Tracking the Source of High Electrical Conductivity in a Stormwater Retention Pond

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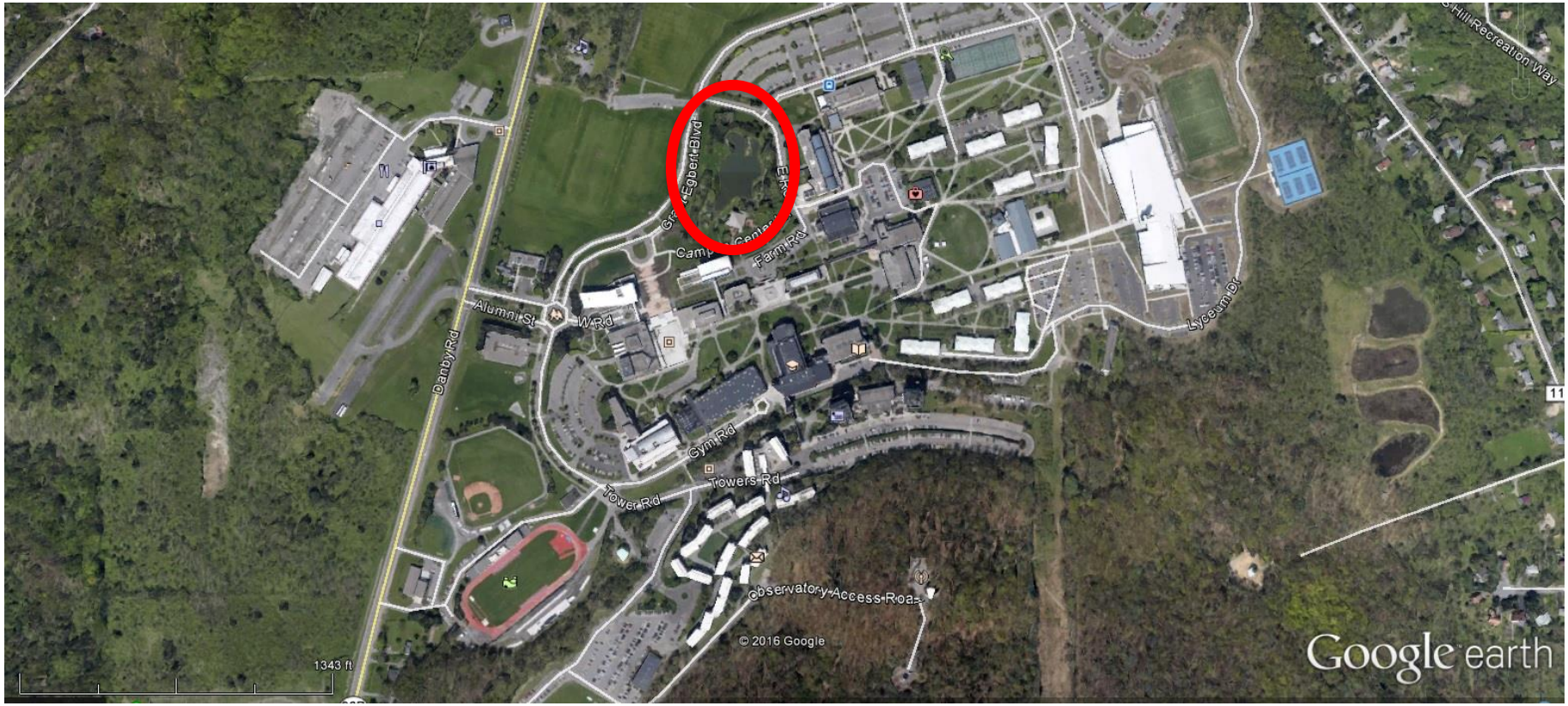
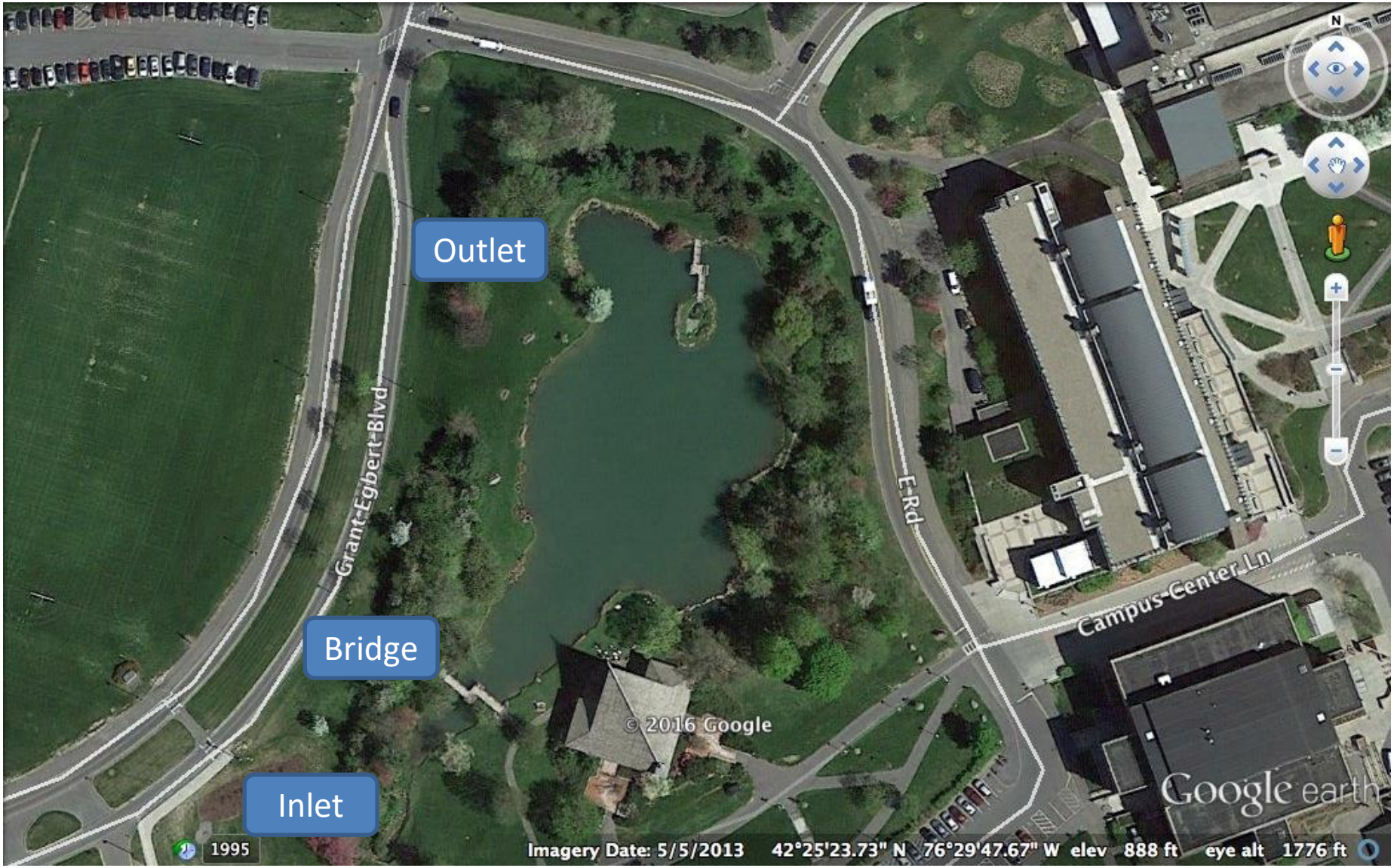
Ithaca College Dept. of Environmental Studies and Sciences

