Motorola 52nd Street Superfund Site

OU1 End Use Alternatives Analysis

May 17, 2010

Background

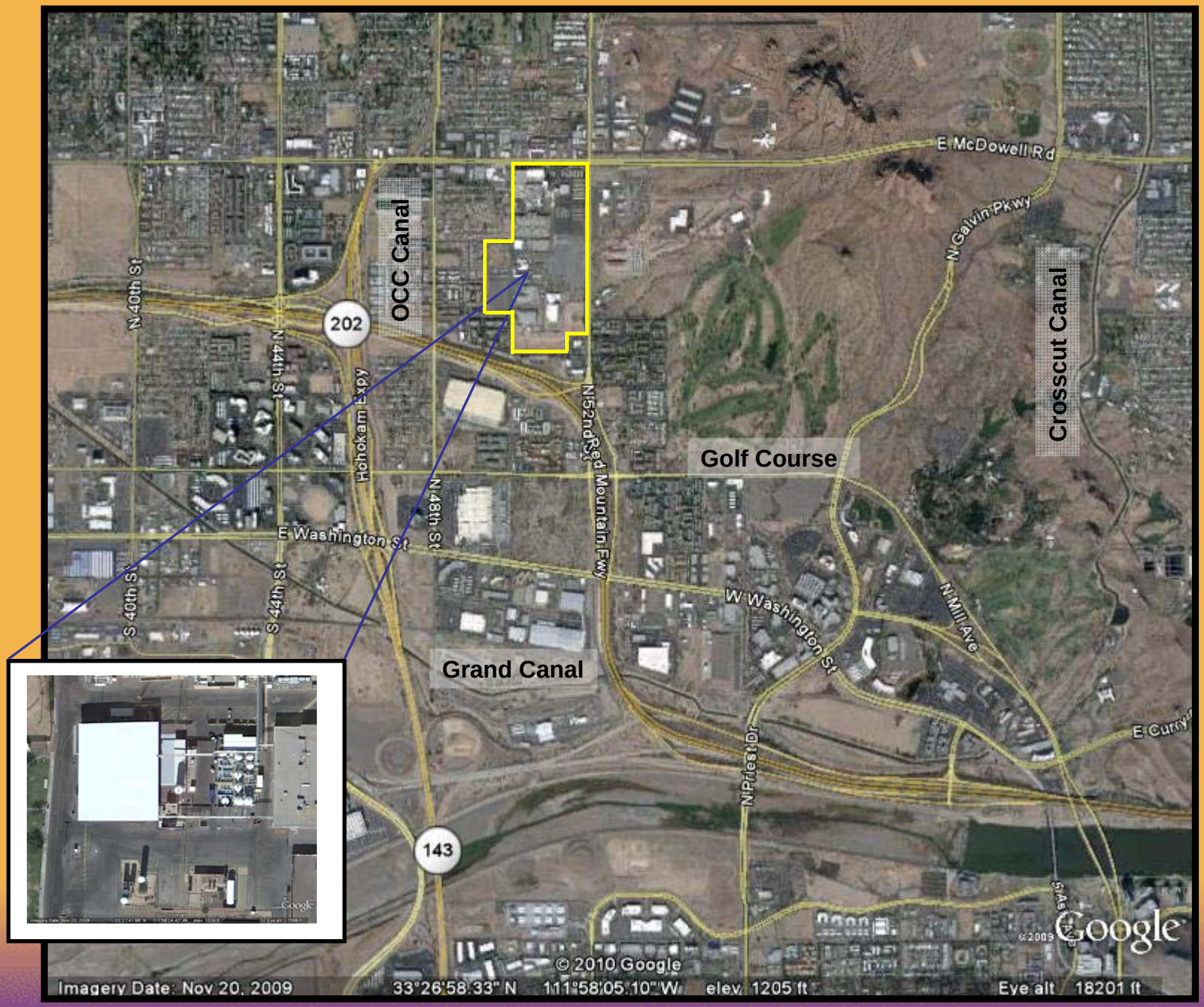
- Currently ON Semiconductor uses treated groundwater at their facility
- ON Semiconductor announced closing manufacturing operations 3rd quarter 2010
- Freescale evaluation of options submitted in June 2009

