


'HOLES?! I DON'T SEE THOSE ON THE UTILITY SHEETS!'

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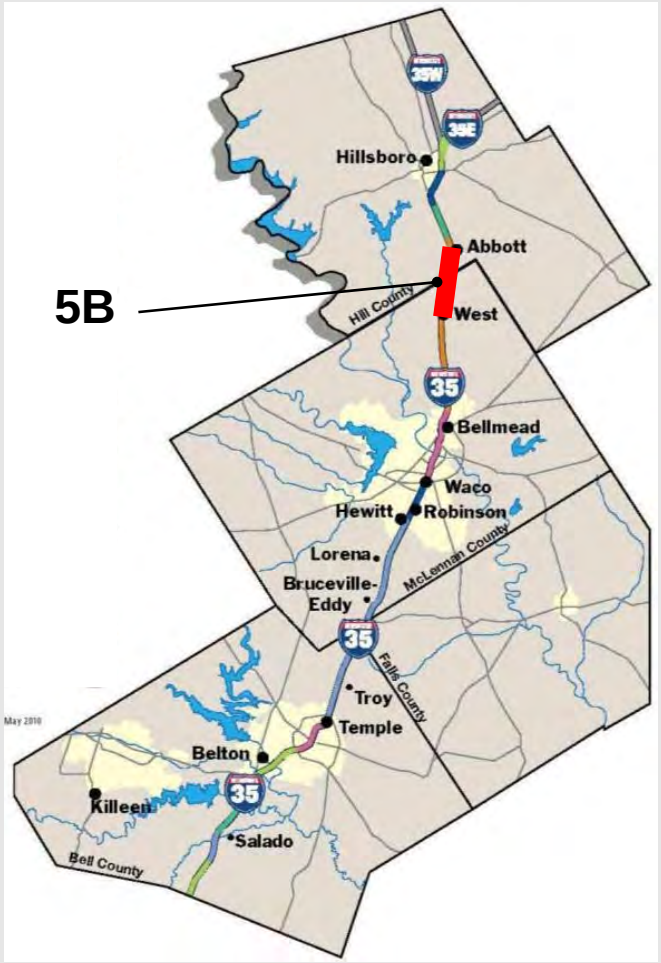
Jason Duncan, PE

Juan Gonzalez

Project 5B: West to Abbott



Section Facts

FM 1858/Tokio Road to FM 1242

Construction Start:	September 2011
Anticipated Completion:	Spring 2015
Length:	8 miles
Cost:	$101 million
Contractor:	Webber Construction

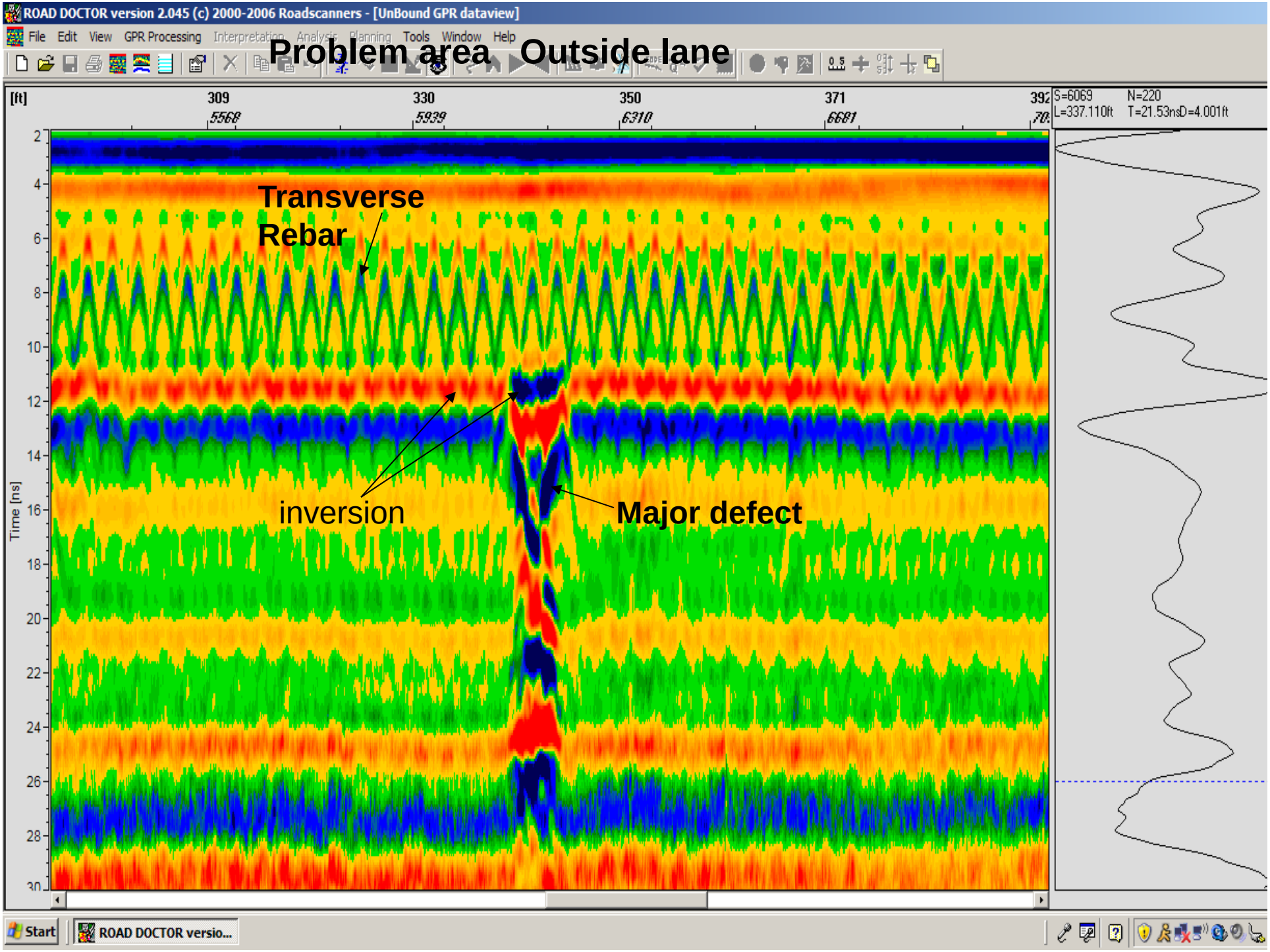
Project 5B: West to Abbott

Project 5B: West to Abbott

Project 5B: West to Abbott


STOP


TICKET?
No Problem

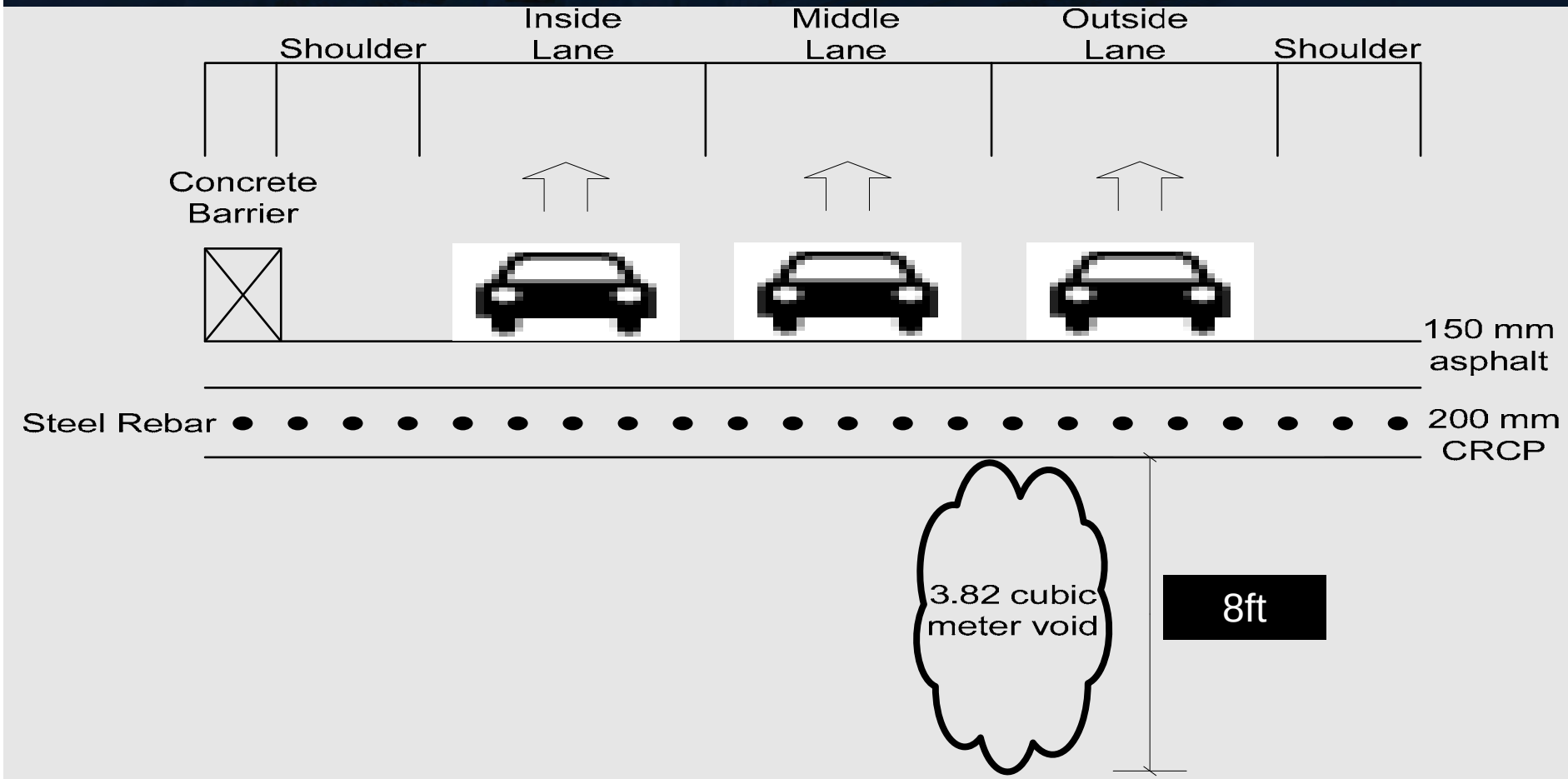

ROAD DOCTOR version 2.045 (c) 2000-2006 Roadscanners - [UnBound GPR dataview]
File Edit View GPR Processing Interpretation Analysis Planning Tools Window Help
Problem area Outside lane
[ft]
309
330
350
371
5568
5939
6310
6681
S=6069 N=220
L=337.110ft T=21.53nsD=4.001ft
Transverse Rebar
inversion
Major defect
Time [ns]
Start
ROAD DOCTOR versio...


