borehole	BH106	Piezometer - twin	
Map GPS Reference: TA 04383 87792			
Location Photo (looking north)			



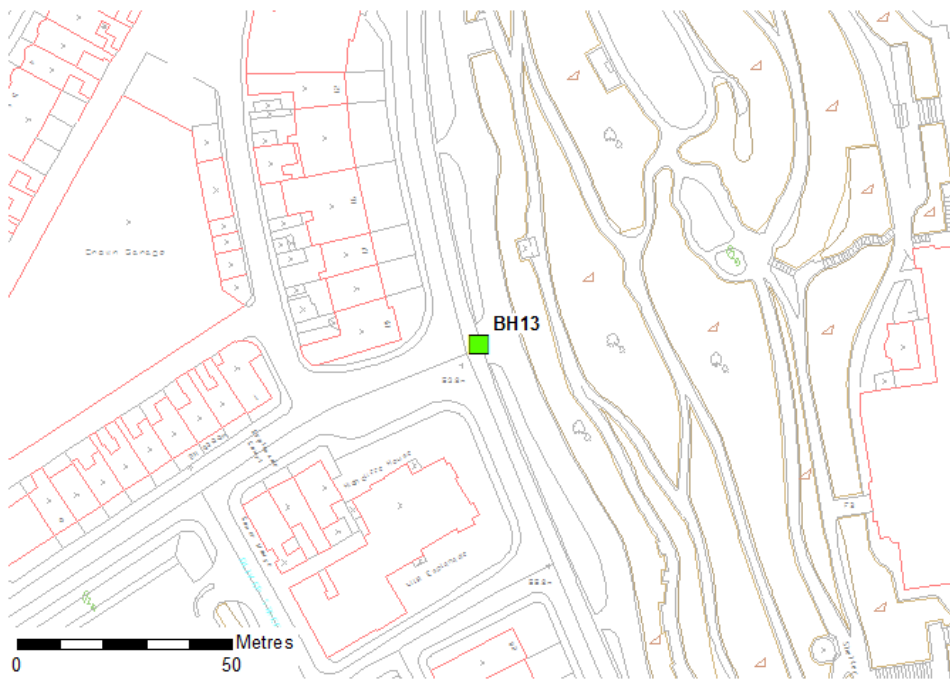
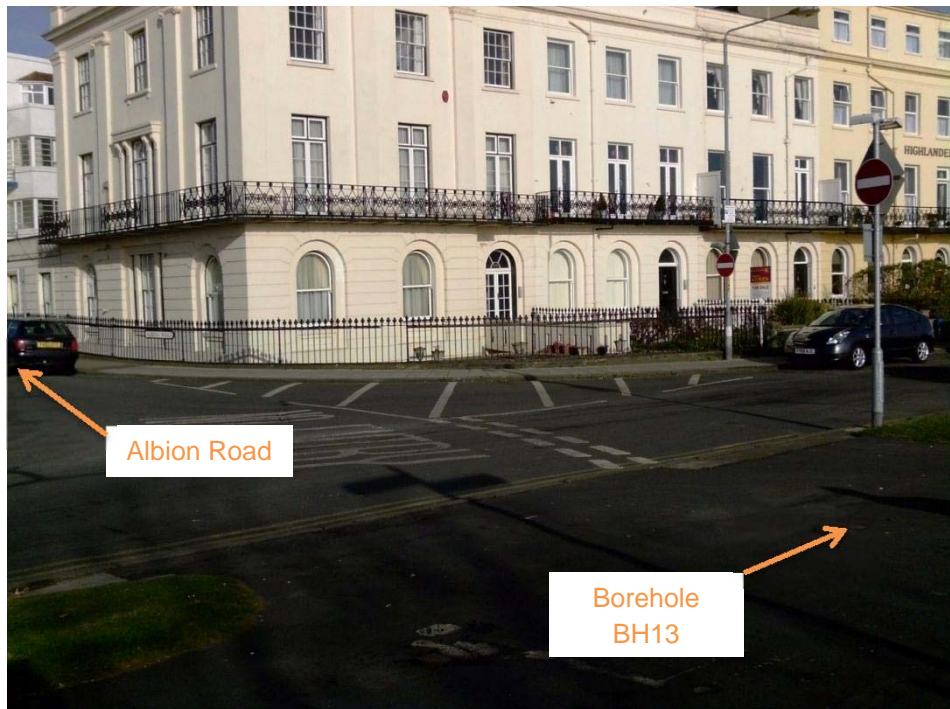
Condition Photos					
Condition	<ul style="list-style-type: none">• Cover and hinge ok, lock broken.• Tarmac footpath – no vegetation issues.• Double piezometer (no caps).				
Recorded Depth to Instrument	a) 41.10m b) 32.30m		Recorded Depth to Water	a) dry b) dry	
Known Depth to Instrument	a) unknown b) unknown	Last Recorded Water Depth	Not available	Record Date	Not available
Comments	<ul style="list-style-type: none">• Pipe a is closest to the hinge, and pipe b is closest to opening edge.				



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Opposite no. 24 Esplanade (St. Annes) in the footpath.	
Borehole	BH14	Inclinometer	
Map GPS Reference: TA 04374 87789			
Location Photo (looking north-east)			

Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover and hinge ok, locking screw corroded and sticking up (should be removed or trimmed to prevent pedestrian trip hazard). • Cap present on inner tube. • Tarmac footpath – no vegetation issues. 		
Known Depth	56.00m	Recorded Depth	56.67m
Comments	<ul style="list-style-type: none"> • Water recorded at 40.00m. • Dummy inclinometer went to 56.60m. • Two boreholes in close proximity, BH14 is the most northerly. 		



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Opposite the end of St. Martin's Avenue, in the grass verge.	
Borehole	BH1 (prom)	Piezometer	
Map GPS Reference: TA 04354 87839			
Location Photo (looking north-east)			

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Vegetation ok – short mown grass, well maintained.• Single piezometer with automated data logger.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	13.60m	Last Recorded Water Depth	Not available	Record Date	Not available
Comments	<ul style="list-style-type: none">• Black foam tube for packing next to piezometer tube.• Lots of water present inside the outer tube.				

 <p>A great place to live, work & play</p>	<p>Scarborough Borough Council</p> <p>Condition Survey of Inclinatorimeters and Piezometers – 23/4/2013</p>		 <p>Royal HaskoningDHV Enhancing Society Together</p>
<p>Location</p>	<p><i>Scarborough – South Cliff</i></p>	<p>Opposite the end of Albion Road, in footpath at end of grass verge.</p>	
<p>Borehole</p>	<p>BH13</p>	<p>Inclinometer</p>	
<p>Map</p> <p>GPS Reference: TA 04338 87882</p>			
<p>Location Photo</p> <p>(looking north-east)</p>			

Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but locking screw corroded and sticking up (should be removed or cut off to prevent pedestrian trip hazard).• Tarmac surround ok.• In tarmac footpath – no vegetation issues.• Cap present to inner tube.		
Known Depth	61.40m	Recorded Depth	61.80m
Comments	<ul style="list-style-type: none">• Water recorded at 11.0m (inconclusive).• Dummy inclinometer went to 61.75m.• Two inclinometers in close proximity, BH13 assumed to be most southerly.		

 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	At junction of paths at bottom of first slope down from ornamental gates opposite Crown Spa Hotel. Near lamppost 18.	
Borehole	H2	Piezometer - twin	
Map GPS Reference: TA 04342 87949			
Location Photo (looking north)			

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Tarmac footpath – no vegetation issues.• Double piezometer with automated data loggers.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	a) 29.10m b) 34.37m	Last Recorded Water Depth	a) 29.10m b) 34.37m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">•				



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Condition Survey of Inclinometers and Piezometers – 23/4/2013



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Location

Scarborough – South Cliff

Opposite corner of Wessex Court at end of the Esplanade, at the start of the path/steps down to the Cliff Bridge.

