1/29/97
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PRS 16-021(c) RFI/CMS: Update and Current Schedule

LANL/DOE Presentation to NMED

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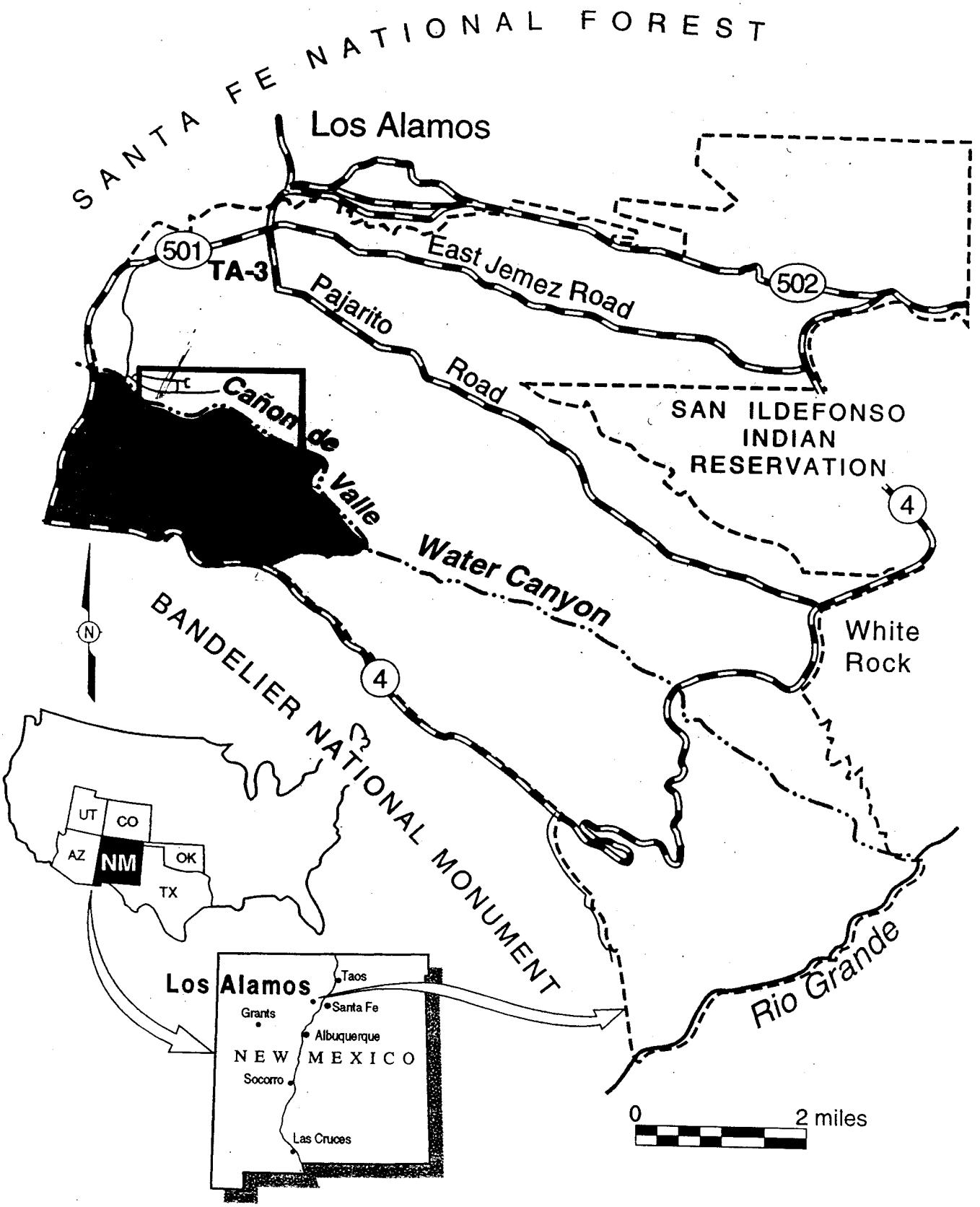
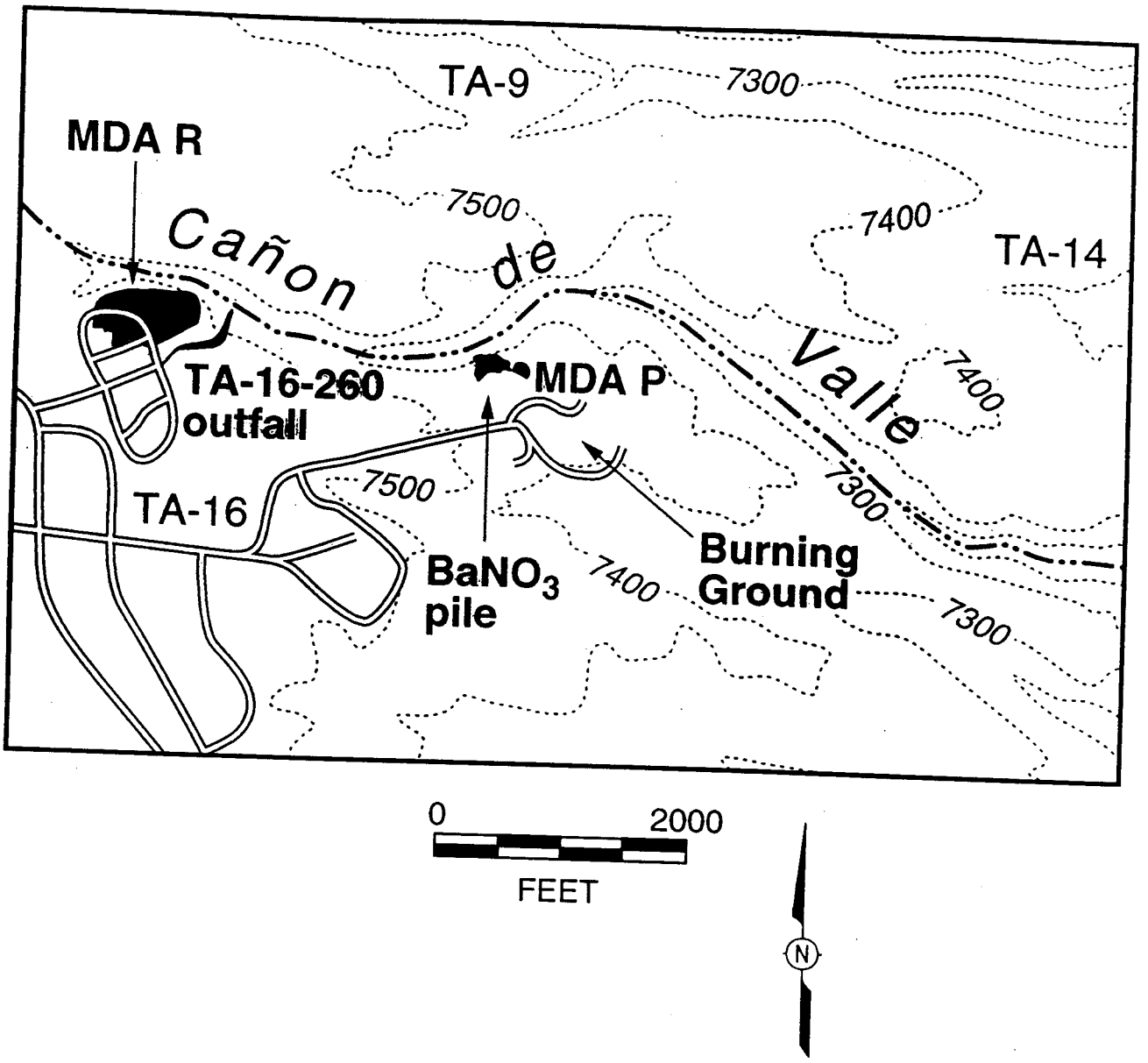
LANL Field Unit 3