Current System

- Approx. 360,000 gallons per day of treated groundwater (approx. 250 gallons per minute)
- Water is beneficially reused by ON Semiconductor in their manufacturing processes
- Manufacturing process water discharged, including water provided by OU1 remedy, after treatment, to sanitary sewer

Alternative Usages

1. Discharge to the sanitary sewer
2. Delivery to the City of Phoenix at Papago Park golf course
3. Reinjection in the OU1 area
4. Delivery to SRP via three possible routes


E McDowell Rd
N Galvin Pkwy
OCC Canal
Crosscut Canal
202
N 40th St
N 44th St
Hohokam Expy
N 52nd St
Red Mountain Fwy
Golf Course
N 48th St
E Washington St
S 40th St
S 44th St
W Washington St
N Mill Ave
Grand Canal
N Priest Dr
E Curry
143
S Asu Dr
Google
© 2010 Google
Imagery Date: Nov 20, 2009
33°26'58.33" N 111°58'05.10" W elev 1205 ft
Eye alt 18201 ft

1) Sanitary Sewer

- New pipeline (350 ft approx) from OU1 treatment plan to sewer line for separate discharge, metering, and monitoring of treated groundwater

- Approved temporary by the agencies for the interim

2) Papago Park

- Water to primary supply pond for turf irrigation
- Golf course water demand seasonal
- Access issues also problematic
- City of Phoenix discussion indicate significant obstacles

3) Reinjection

- Converting three southern extraction wells to injection wells; installing one new injection well north of McDowell Road

- In response to comments, Freescale is evaluating several reinjection possibilities

4) Discharge to SRP

- Three options evaluated:
  - delivery to the Crosscut Canal
  - delivery to the Grand Canal via the Old Crosscut Canal (OCC)
  - delivery directly to the Grand Canal

- Preliminary screening of three options conducted considering:
  - water demand on SRP system
  - pipeline length
  - disruption to City streets
  - construction and operational costs

Current Freescale Activity

- Initiated design of the sanitary sewer connection
- Initiated Industrial Wastewater Permit application process
- Awaiting final resolution letter from City of Phoenix
- Further evaluation of reinjection, direct discharge to the Grand Canal, and long-term sewer discharge

OU1
Record of Decision

- Discharge change may require an Explanation of Significant Difference (ESD) to the Record of Decision (ROD) for OU1

- Fact sheet, public comment, notice in paper of final ESD

ADEQ
Arizona Department
of Environmental Quality

QUESTIONS?