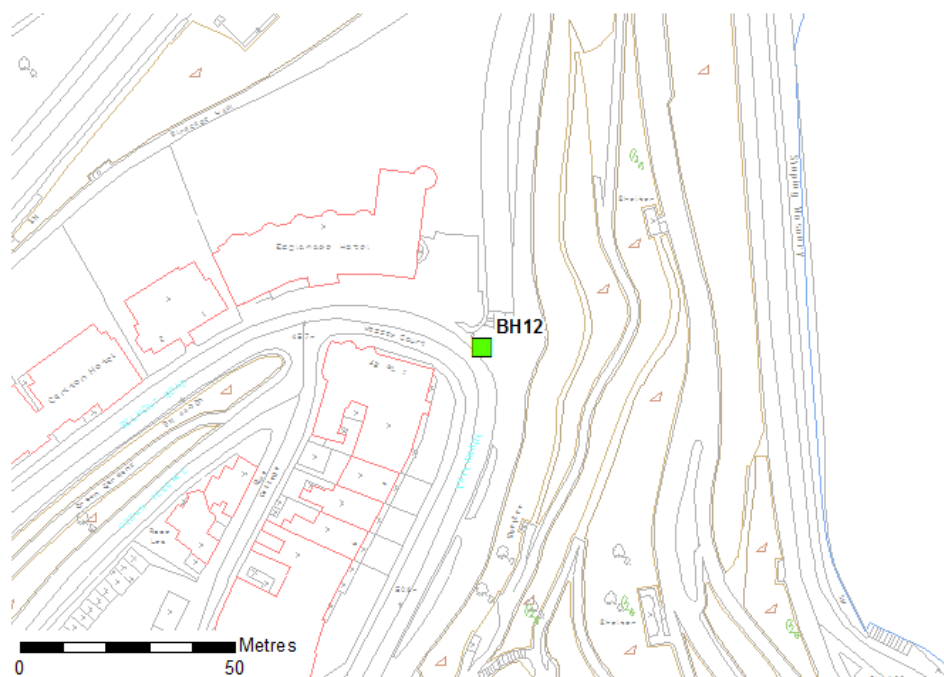
Borehole

BH12

Inclinometer

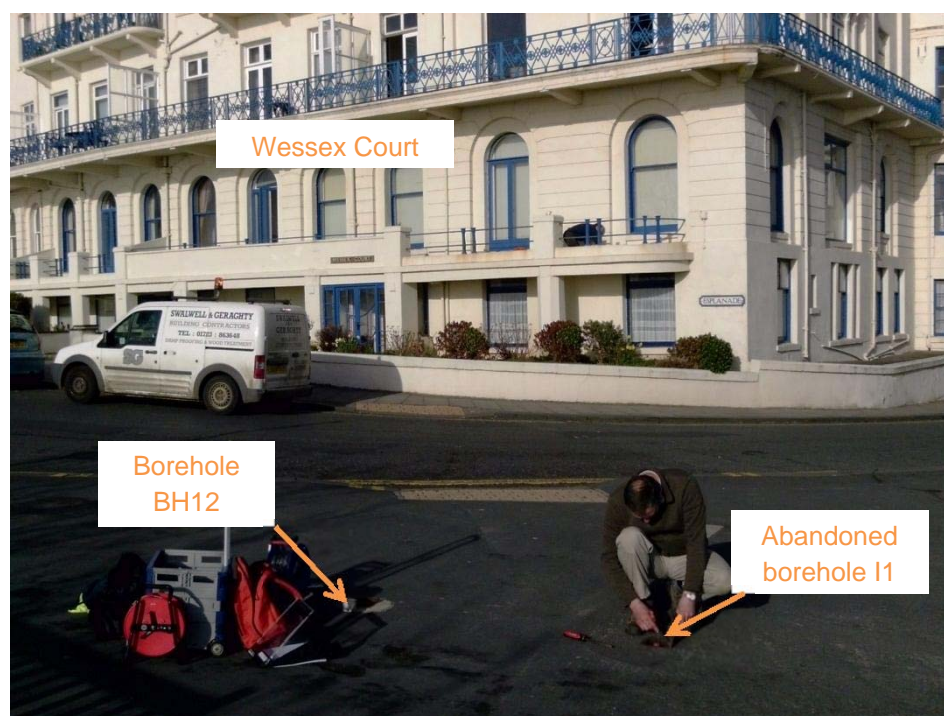
Map

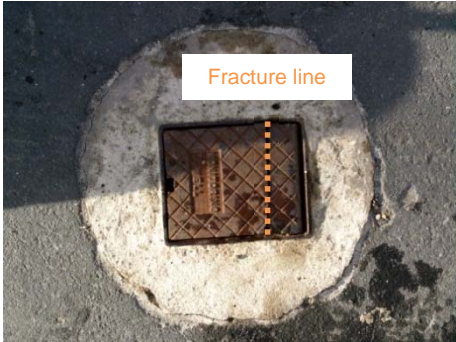

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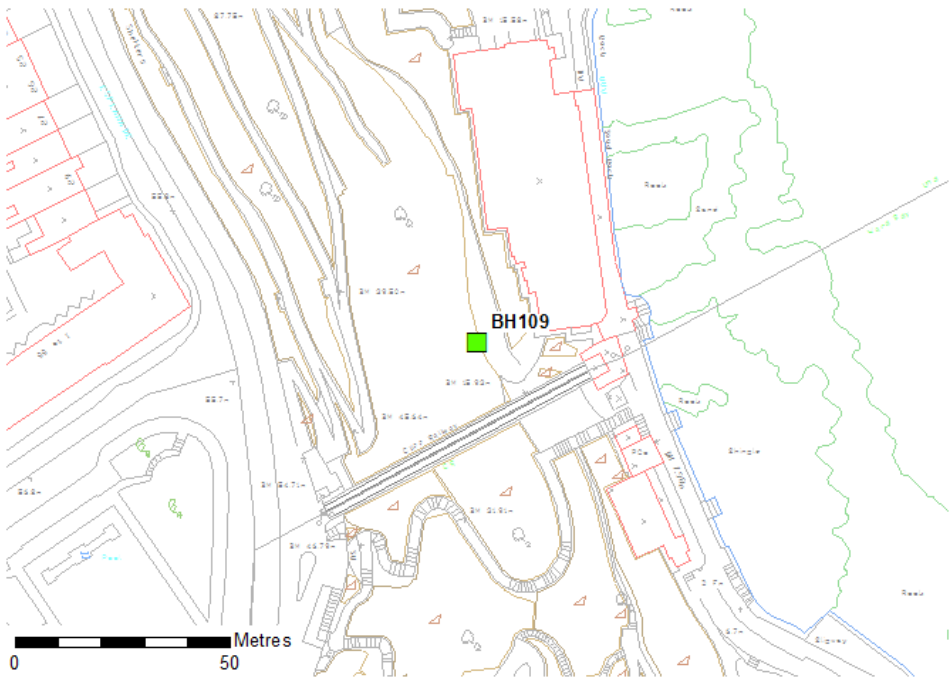





Location Photo



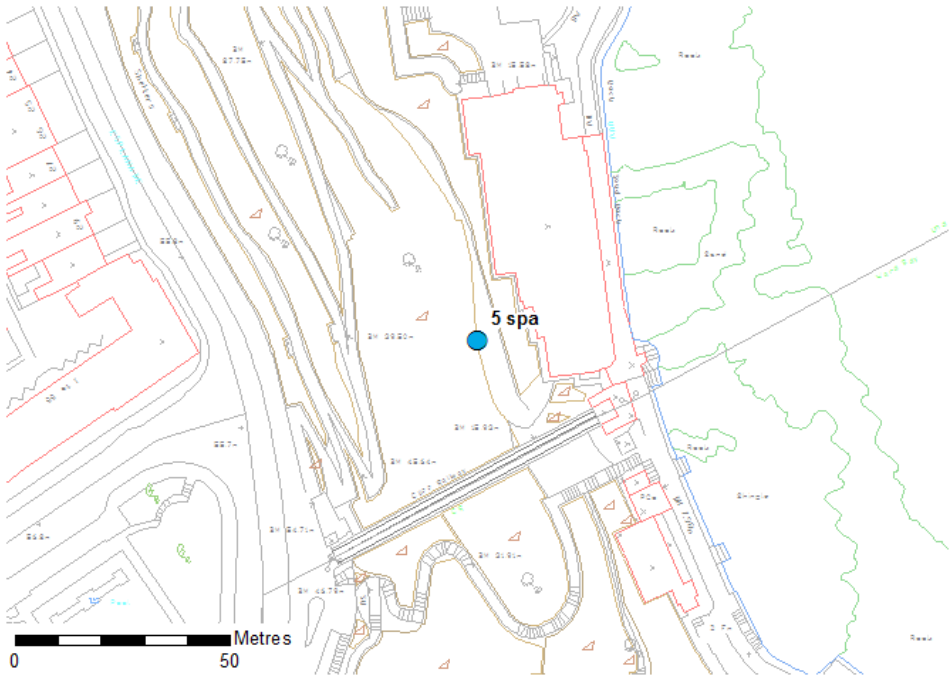
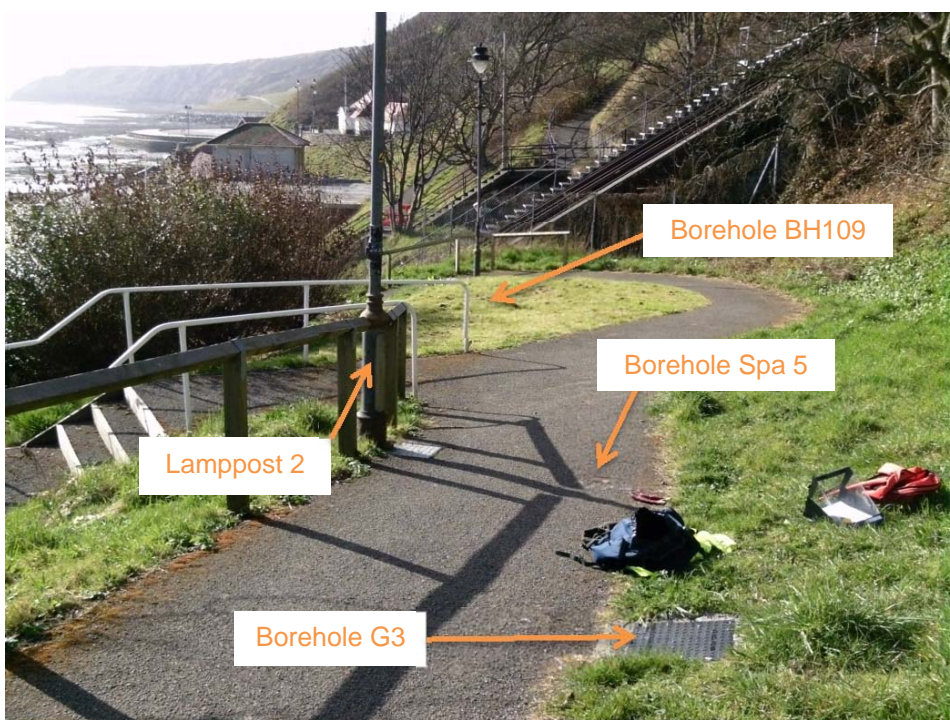
(looking west)





Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover broken, fractured right across close to hinge (through locking screw hole). • Cap to inner tube present. • Concrete surround ok. • Tarmac footpath – no vegetation issues. 		
Known Depth	65.00m	Recorded Depth	66.80m
Comments	<ul style="list-style-type: none"> • Water recorded at 44.62m. • Dummy inclinometer went to 66.19m. • Two adjacent inclinometers, BH12 assumed to be most southerly (with white concrete surround). 		

 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Bay	In the grass bank at the top of the steps up the side of the kiosk at the bottom of the Cliff Lift.	
Borehole	BH109	Inclinometer	
Map GPS Reference: TA 04468 87711			
Location Photo (looking south-east)			

Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover and hinge ok, but lock corroded. • Concrete surround ok but it is raised above surrounding ground level, could be damaged by mowing equipment. • Vegetation ok, appears to be mown grass but could be a problem if not well maintained. 		
Known Depth	Unknown	Recorded Depth	15.00m
Comments	<ul style="list-style-type: none"> • Water recorded at 13.90m. • Dummy inclinometer went to 15.15m. 		

 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Opposite lamppost 2, near junction of footpath behind Ocean Ballroom with access steps to building.	
Borehole	Spa 5	Monitoring Drainage Well	
Map GPS Reference: TA 04466 87722			
Location Photo (looking south-east)			

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok, but hinge broken, not attached.• No locking mechanism.• Tarmac footpath – no vegetation issues.				
Recorded Depth	8.63m		Recorded Depth to Water	Dry (damp sediment at bottom)	
Known Depth	8.80m	Last Recorded Water Depth	Dry	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">• Close to piezometer Borehole G3.				



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Condition Survey of Inclinometers and Piezometers – 23/4/2013



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Location

Scarborough – South Cliff

At edge of footpath near lamppost 2 on footpath around back of Ocean Ballroom from the steps up the side of the kiosk at the bottom of the Cliff Lift.

