

Scanning Report

20 May 2024

Job Details

Date	20 May 2024
Customer Name	Core 4 -
Site Contact	Roberto
Contact Email	raguirre@core4service.com
Address	85 Deakin St, Kangaroo Point QLD
Scope of Works	*Imaging of structural beam for the presents of concrete cancer/spalling. *Provide information pertaining to reinforcement depth and spacings. * Imaging of reinforcement condition.
Technical Data	GPR Ultrasonic Pulse Velocity Ultrasonic Pulse Echo Covermeter

About GPR

Ground-penetrating Radar (GPR) is a non-intrusive method of detecting buried objects or substances in a non-metallic material through the use of radio waves. GPR systems work by emitting a short electromagnetic pulse in the ground through a wide-band antenna.

Reflections from the ground are then measured to form a vector. An image is built by displaying these vectors side by side with the displacement of the antenna. By moving the antenna along a line and taking regularly spaced acquisitions, it is possible to construct an image representing a vertical slice of the ground. The GPR system displays these images in real-time. The data is also recorded on the unit for later interpretation and processing. Though GPR is the most accurate subsurface imaging technology available, it is not 100% accurate and the use of GPR cannot guarantee all objects will be detected.

CONSCAN PTY LTD provides the highest degree of due diligence in acquiring data, and report generation. Although the chance of missing any subsurface feature is low, clients shall not hold CONSCAN PTY LTD responsible for any non or misidentified subsurface features, objects, or anomalies.

CONSCAN PTY LTD will not be held liable for any loss or damages that come from any non or misidentified subsurface features, objects or anomalies

Important Notes

- Conduits are occasionally tied to steel bars which make them undetectable so cutting of any bars should be avoided.
- Some targets may be marked slightly offset for clarity where they are in line with other targets.
- Please allow +/- 25mm either side of any markings
- 'No scan' areas of 100mm around walls and in corners
- Sizing of reinforced steel within the slab using GPR is based on overlapping bars touching and is an indication only

Marking Legend

Where post tension cables are detected the locations of these are marked on the surface with **TWO (2) RED LINES WITH 'X' BETWEEN**. Where identified dead ends and anchor ends will be marked by a **RED T**.

Suspected slab services (including electrical conduits/anomalies) are marked with **PINK CIRCLE WITH LINE** . Care should be taken because the actual diameter of such services is unknown.

Power signals detected will be shown with an **ORANGE CIRCLE WITH LINE**. Care should be taken because the actual diameter of such services is unknown.

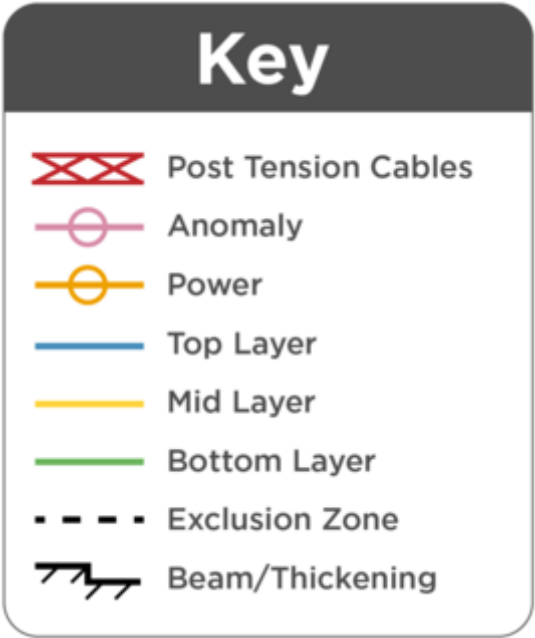
Conventional reinforcement is marked on the surface using **BLUE** for the upper layer, **YELLOW** for the mid layer and **GREEN** for the lower layer.

Areas that cannot be scanned (100mm around fixed objects) are marked with a **BLACK** exclusion zone. Black areas have not been scanned and should be avoided.

The edges of any underlying beams/thickenings/columns are marked with a **BLACK LINE AND BLACK ARROWS** indicating the side which the beam/thickening/column is on. When exit points are checked with a magnetic field transmitter and receiver, these will be marked with an **BLACK X** for "exit point checked".