JUL 18 2007

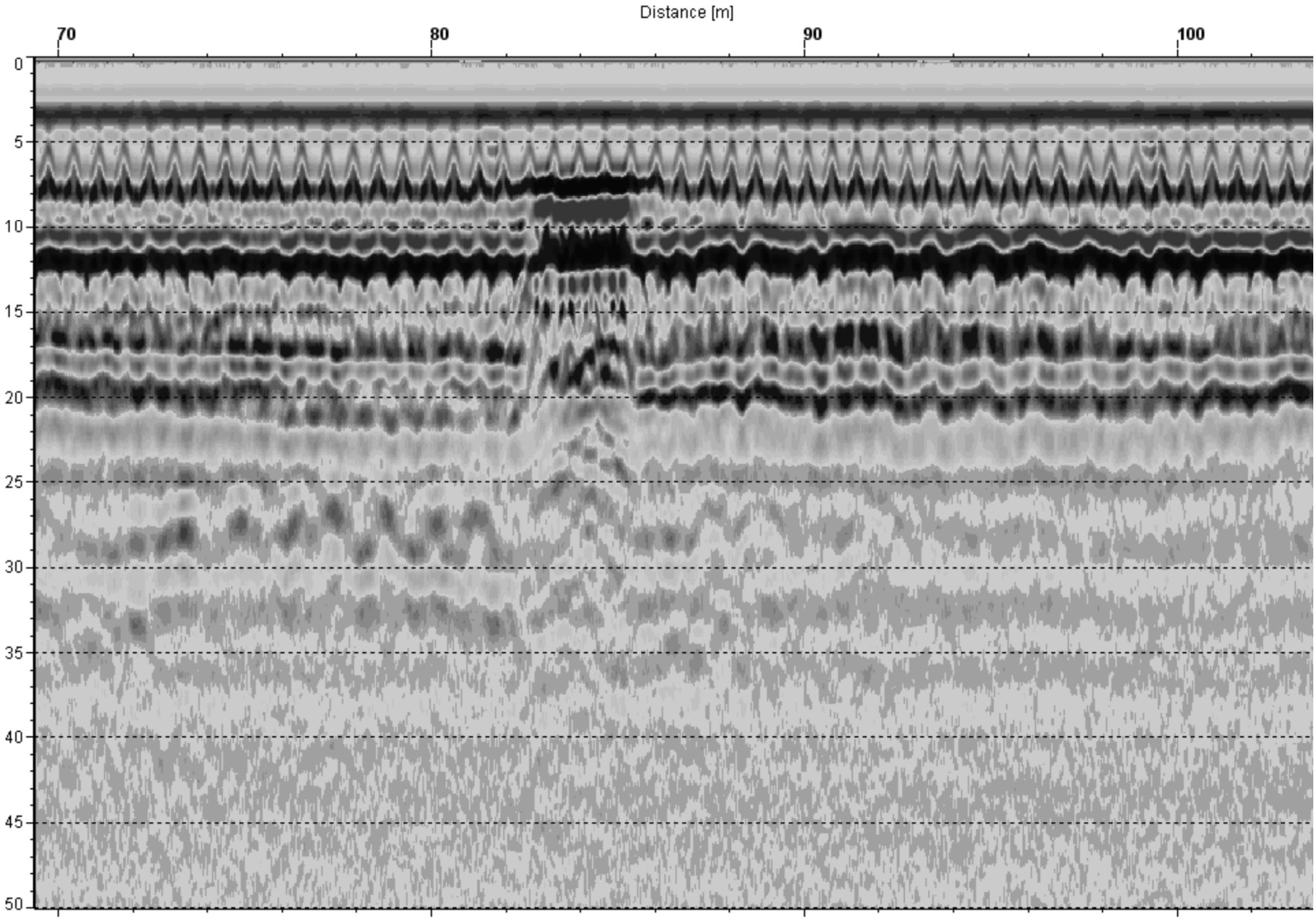

JUL 16 2007

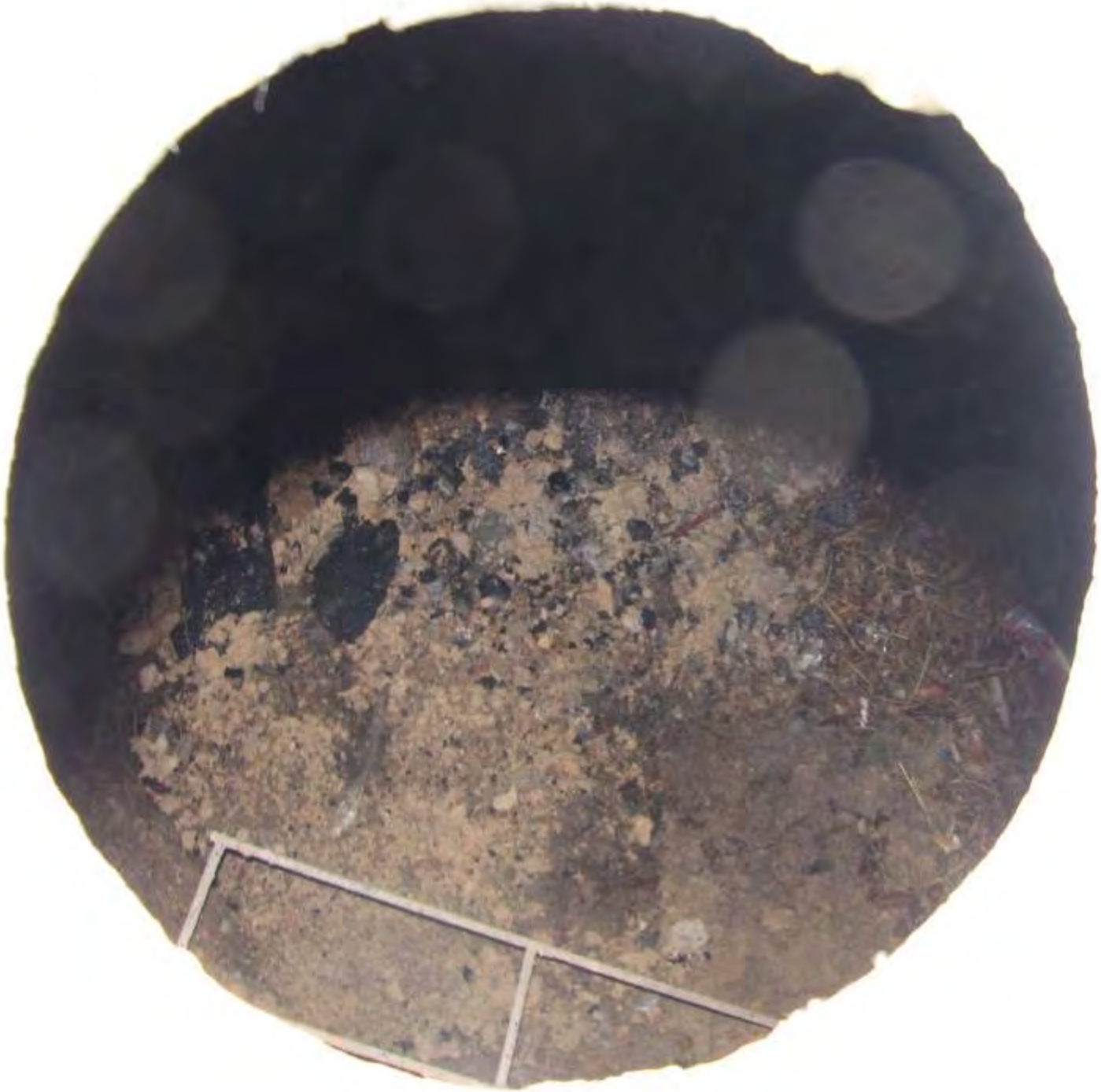

JUL 18 2007


JUL 18 2007

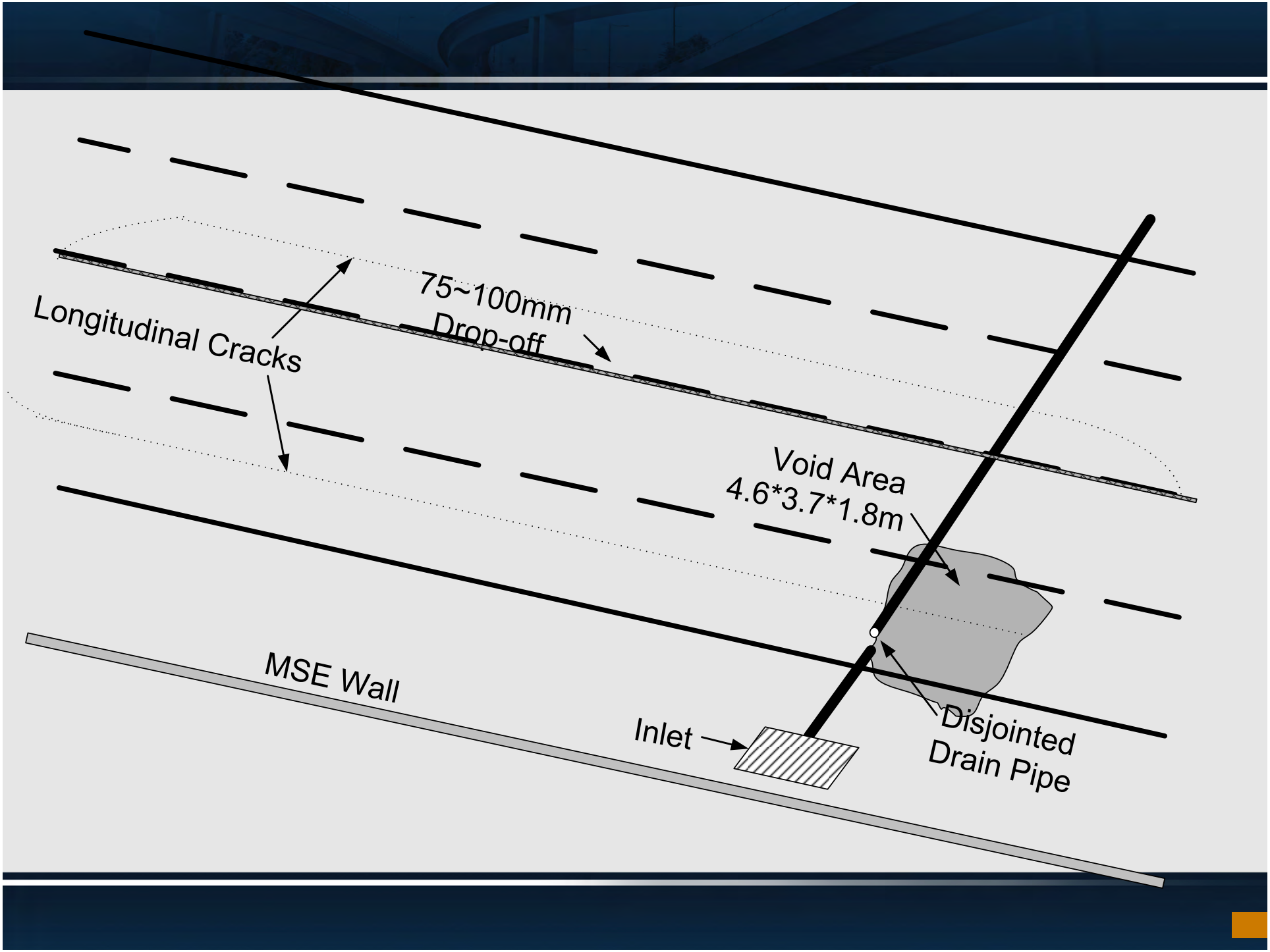

Shoulder
Inside Lane
Middle Lane
Outside Lane
Shoulder
Concrete Barrier
150 mm asphalt
Steel Rebar
200 mm CRCP