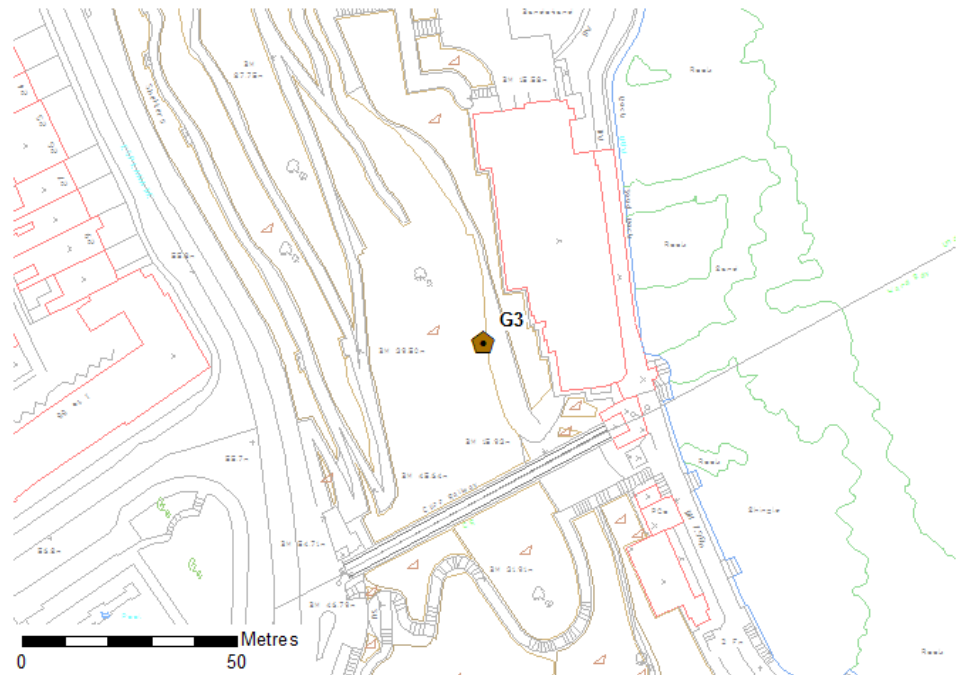
Borehole

G3

Piezometer

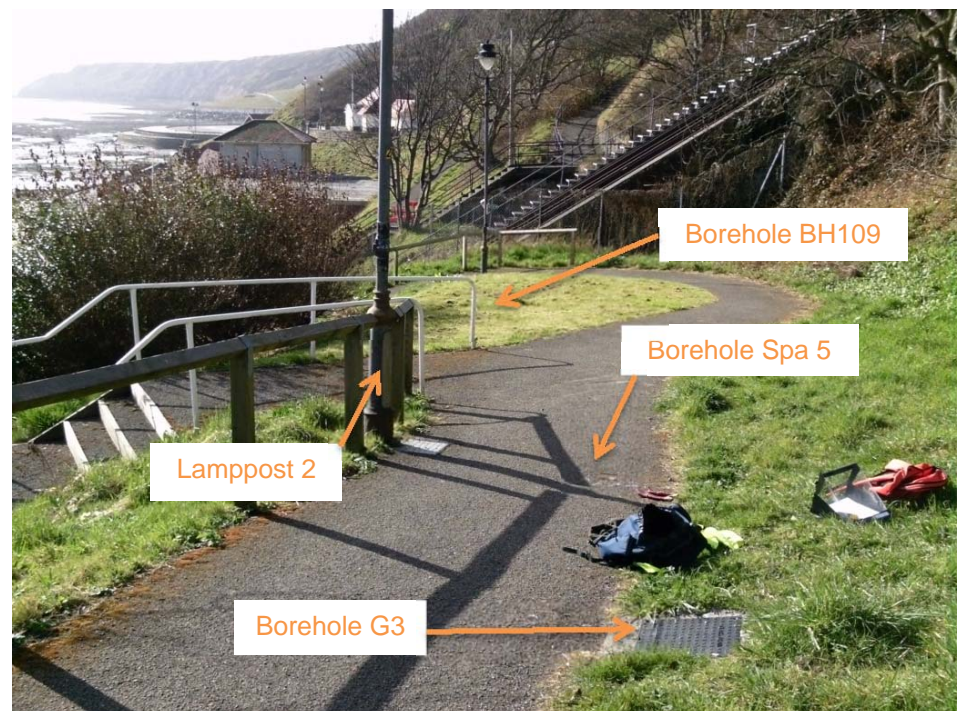
Map



GPS Reference:
TA 04465 87725



Location Photo

(looking south-east)



Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Single piezometer with automated data logger.• In edge of grassed area, may become slightly overgrown in summer but should still be easily found.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	6.17m	Last Recorded Water Depth	4.81m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">• Close to Borehole Spa 5 (monitoring drainage well).				



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Condition Survey of Inclinometers and Piezometers – 23/4/2013



Royal HaskoningDHV
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Location

Scarborough – South Cliff

In footpath near next lamppost up from lamppost 2 on footpath around back of Ocean Ballroom from the steps up the side of the kiosk at the bottom of the Cliff Lift.

Borehole

Spa 4

Monitoring Drainage Well

Map



GPS Reference:
TA 04461 87737



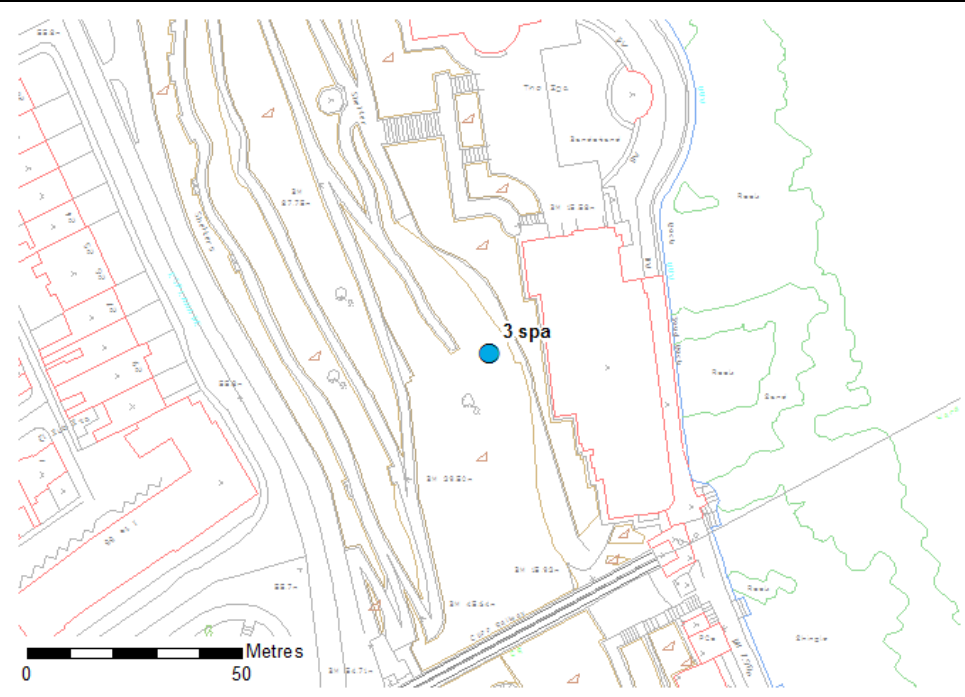





Location Photo

(looking south)



Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok, hinge ok but stiff.• Locking mechanism corroded.• Concrete surround ok.• Tarmac footpath – no vegetation issues.				
Recorded Depth	7.00m		Recorded Depth to Water	6.02m	
Known Depth	7.27m	Last Recorded Water Depth	6.37m	Record Date	2009 (Mouchel)
Comments					

 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Edge of footpath between next two lampposts up from lamppost 2 on footpath around back of Ocean Ballroom from the steps up the side of the kiosk at the bottom of the Cliff Lift.	
Borehole	Spa 3	Monitoring Drainage Well	
Map GPS Reference: TA 04455 87752			
Location Photo (looking north)			

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok but broken off at hinge.• No locking mechanism.• Tarmac footpath – no vegetation issues.				
Recorded Depth	11.15m		Recorded Depth to Water	6.43m	
Known Depth	11.48m	Last Recorded Water Depth	6.63m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">•				



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Condition Survey of Inclonometers and Piezometers – 23/4/2013



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Location

Scarborough – South Cliff

Opposite lamppost in grassed seating area overlooking the terrace/Sun Court/Vita Dome.