Accuracy of Line Marking

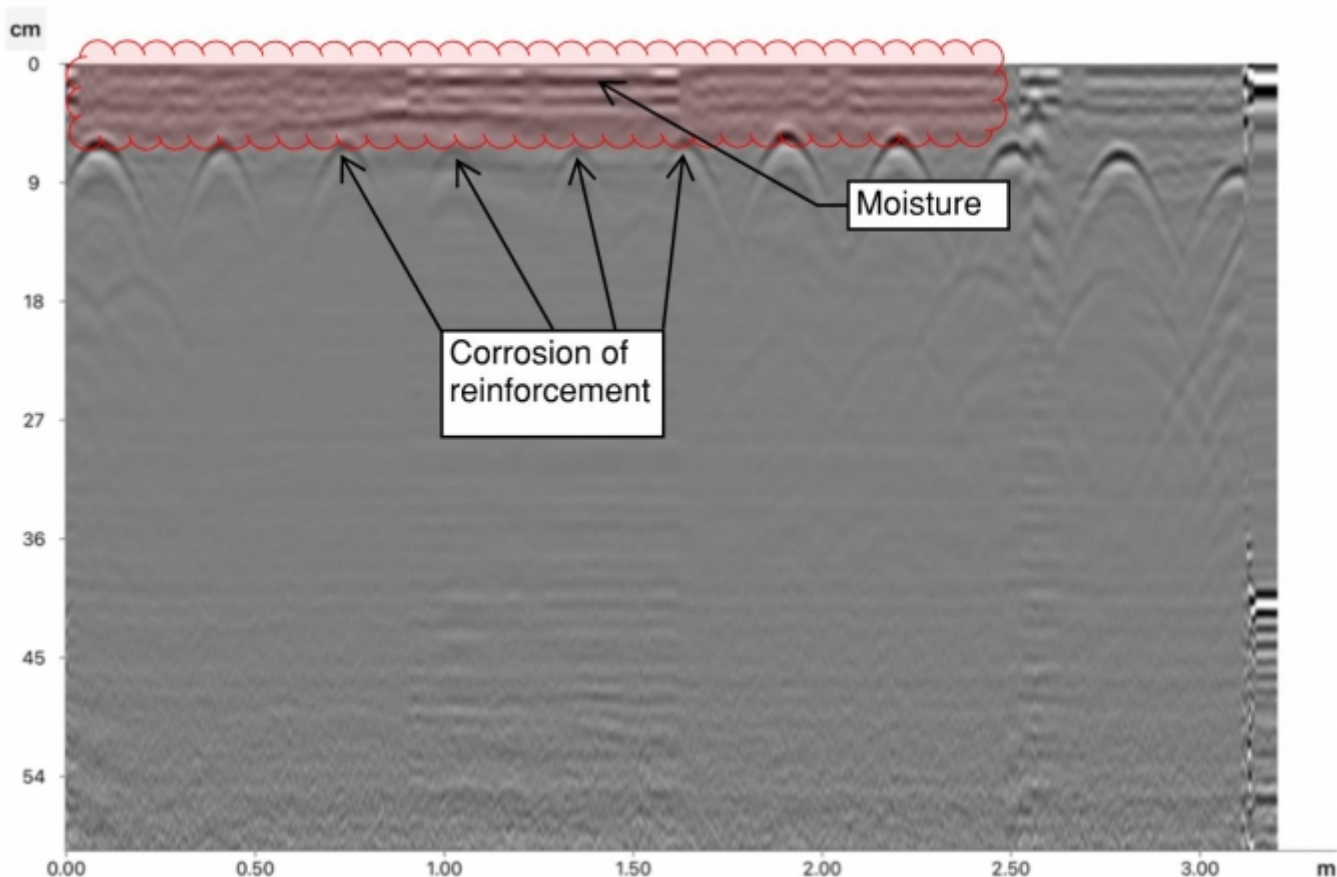
For all targets identified by marking, a safety margin of at least; +25mm either side of the identified target.



Location

Location: Soffit

Reinforcing	Yes
Job Notes	As can be seen in the image attached, weak amplitude signals indicate corrosion of the reinforcement. Also highlighted in the image is high levels of moisture present.
Photo(s)	