3.82 cubic meter void
8ft


JUL 18 2007


Distance [m]
70
80
90
100
0
5
10
15
20
25
30
35
40
45
50

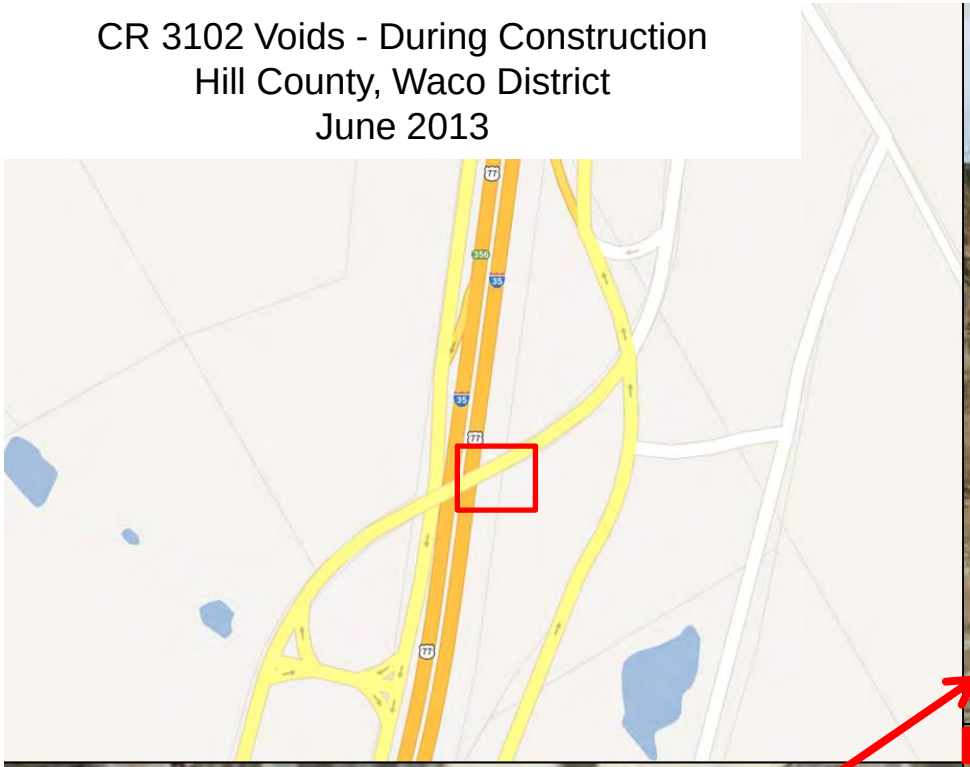


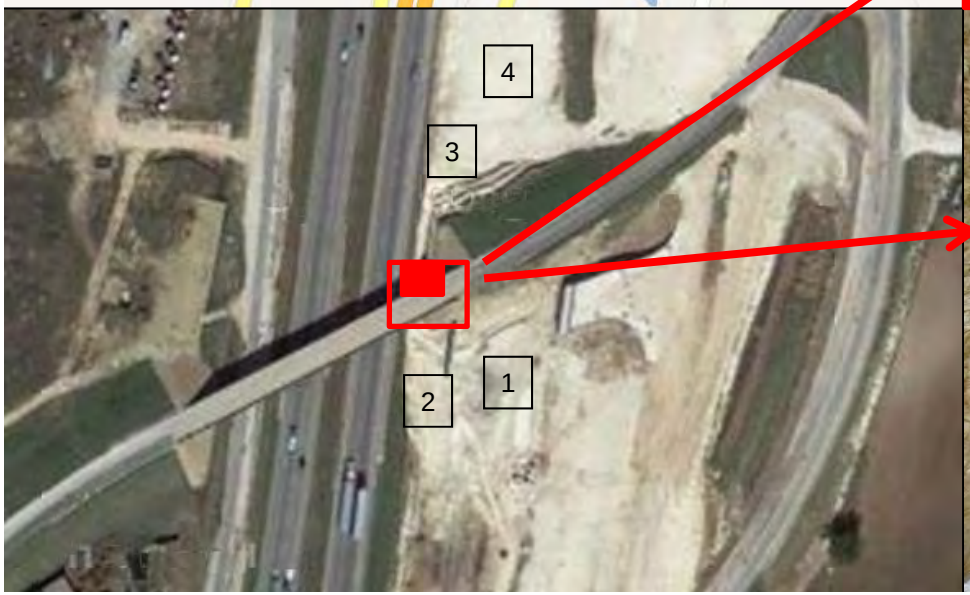

6’*12’*15’


Longitudinal Cracks
75~100mm
Drop-off
Void Area
4.6*3.7*1.8m
MSE Wall
Inlet
Disjointed
Drain Pipe

