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April 20, 2004

Slide Show Presentation

for the

Jones Road Public Meeting

Text explaining the slides and graphics is presented here in outline form. References to points or locations on the slides and graphics were explained interactively by the presenter to the audience and could not be included in the outline.

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JONES ROAD GROUNDWATER PLUME SUPERFUND SITE

Public Meeting–April 20, 2004

Subhash Pal, P.E., Project Manager

As most of you are aware, the Texas Commission on Environmental Quality (TCEQ) has been investigating the groundwater contamination by perchloroethylene (PCE), also known as tetrachloroethylene. PCE is commonly associated with the dry-cleaning industry. The fate and transport of the PCE contaminants are very complex due to site geology and to the variability of the pumping rates and their frequency. We interpret one set of data and prepare a conceptual model, and then collect more data to fine tune our conceptual model. This will be evident when Ms. Marilyn Long shares with you the results of the remedial investigations.

Now I am going to discuss the quarterly monitoring of groundwater conducted since our last meeting on November 18, 2003. We received the residential groundwater analytical data for the November 2003 sampling event. Those data were reviewed and evaluated, and the residents were informed. Another round of residential water well sampling was conducted in February 2004, and the residents were notified of the analytical results.

These maps show the results of the water well sampling for the months of February, May, August, and November of 2003, and February 2004. The red color indicates the locations that have PCE concentrations in the well water above the Federal maximum contaminant level (MCL) of 5.0 parts per billion (ppb). The yellow color indicates those locations where PCE was detected in the well water, at concentrations between 0.5 to 5.0 ppb. The green color identifies locations where PCE concentrations were less than the method quantitation limit (MQL) of 0.5 ppb in the well water. Analytical data from the past five quarters are summarized on the RGY (red, green and yellow) chart.

As most of you know, the TCEQ is monitoring wells and filtering those that have PCE concentrations above 5.0 ppb, to ensure that the residents are not drinking water contaminated with PCE above the MCL. During February, May, August and November 2003 we sampled approximately 100 residential water wells per sampling event. In February 2004, we sampled 114 water wells.

The February sampling results showed increases in PCE concentration on some of the locations; in one location the PCE concentration increased from 240 ppb to 590 ppb, in another it went up from 190 to 240 ppb. At another location, the PCE concentration was reduced from 71 ppb to less than 0.5 ppb. At four residences where PCE concentrations previously had been less than MCL, February sampling results show the PCE concentrations above the MCL, and those wells were fitted with carbon filters.

The approximate boundary of the study area during our previous sampling events was as follows:

- * the northern boundary– North of Woodedge Drive
- * the southern boundary–South of Jones Road West
- * the western boundary– Oak Valley, and
- * the eastern boundary– One quarter mile east of Jones Road

During our last meeting on November 18, some of you recommended that we collect samples outside the study areas. We sampled five wells outside of the previously sampled area. PCE concentrations were less than 0.5 ppb in all of them, except in one location where we collected two samples from the same well; one sample showed PCE concentration as less than 0.5 ppb, but the other had PCE concentration of 0.91 ppb. This could be an indication of the PCE migration to the west of the former study area.

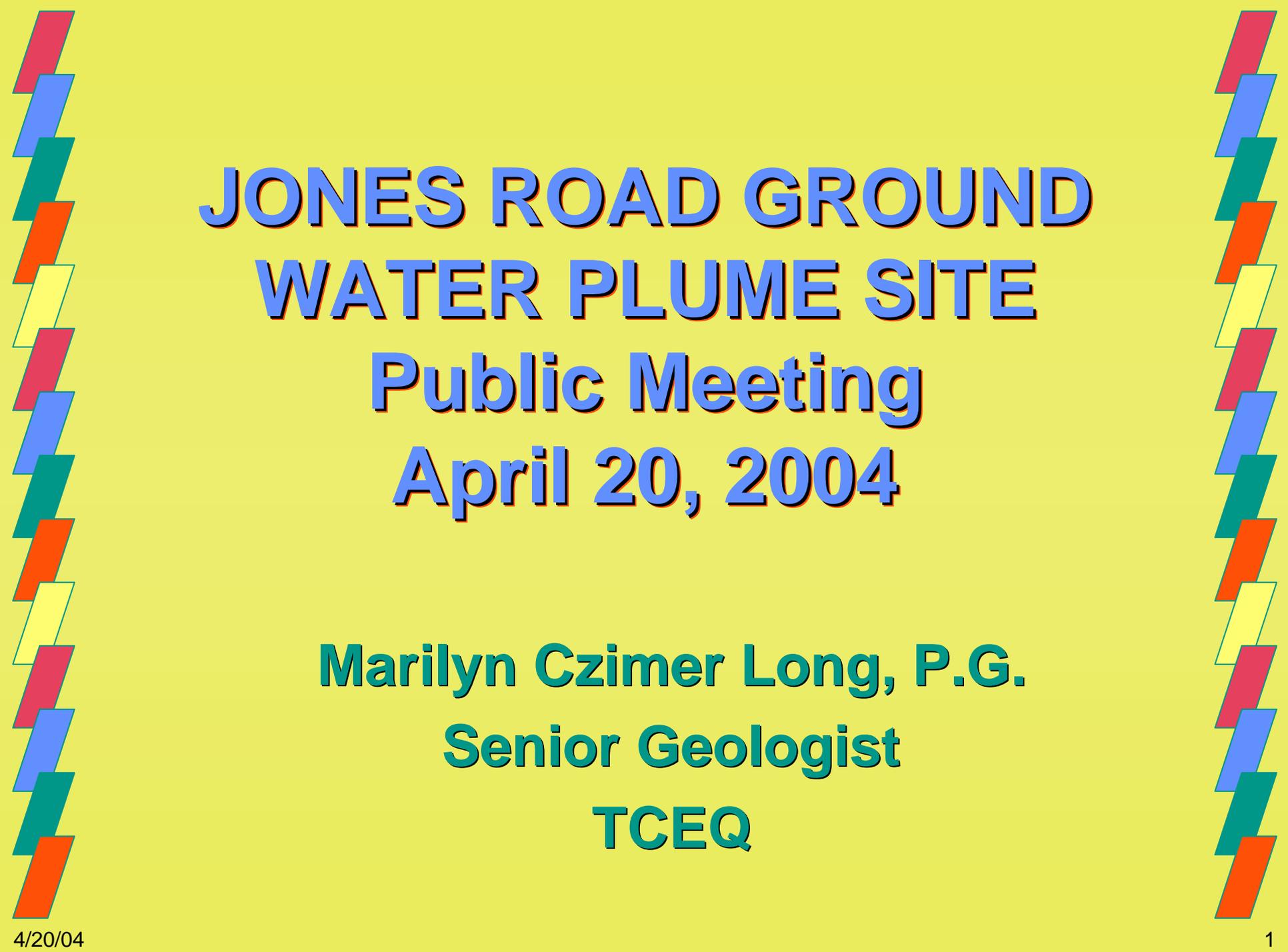
It was estimated that the PCE plume is migrating at the rate of 150 feet per year. On that basis the study area will be expanded westward to 300 feet from the property boundary where PCE has been detected. Therefore, during our next sampling event in May 2004 we plan to sample approximately 200 wells, including the households on the east side of Glenora Street as shown by the blue line on the map. We will also sample a few selected wells outside the sampling area (shown by hatched line) to ensure that there will be no surprises. To sample the new residential wells, the TCEQ needs access to the properties where these wells are located. We have the access agreement forms with us. If some of the residents of Oak Valley, Glenora and Harbin Drive, as shown in this map, are here in this meeting, I am asking you to meet with us after the meeting and to sign the access agreement.

Some of you have expressed concerns about the sampling protocol and the report format. The report format has been changed because the laboratory service was changed from Lower Colorado River Authority (LCRA) to EPA Contract Laboratory Program (CLP). However, we want to assure you that the quality of the laboratory service remains the same.

During field sampling, each sample is collected according to the standard procedure and assigned a unique identification number and recorded on a chain of custody form. The samples are preserved on ice and shipped to the laboratory on the same day or overnight. Upon receipt of the sample containers, the laboratory verifies and records the sample conditions and assigns a random and unique ID# to each sample. For volatile organic compounds (VOCs) analyses, the laboratory must conduct the extraction process within 14 days with proper preservatives followed by the analysis of the samples. The laboratory then reviews and validates the data and submits a report to the TCEQ. TCEQ then correlates the field and the laboratory data. We make every effort to maintain the quality of the data and the report. If anyone has any specific concerns regarding the sampling procedure and the reporting format, please contact us.

During November 2003, there were several large sampling projects, in addition to the Jones Road sampling event. The EPA contract laboratory completed their analysis within a short period of time (less than 14 days); however, due to large volume of sample data, it took longer than anticipated to complete the data validation. EPA and TCEQ are aware of this issue and are looking into improving the reporting time.

Some residents have also expressed concern regarding a change in the number of compounds being analyzed. While the EPA CLP laboratory is analyzing for fewer parameters, the chemical assessment of the groundwater has not been compromised, as the samples have been consistently analyzed for the designated chemicals of concern.