1/29/97

Outline of Presentation

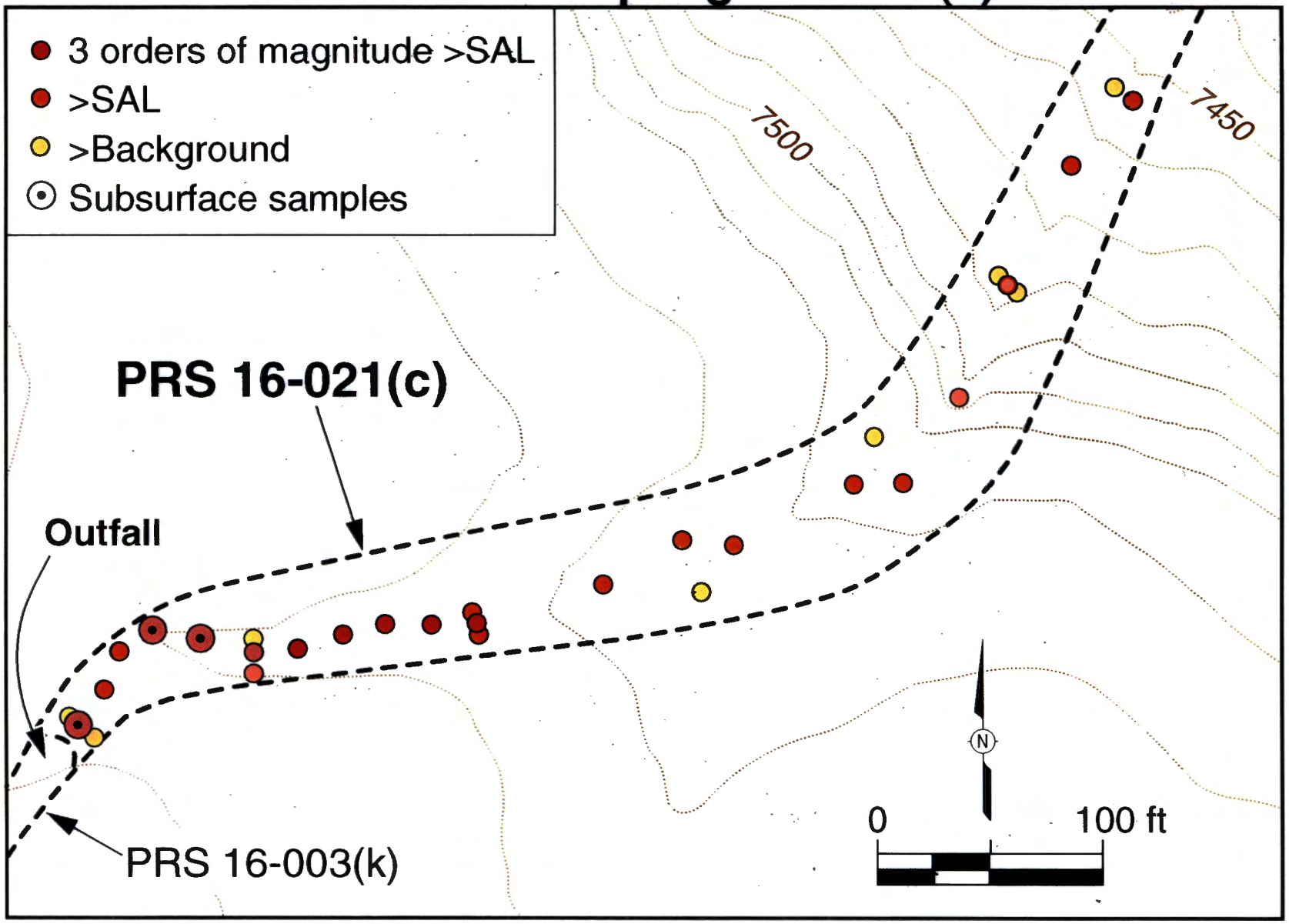
- PRS 16-021(c) background
- Recent developments
- Discussion of 12/5 NMED letter comments
- Current schedule/future activities


SANTA FE NATIONAL FOREST
Los Alamos
501
TA-3
East Jemez Road
502
Pajarito
Road
Cañon de Valle
SAN ILDEFONSO
INDIAN
RESERVATION
4
Water Canyon
White
Rock
N
BANDELIER NATIONAL MONUMENT
4
UT
CO
AZ
NM
OK
TX
Los Alamos
Taos
Santa Fe
Grants
Albuquerque
NEW MEXICO
Socorro
Las Cruces
Rio Grande
0
2 miles