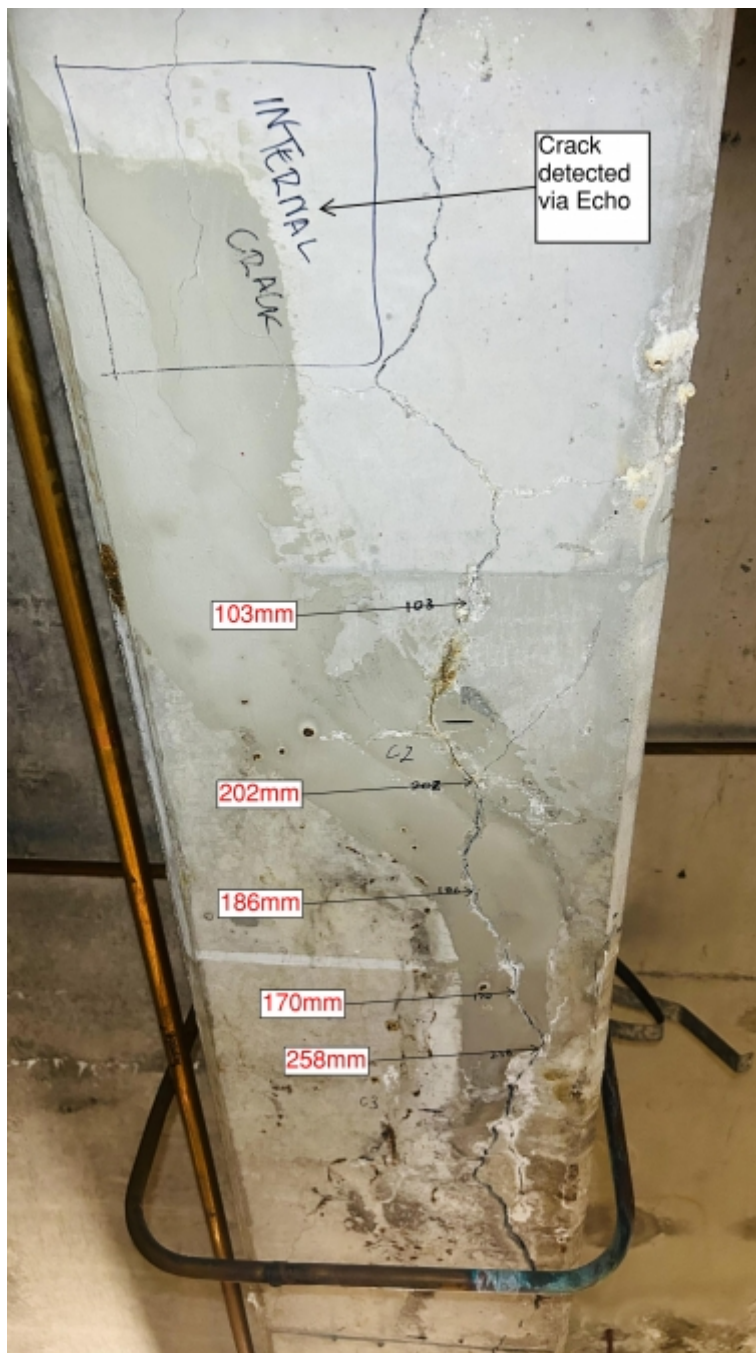
Location: Beam

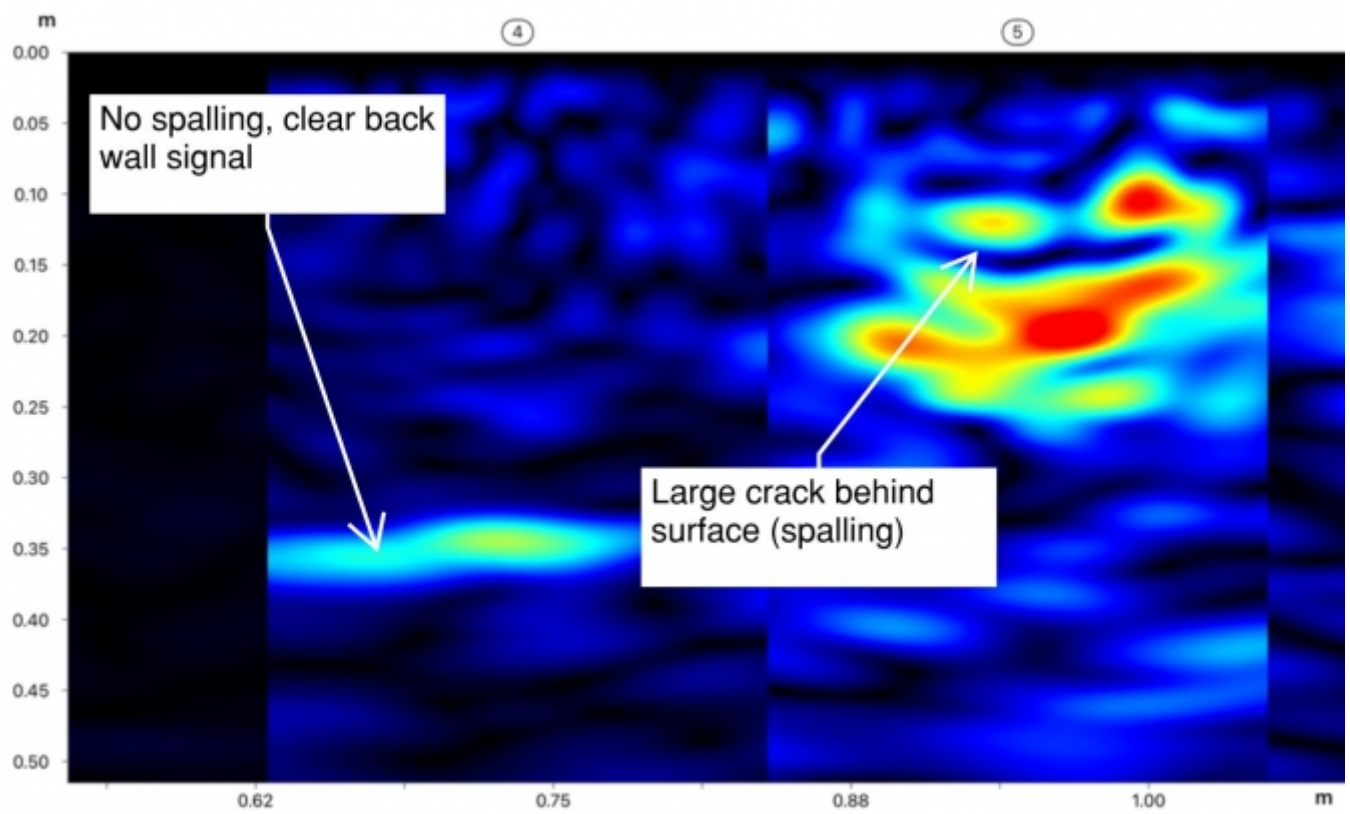
Job Notes

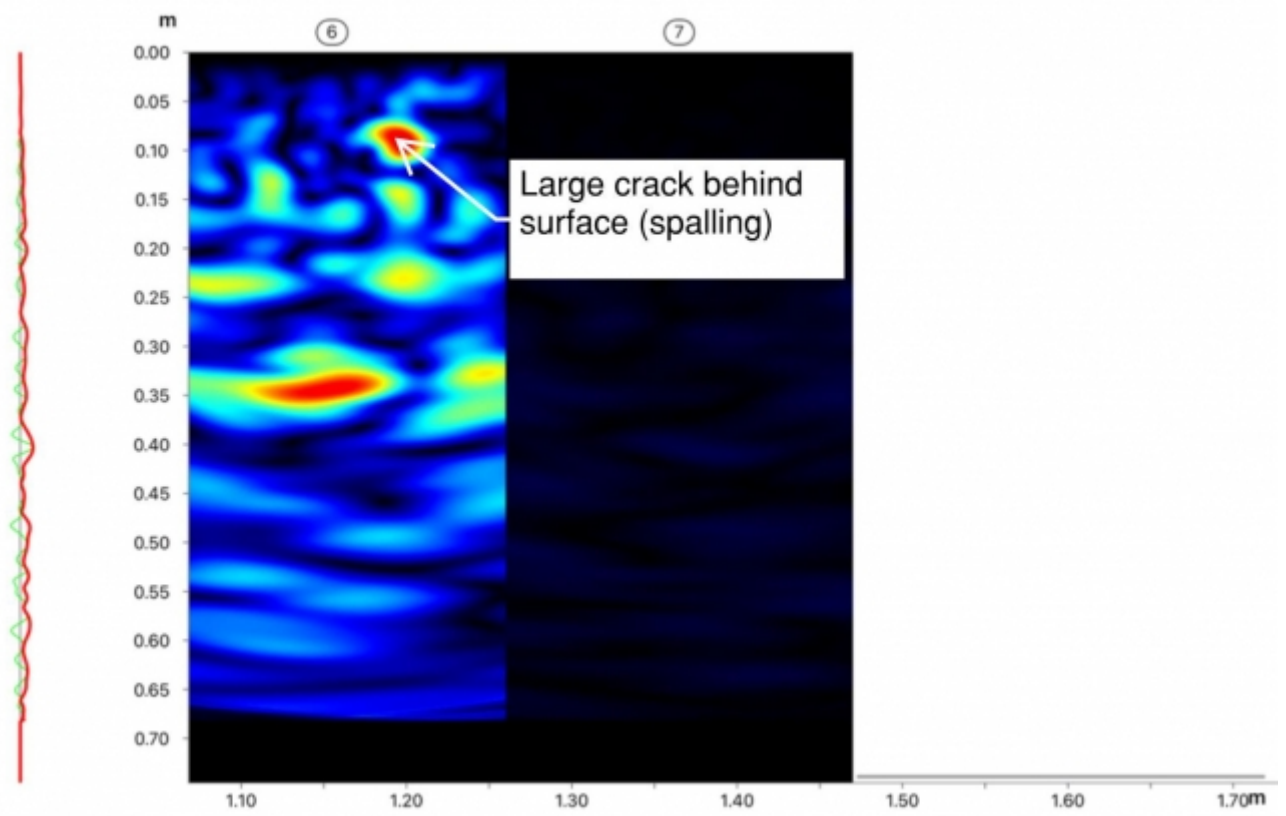
Ultra sonic pulse velocity was conducted to determine the depth of cracking, these results have been provided on the attached. Some crack depths unknown as cracking is beyond the machine's depth range.