**JONES ROAD GROUND
WATER PLUME SITE**

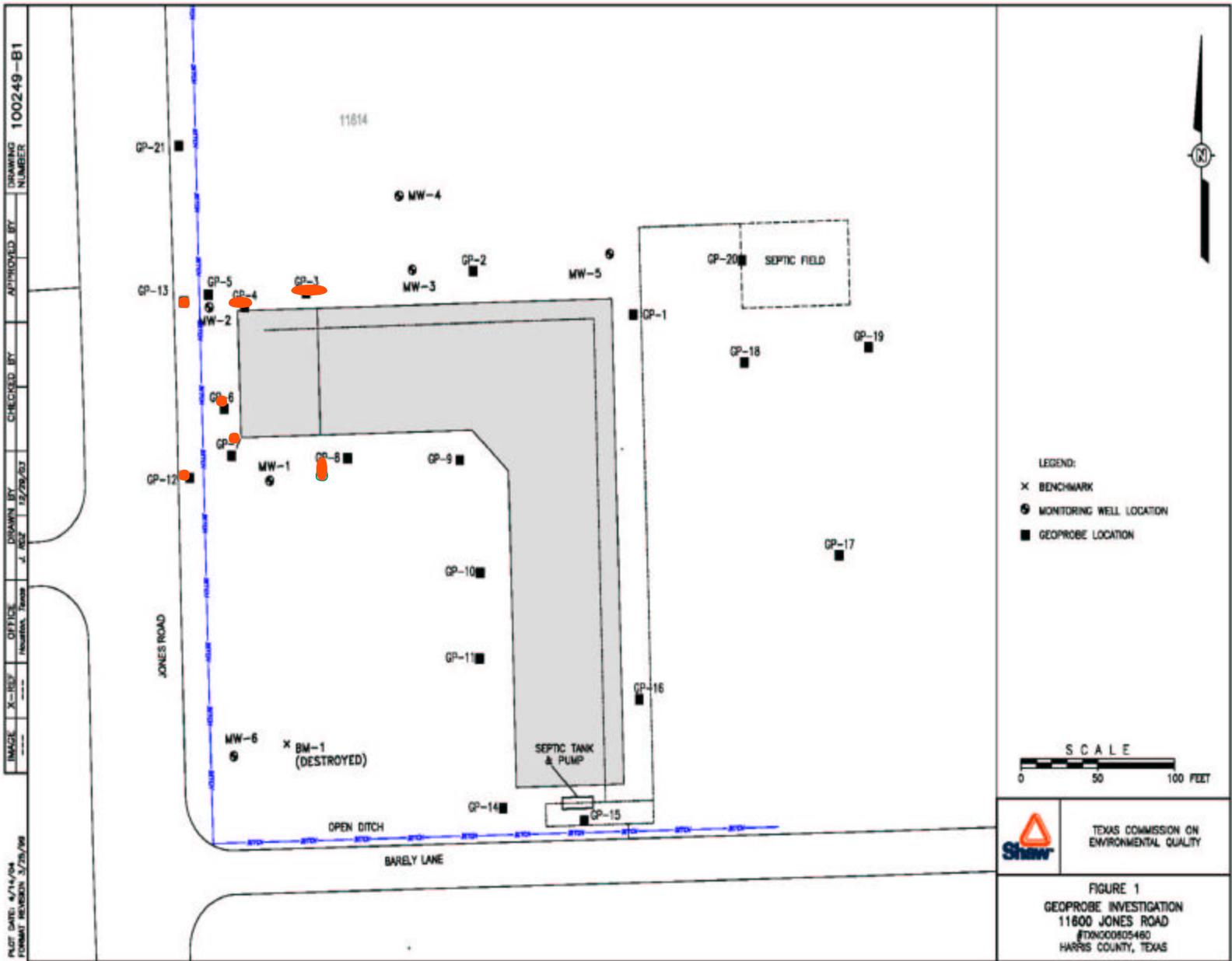
**Public Meeting
April 20, 2004**

**Marilyn Czimer Long, P.G.
Senior Geologist
TCEQ**

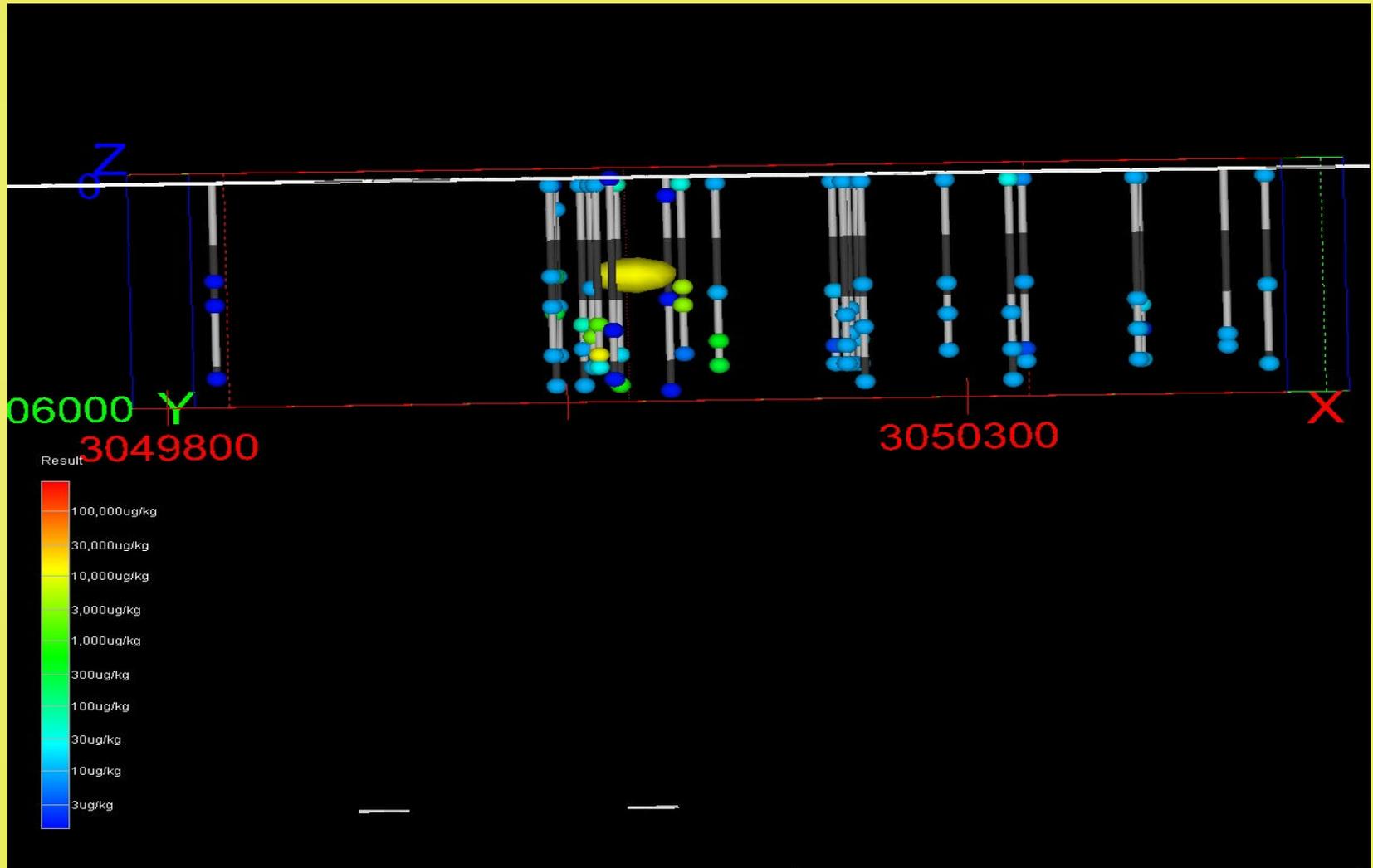


Our Findings – Observations Soil Samples Results

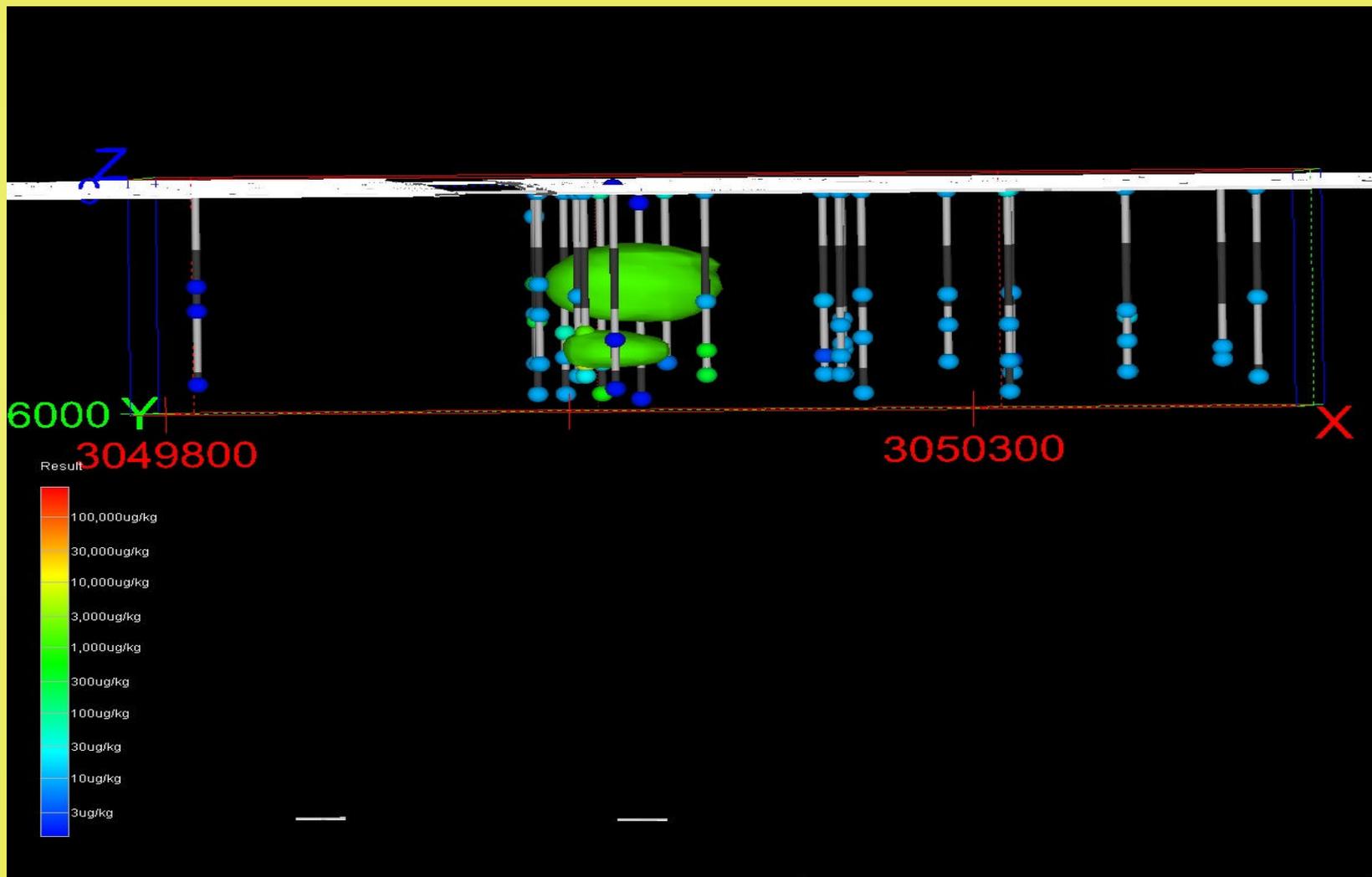
- “Hot” at 16-22 feet
 - “Hot” at 25-30 feet
 - North, West & South of the former Bell Cleaners
- 



PCE in Soil >10,000 ppm



PCE in Soil > 1,000 ppm



Our Findings – Observations Groundwater Results

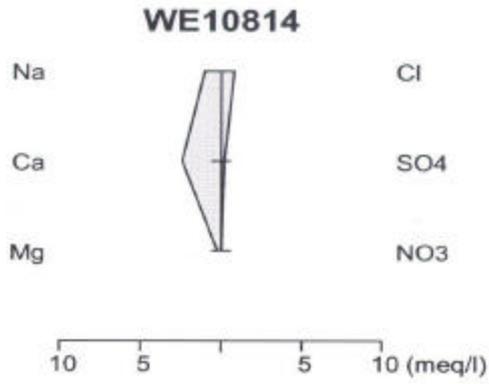
- 33,000 ppb of PCE was detected in MW –1
- No PCE detected in MW-4
- 8 – 15 ppb of PCE was detected at Meineke well [105 feet north of the former Bell Cleaners]
- 590 ppb of PCE was detected across the street from the former Bell Cleaners

Groundwater Quality Characterization

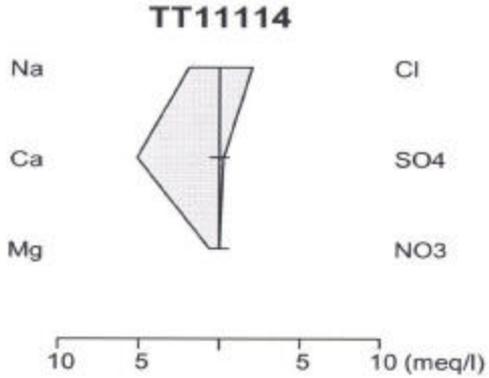
- 15 wells were selected with screened intervals ranging from 110 feet – 295 feet below the ground surface
- 3 monitoring wells were tested
