Construction Insight
Challenges

• Quality problems – delamination, honeycombing, tanking and voids
• Degradation – Cracks, segregation and debonding
• Unmarked or unmapped services
• Location of safe penetration points
• Accurate strength and load determination
• Destructive and invasive investigation
Our Goal

• To assist our clients to address construction challenges by providing high definition insight
How?

- Ground Penetrating Radar – 1.6 MHz and 2.6MHz
- Concrete scanned up to .5m depth
- High resolution imaging
What We Can Do
Cell 1 – Rebar and Mesh

STEEL MESH

4 X 22mm STRESSING STRANDS

BEDDING SAND

STEEL MESH
200 x 200mm

‘STRESSING’ BARS 22mm
Cell 1 - Processed Images
Cell 1 – Rebar and Mesh
Cell 1 – Rebar and Mesh
Cell 1 – Rebar and Mesh

X Position: 63.0 cm
Y Position: 34.5 cm
Depth: 35.5 cm

2010-03-11 10:36:00
Cell 1 – Rebar and Mesh

X Position: 63.0 cm
Y Position: 34.5 cm
Depth: 46.0 cm
Cell 1 – Rebar and Mesh
Cell 1 – Rebar and Mesh
Cell 1 – Rebar and Mesh
Cell 1 – Rebar and Mesh
Cell 2 – Steel Ring and Gravel

- Steel Ring
- Bag of Gravel
- Concrete
- Bedding Sand
- Gravel Packet
- Steel Ring
Cell 2 – Processed Image

GRAVEL PACKET

45°

STEEL RING
Cell 3 – 90° Rebar

- 2 x 28mm REBARS BENT IN RIGHT ANGLE
- CONCRETE
- BEDDING SAND
- COMPACTED FILL
- 80x80mm SHEET STEEL
Cell 3 – Processed Images

- 2 x 28 mm BARS BENT IN RIGHT ANGLE
- 80 x 80 mm SHEET STEEL
Cell 4 – Rebar, Poly and Steel Pipes

- 2 x 12mm REBARS
- 2 x 22mm REBARS
- 2 x 30mm PVC DUCTS
- 75mm STEEL PIPE
- BEDDING SAND
- COMPACTED FILL
- AIR FILLED
- AIR + 12mm REBAR
Cell 4 – Images

RAW DATA

PROCESSED IMAGE
Cell 5 – Steel Mesh & Crossed Rebar

Steel Mesh
200 x 200 mm

Concrete Bedding Sand
Compacted Fill

Steel Rebars
22 mm Diameter
Set in Cross Pattern

2 x Diagonal 22mm Steel Bars
Cell 5 – Steel Mesh & Crossed Rebar

STEEL MESH
200 x 200 mm
Cell 5 – Steel Mesh & Crossed Rebar

Upper Rebar

Lower Rebar
Cell 6 – Bars, Box and Channel

- Angle Bar
- Flat Bar with Pins
- Box Section
- U Channel

Bedding
Cell 6 – Bars, Box and Channel

RAW DATA

MIGRATED DATA
Cell 6 – Bars, Box and Channel

- Flat Bar with Pins
- Rectangular Box Section
- Angle Bar
- U Channel

Migrated 3D Data
Cell 7 – Sheet Steel and Sand

- **CONCRETE**
- **BEDDING SAND**
- **COMPACTED FILL**
- **STEEL SHEET 800 x 100 mm**
Cell 7 – Sheet Steel and Sand

V = 126.9 mm/ns  \( \varepsilon = 6.8 \)
Cell 8 - Miscellaneous
Cell 8a – Foam Rubber Strips

Three strips of foam rubber each 5 mm thick

Three strips of foam rubber each 5 mm thick.
Cell 8b - 3 Layers of Polystyrene

3 LAYERS OF POLYSTYRENE
FOAM SHEET EACH 20 mm THICK

CONCRETE
BEDDING SAND
COMPACTED FILL

Surface
Migrated Data
Slab Base
Cell 8c – Sand and Gravel

- Packet of Sand & Gravel
  - 150mm Diameter
- Packet of Gravel 300mm Long
- Bedding Sand
- Compacted Fill
- Concrete

Raw Data

- Aggregate
- Bottom of Slab
- Ricker Wavelet

United Scanning Services Pty Ltd
Cell 9 – Layered Rebar

- 7 x 12mm rebars at 15mm increasing depths
Cell 9 – Layered Rebar

RAW DATA

PROCESSED IMAGE
Contact Us

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