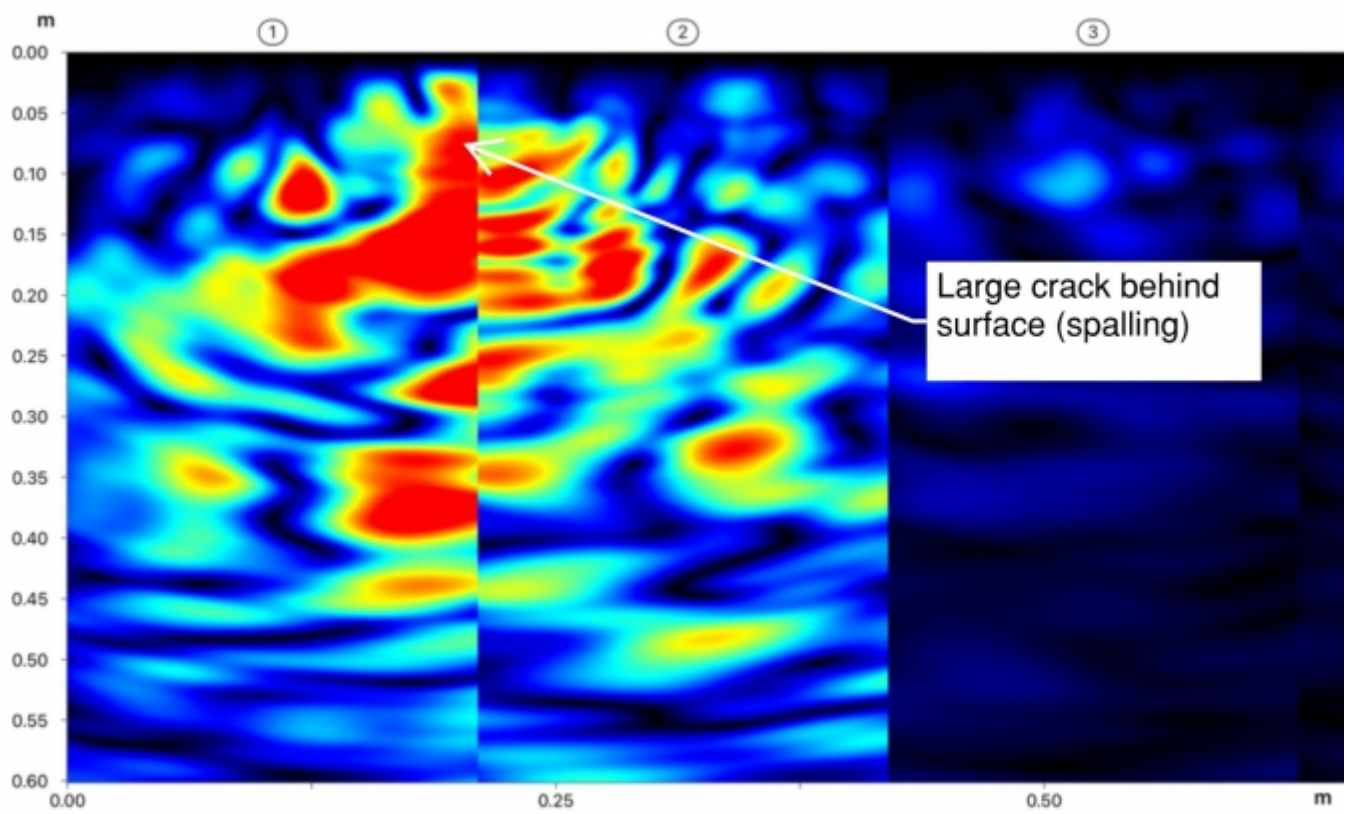
Ultra sonic pulse echo was used to locate horizontal cracking along with spalling. Large amounts of concrete cancer can be found throughout the beam length as highlighted in the images provided. (bright reflections)