- Analyzed for inorganic constituents

Preliminary Inorganic Data

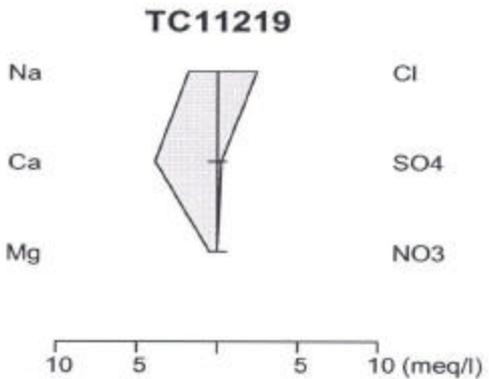
Sample ID	TD	Well Screen	Na	Ca	Mg	Cl	SO4	NO3
			mg/L					
MW-7	35	20-35	16.6	108	9.91	20.8	18.2	0.41
MW-9	35	20-35	36.2	139	12	42.4	16.2	2.4
MW-8	36	21-36	35.3	124	14.3	19.5	18.1	3.2
TT11227	120	110-120	39.6	77.6	6.16	78.9	13.1	0.15
TT11215	195	185-195	35.7	69.7	5.19	64.6	12	0.24
TC11219	197	192-197	40.9	77.2	5.98	87.6	12.5	0.13
PH11611	210	200-210	37.3	72.8	5.9	79.3	11.6	0.19
PH11738	217	207-217	41.4	102	7.2	73.8	14.3	2.2
TC11108	220	210-220	35.7	88.8	6.54	54	12.8	0.94
TO10830	238	217-223	36.3	86.7	5.73	31	12.6	0.57
TT11114	225	215-225	42.9	102	7.45	73	14.2	1.7
FV11118	240	230-240	35.3	84.8	6.52	61.9	12.3	1.9
OV11635	240	225-240	34.1	63.3	5.1	50.5	11.2	0.2
FV11135	268	258-268	37.4	92.3	7.37	72.9	12.7	2.3
FV11127	280	270-280	29.3	54.2	4.26	38.5	10.5	0.89
TO10635	305	295-305	31.9	64.8	4.92	53.7	10.8	1.4
JR11414	310	269-310	29.5	57	4.6	45.5	10.6	0.22
WE10814	407	395-405	23.3	48.2	2.81	29.5	10	2.9