exceeded 250 CY

CR 3102 Voids - During Construction
Hill County, Waco District
June 2013





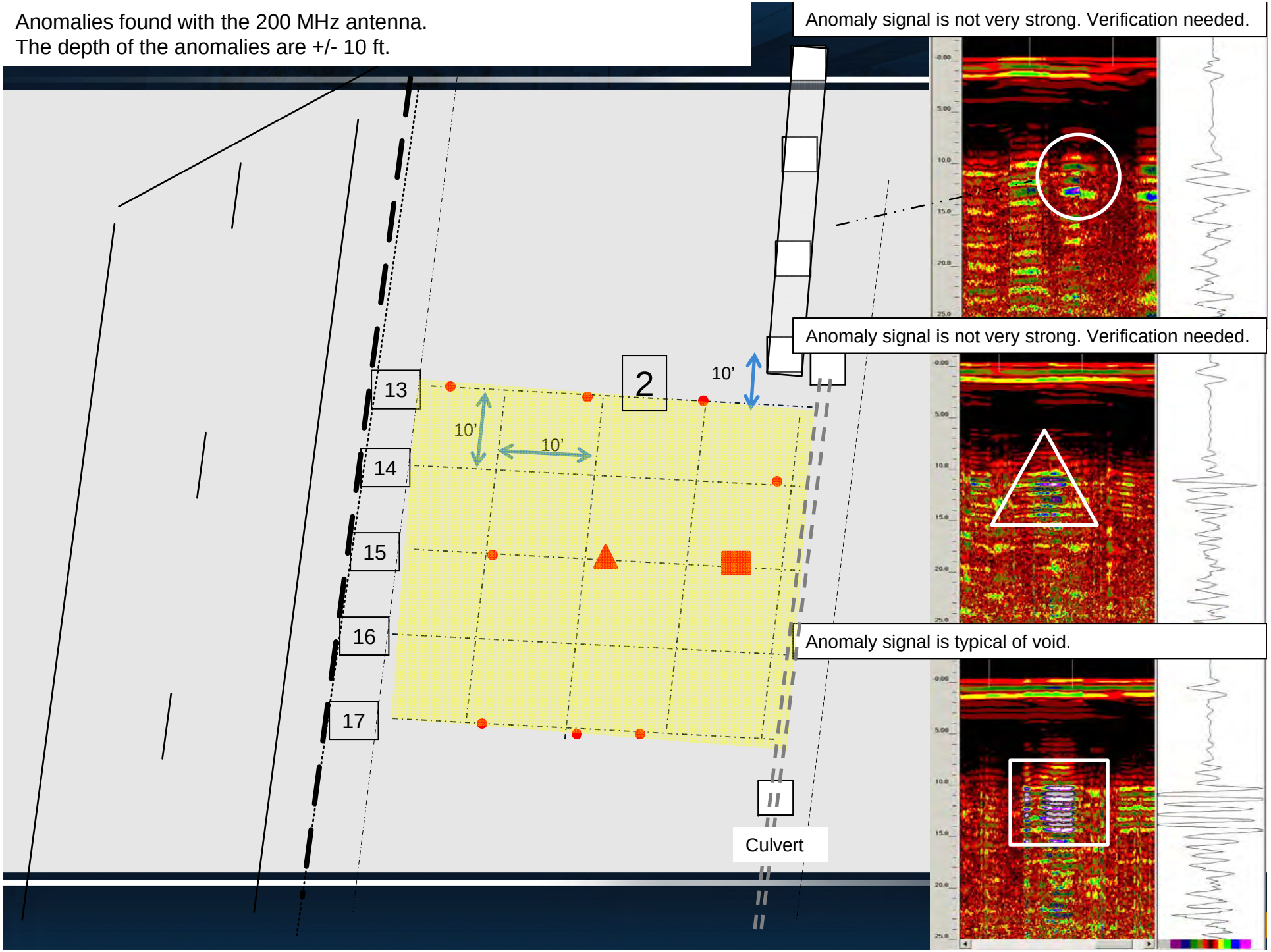
Voids were found beneath the overpass.
Radar testing at the requested locations (1,2,3 & 4) to search for voids.

Area scanned by the Ground Coupled Radar. South of the overpass.

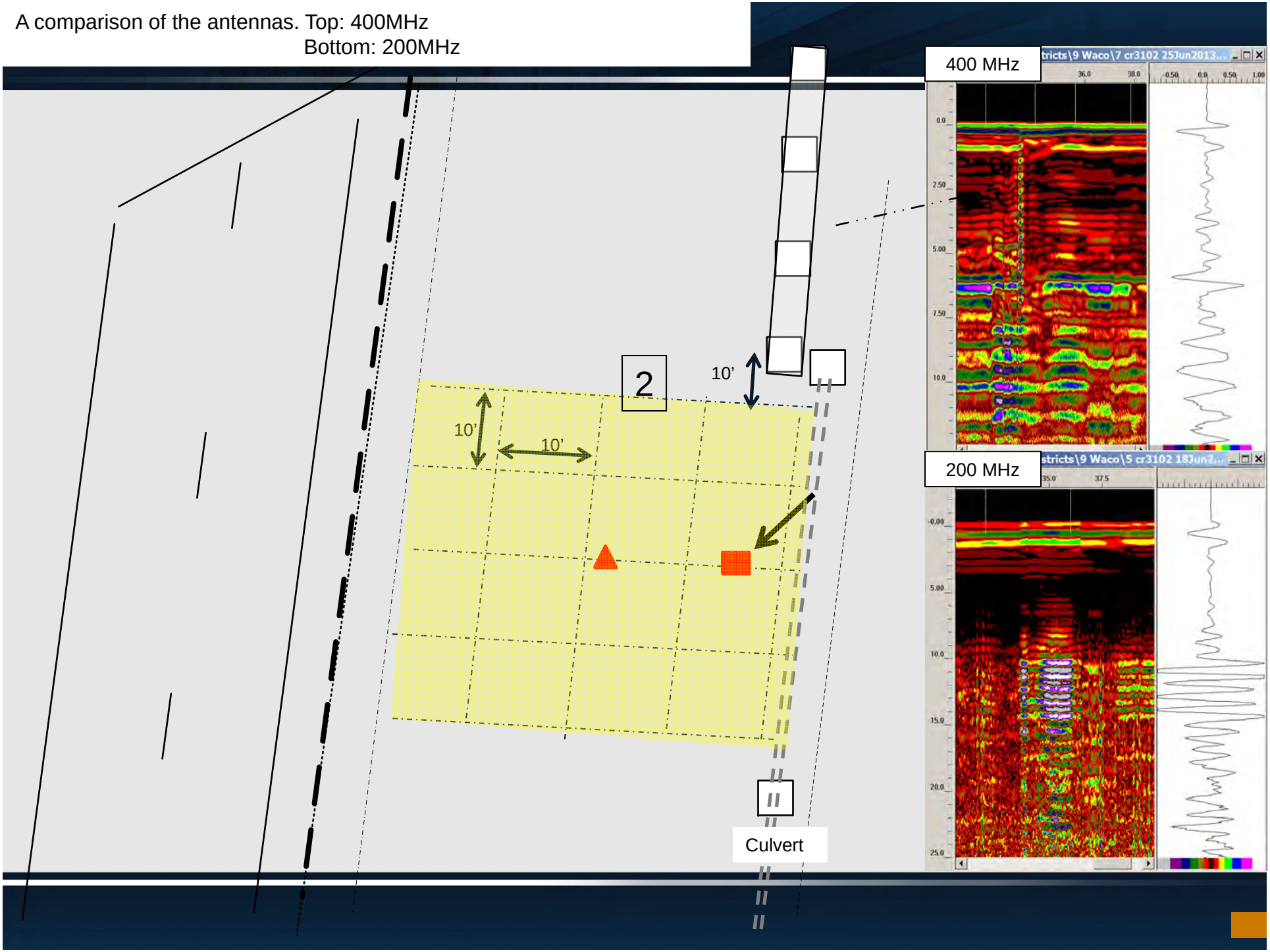
#1 – Anomalies found did not have strong signals typical of large voids.

#2 - Birds Eye picture is not current.
Material along side IH-35N has been removed.
Informed by contractor that voids were discovered.

Anomalies found with the 200 MHz antenna.
The depth of the anomalies are +/- 10 ft.