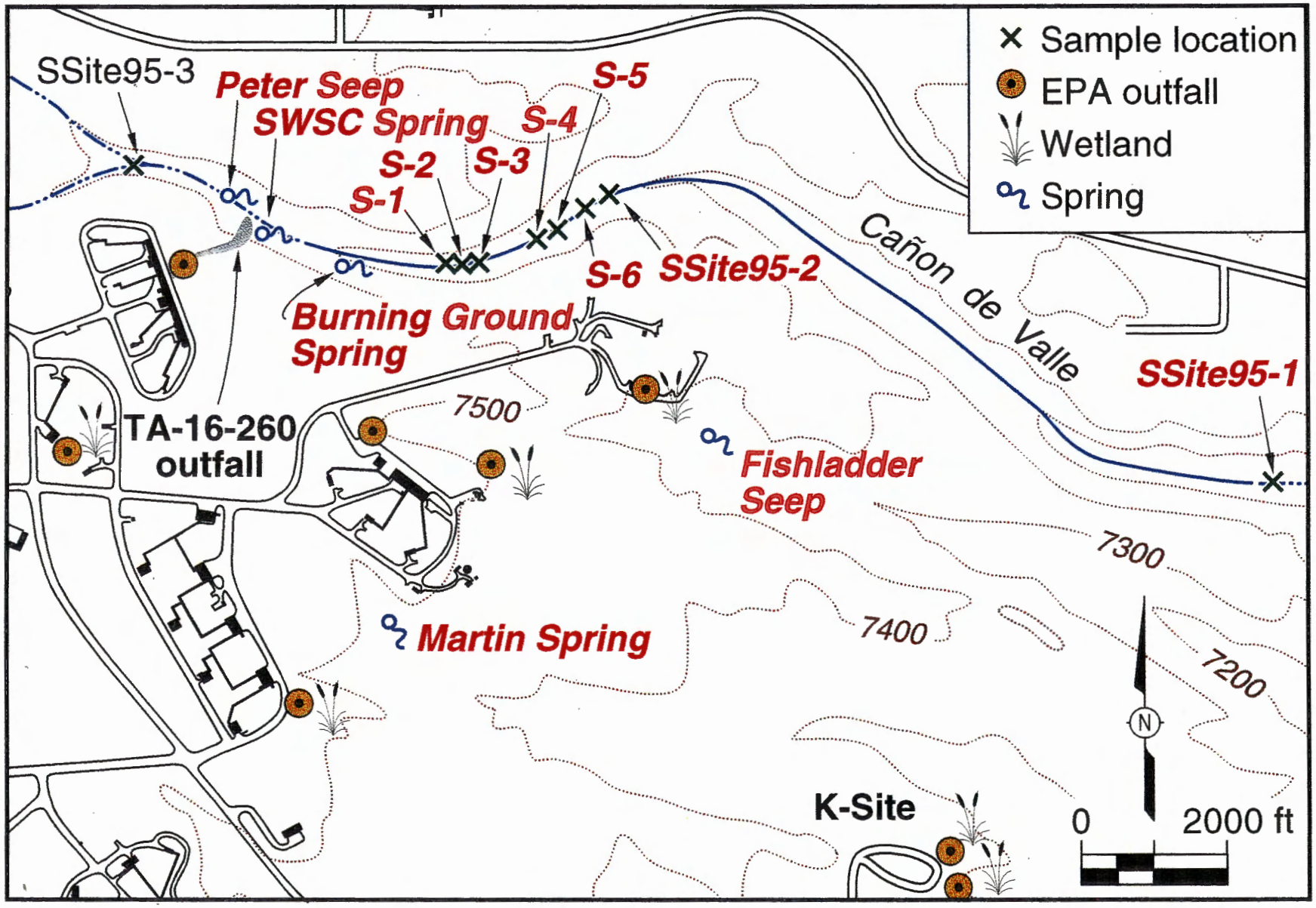

TA-9
7300
MDA R
7500
7400
TA-14
Cañon de Valle
TA-16-260
outfall
MDA P
7400
7500
7300
TA-16
BaNO3
pile
7400
Burning
Ground
7300
0
2000
FEET
N