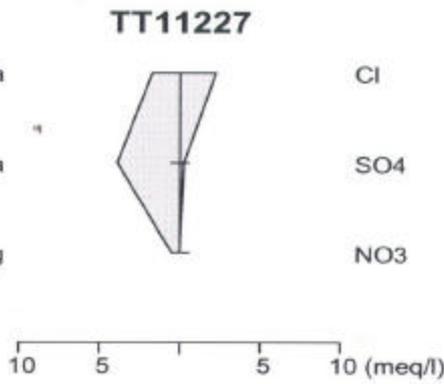
395 - 405



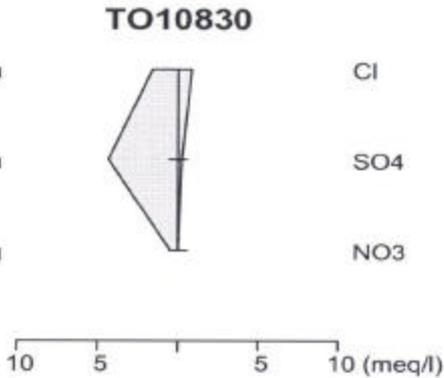
215-225



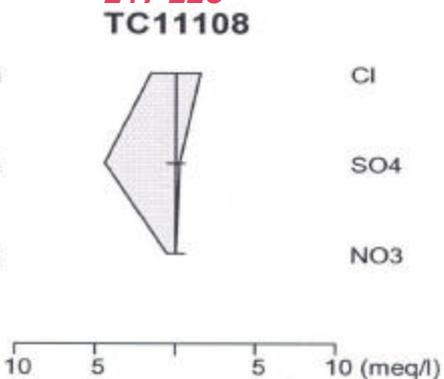
192-197



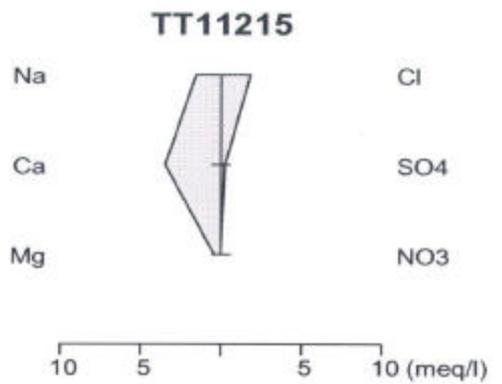
110-120



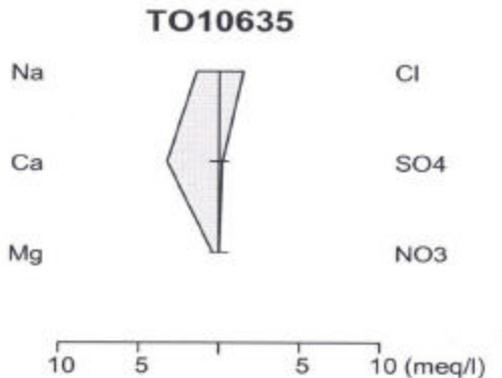
217-223



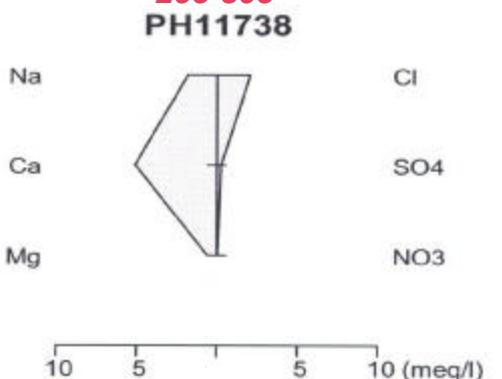
210-220



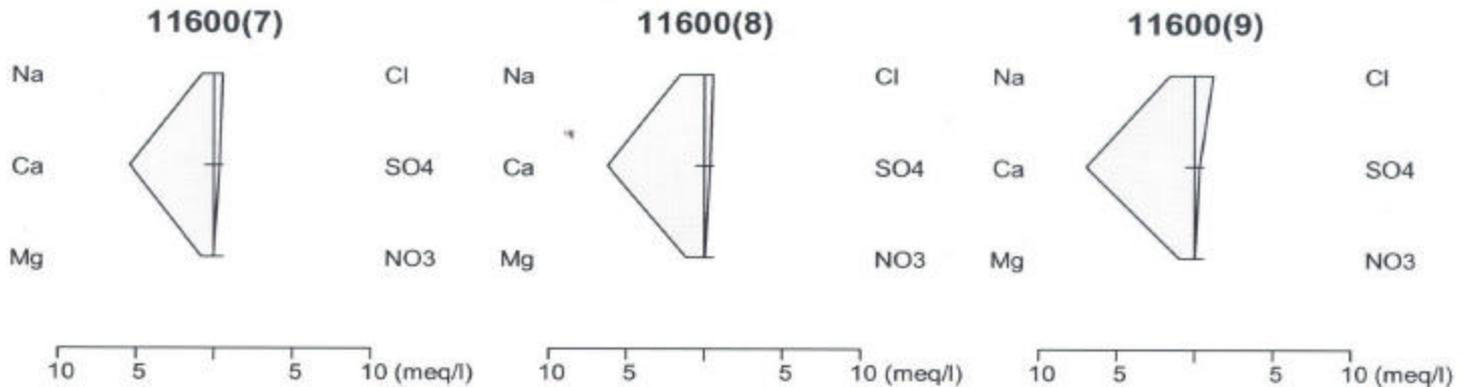
185-195



295-305



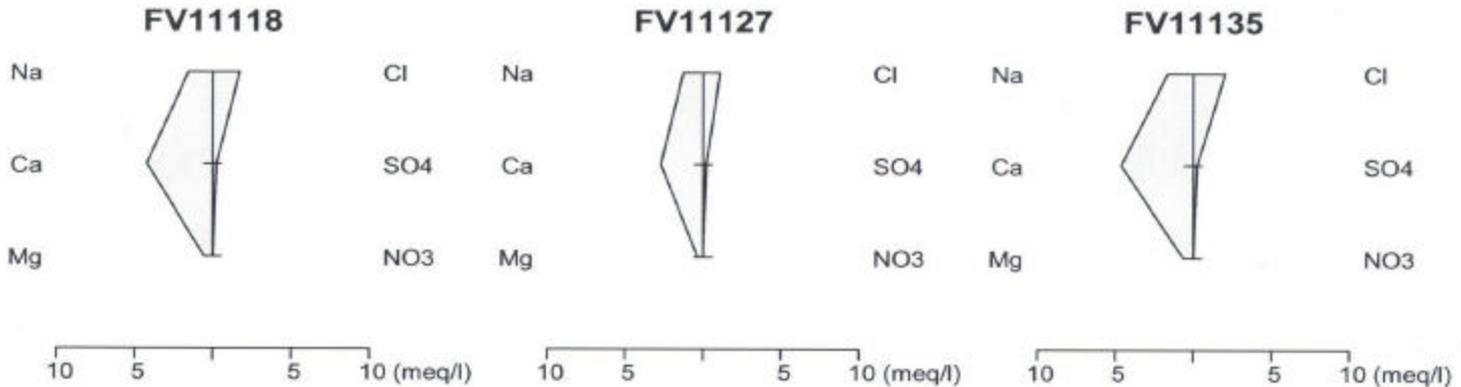
207-217



20-35

20-35