Bedrock Pilot Study

52nd Street Superfund Site

OU1 Area

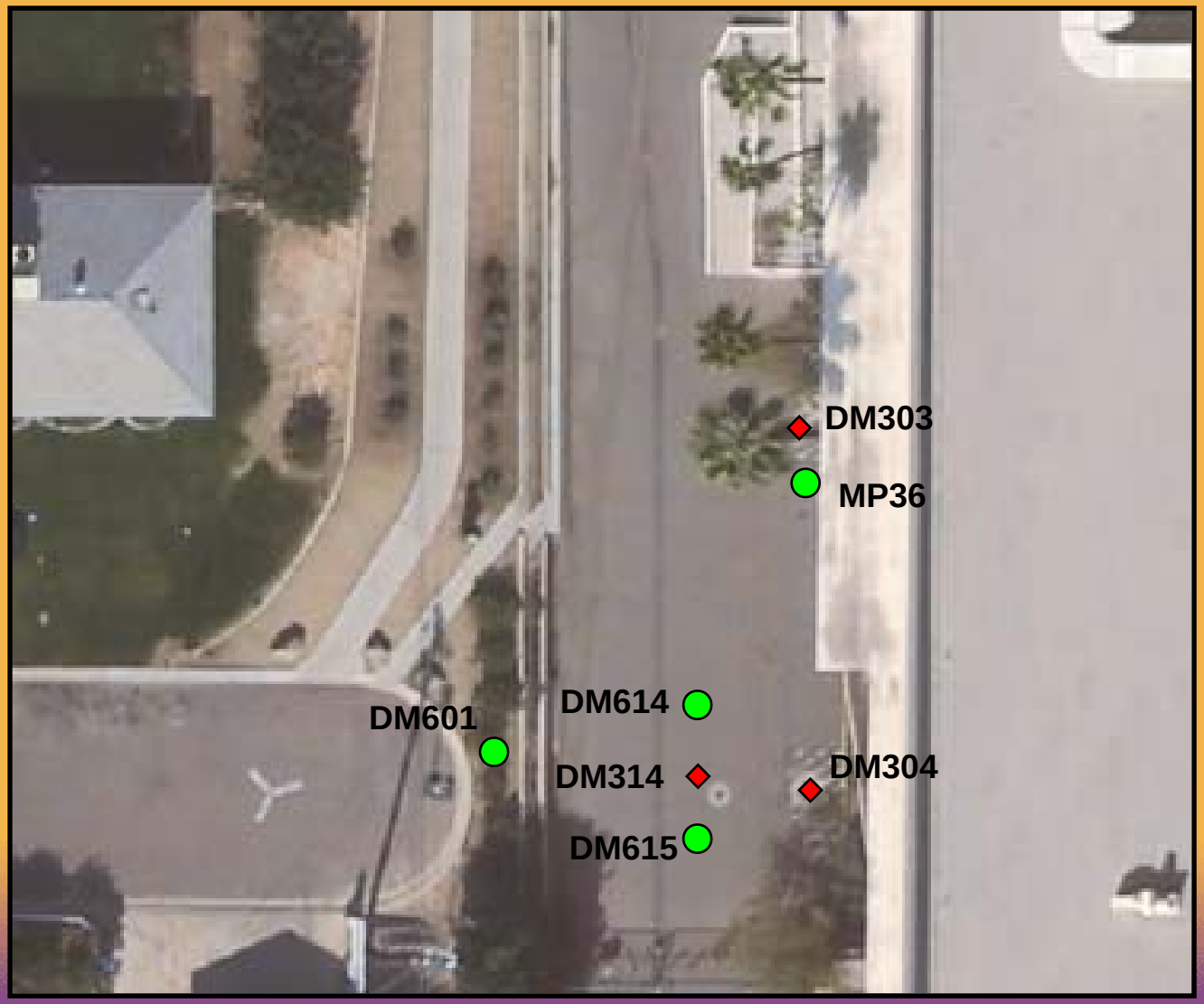
Site Background

- Chlorinated solvent (TCE) site in alluvium and fractured rock
- Active remediation has been in progress at ON Semiconductor since 1992
- Primary objective of study is to understand how water moves through bedrock

Bedrock Pilot Program

- Install bedrock specific extraction well plus additional bedrock monitoring wells near existing well network
- Evaluate flow of groundwater
- Conduct aquifer testing of bedrock
- Operate pilot extraction system