7 December 2016

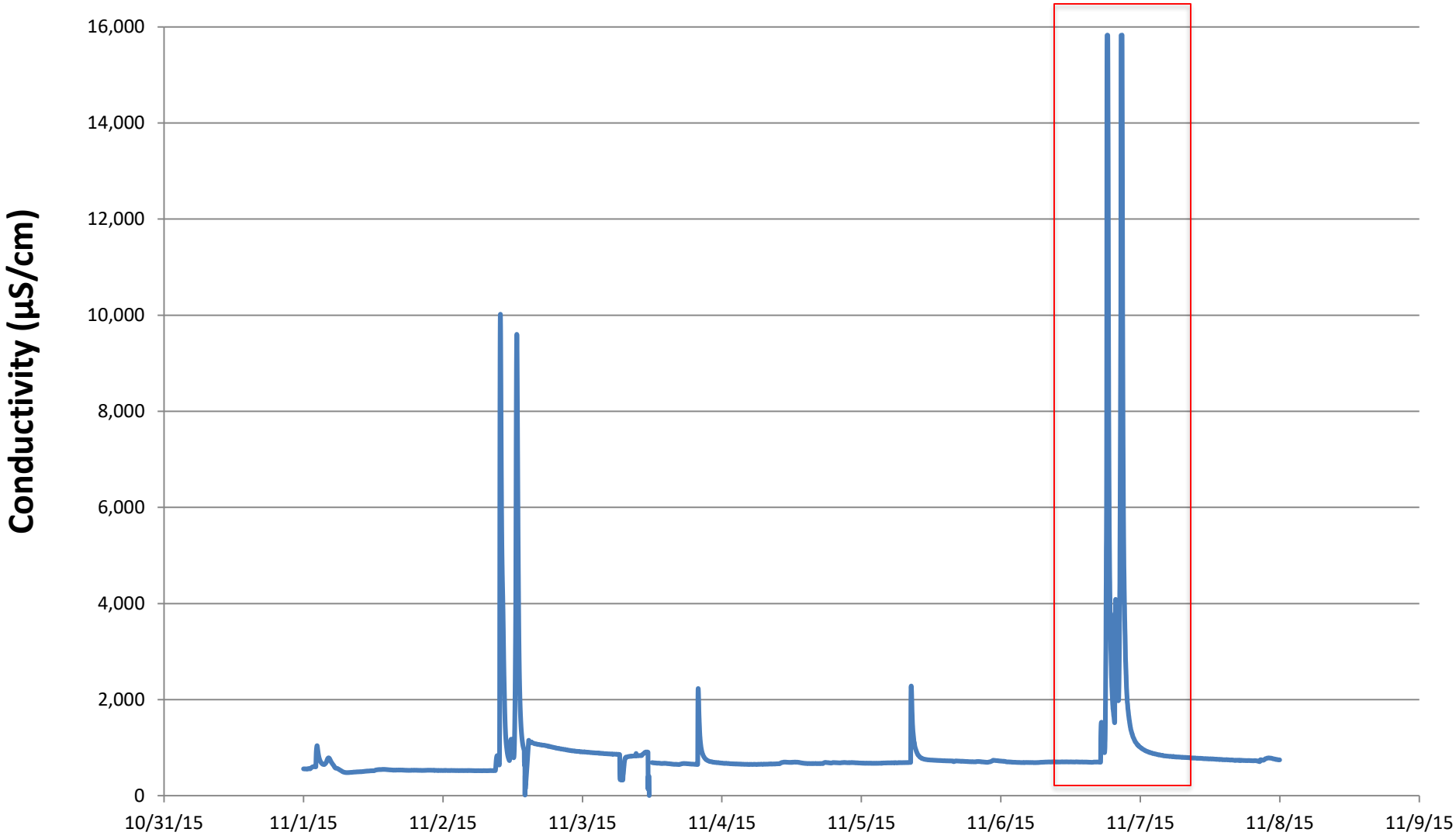
Chapel Pond


Alumni St
W Rd
Danby Rd
Farm Rd
Lyceum Dr
Gym Rd
Towers Rd
Tower Rd
Observatory Access Road
© 2016 Google
1343 ft
Google earth