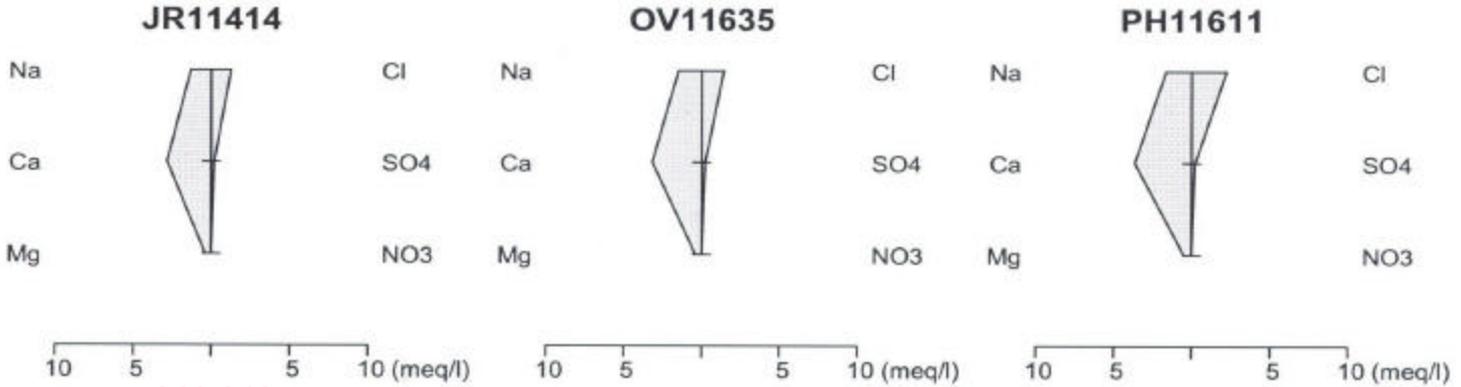
20-35



230-240

270-280

258-268



269-310

225-240

200-210

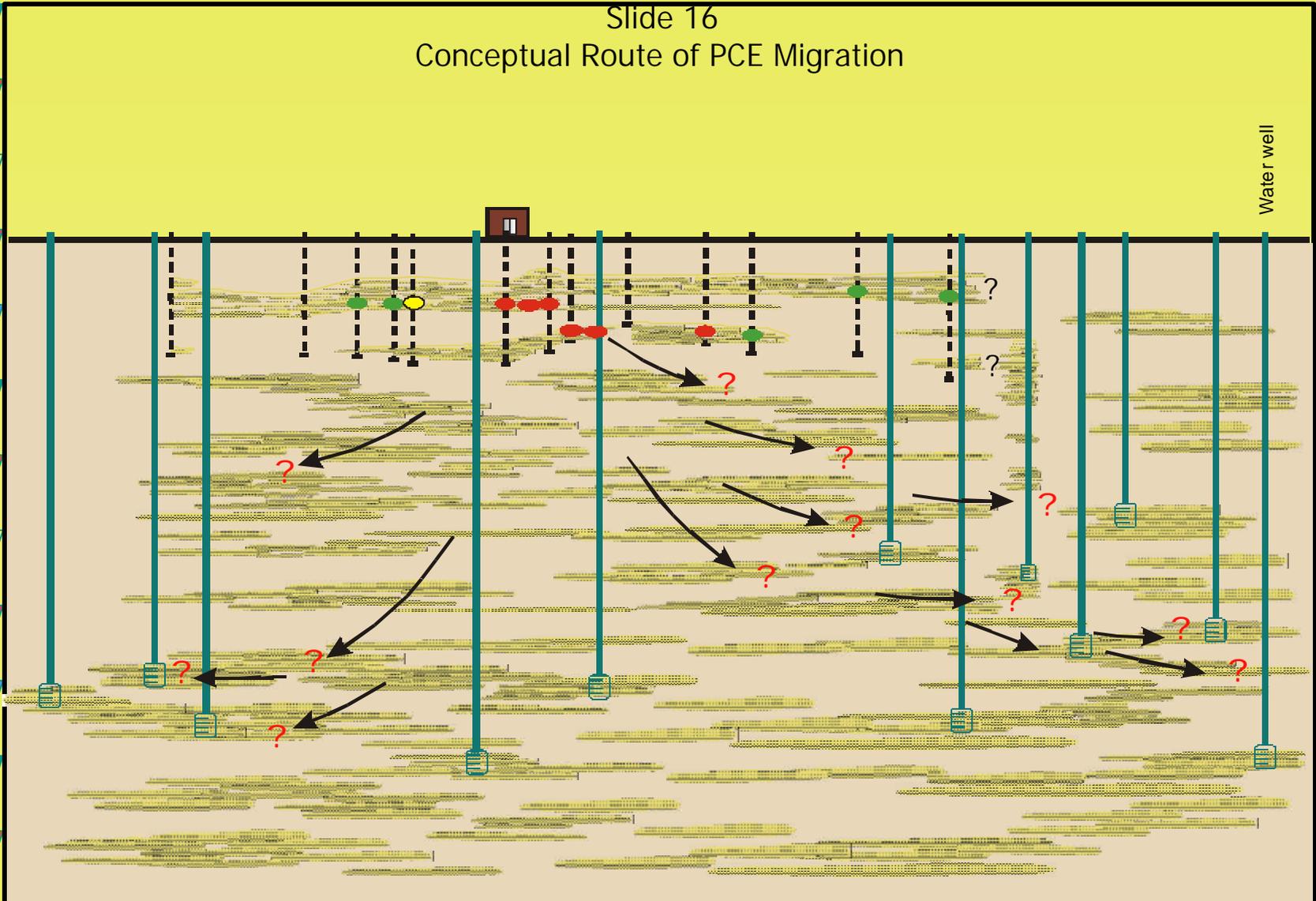


***Previous
Conceptual Site Model
Presented in
November 2003
Public Meeting***

Previous CSM

Slide 16

Conceptual Route of PCE Migration



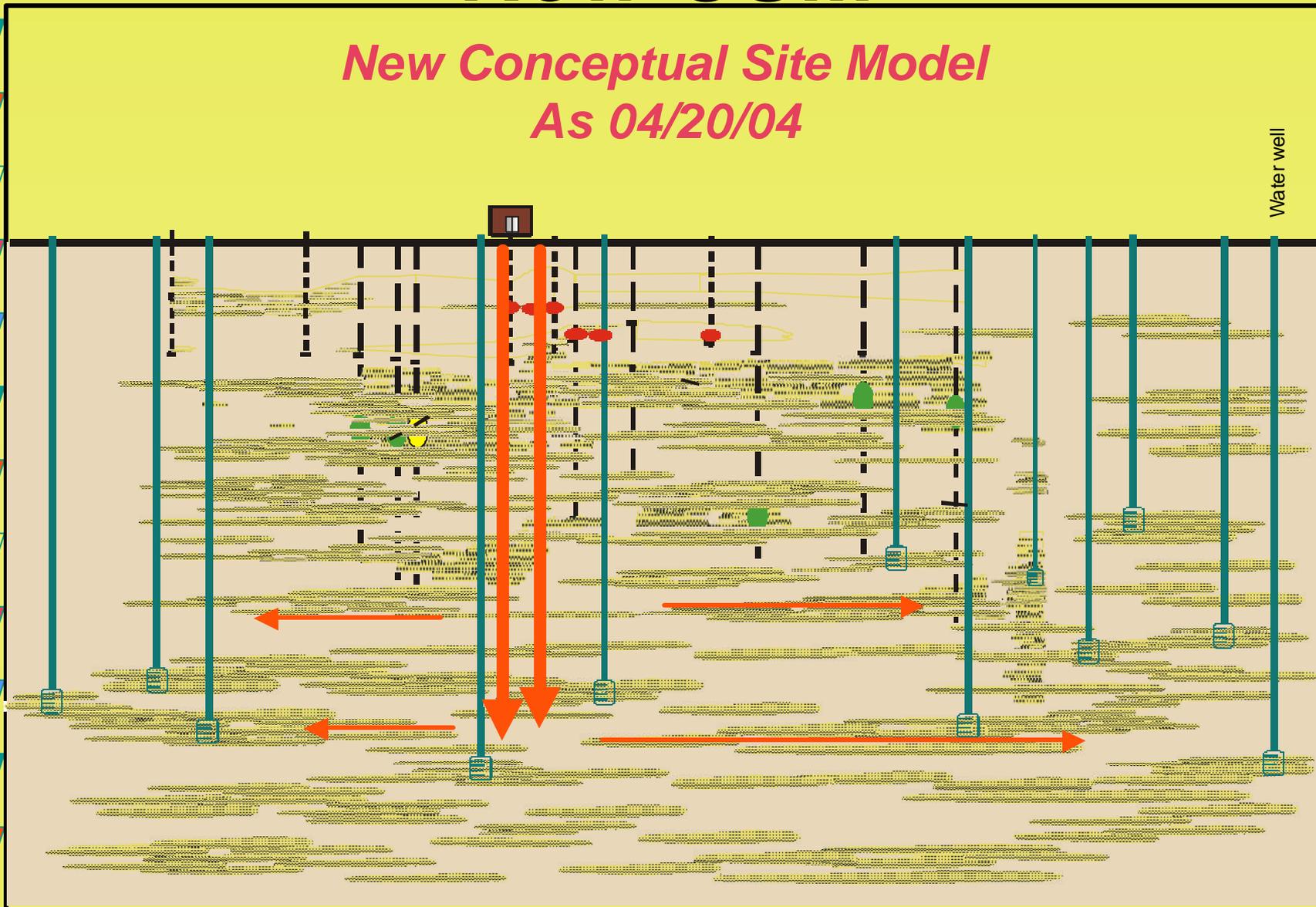
Water well



**Revised CSM
due to
Current Findings**

New CSM

*New Conceptual Site Model
As 04/20/04*



Water well

WHY?