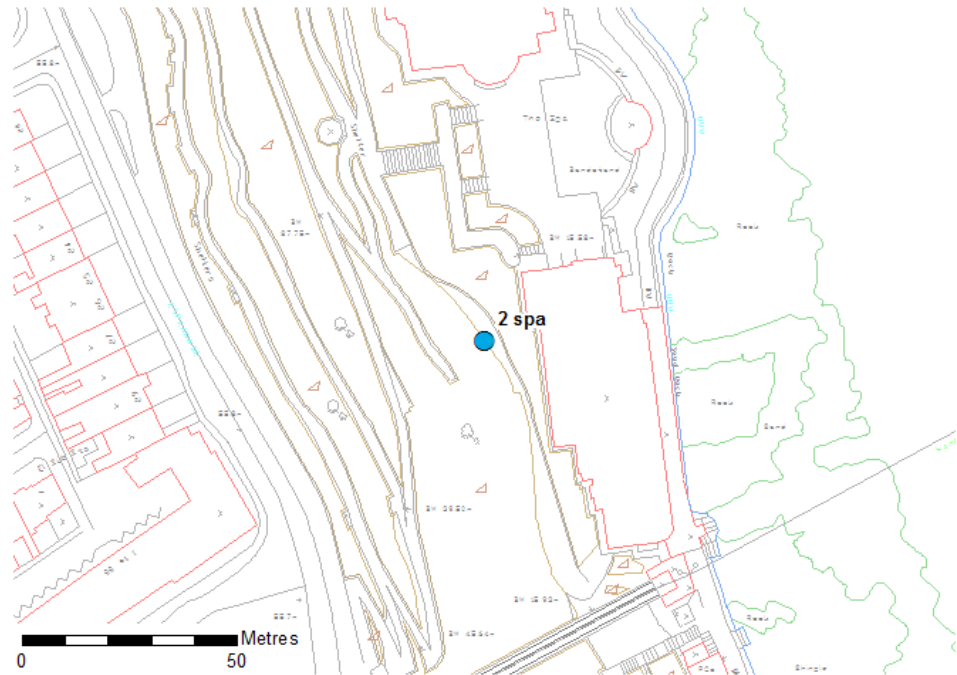
Borehole

Spa 2

Monitoring Drainage Well

Map



GPS Reference:
TA 04454 87762



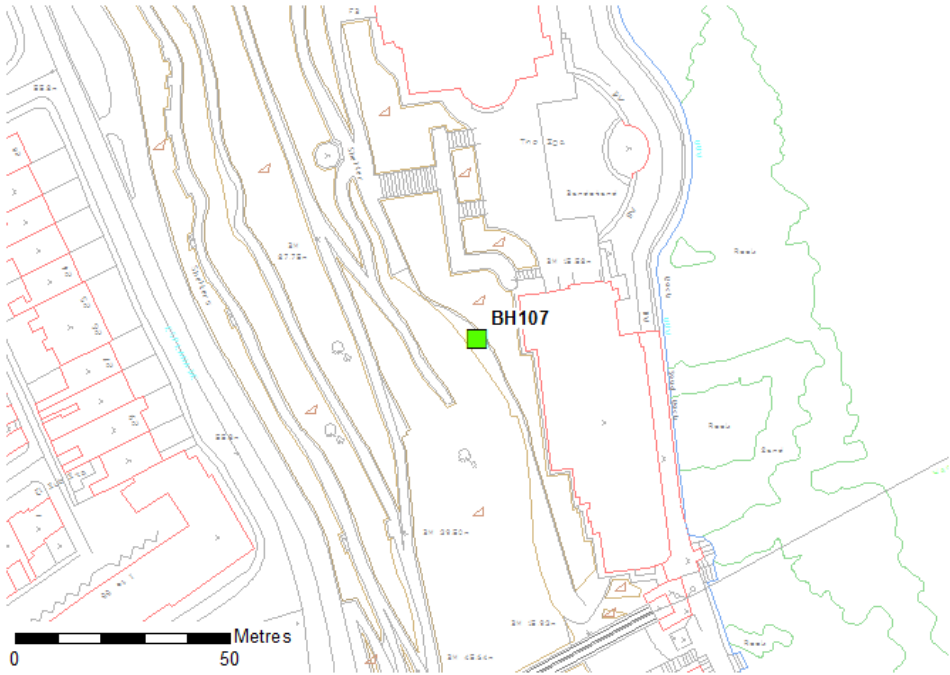
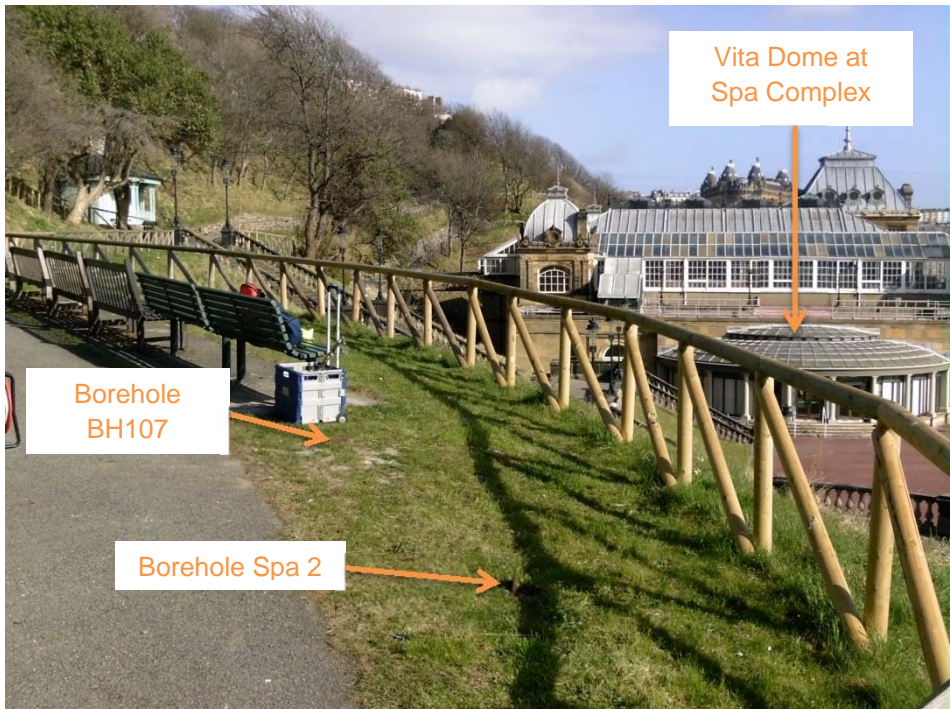




Location Photo



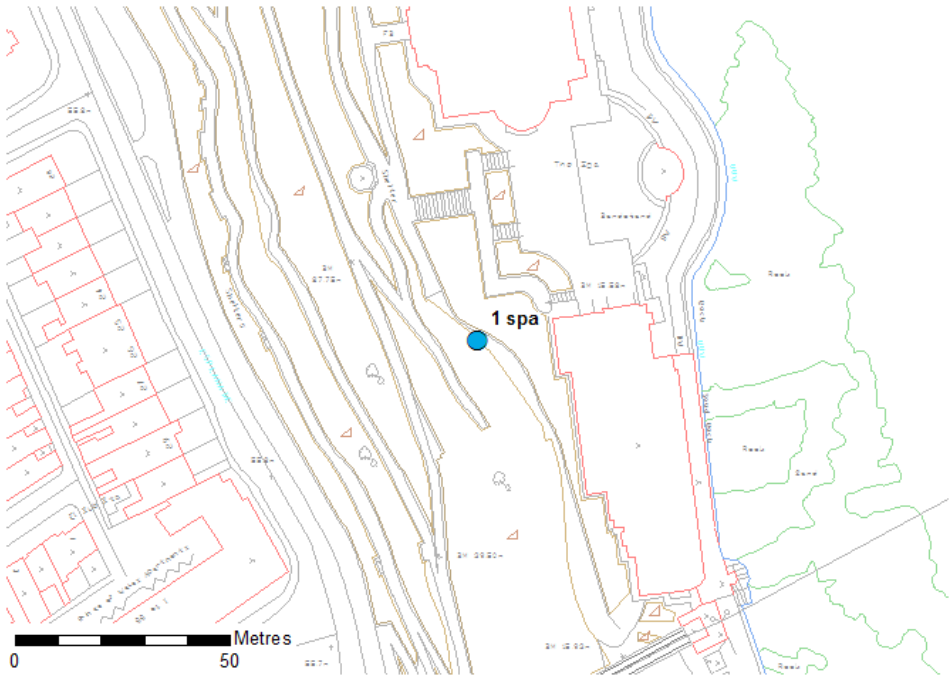
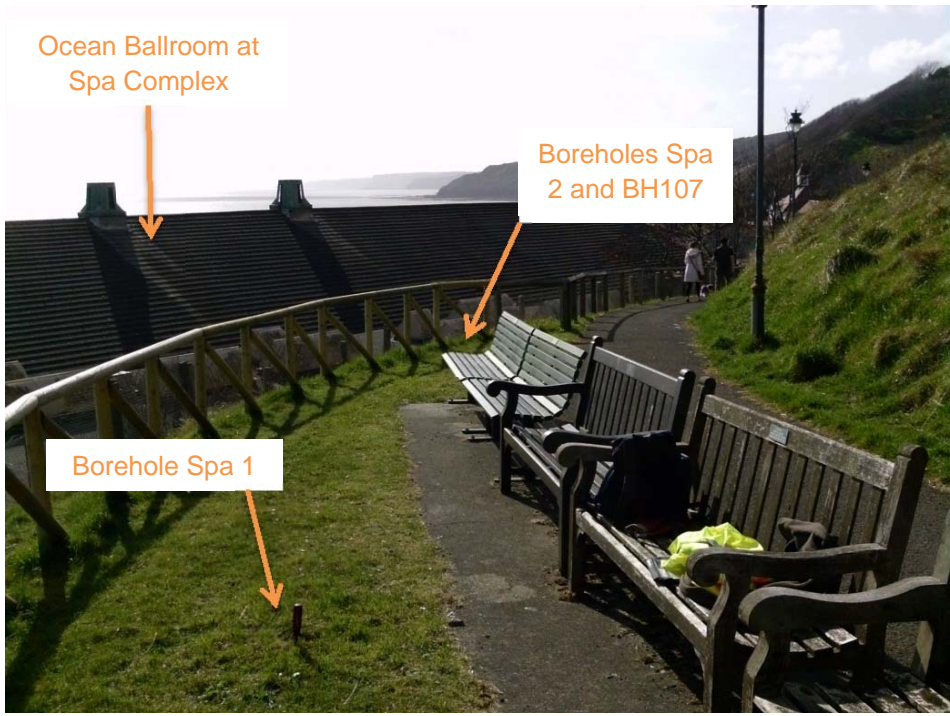
(looking north)