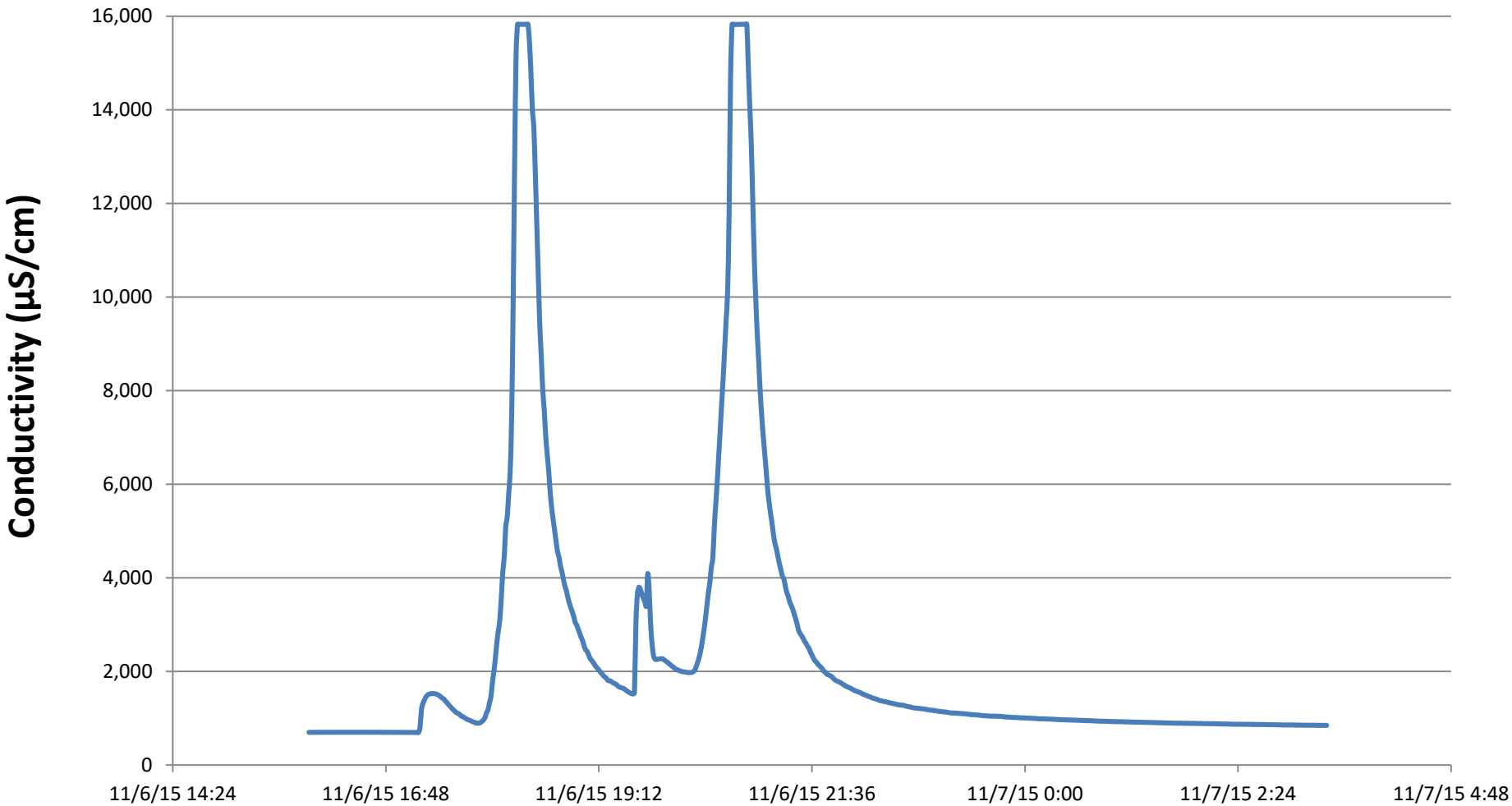
Chapel Pond


Outlet
Bridge
Inlet
Grant Egbert Blvd
E Rd
Campus Center Ln
© 2016 Google
Google earth
1995
Imagery Date: 5/5/2013 42°25'23.73" N 76°29'47.67" W elev 888 ft eye alt 1776 ft