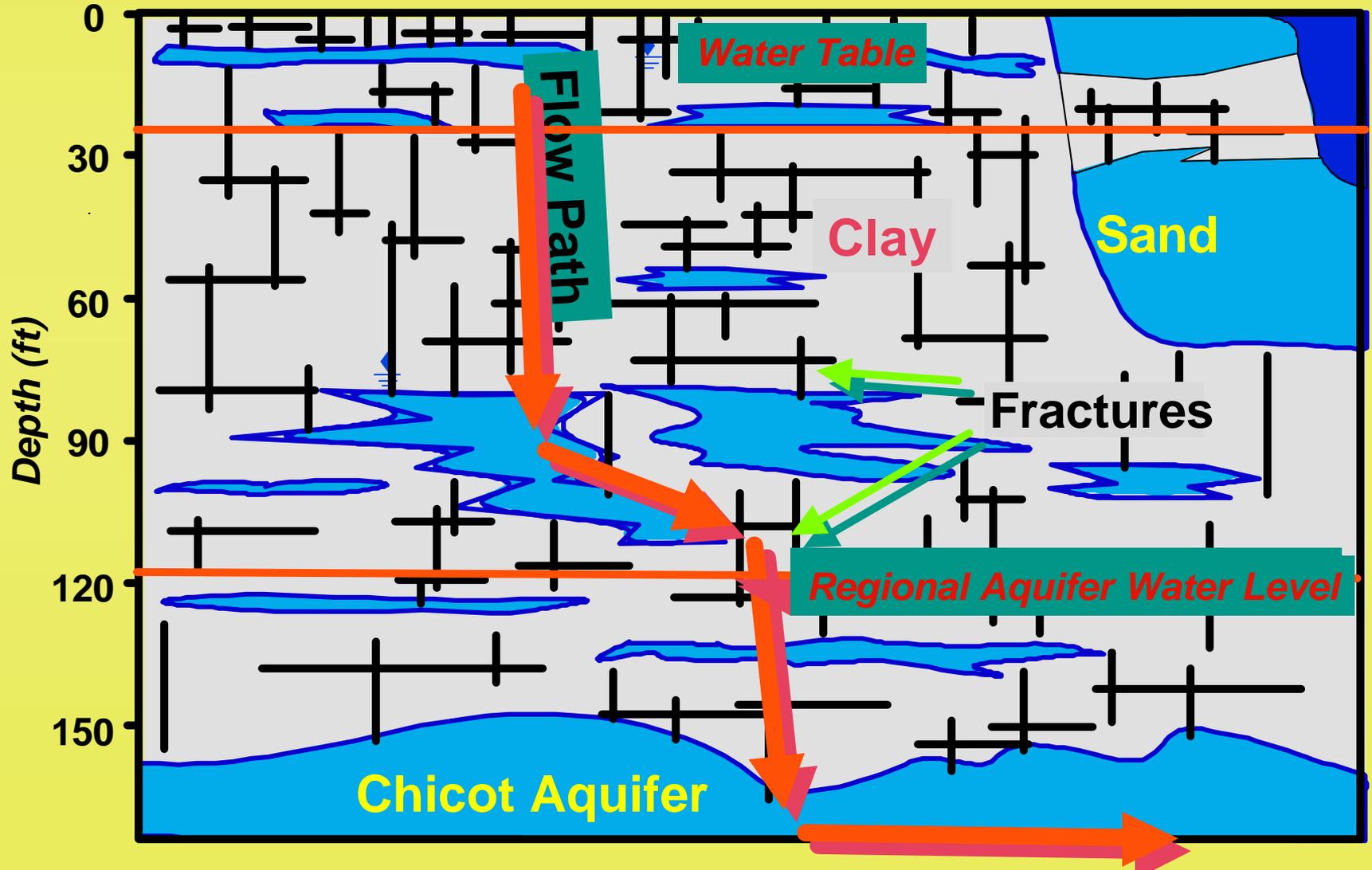
Fractured Media



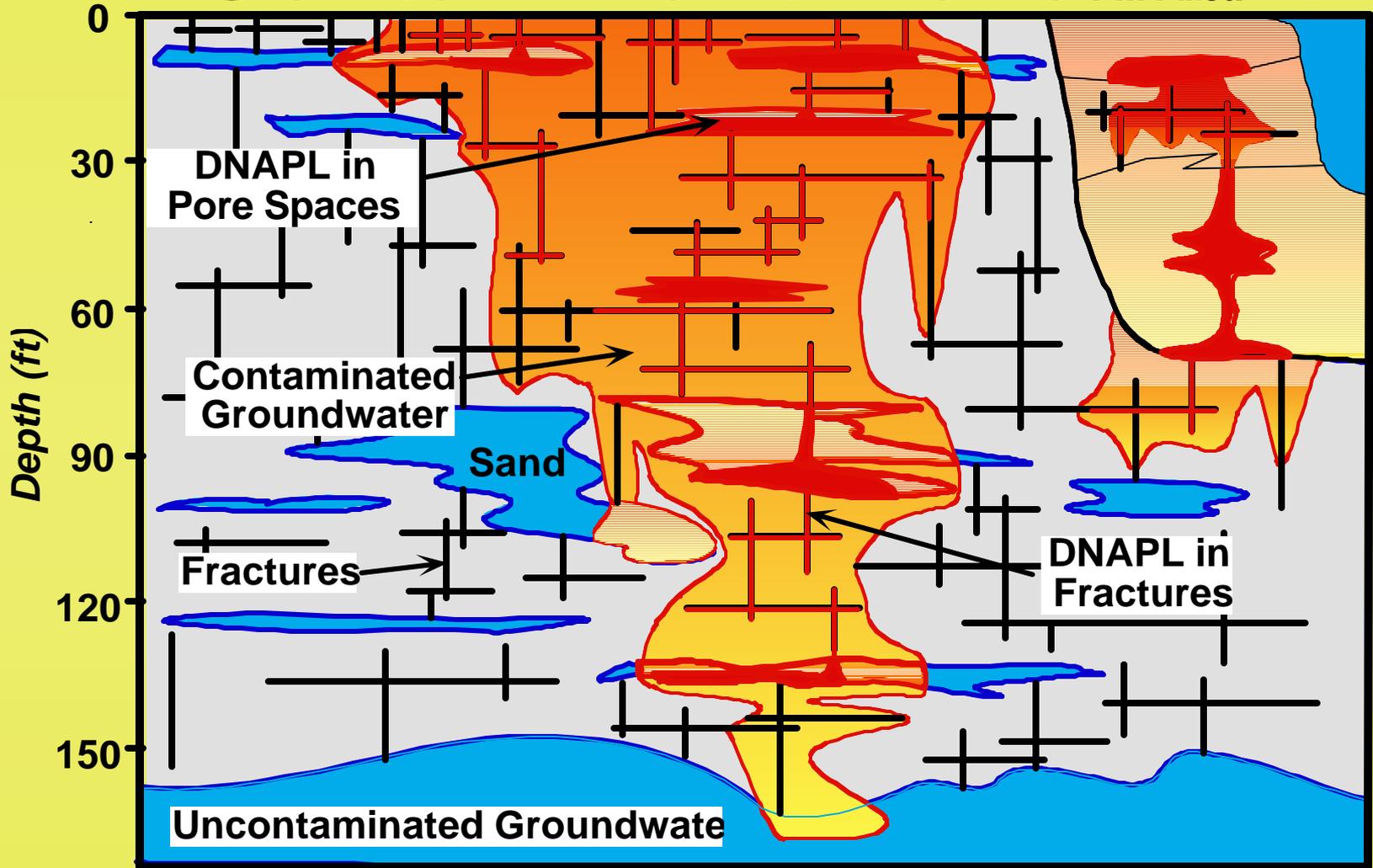
Migration Pathways

Former Bell Cleaner

Residential Area



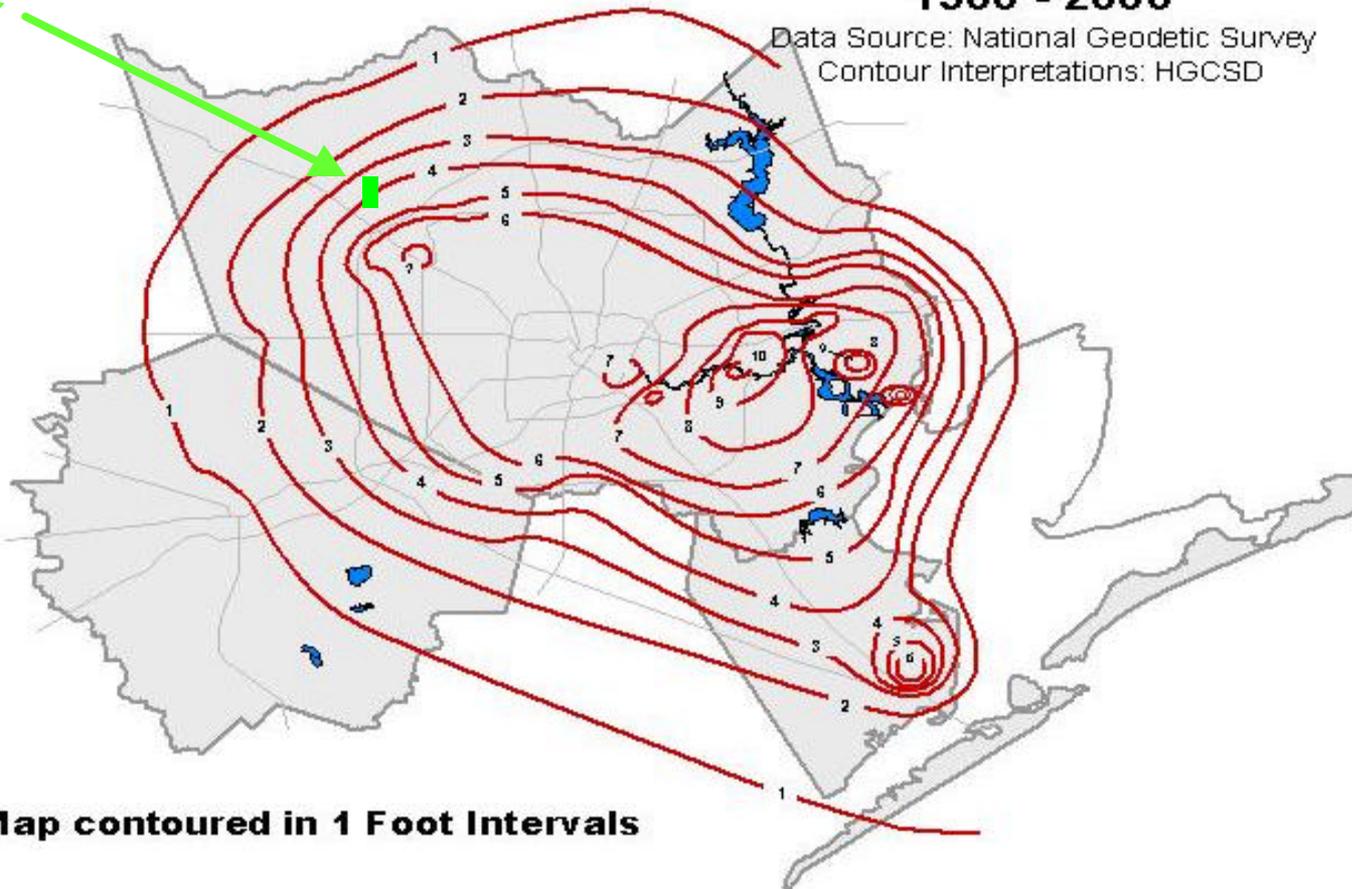
Contaminant Movement



DNAPL: Dense Non-Aqueous Phase Liquid

Subsidence Map - 1

Site

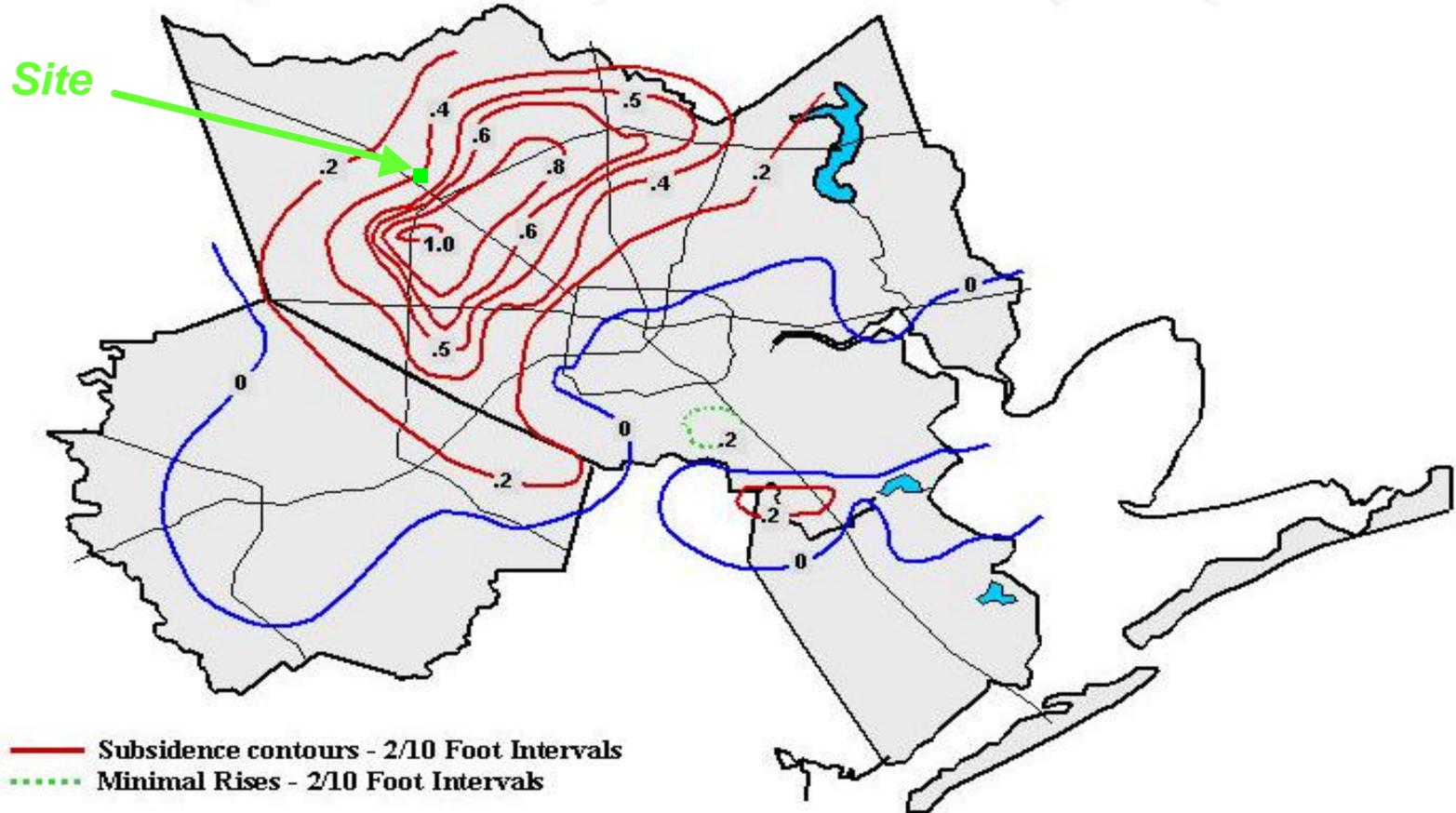


Subsidence Map-2

Subsidence : May1995 – October 2000

(NGS Benchmark data points – HGCS D Contour interpretations)