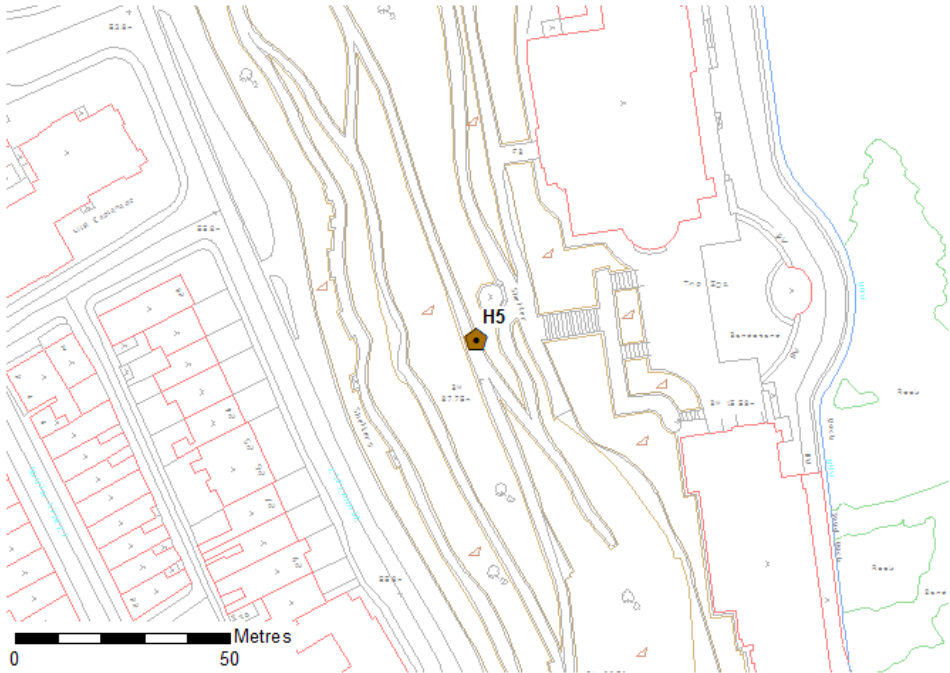
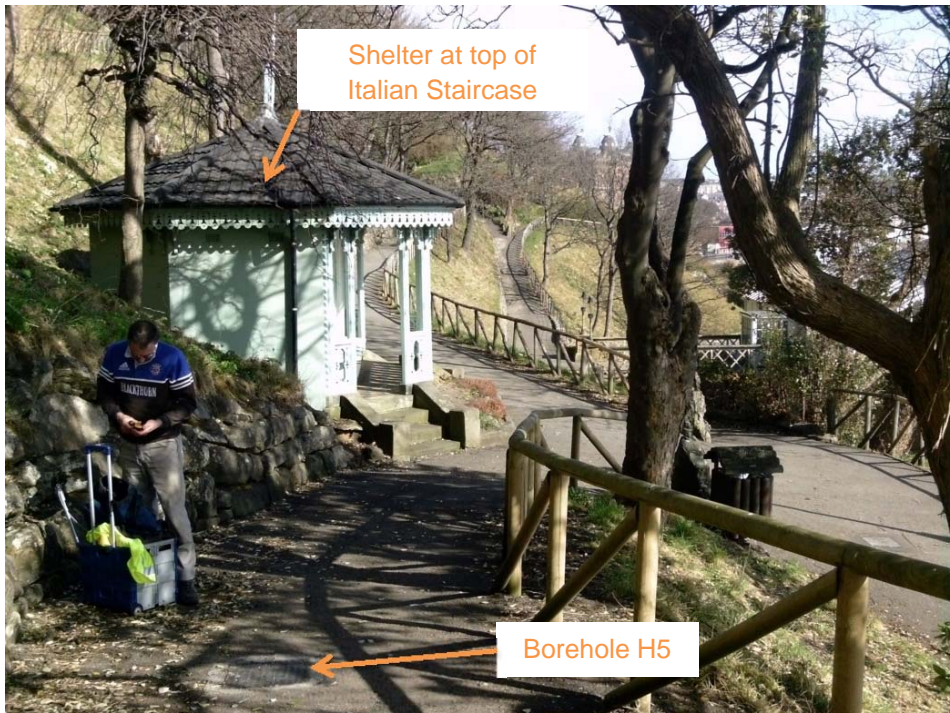
Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok, hinge ok but stiff, no locking mechanism.• Vegetation ok – in short mown grass area, likely to be well maintained for the seating area.				
Recorded Depth	11.88m		Recorded Depth to Water	9.00m	
Known Depth	12.80m	Last Recorded Water Depth	9.03m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">• Adjacent to BH107 – Spa 2 is more southerly borehole.				



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	At southern end of benches in grassed seating area overlooking the terrace/Sun Court/Vita Dome.	
Borehole	BH107	Inclinometer	
Map GPS Reference: TA 04453 87763			
Location Photo (looking north)			



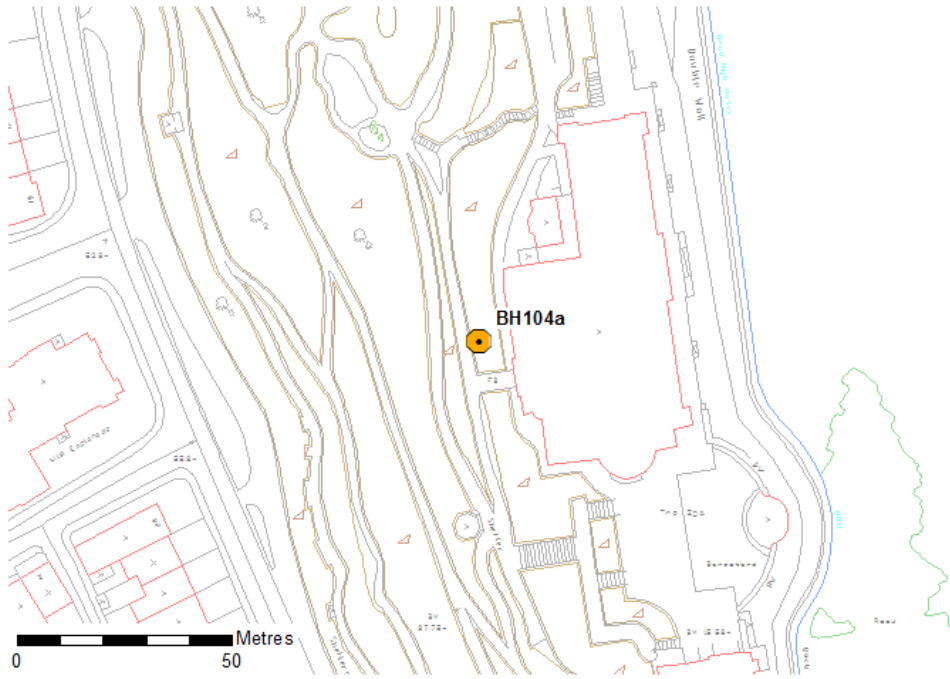
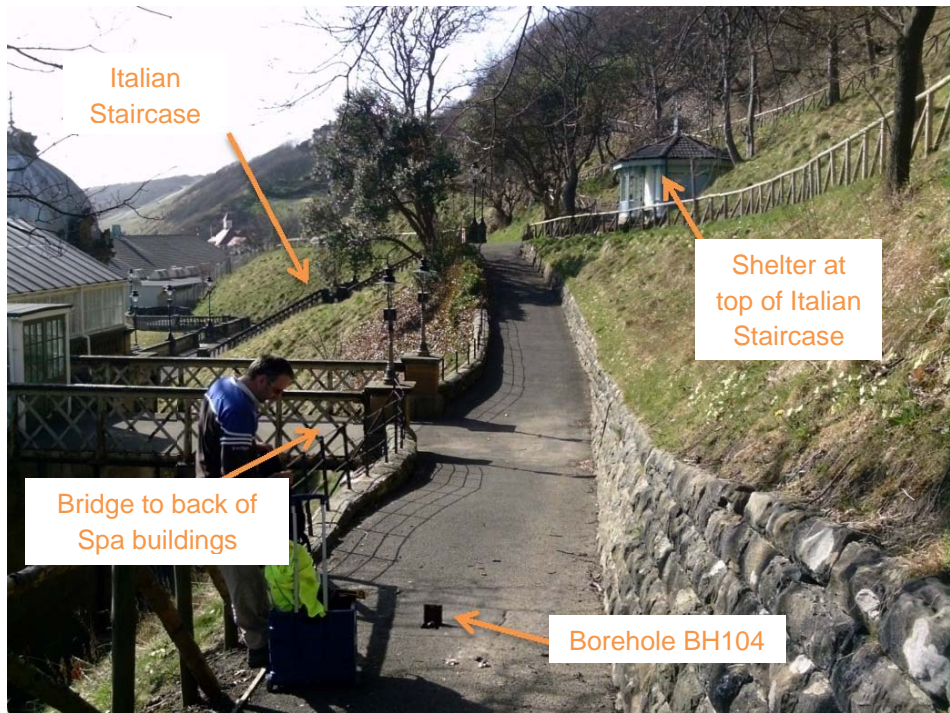
Condition Photos			
Condition	<ul style="list-style-type: none"> • Cover and hinge ok, but locking mechanism corroded and bent. • No cap to inner tube. • No vegetation issues – mown grass, likely to be well maintained for the seating area. 		
Known Depth	Unknown	Recorded Depth	18.05m
Comments	<ul style="list-style-type: none"> • Water recorded at 15.95m. • Dummy inclinometer went to 17.99m. • Adjacent to Borehole Spa 2 – BH107 is closer to the benches. 		


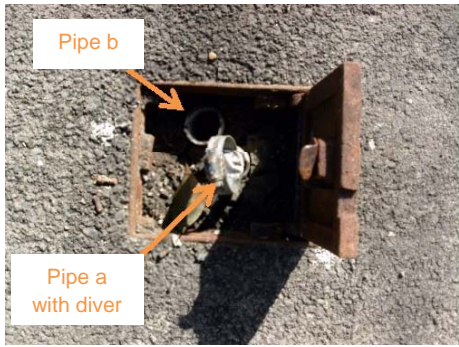
 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	In front of benches in grassed seating area overlooking the terrace/Sun Court/Vita Dome (4 th bench up from southern end).	
Borehole	Spa 1	Monitoring Drainage Well	
Map GPS Reference: TA 04445 87773			
Location Photo (looking south-east)			



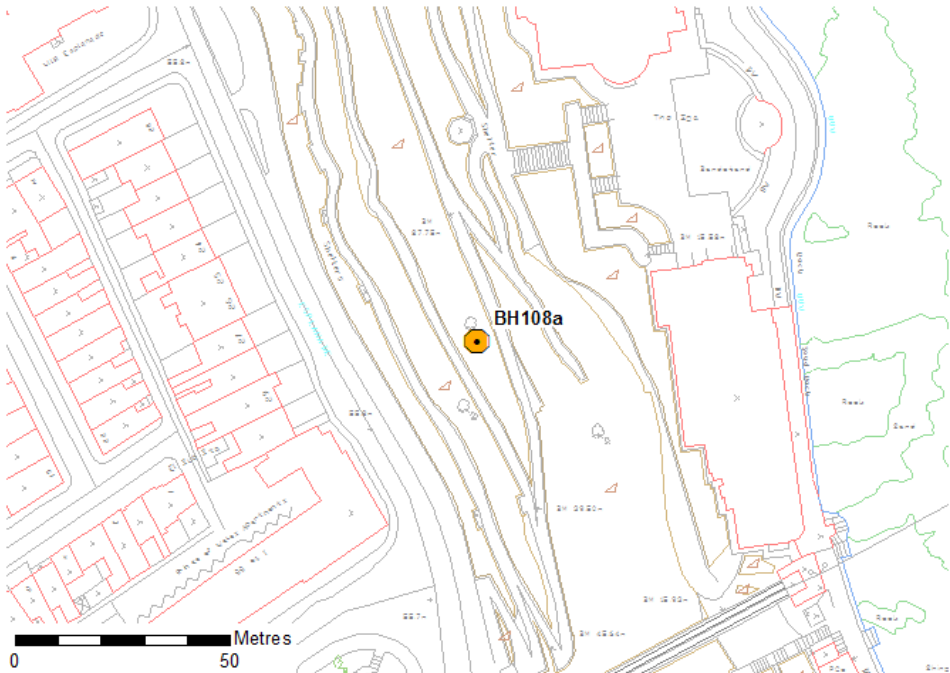

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover and hinge ok, locking mechanism corroded.• Slightly overgrown but in short mown grass area, likely to be well maintained for the seating area.				
Recorded Depth	12.85m		Recorded Depth to Water	12.38m	
Known Depth	13.90m	Last Recorded Water Depth	12.97m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">• Close to Boreholes Spa 2 and BH107 (in same grassed seating area).				