Chapel Pond Inlet

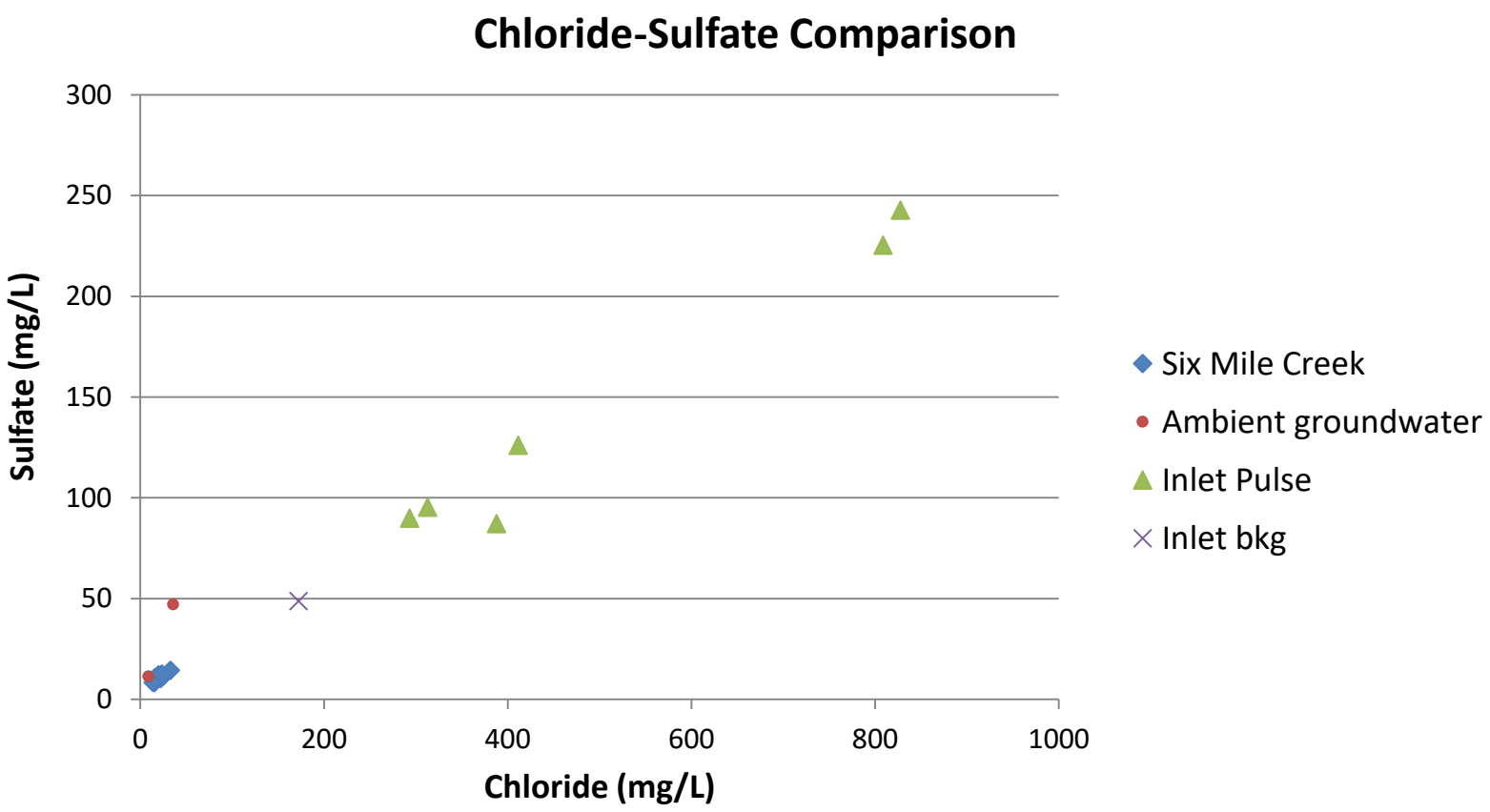


Chapel Pond Inlet

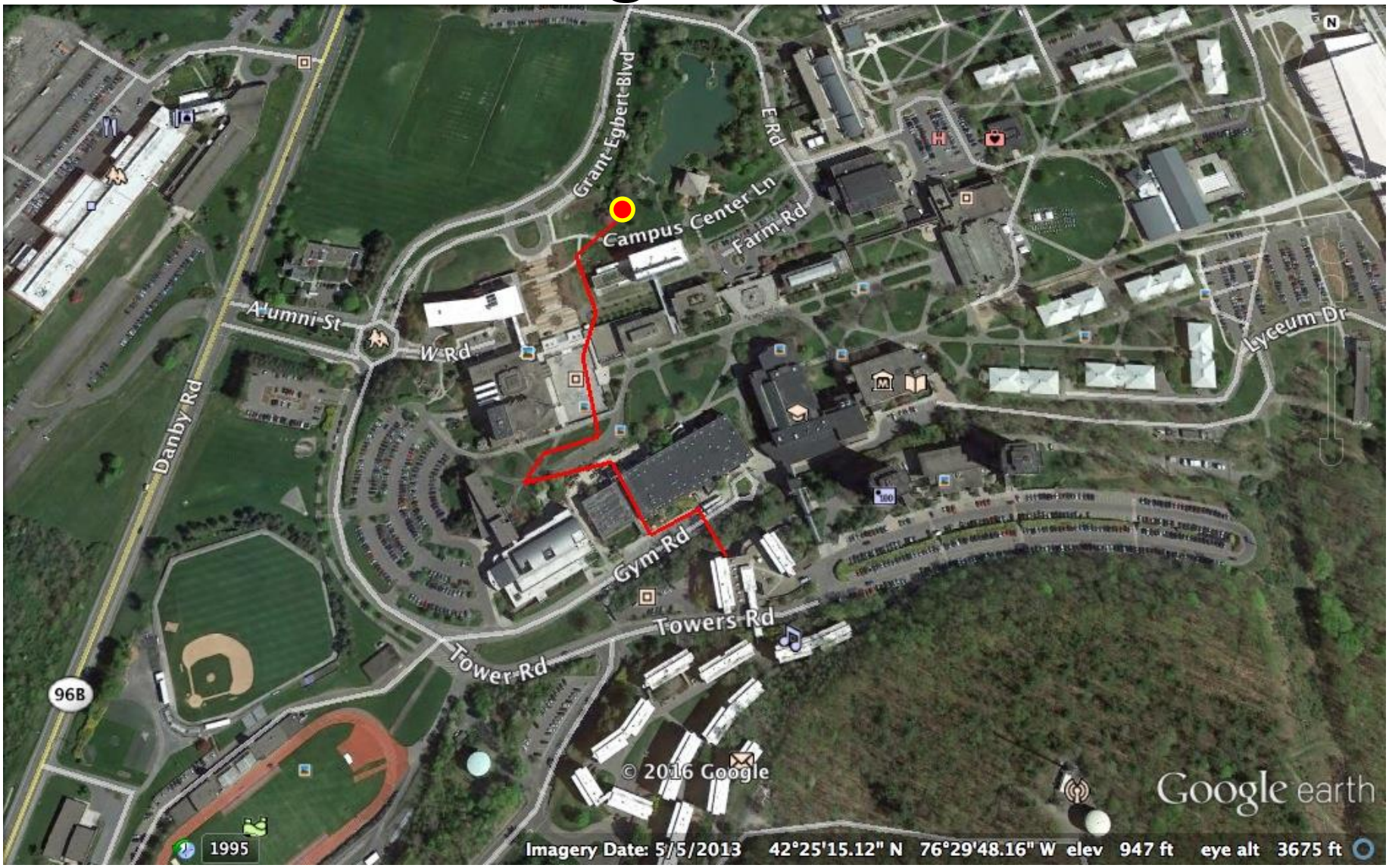


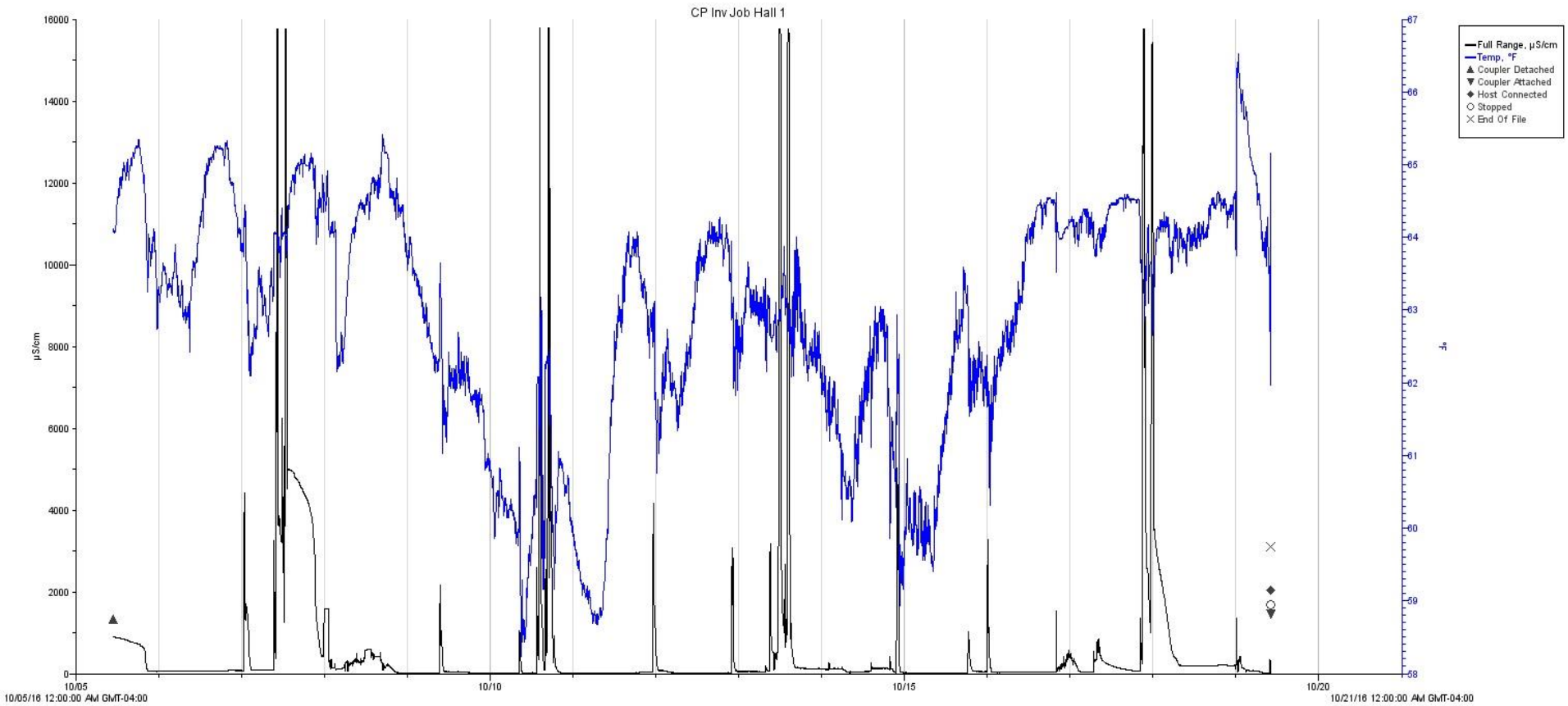
Water Analyses

- Ion Chromatograph (Ithaca College
  - Anions Cl^-, SO_4^{2-}, F^-, NO_2^-, NO_3^-, PO_4^{3-}
- ICP-OES (Cornell University)
  - Li, B, Na, Mg, Al, Si, K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Sr, Ba