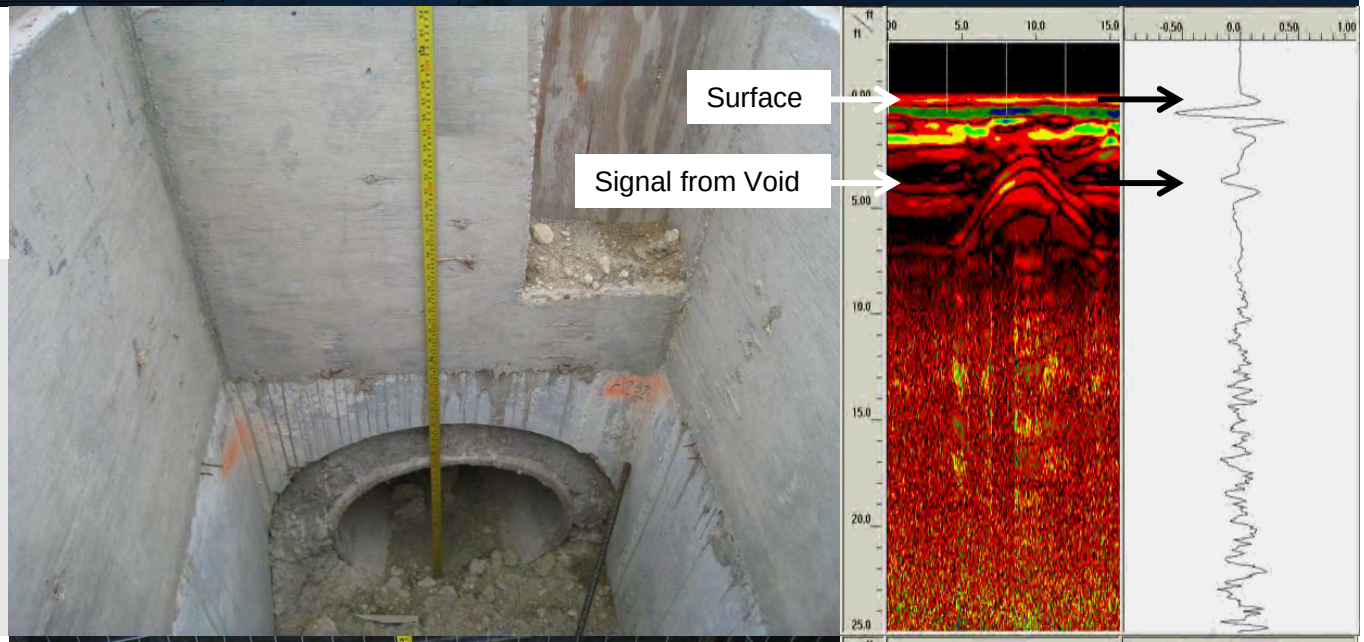


A comparison of the antennas. Top: 400MHz
Bottom: 200MHz

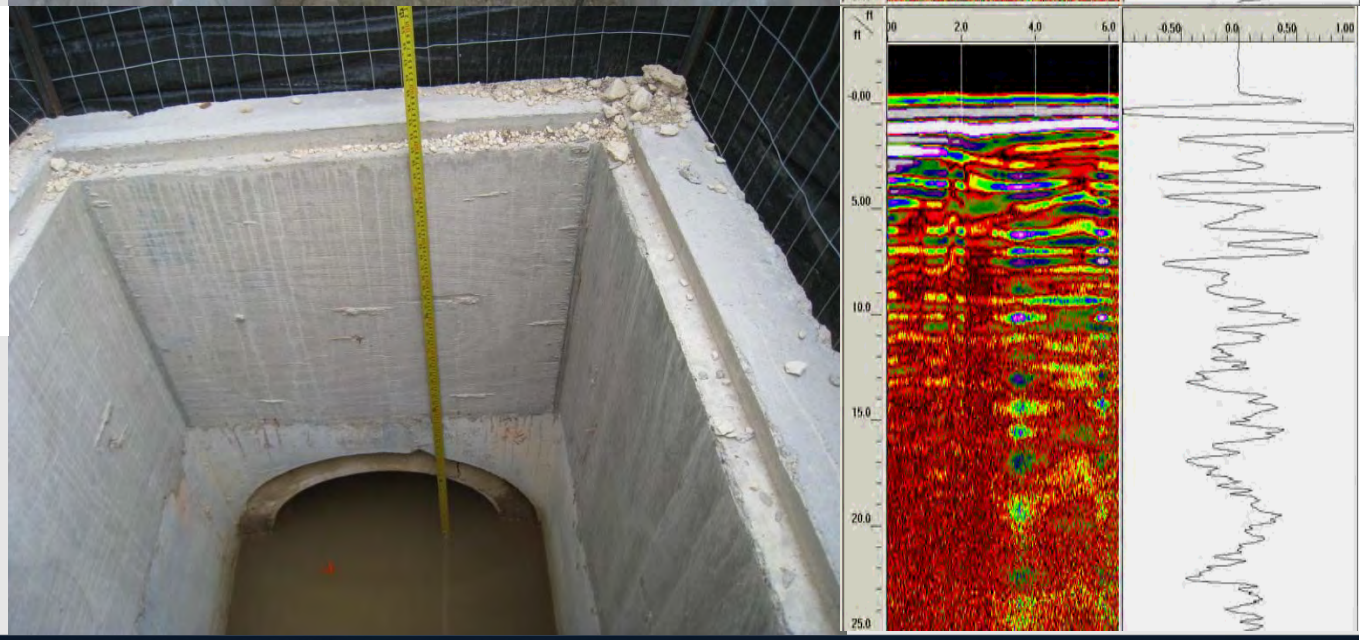


CR 3102

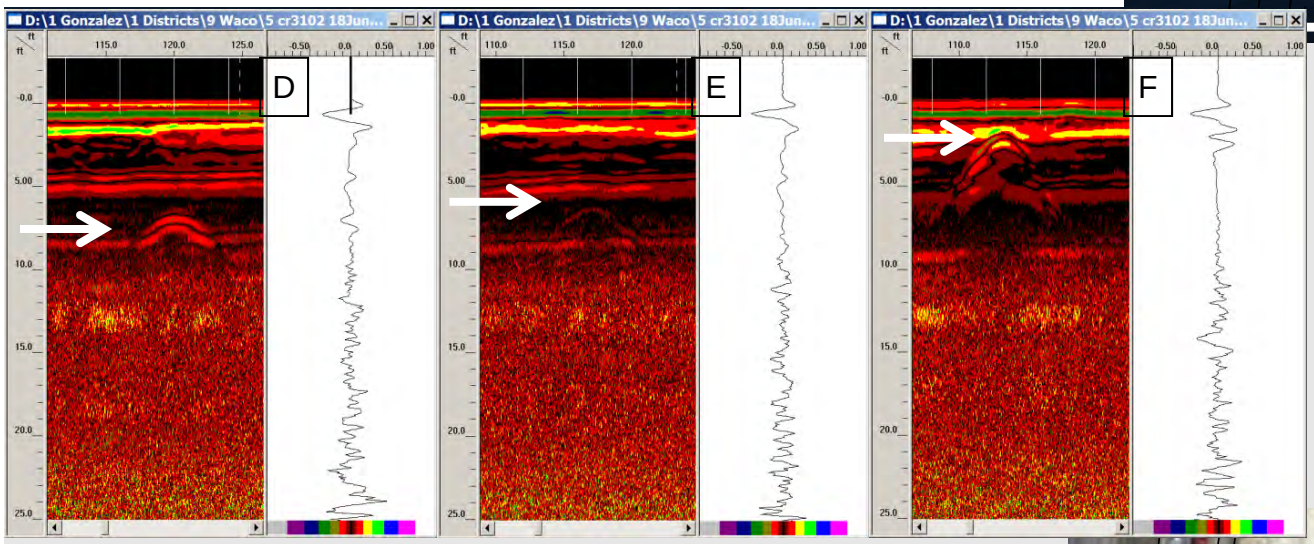
200 MHz Antenna
North of overpass.
Signal test was done over the culvert.
Anomaly displaying a negative signal is measured at 3 feet.
The culvert is dry.

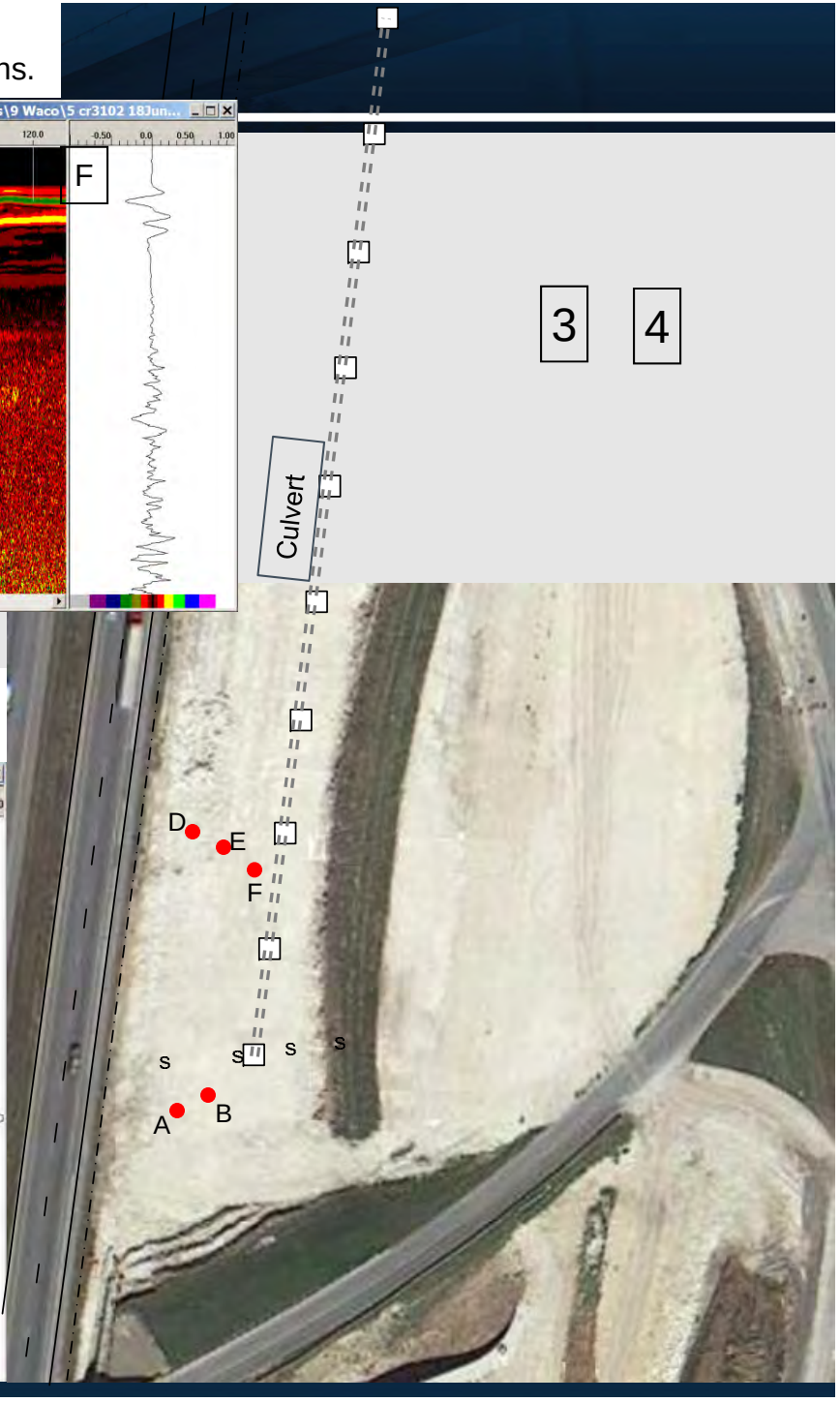


200 MHz Antenna
South of overpass.
Signal test was done over the culvert.
Anomaly with negative signal is visible at 3 ft.
Water is visible in the culvert.
Moisture in the area may have caused the extra signals.