 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	Middle of footpath up the left of the shelter at the top of the Italian Staircase from the terrace above the Sun Court.	
Borehole	H5	Piezometer	
Map GPS Reference: TA 04415 87801			
Location Photo (looking north)			



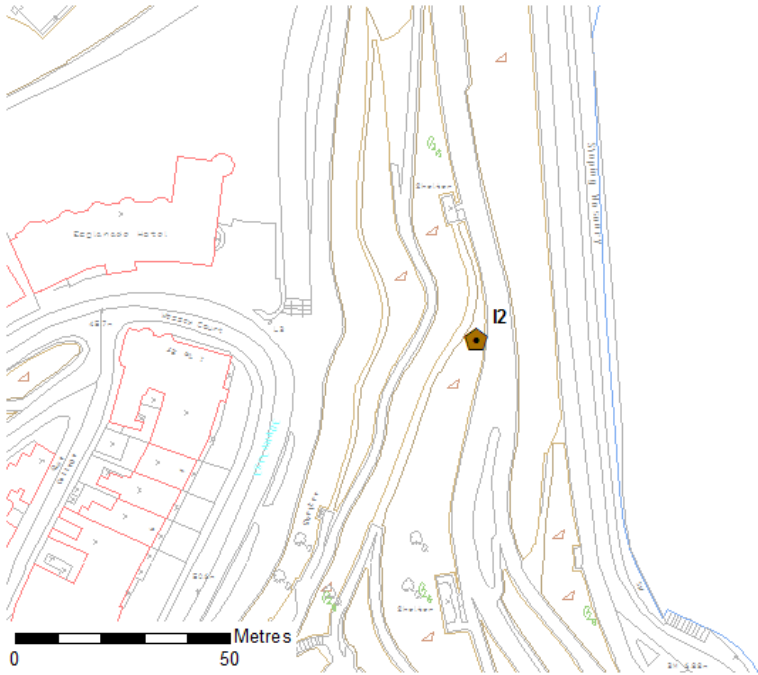
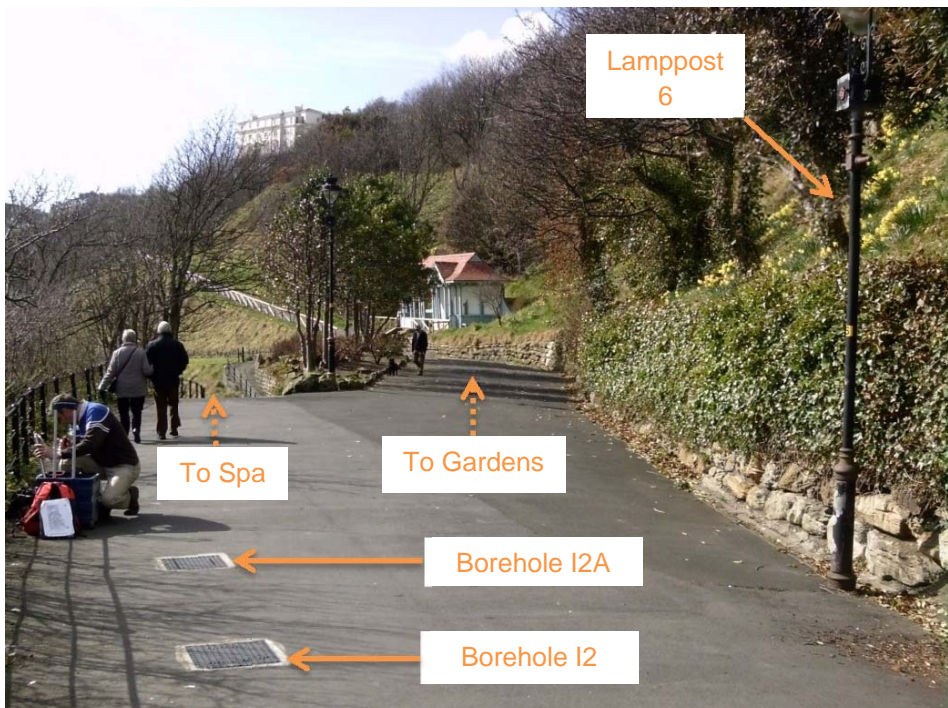
Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Tarmac footpath – no vegetation issues.• Single piezometer with automated data logger.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	6.91m	Last Recorded Water Depth	0.74m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">•				



 <p>A great place to live, work & play</p>	<p>Scarborough Borough Council</p> <p>Condition Survey of Inclinoimeters and Piezometers – 23/4/2013</p>		 <p>Royal HaskoningDHV Enhancing Society Together</p>
<p>Location</p>	<p><i>Scarborough – South Cliff</i></p>	<p>Middle of footpath behind the main Spa building, just north of the access bridge to the back of the buildings.</p>	
<p>Borehole</p>	<p>BH104</p>	<p>Piezometer - twin</p>	
<p>Map</p> <p>GPS Reference: TA 04421 87854</p>			
<p>Location Photo (looking south)</p>			



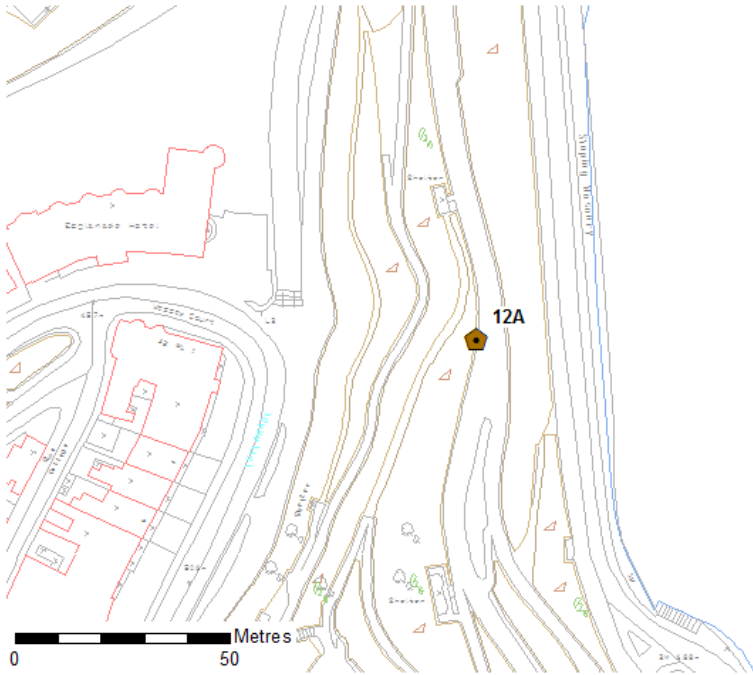
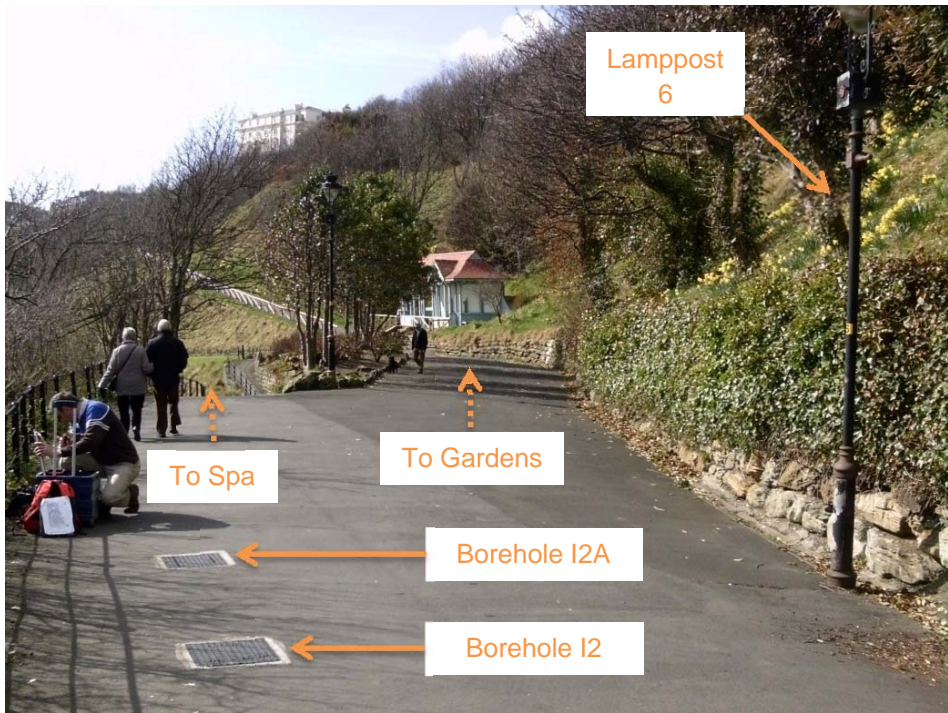
Condition Photos							
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but does not close flush due to diver (potential pedestrian trip hazard).• Lock mechanism corroded and broken.• Tarmac surround ok.• Tarmac footpath – no vegetation issues.• Double piezometer with diver in central piezometer tube.						
Recorded Depth to Instrument	a) 15.90m b) 12.21m		Recorded Depth to Water		a) 13.00m b) 9.27m		
Known Depth to Instrument	a) unknown b) unknown	Last Recorded Water Depth	Not available	Record Date	Not available		
Comments	<ul style="list-style-type: none">• Pipe a is the central one which contains the diver, pipe b is the one on the left when looking towards the hinge.• Diver length of 15.00m.						