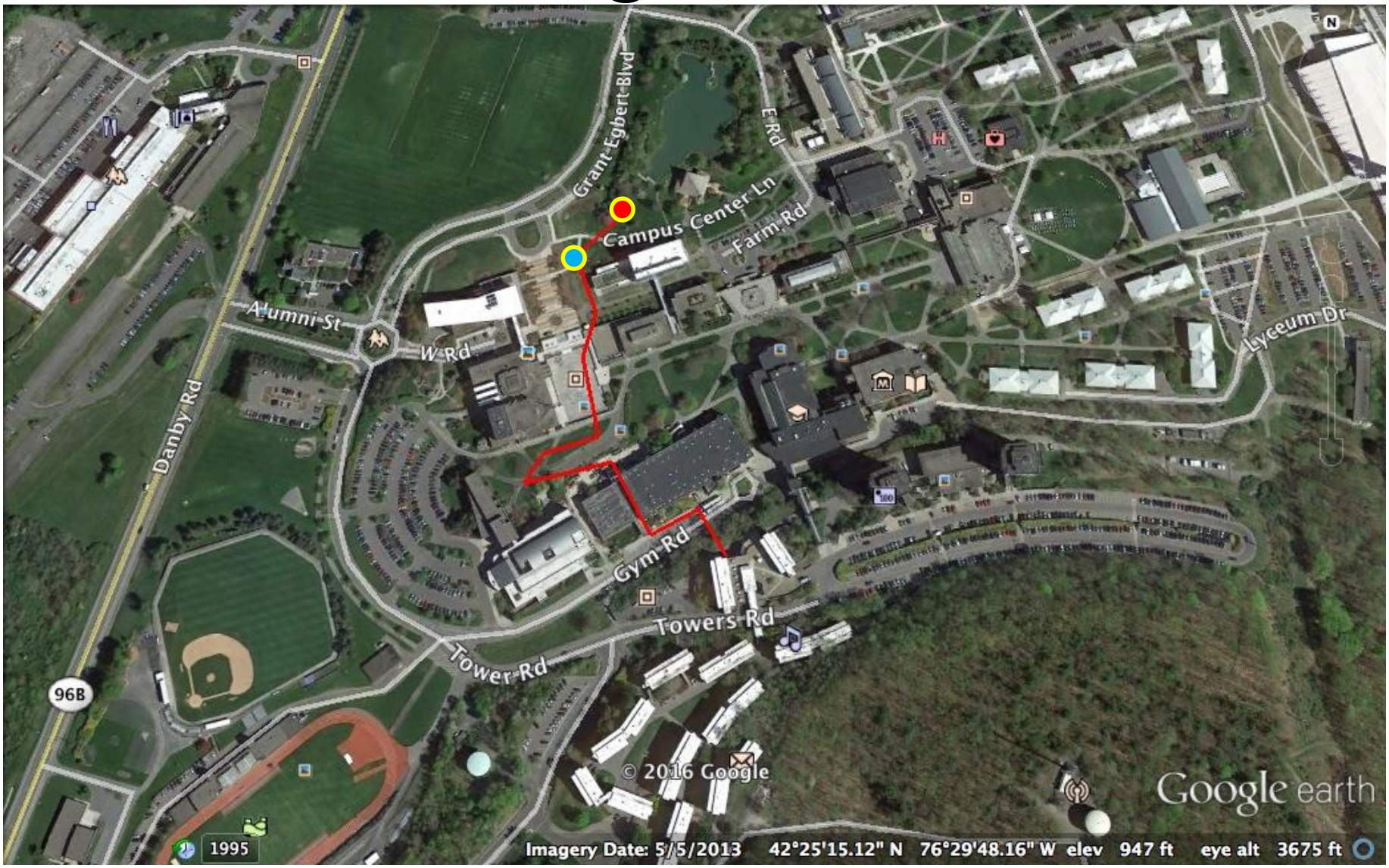

Chloride-Sulfate Comparison
Sulfate (mg/L)
300
250
200
150
100
50
0
0
200
400
600
800
1000
Chloride (mg/L)
Six Mile Creek
Ambient groundwater
Inlet Pulse
Inlet bkg

Tracking the Pulses

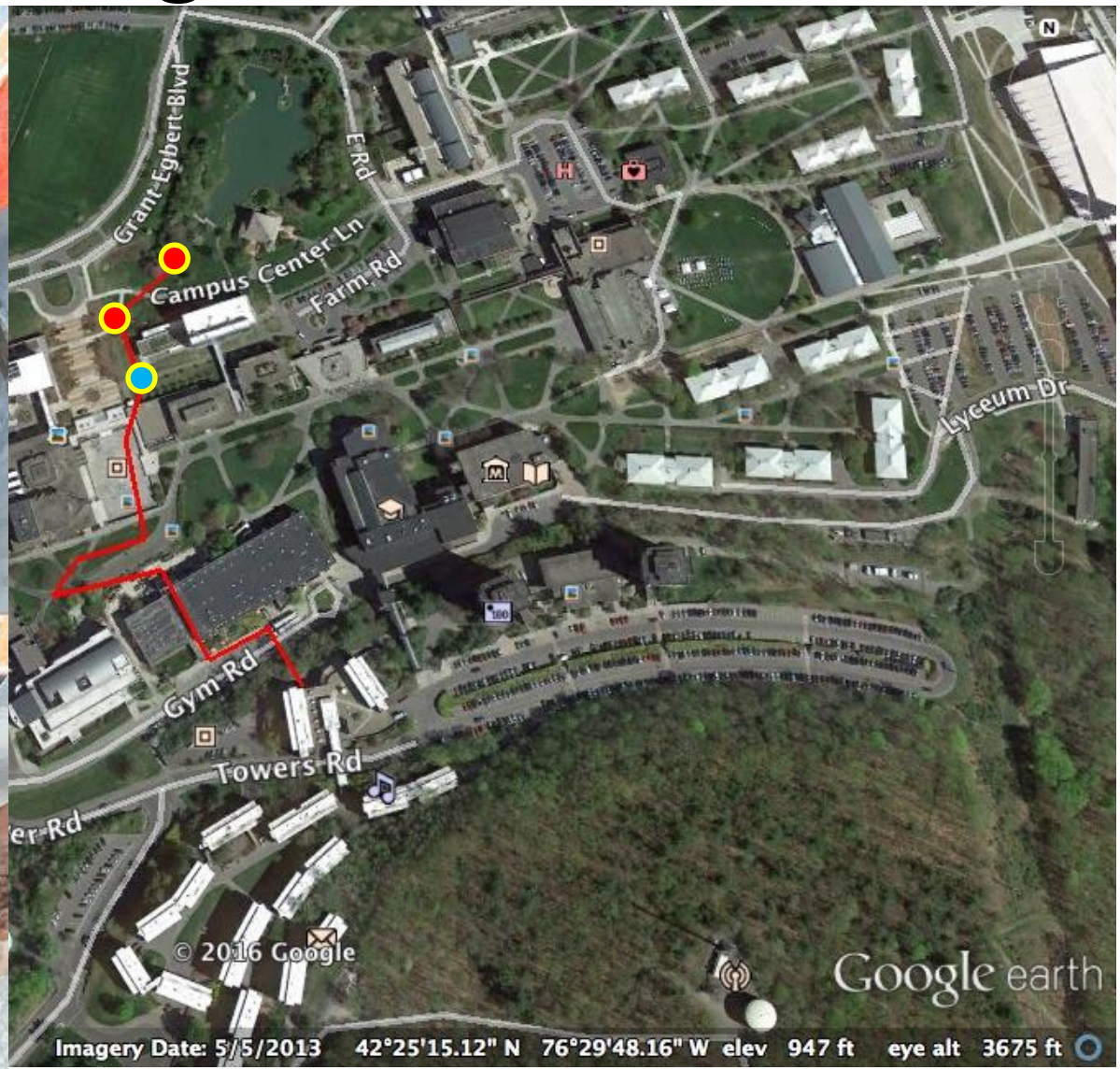



CP Inv Job Hall 1
µS/cm
°F
16000
14000
12000
10000
8000
6000
4000
2000
0
67
66
65
64
63
62
61
60
59
58
10/05
10/10
10/15
10/20
10/05/16 12:00:00 AM GMT-04:00
10/21/16 12:00:00 AM GMT-04:00
Full Range, µS/cm
Temp, °F
Coupler Detached
Coupler Attached
Host Connected
Stopped
End Of File