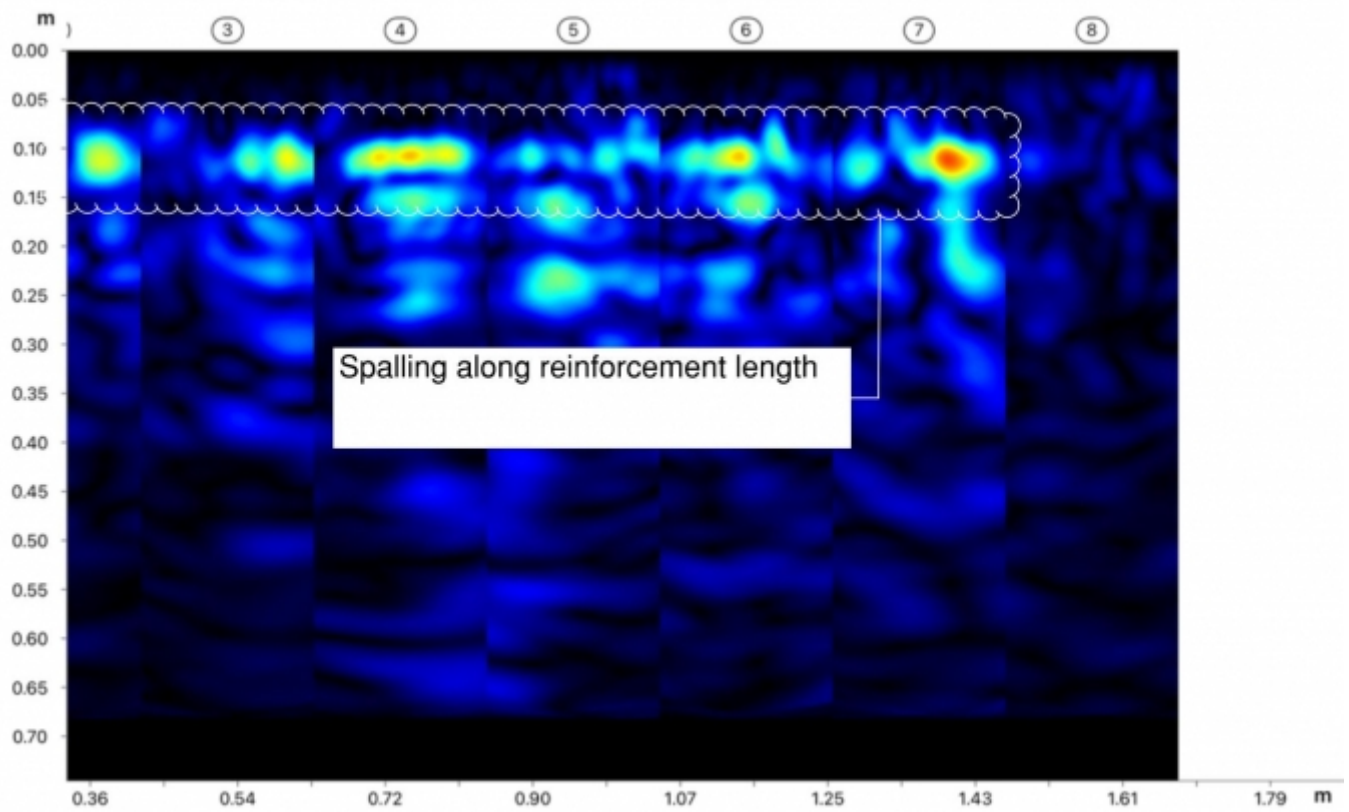
Photo(s)









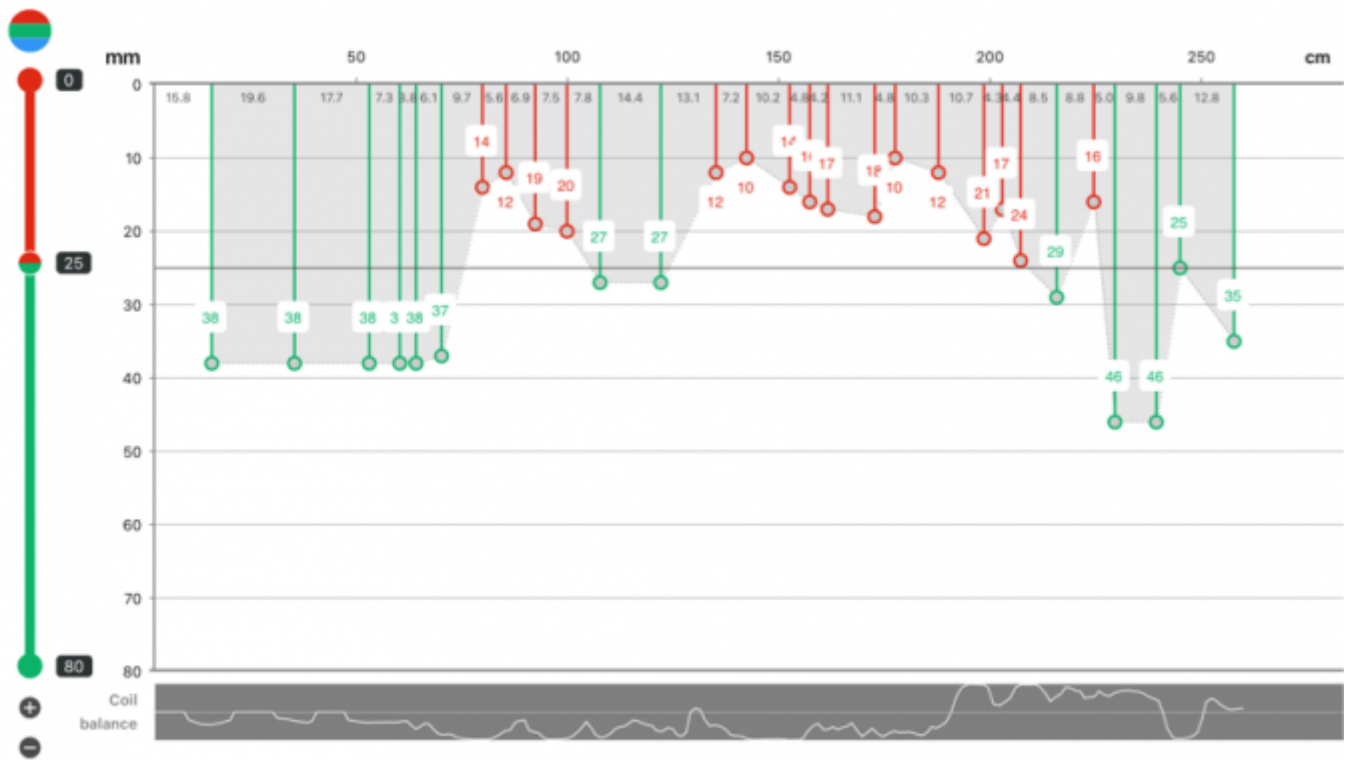


Location: Reinforcement cover & spacing (length)