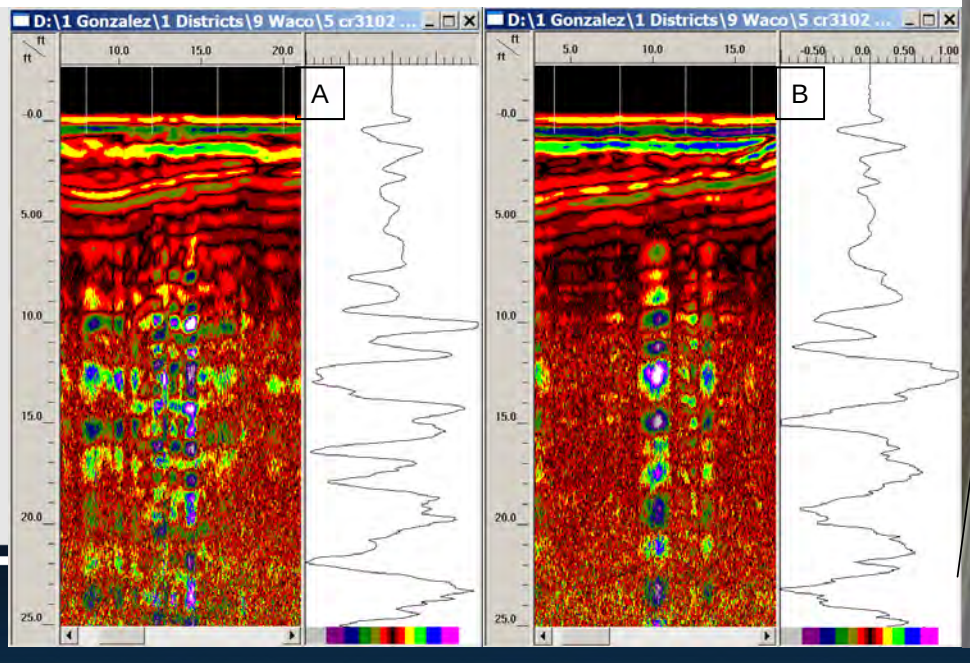


North of the overpass. 200MHz Antenna
Location D,E & F matched the signal from the culvert but at different depths.

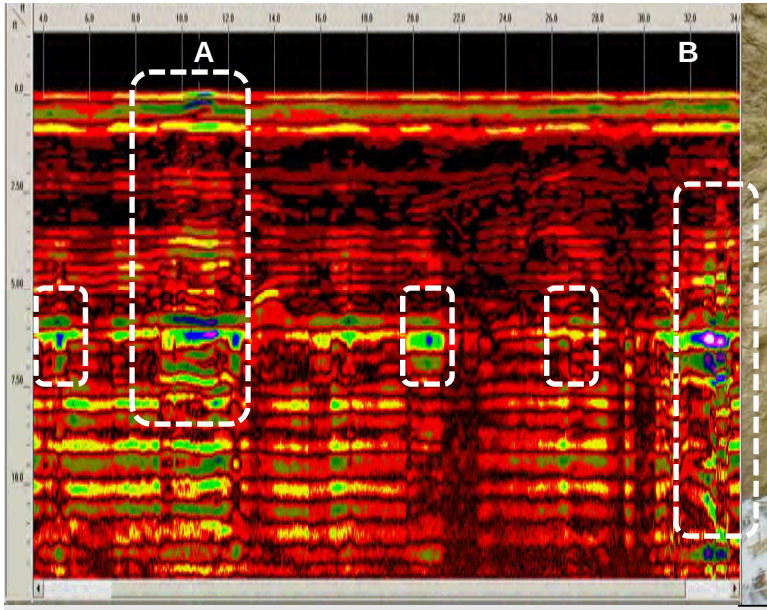


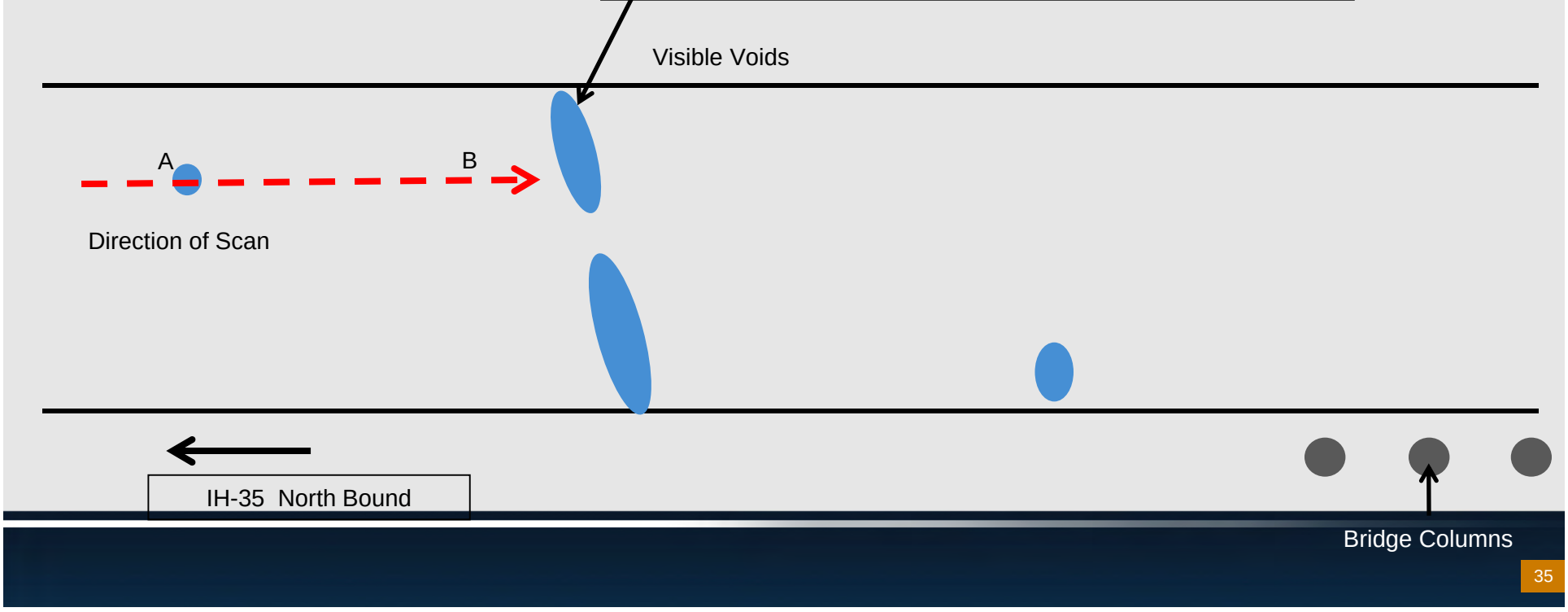


North of the overpass. 200MHz Antenna
Location “A” & “B” were the only place where the anomalies were found.



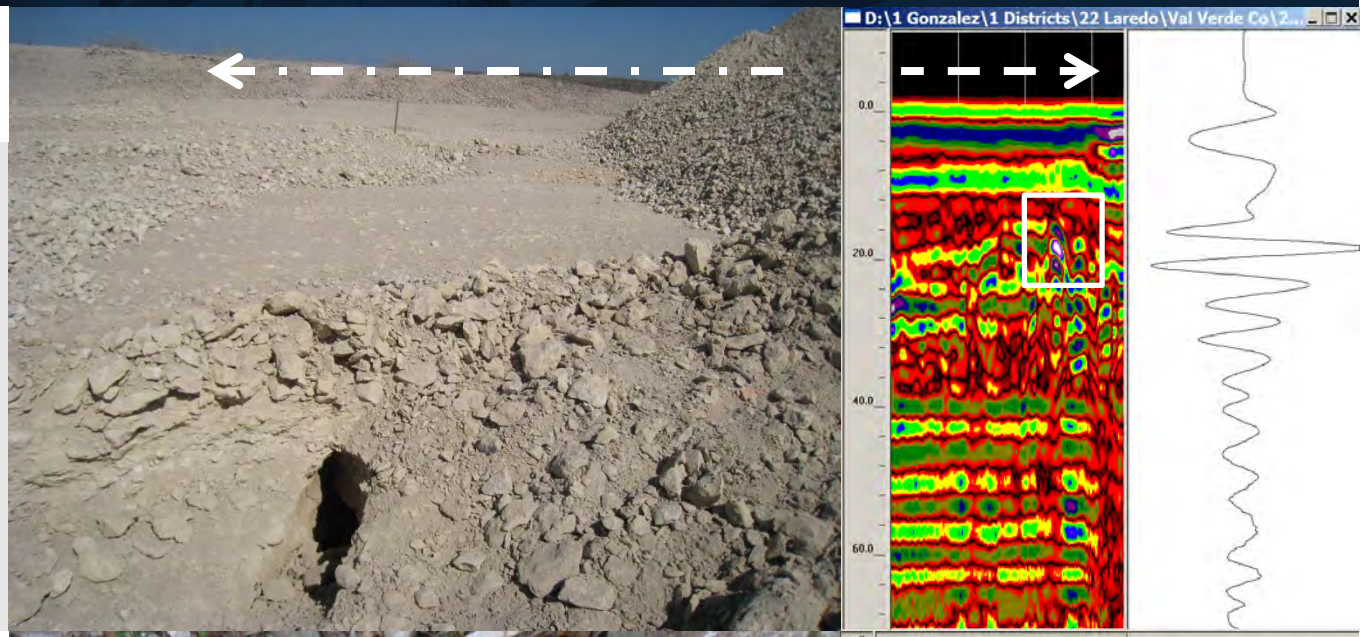
Testing with 400MHz antenna.
Marked areas show anomalies very similar to voids.