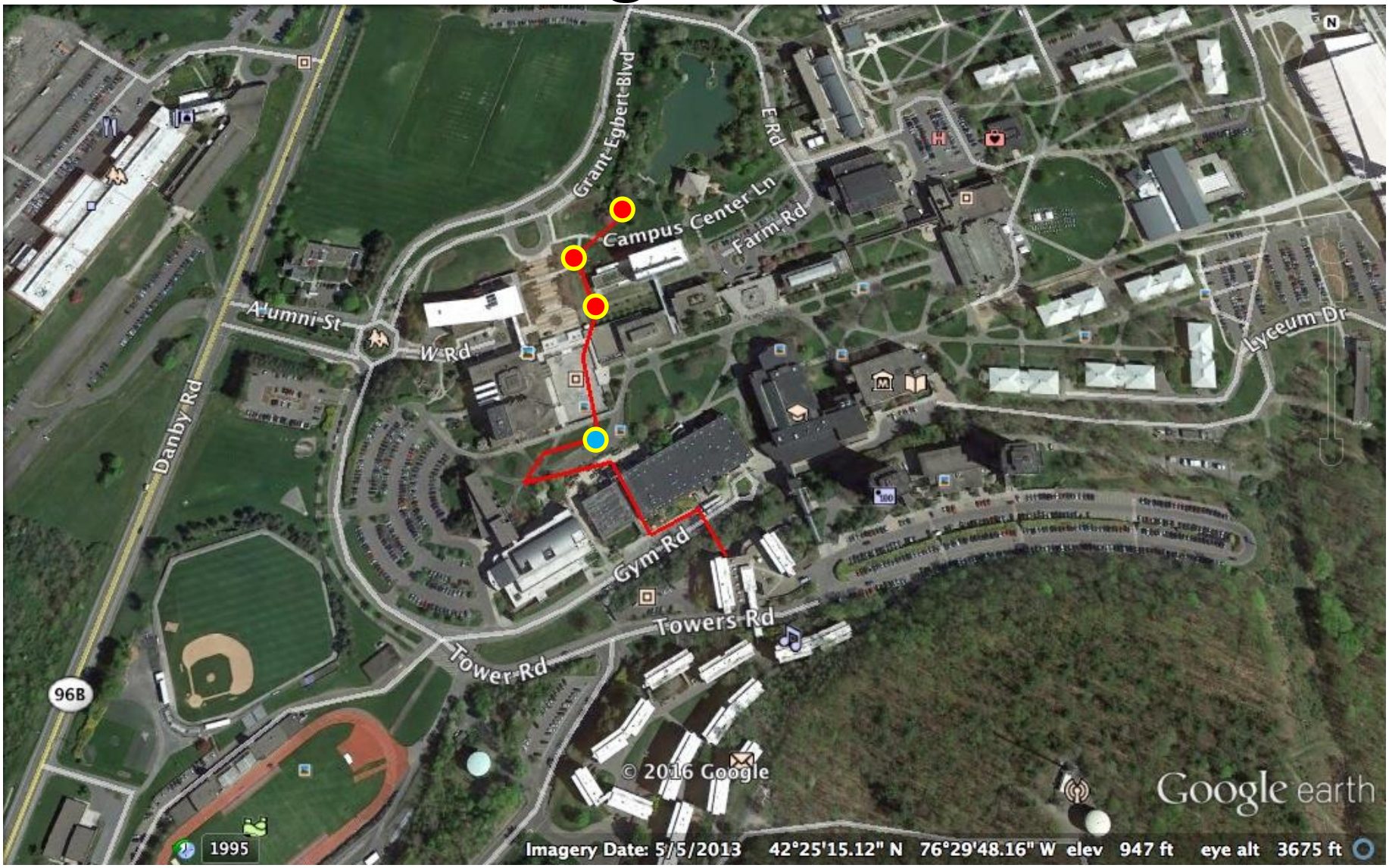
Tracking the Pulses



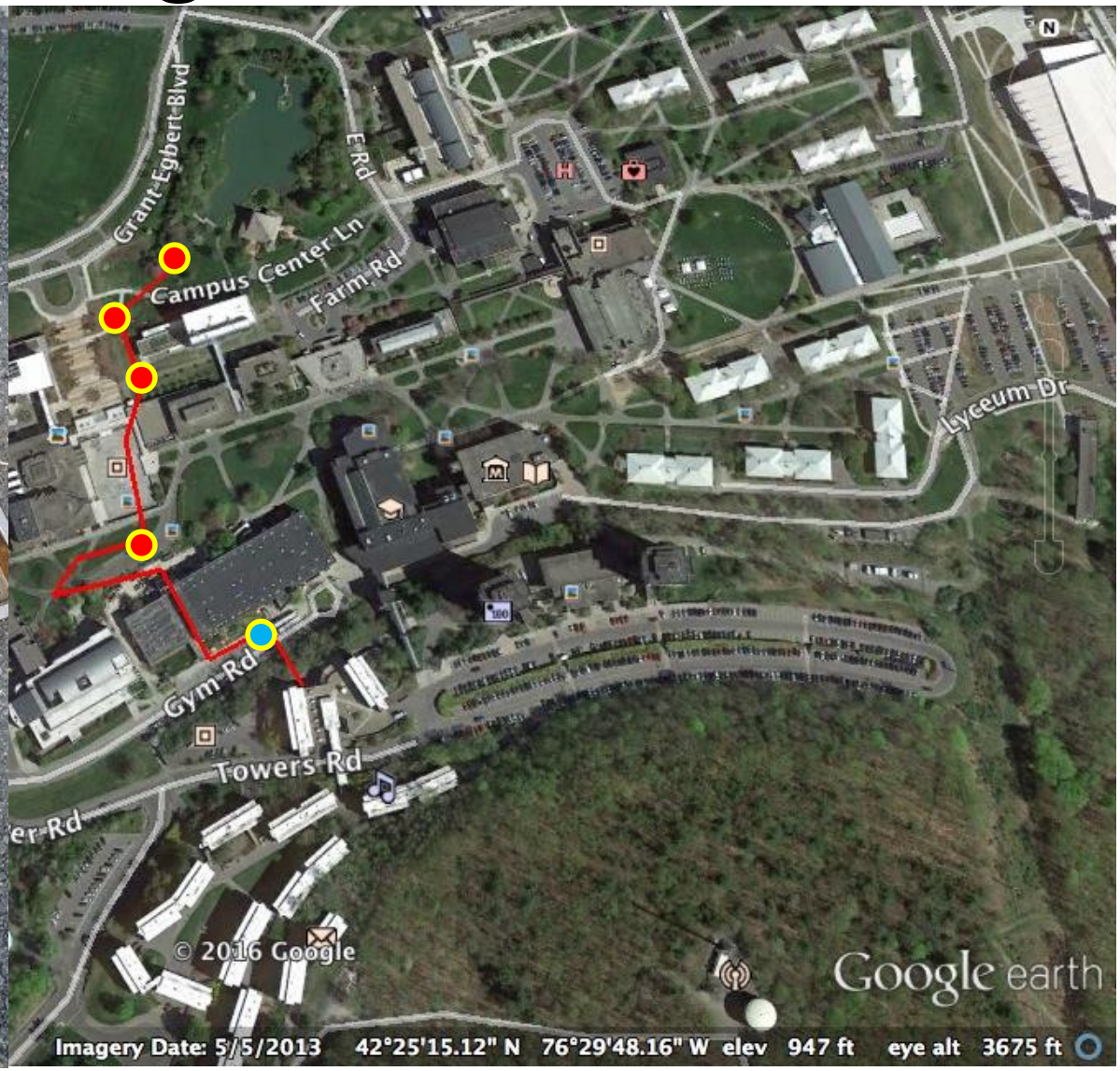
Tracking the Pulses