Well Locations



Legend

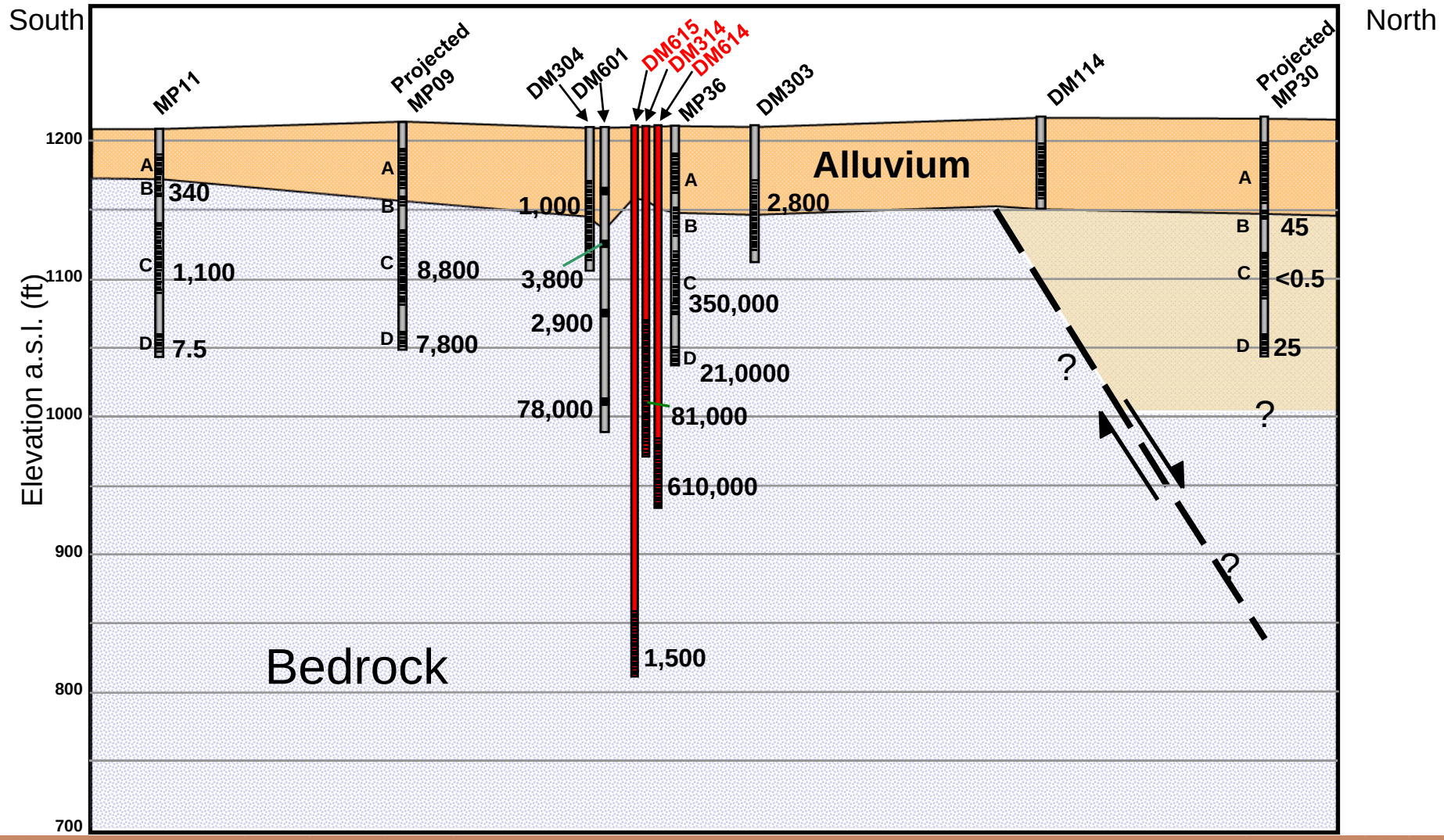
- Remediation Well
- Monitoring Well

0 25

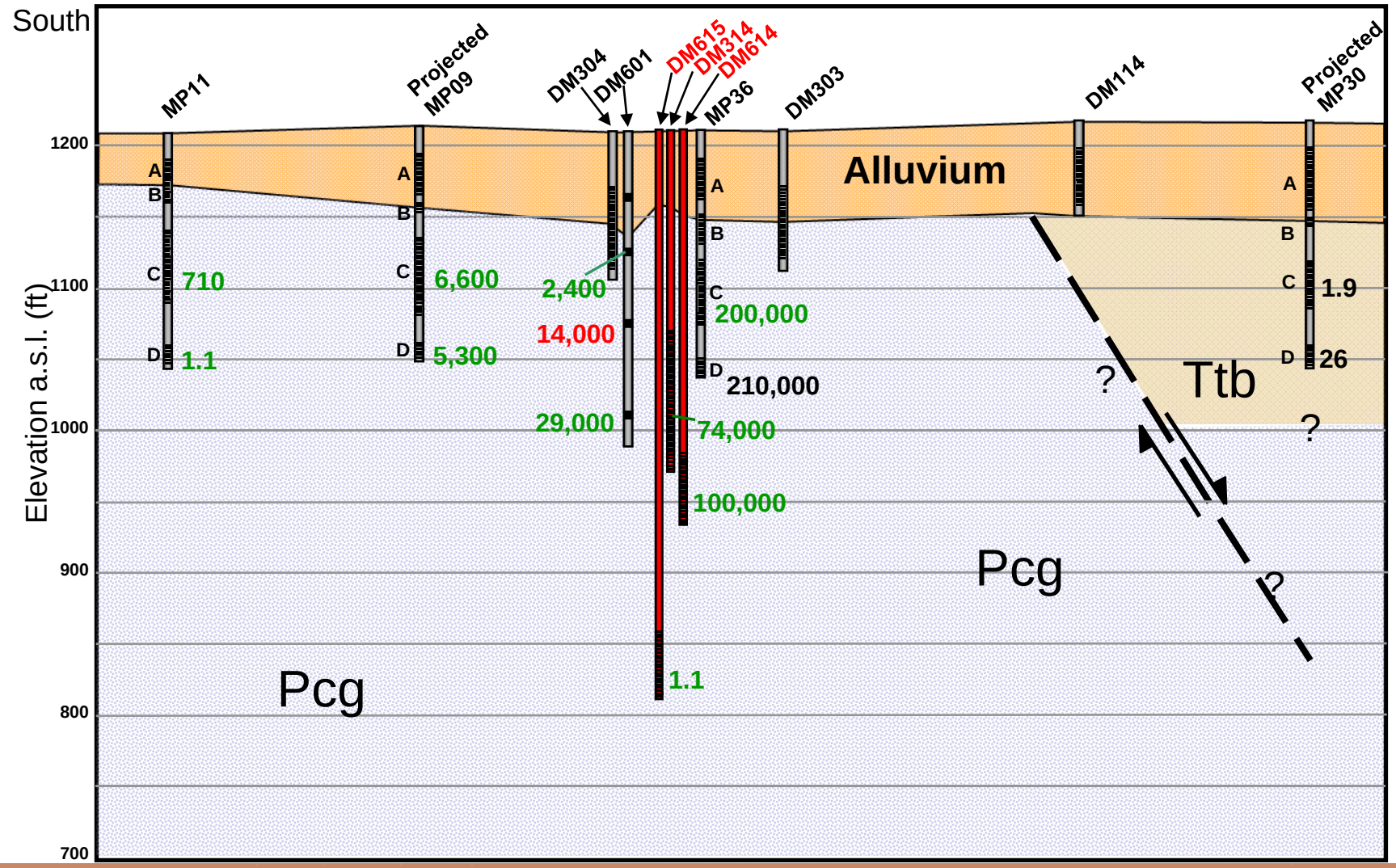
Feet

- Extraction initiated in September 2009
- Water pumped to OU1 Treatment plant for treatment
- Pumping rate of 5 gallons per minute
- Continuous water level monitoring conducted in 11 monitor wells in the vicinity to observe response