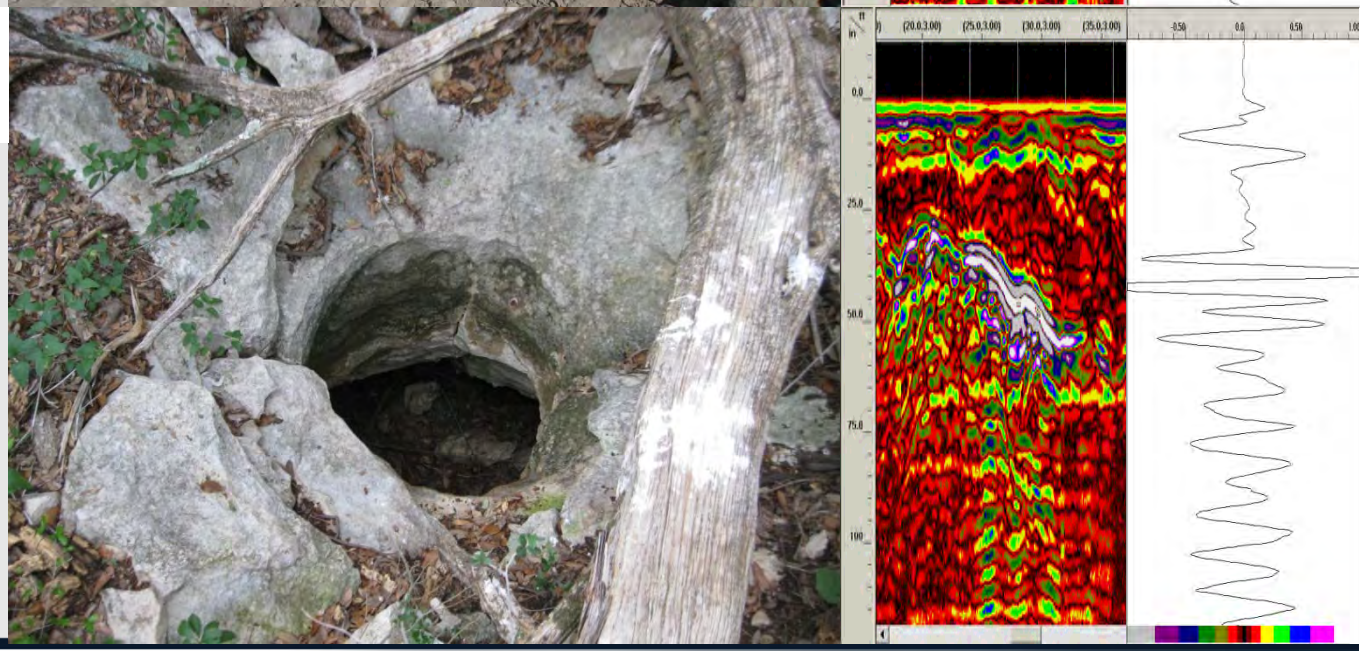


Similar examples using the 400 MHz antenna. These examples were at depths of approximately 6 & 9 ft.

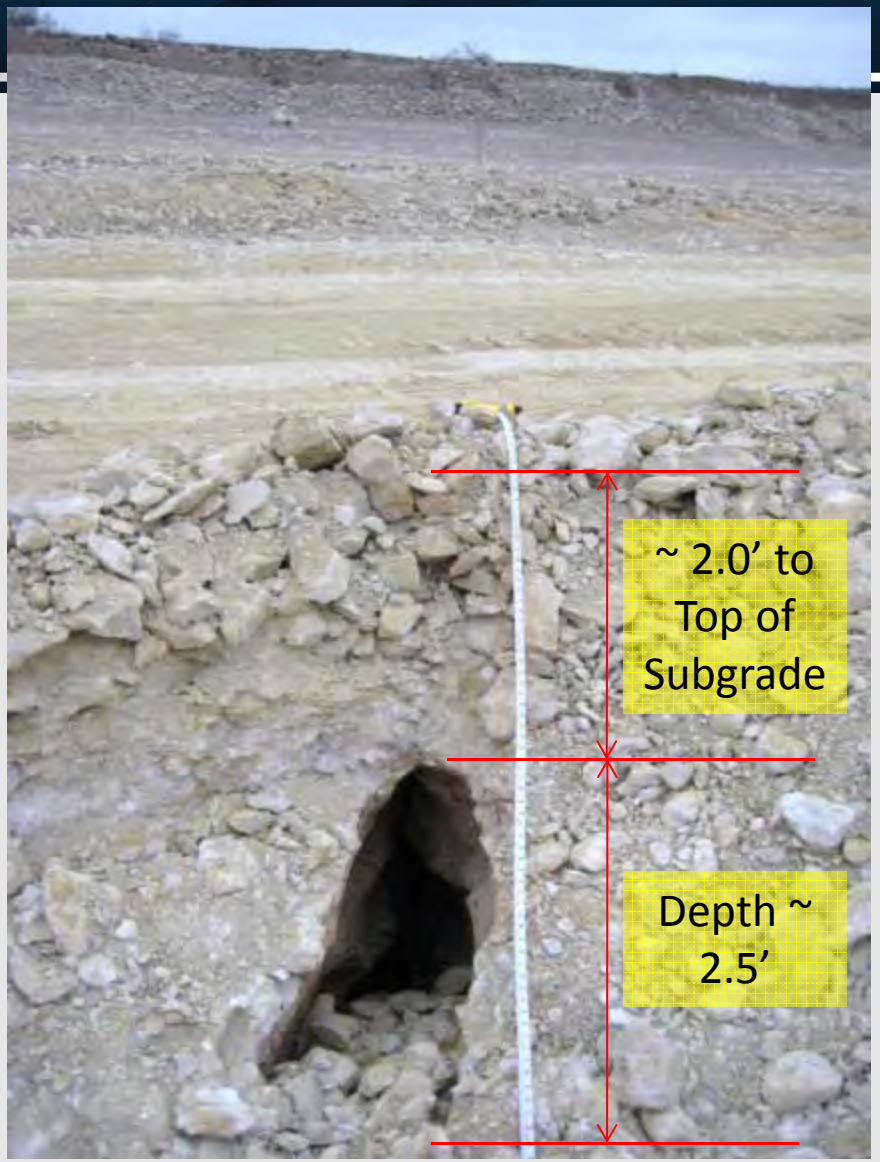
US 79, Laredo District.
400 MHz Antenna
Anomaly signal found at depth of 18”.



US 281,Comal Co., San Antonio Dist.
400 MHz Antenna
Anomaly signal found at 28 inches.

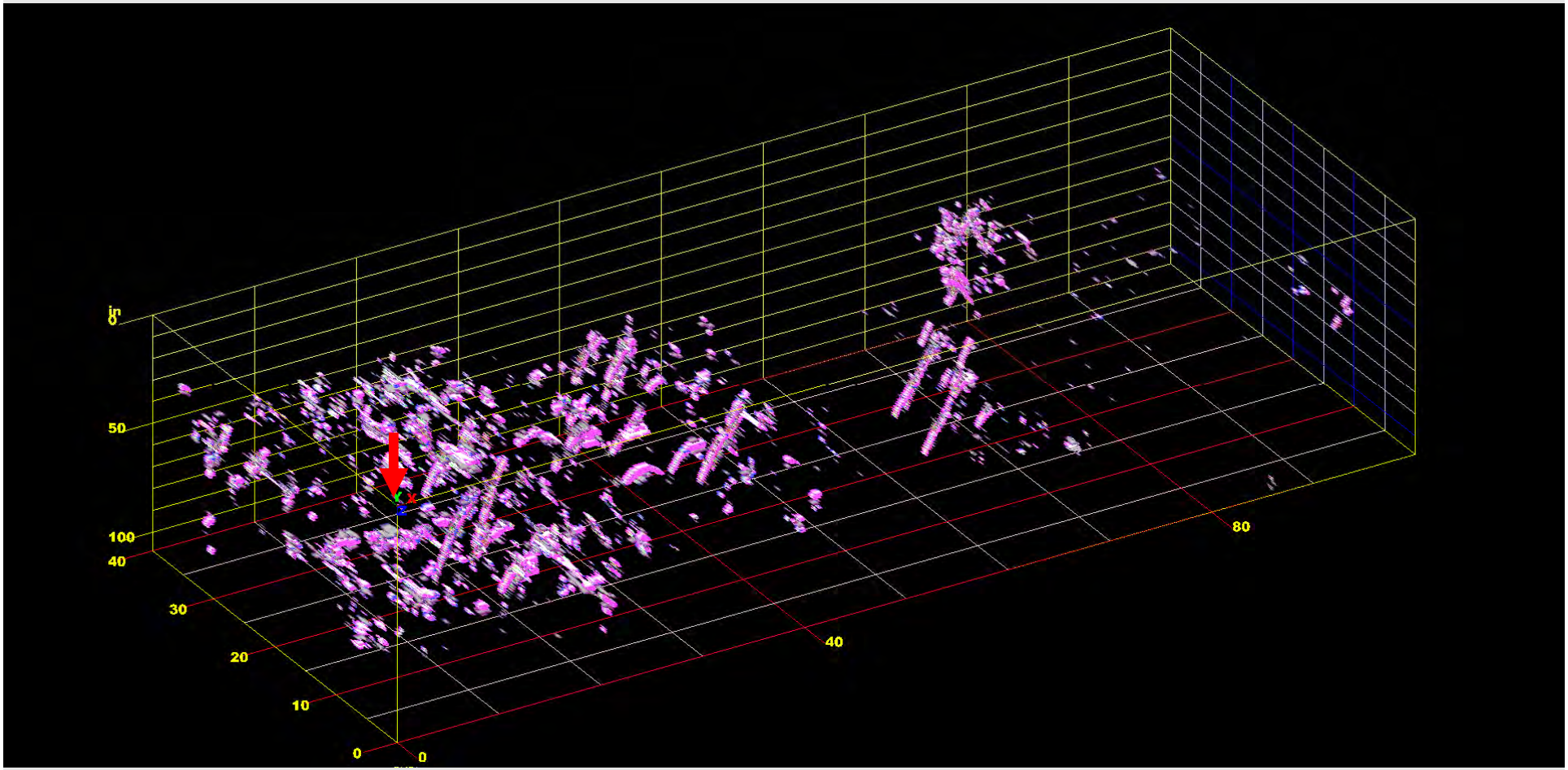



Depth ~
2.5’