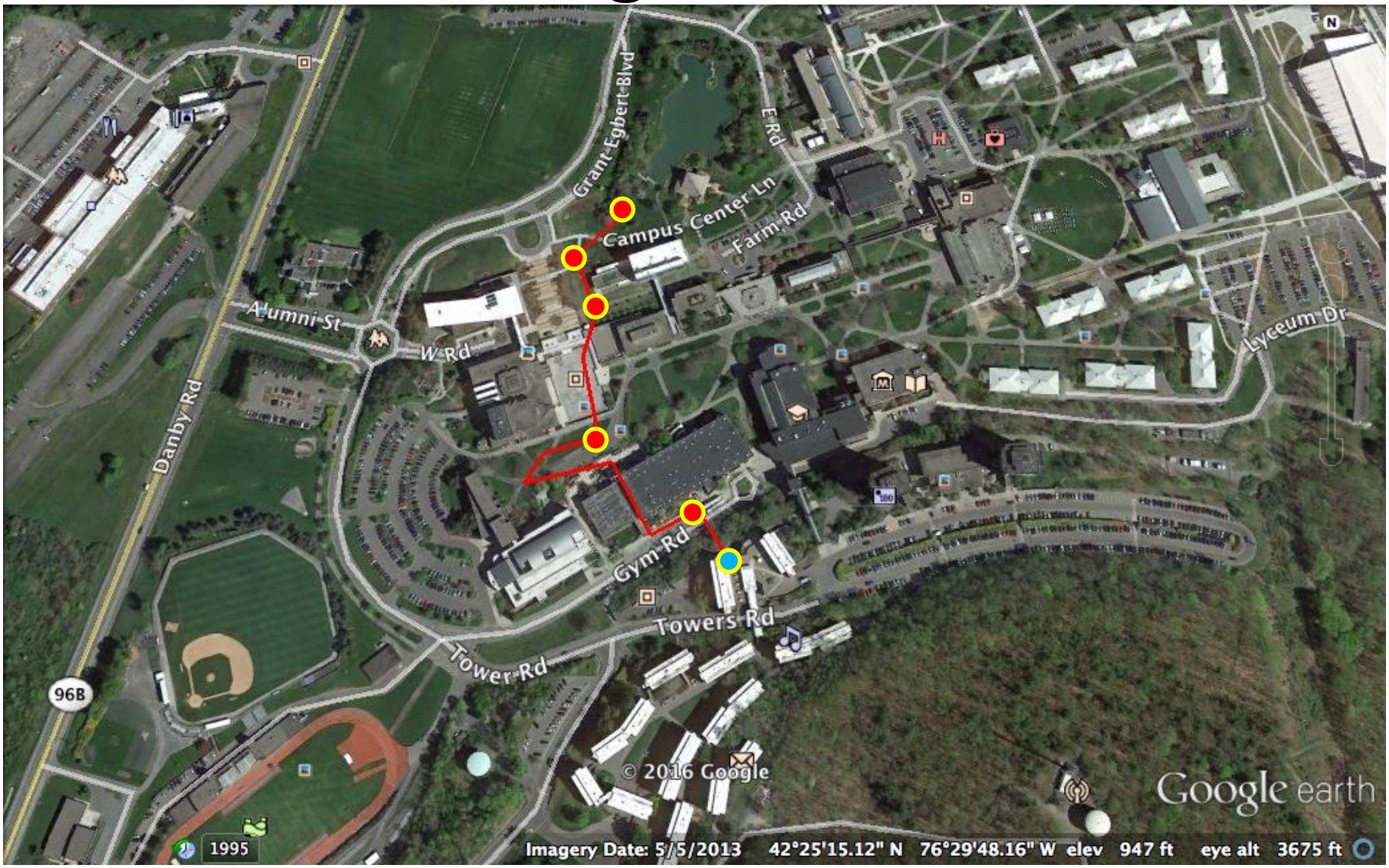
Tracking the Pulses



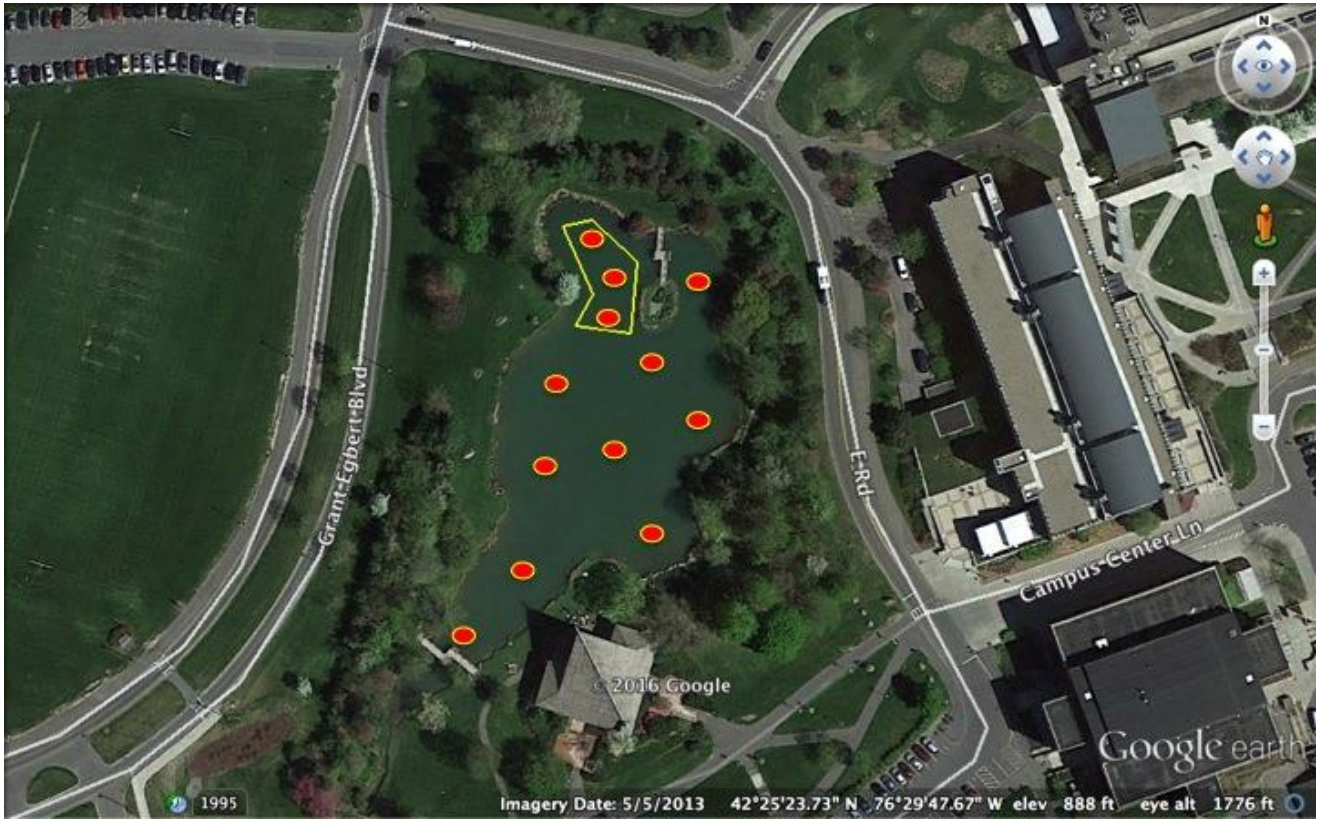
Tracking the Pulses

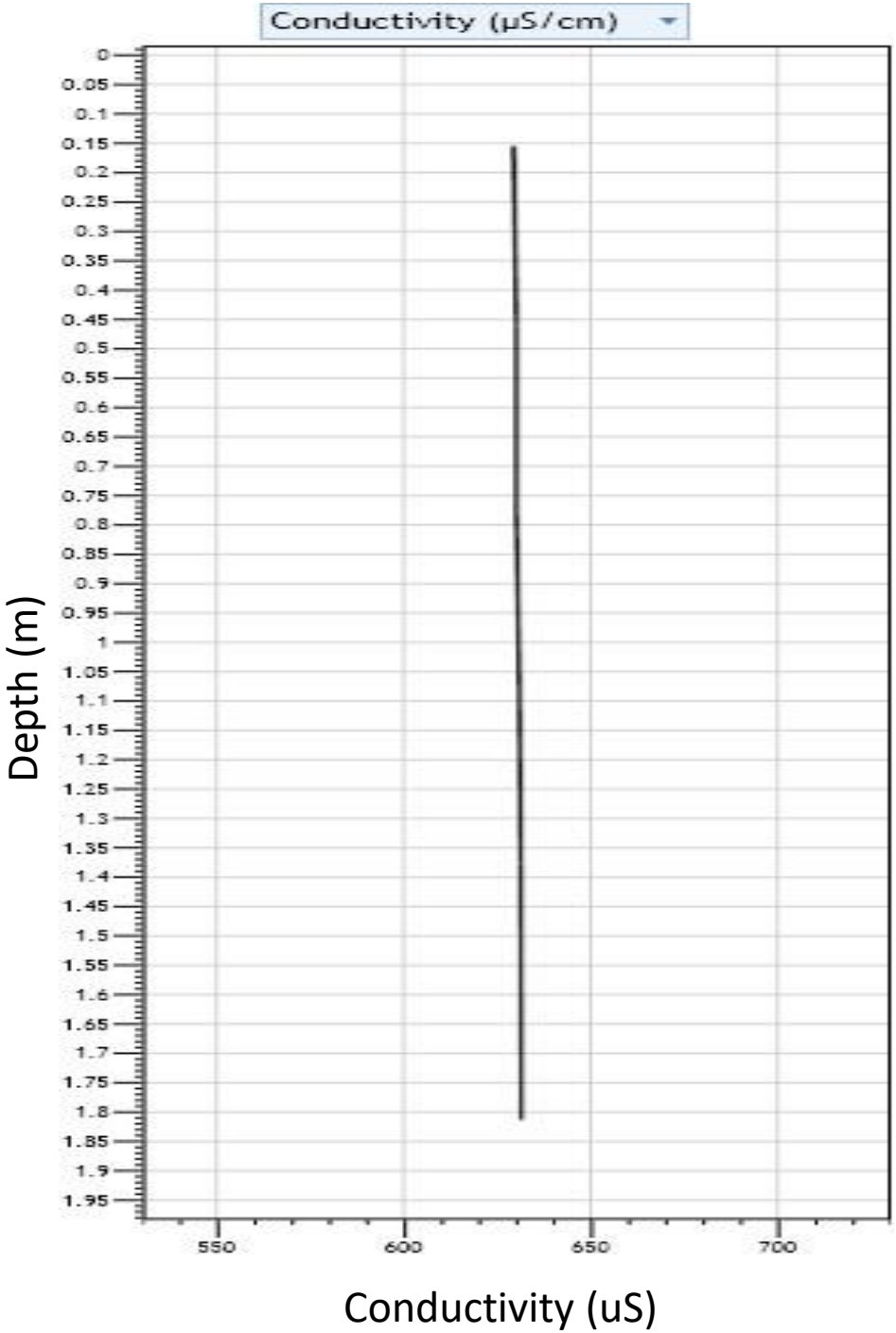