N-S Cross Section
Initial Concentrations



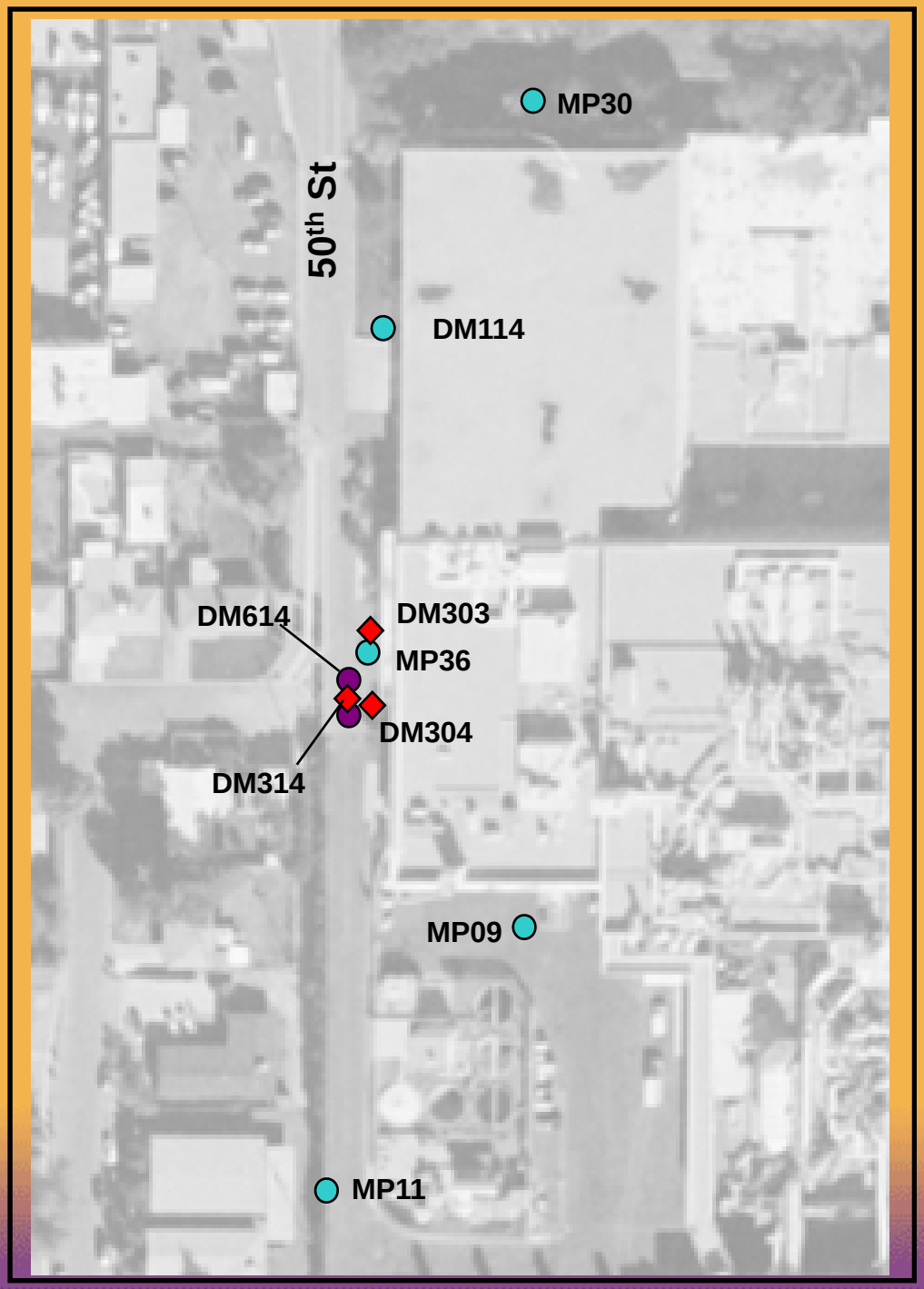
N-S Cross Section Feb-Mar 2010



Preliminary Results

- Bedrock water flow is very low

- Extraction well has a very localized influence on bedrock groundwater
- Reduction of TCE concentrations observed in extraction well and adjacent monitoring wells
- Approx. 143.8 pounds of VOCs removed during initial 6-months of bedrock operations (September 2009 – February 2010) as compared to total OU1 VOCs removed of 463.5 lbs
- Too soon to determine if mass removal rates can be sustained over time



Questions?