Job Notes

Covermeter readings obtained over an unobstructed length of 2.5meters.
Minimum depth preset was set to 25mm

Photo(s)

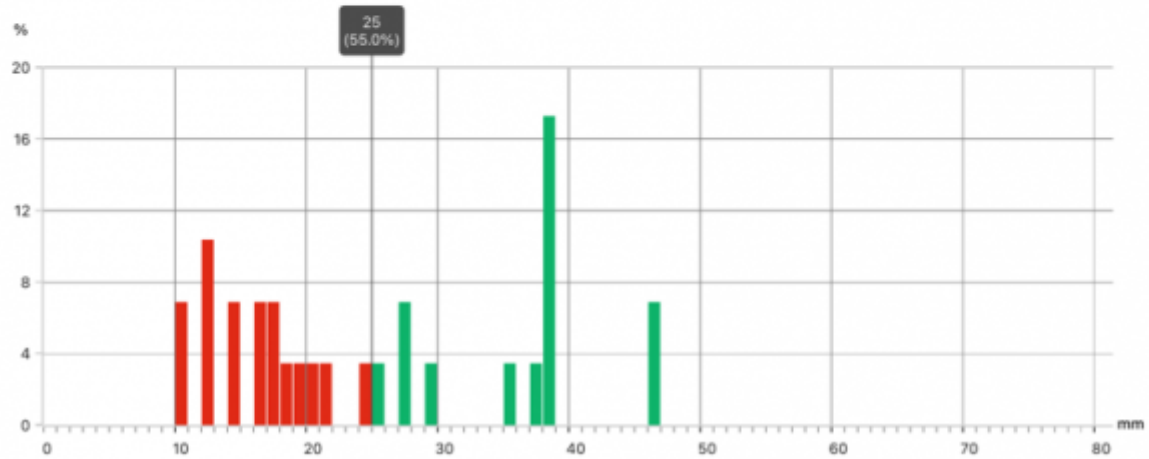


Cover statistics

n	$\bar{x}$	$\bar{x}$	stdev	Lowest	Highest
29	24.6	21.0	11.2	10	46

Rebar spacing statistics

n	$\bar{x}$	$\bar{x}$	stdev	Lowest	Highest
28	8.6	7.7	4.0	3.8	19.6

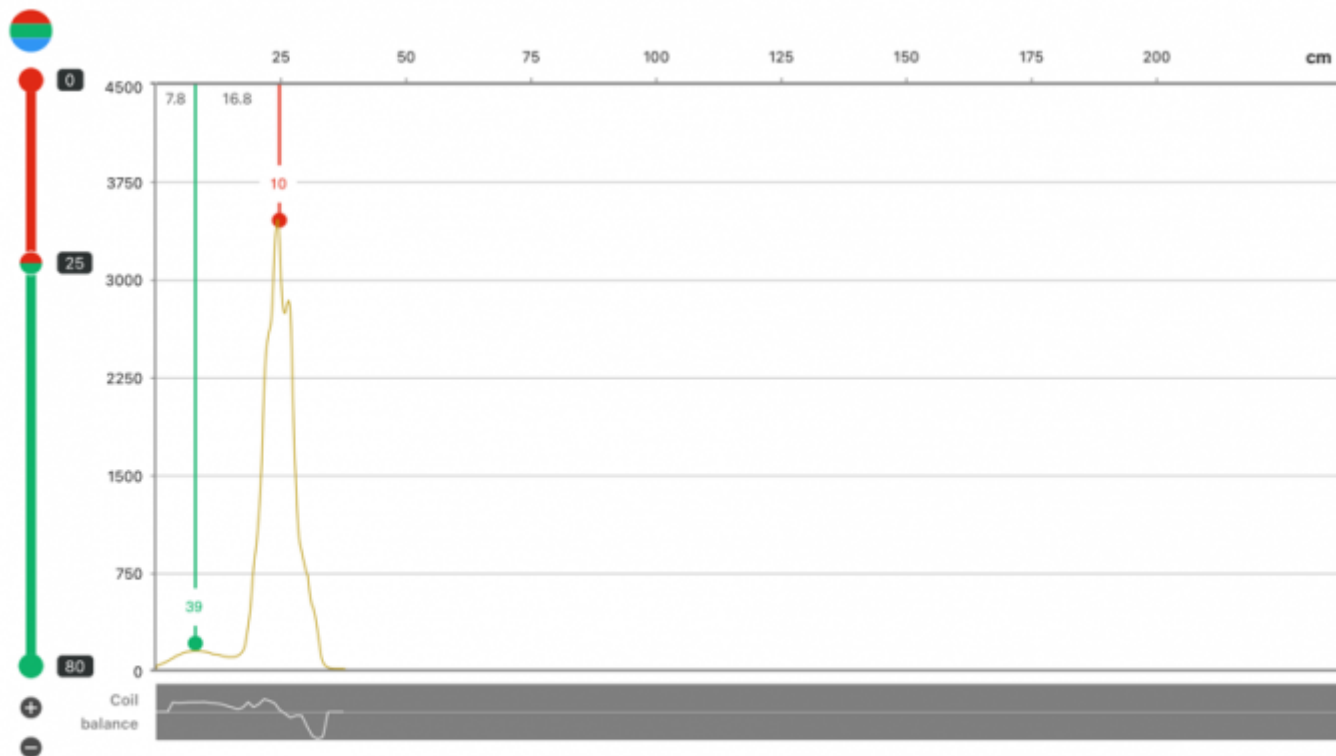