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Between lampposts 35 and 34 on the 3 rd ‘zig-zag’ of path up to the left of the shelter at the top of the Italian Staircase.	
Borehole	BH108	Piezometer - triple	
Map GPS Reference: TA 04422 87762			
Location Photo (looking north-west)			



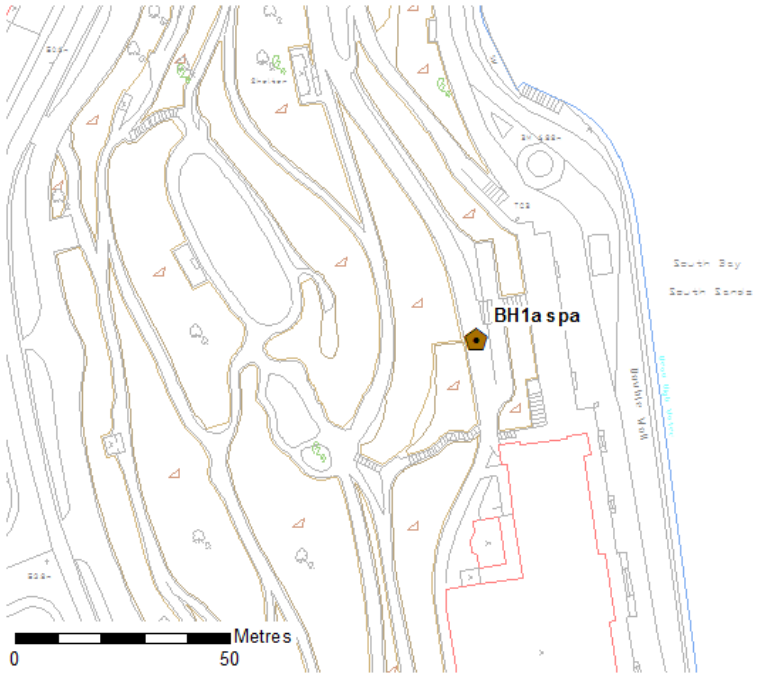

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover and hinge ok, but locking mechanism broken.• Concrete surround ok.• Tarmac footpath – no vegetation issues.• Triple piezometer, with diver in most uphill pipe.				
Recorded Depth to Instrument	a) 24.12m b) 6.02m c) 0.5m		Recorded Depth to Water	a) 16.67m b) dry (damp sediment) c) dry (damp sediment)	
Known Depth to Instrument	a) unknown b) unknown c) unknown	Last Recorded Water Depth	Not available	Record Date	Not available
Comments	<ul style="list-style-type: none">• Measurements to top of outer tube.• Triple piezometer – a) most uphill, b) bottom right, and c) bottom left (when looking uphill away from the hinge).• Diver in pipe a, length of 22.04m				



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Opposite lamppost 6 on footpath between Cliff Bridge and Spa Complex, just north of major split in path (to gardens and to Spa).	
Borehole	I2	Piezometer	
Map GPS Reference: TA 04400 88052			
Location Photo (looking south)			



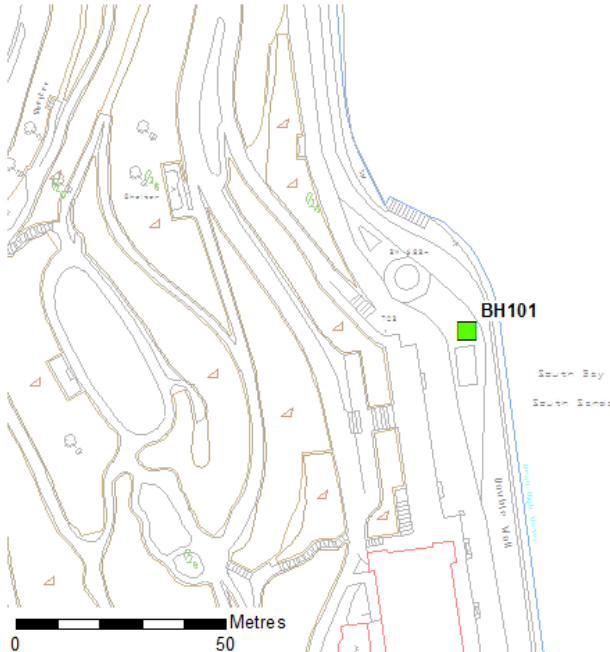

Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Tarmac footpath – no vegetation issues.• Single piezometer with automated data logger.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	31.00m	Last Recorded Water Depth	21.34m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">• Outer tube was full of water.• Adjacent to Borehole I2A. I2 is the most northerly borehole.				



 A great place to live, work & play	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV Enhancing Society Together
Location	Scarborough – South Cliff	Opposite lamppost 6 on footpath between Cliff Bridge and Spa Complex, just north of major split in path (to gardens and to Spa).	
Borehole	I2A	Piezometer	
Map GPS Reference: TA 04402 88050			
Location Photo (looking south)			



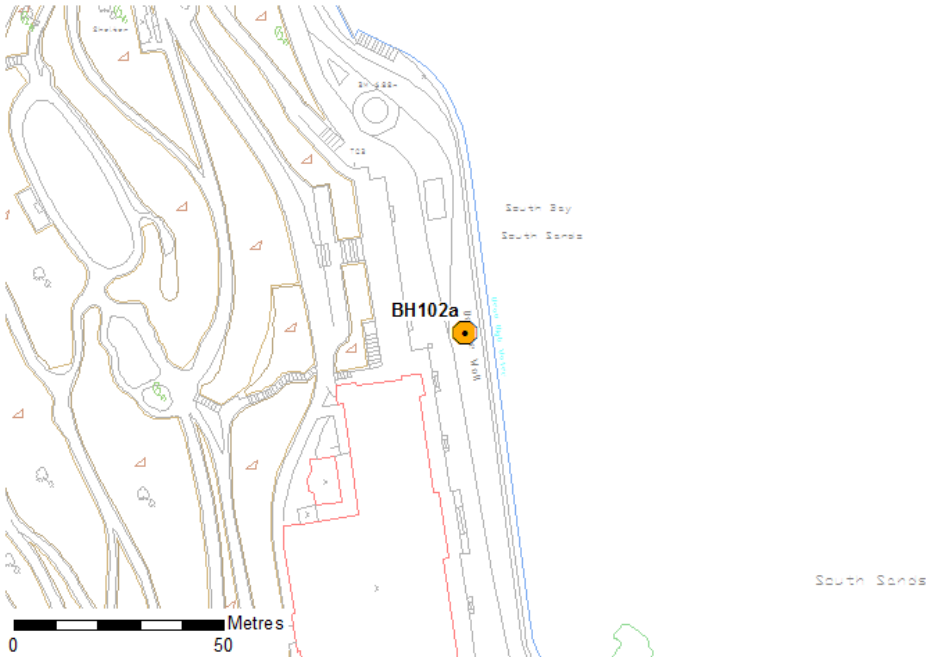
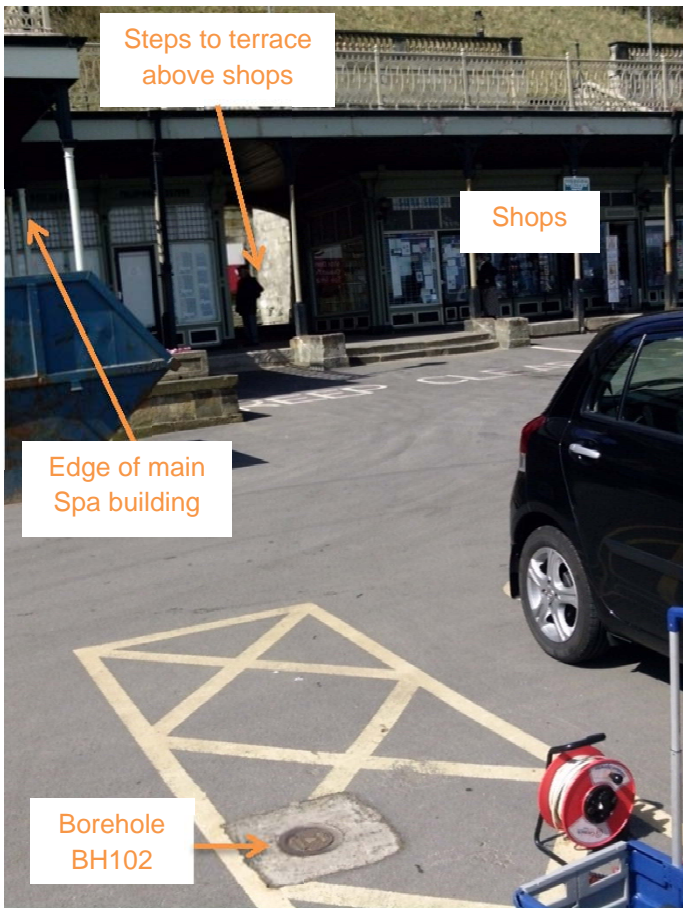
Condition Photos					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• Tarmac footpath – no vegetation issues.• Single piezometer with automated data logger.				
Recorded Depth to Instrument	Not available		Recorded Depth to Water	Not available	
Known Depth to Instrument	31.00m	Last Recorded Water Depth	18.96m	Record Date	2009 (Mouchel)
Comments	<ul style="list-style-type: none">• Adjacent to Borehole I2. I2A is the most southerly borehole.				


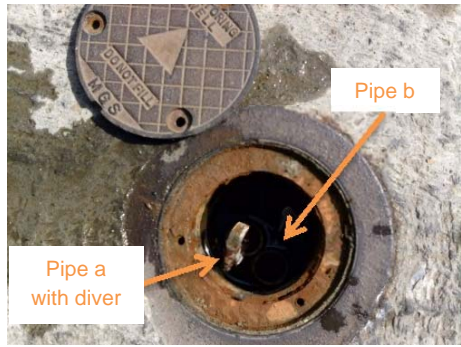
 <i>A great place to live, work & play</i>	Scarborough Borough Council Condition Survey of Inclinometers and Piezometers – 23/4/2013		 Royal HaskoningDHV <i>Enhancing Society Together</i>
Location	<i>Scarborough – South Cliff</i>	In front of southern most bench on raised seated area above terrace at northern end of main Spa building.	
Borehole	BH1 (Spa)	Piezometer - twin	
Map GPS Reference: TA 04434 87929			
Location Photo (looking north)			

Condition Photos	<div></div> <div></div>					
Condition	<ul style="list-style-type: none">• Cover ok with 4 locking screws.• Concrete surround ok.• In tarmac footpath – no vegetation issues.• Double piezometer with automated data loggers.					
Recorded Depth to Instrument	Not available		Recorded Depth to Water		Not available	
Known Depth to Instrument	a) 13.00m b) 4.00m	Last Recorded Water Depth		a) 30.10m b) 12.29m	Record Date	2009 (Mouchel)
Comments						

<div> A great place to live, work & play</div>	<div>Scarborough Borough Council</div> <div>Condition Survey of Inclinometers and Piezometers – 30/4/2013</div>		<div> Royal HaskoningDHV Enhancing Society Together</div>
Location	Scarborough – South Cliff	In northern end of road in front of Spa Complex, between seawall and raised gravel area (near bus turning circle).	
Borehole	BH101	Inclinometer	
Map	<div><div>GPS Reference: TA 04463 87957</div><div></div></div>		
Location Photo	<div><div>(looking west)</div><div></div></div>		

Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover ok with 2 bolts (3rd screw hole not used), need 10mm diameter socket to open.• Concrete surround ok.• No cap to inner tube.• Outer tube full of water.• Tarmac road – no vegetation issues.		
Known Depth	26.50m	Recorded Depth	26.63m
Comments	<ul style="list-style-type: none">• Water recorded at 5.84m.• Dummy inclinometer went to 26.71m.• Measurements to top of metal rim of borehole.		