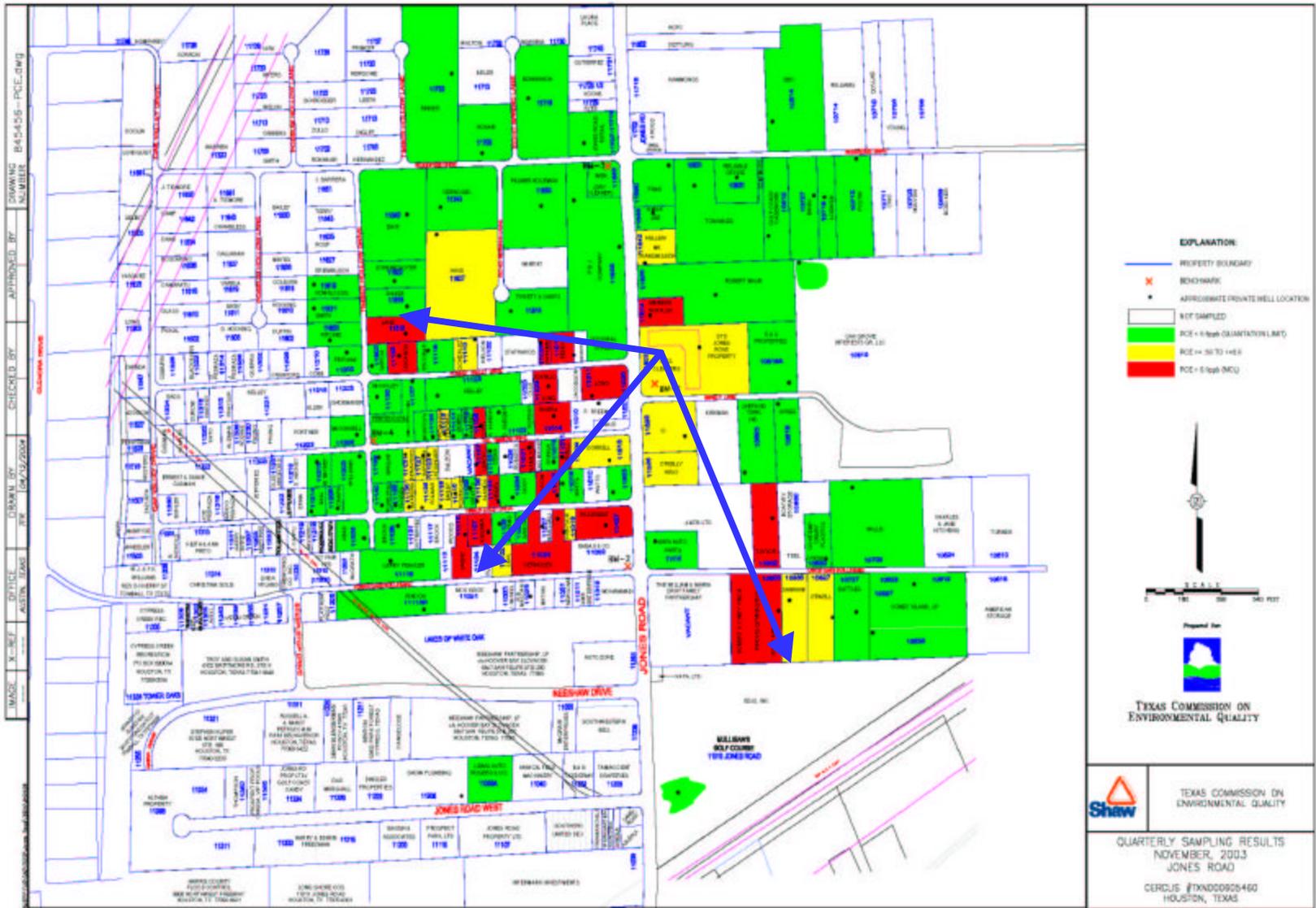
Site



A decorative border consisting of a vertical line of colorful lightning bolts on both the left and right sides of the slide. The bolts are colored in a repeating sequence of red, blue, teal, orange, and yellow.

Groundwater Flow

November 2003 Results



February 2004 Results





Legend

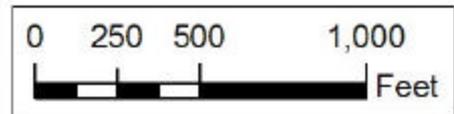
— PCE contour

PCE (ug/L)

- 0.15 - 5.0
- 5.1 - 20
- 21 - 50
- 51 - 500
- 510 - 13000

PCE (ug/L)