PRS 16-021(c) Outfall - After interim action

RFI Phase I Sampling—16-021(c)



Spring and Cañon Sampling—Non-RFI



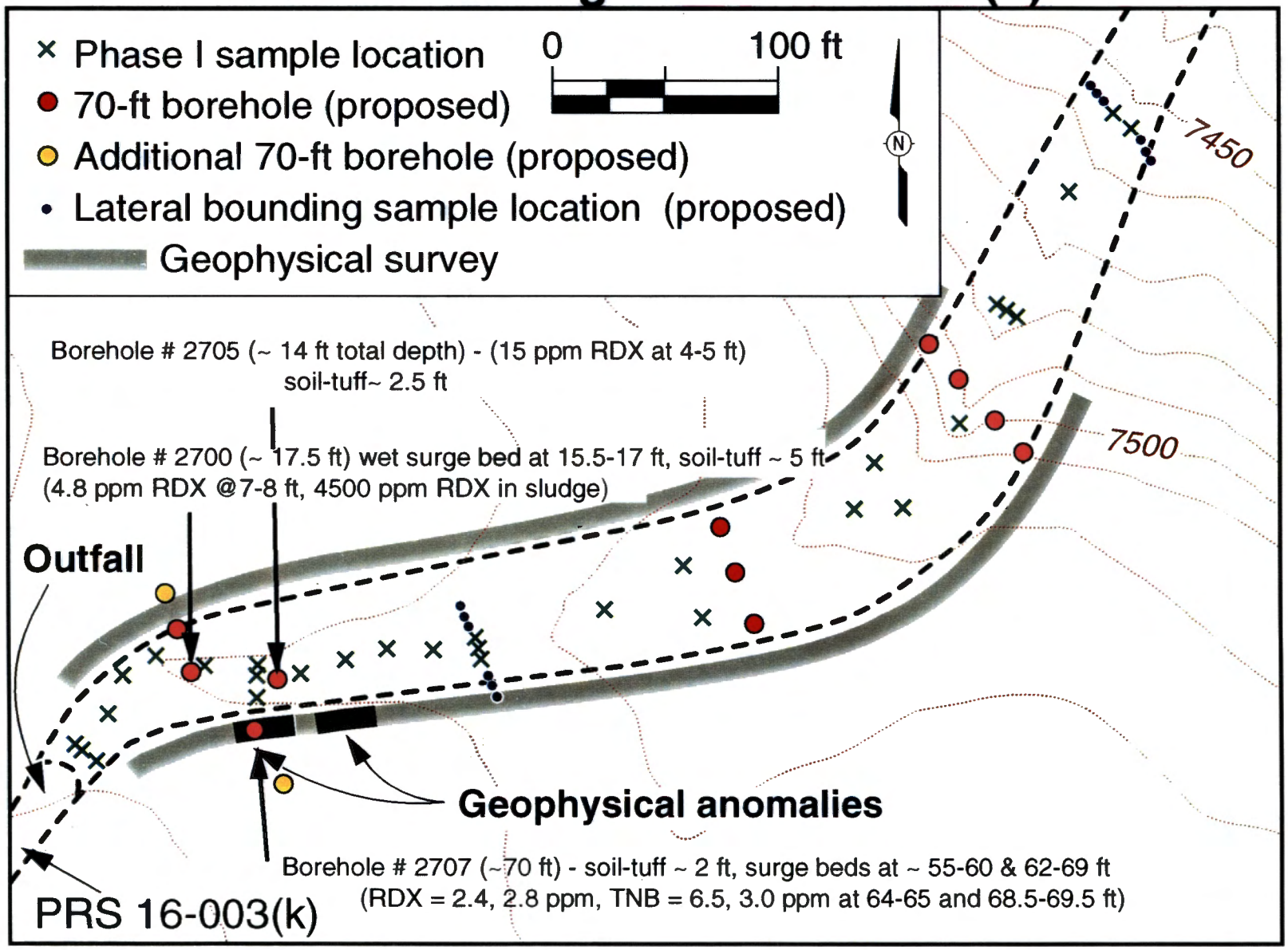
FY 97 PRS 16-021(c) Characterization Activities