Location: Reinforcement cover & spacing (width)

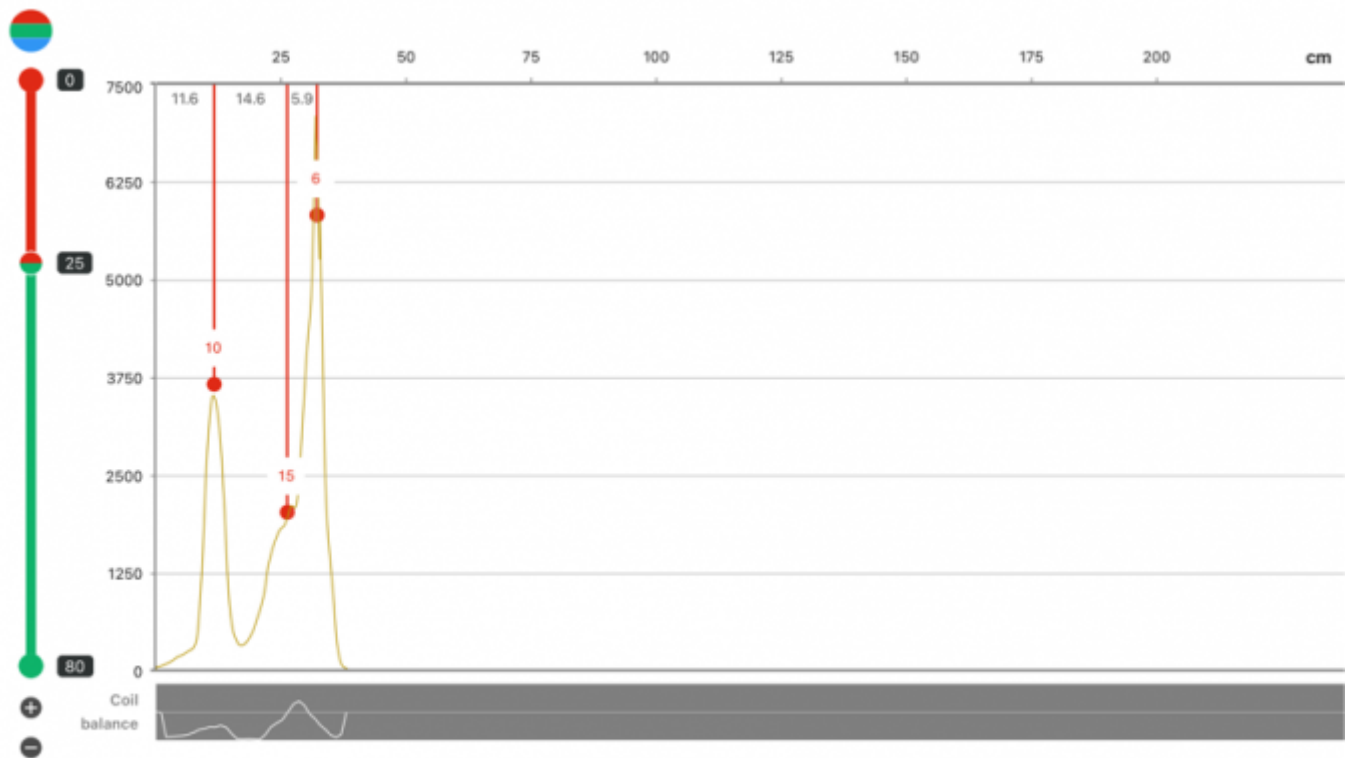
Job Notes

Covermeter readings obtained over an unobstructed width of 30cm.
Minimum depth preset was set to 25mm

Photo(s)







Location: Z beam

Job Notes

Imaging of Z beam reinforcement cover and spalling.
Minimal access due to vehicle and motorcycle within area.

Photo(s)