<div> A great place to live, work & play</div>	<div>Scarborough Borough Council</div> <div>Condition Survey of Inclinometers and Piezometers – 30/4/2013</div>		<div> Royal HaskoningDHV Enhancing Society Together</div>
Location	Scarborough – South Cliff	In road in front of Spa Complex, between 2 nd and 3 rd disabled parking bays on the seawall side of car park. Opposite the northern end of the main Spa building.	
Borehole	BH102	Piezometer - twin	
Map GPS Reference: TA 04470 87917			
Location Photo (looking north-west)			

Condition Photos	<div></div> <div></div>					
Condition	<ul style="list-style-type: none">• Cover ok with 2 bolts (3rd bolt hole not used), needs 10mm diameter socket to open.• Concrete surround ok.• Double piezometer with diver in central piezometer pipe (pipe a).• Tarmac parking bay – no vegetation issues.• Outer tube full of water.					
Recorded Depth to Instrument	a) 17.85m b) 15.49m		Recorded Depth to Water		a) 5.15m b) 5.00m	
Known Depth to Instrument	a) unknown b) unknown	Last Recorded Water Depth	Not available	Record Date	Not available	
Comments	<ul style="list-style-type: none">• Pipe a contains a diver and is the most central black piezometer pipe. Pipe b is closer to the edge of the outer tube and is also black.• There is also a smaller blue pipe (for drainage) in the borehole, approximate depth 0.65m.• Diver length of 15.00m.• Measurements to the top of the individual black piezometer pipes.					



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Condition Survey of Inclinometers and Piezometers – 30/4/2013



Location

Scarborough – South Bay

In road in front of Spa Complex, opposite the main entrance (reception), in second parallel parking bay to seawall.

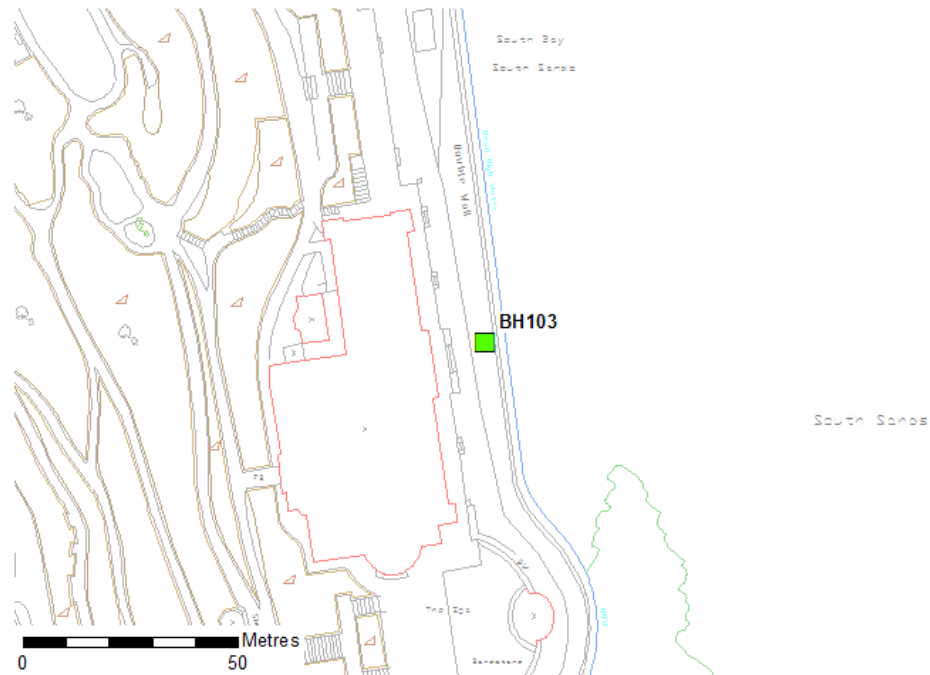
Borehole

BH103

Inclinometer

Map



GPS Reference:
TA 04477 87876



Location Photo

(looking south-west)



Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover ok with 3 bolts, 10mm diameter socket required to open.• Concrete surround ok.• No cap to inner tube.• Tarmac parking bay – no vegetation issues.• Outer tube full of water.		
Known Depth	10.42m	Recorded Depth	9.93m
Comments	<ul style="list-style-type: none">• Water recorded at 5.60m.• Dummy inclinometer went to 10.03m.• Measurements to top of inclinometer inner tube.		



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Location

Scarborough – South Cliff

At bottom of 1st 'zig-zag' down from the top footpath with the wooden shelters. At the start of abandoned footpath, behind the metal railings.

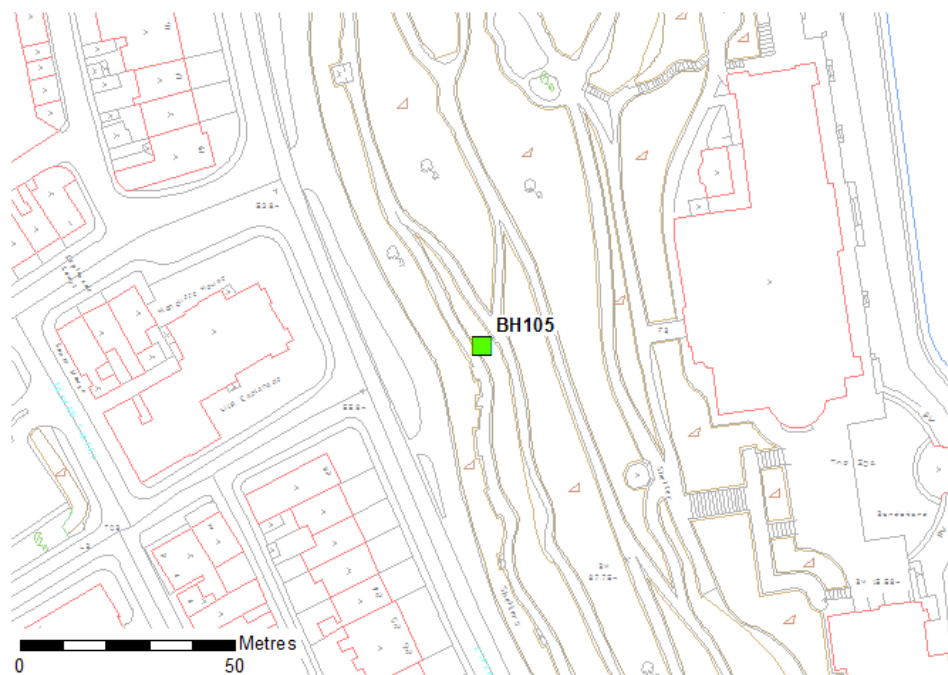
Borehole

BH105 & BH105a

Inclinometer

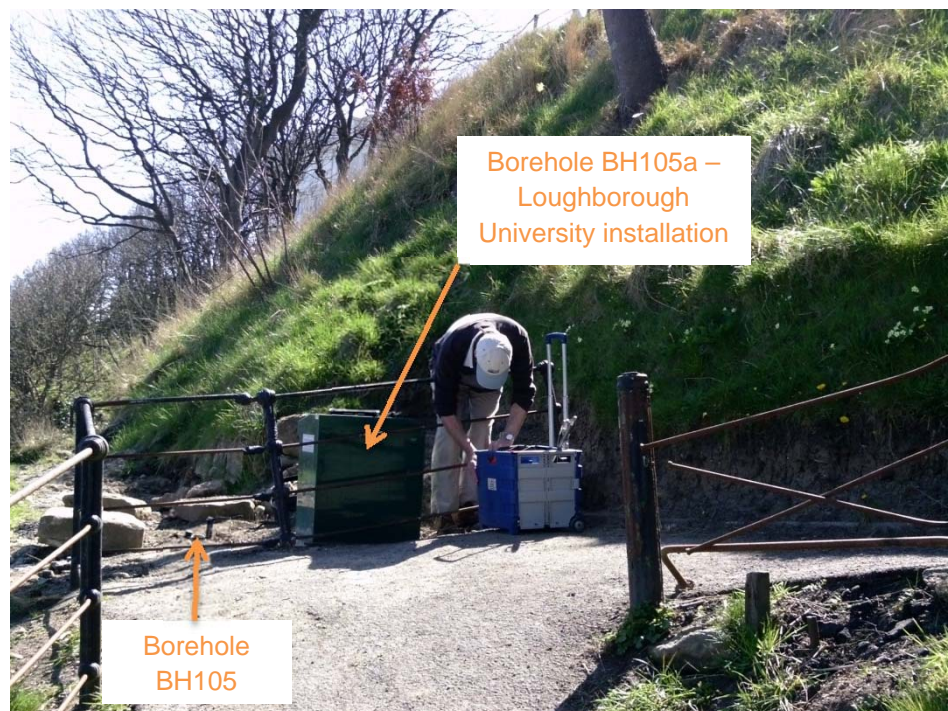
Map



GPS Reference:
TA 04382 87841



Location Photo

(looking south)



Condition Photos	<div></div> <div></div>		
Condition	<ul style="list-style-type: none">• Cover and hinge ok, lock broken.• Cap for inner tube.• Inner tube is smaller diameter than usual inclinometer tubes due to being re-lined to repair defects after drilling.• No vegetation but bare earth, could become overgrown with time as in abandoned footpath.• BH105a is the green box unit which houses the Loughborough University acoustic inclinometer device.		
Known Depth	Unknown	Recorded Depth	44.00m
Comments	<ul style="list-style-type: none">• Water recorded at 1.42m, this rose to ground level during dummy inclinometer testing.• Dummy inclinometer went to 44.00m.• Measurements to top of blue inclinometer tube.		