~ 2.0’ to
Top of
Subgrade
Depth ~
2.5’

Station 646

Station 647




646-647


646-647

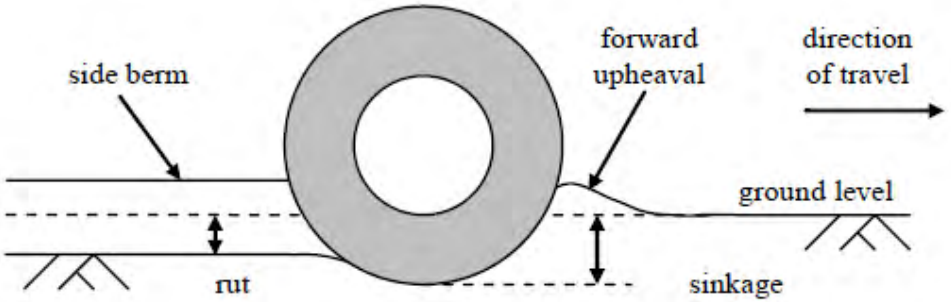
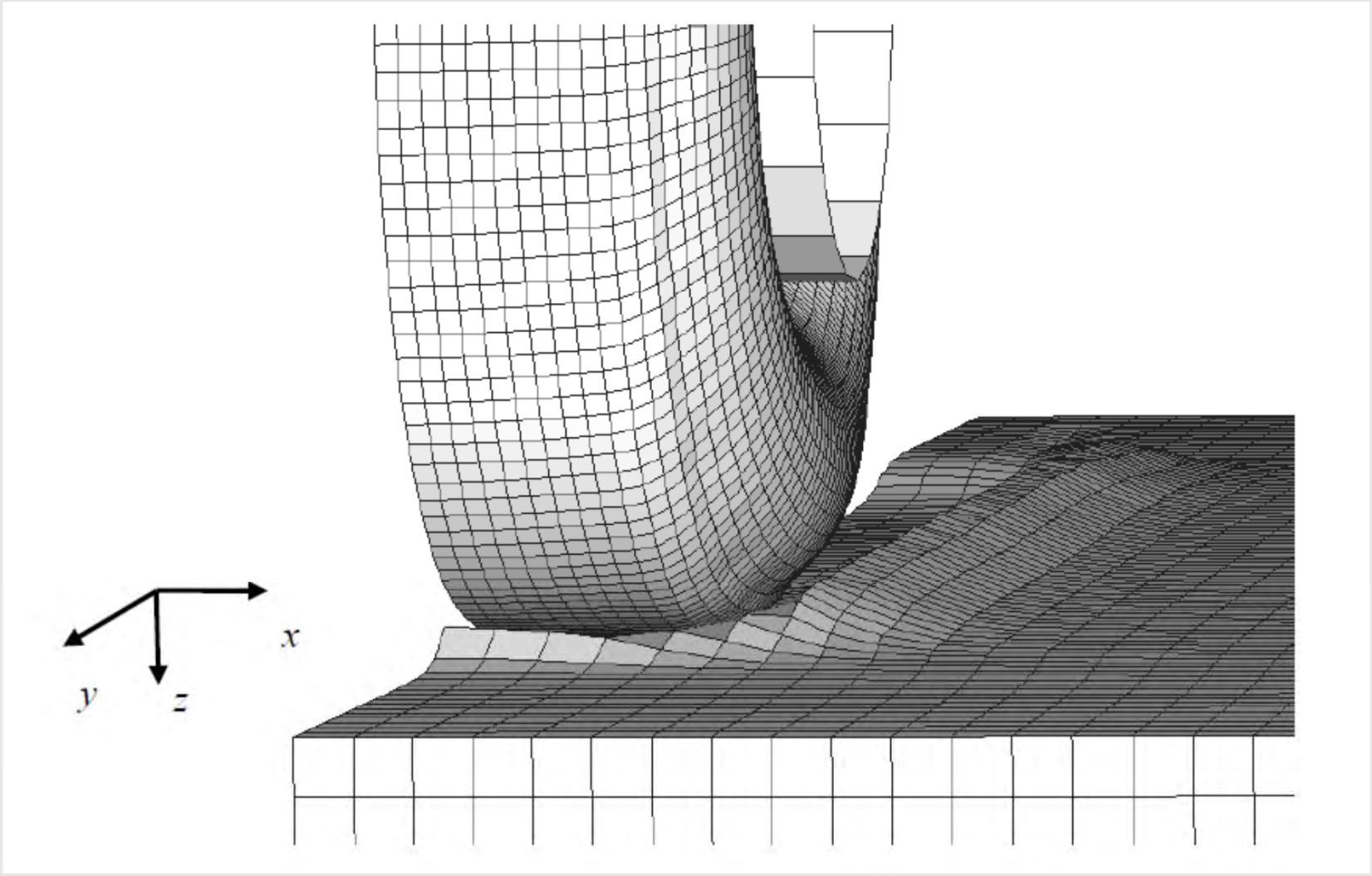


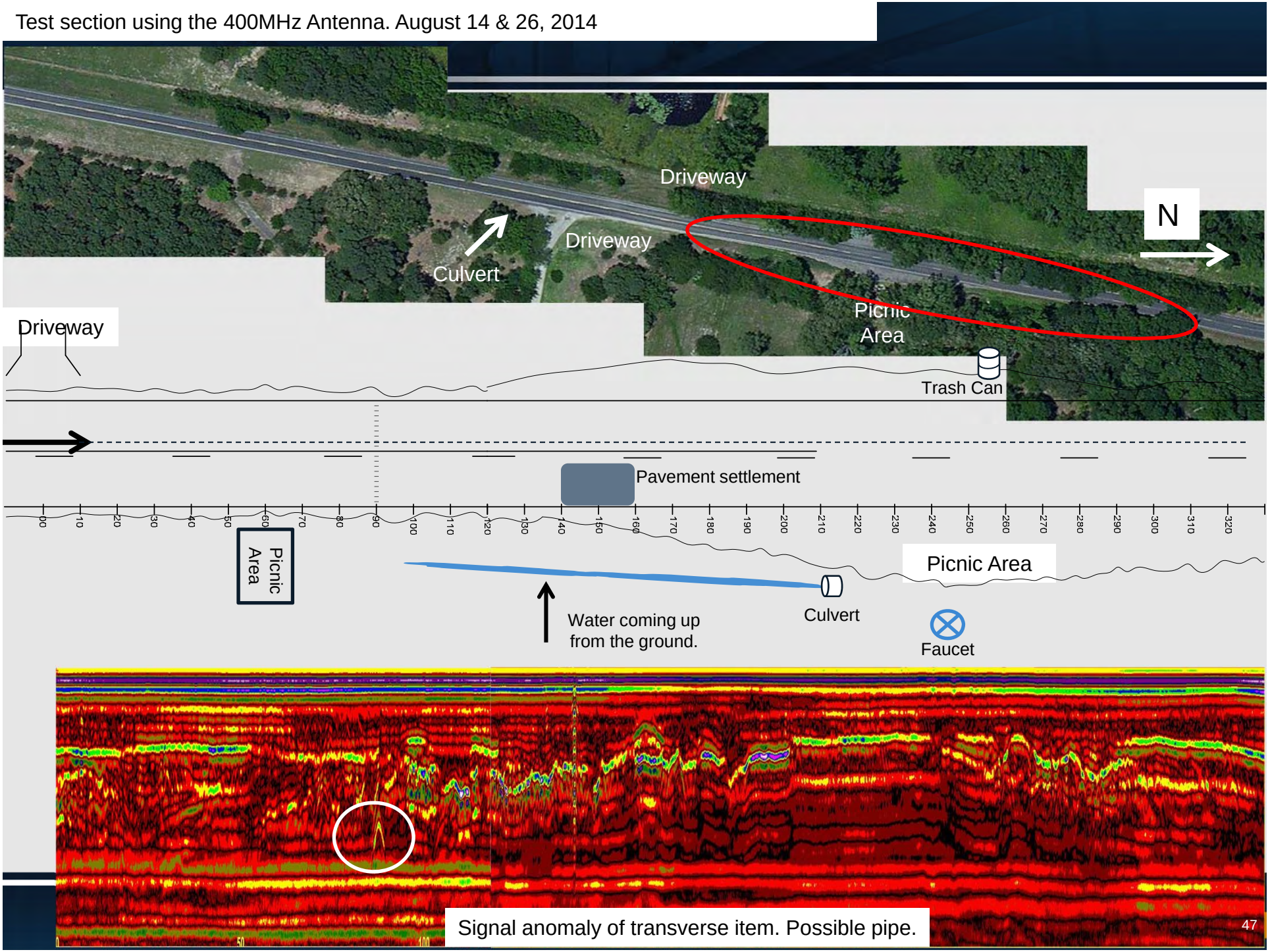
Figure 1.2. Schematic of deformation resulting from test roller wheel penetration


x
y
z


VOLVO
03/09/2011 10:39

VOLVO
03/09/2011 10:38

Test section using the 400MHz Antenna. August 14 & 26, 2014



Signal anomaly of transverse item. Possible pipe.

Test section using the 400MHz Antenna. August 26, 2014