- 0.15 - 5
- 5.1 - 20
- 21 - 50
- 51 - 500
- 510 - 13,000

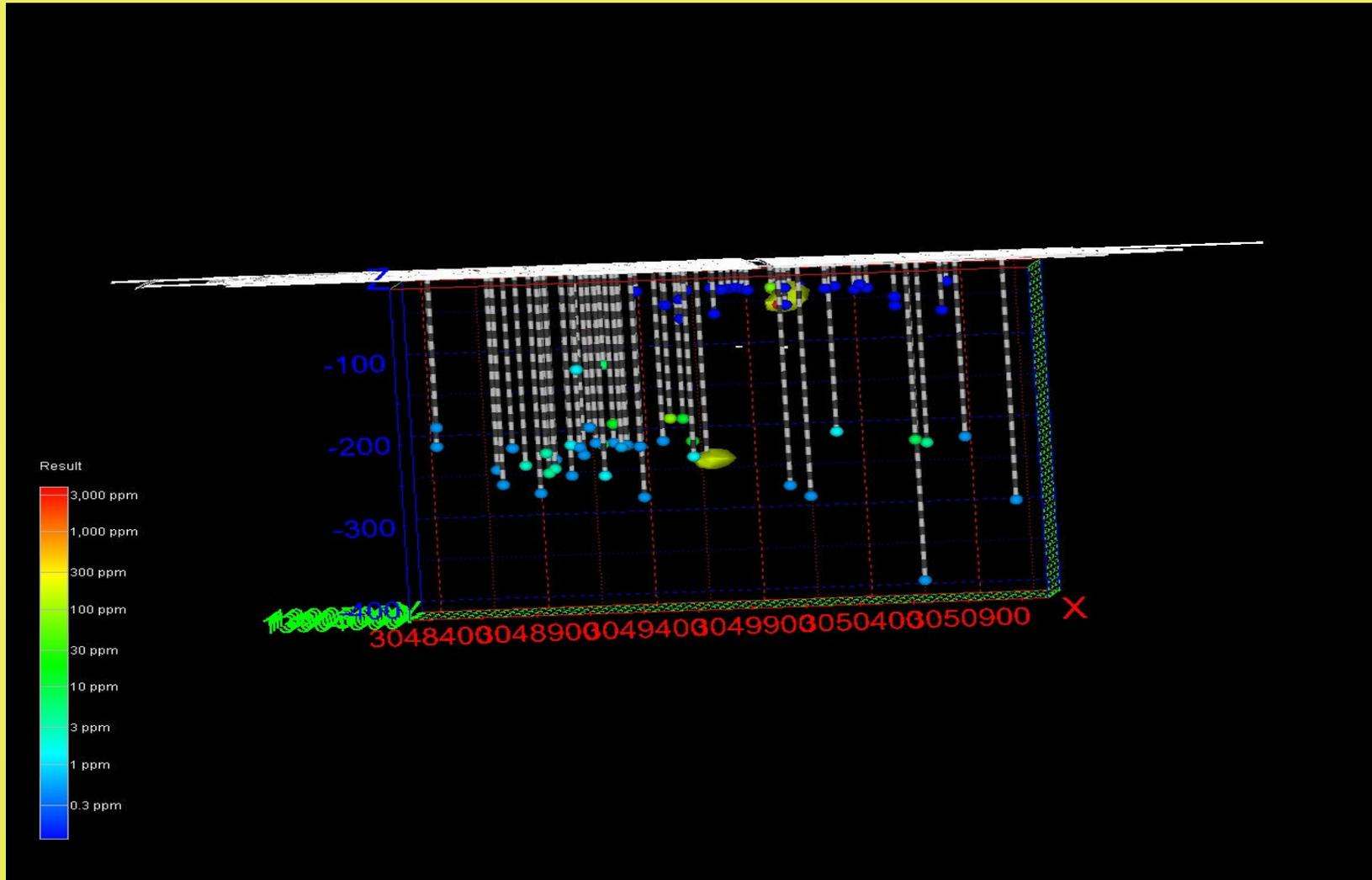


Jones Road Superfund Site
Houston, TX

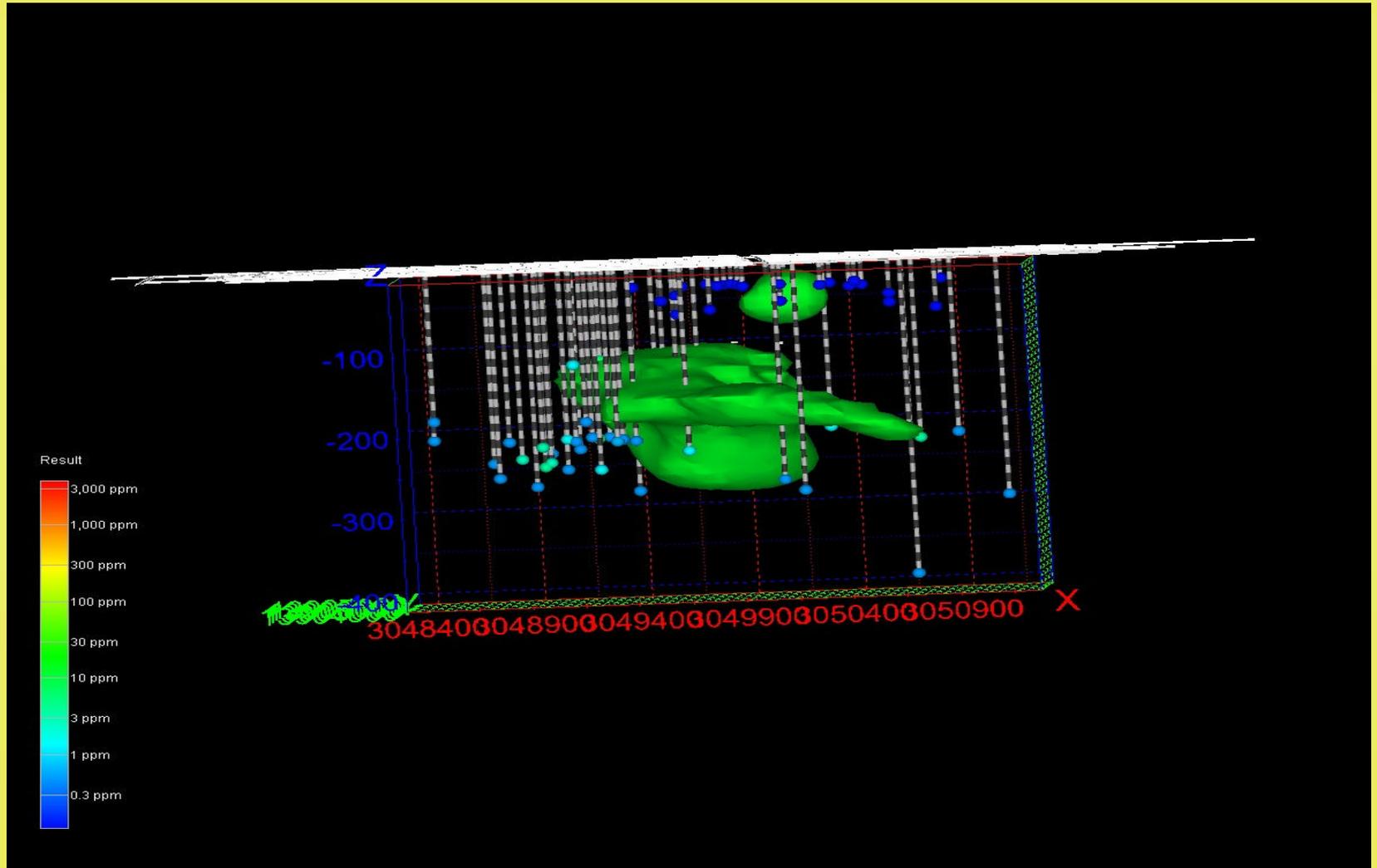
November 2003
PCE Plume

Drawn	Date	File name	Projection	Scale

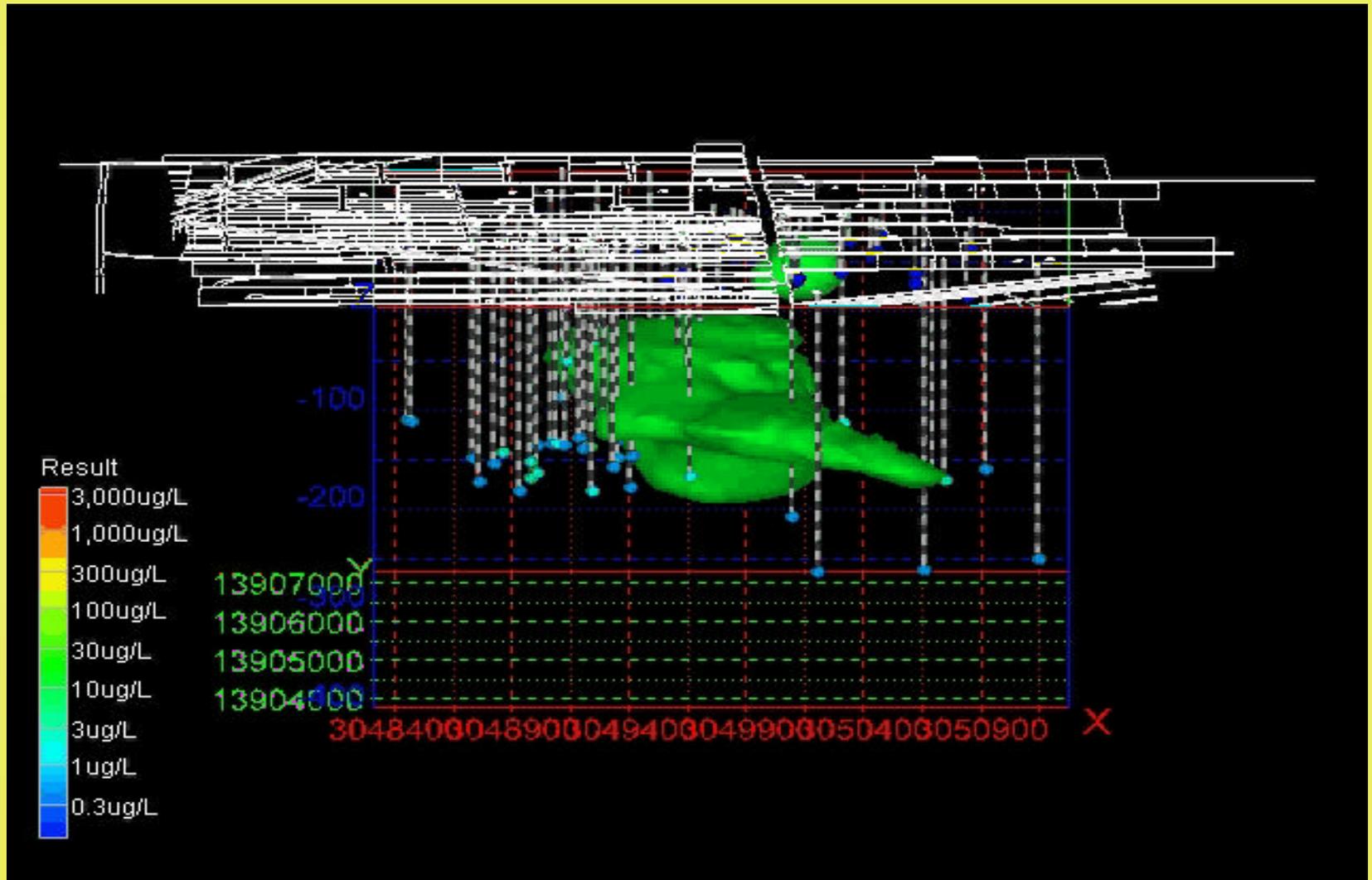
PCE in Water > 1,000 ppb



PCE in Water > 5 ppb



3-D Presentation





What's Next?

1- Obtain Groundwater Elevation Data

- Identify Inactive Wells
- Create Observation Well Network
- Collect Water Elevation Data
- Identify Effects of Local Pumping
- Determine Groundwater Flow Direction and Flow Rate

2- Define Hydrogeologic Setting in Chicot

- **Run Gamma Log on Inactive Well Network**
- **Drill Observation Wells in Chicot**
- **Conduct Geophysical Logging**

3- Define Hydrogeologic Setting in Evangeline

- **Locate Existing Wells completed in the Evangeline**
- **Identify Groundwater Flow Direction in the Evangeline [May be different from Chicot]**
- **Monitor Groundwater in the Evangeline**

Closing

If you have any questions, please contact the following persons:

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Janie Montemayor 512-239-3844

or

1-800-633-9363