Tracking the Pulses

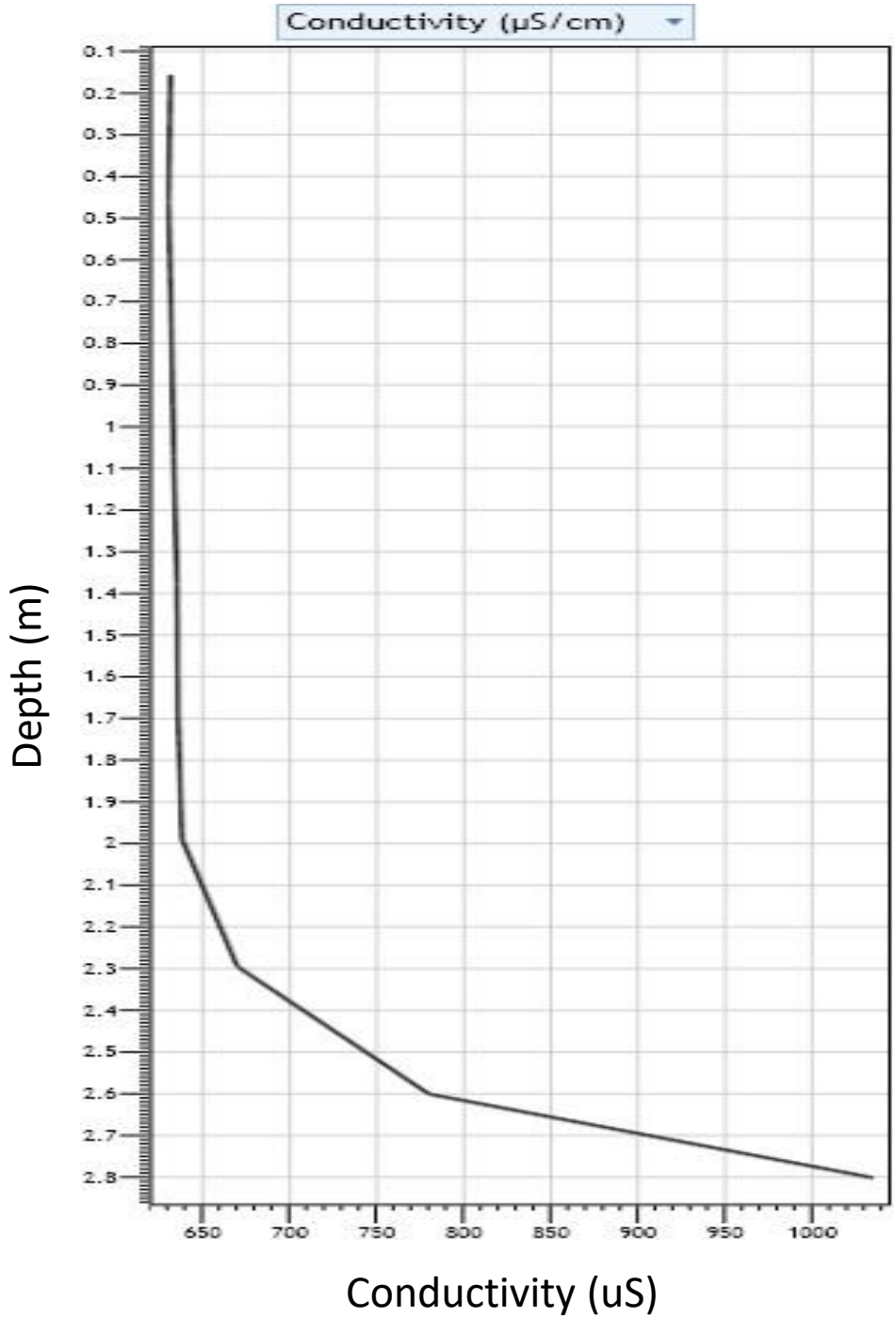


Chapel Pond Sampling





Castaway CTD



Castaway CTD

Water Softener