- Geophysical studies - complete
- Extent of contamination drilling - begun
- Lateral bounding sampling - Spring 1997
- Hydrogeologic drilling - Summer 1997
- Quarterly spring sampling - begun
- Tracer study - Spring 1997

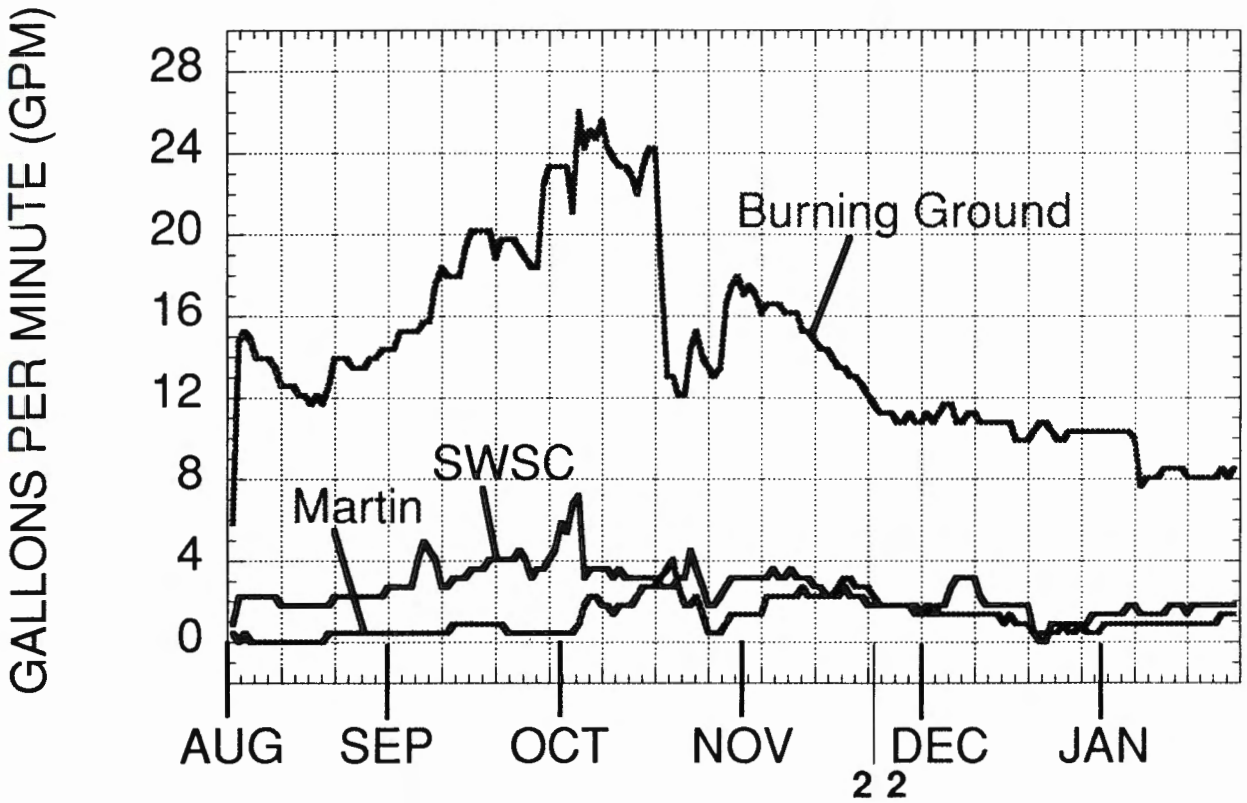
Recent Developments - PRS 16-021(c) Investigations

- Outfall turned off 11/22/96
- PRS 16-021(c) pond drilling/geophysics results
- Spring flow rates
- Canon de Valle stream/sediment sampling
- Bioremediation treatability study
- Umatilla trip

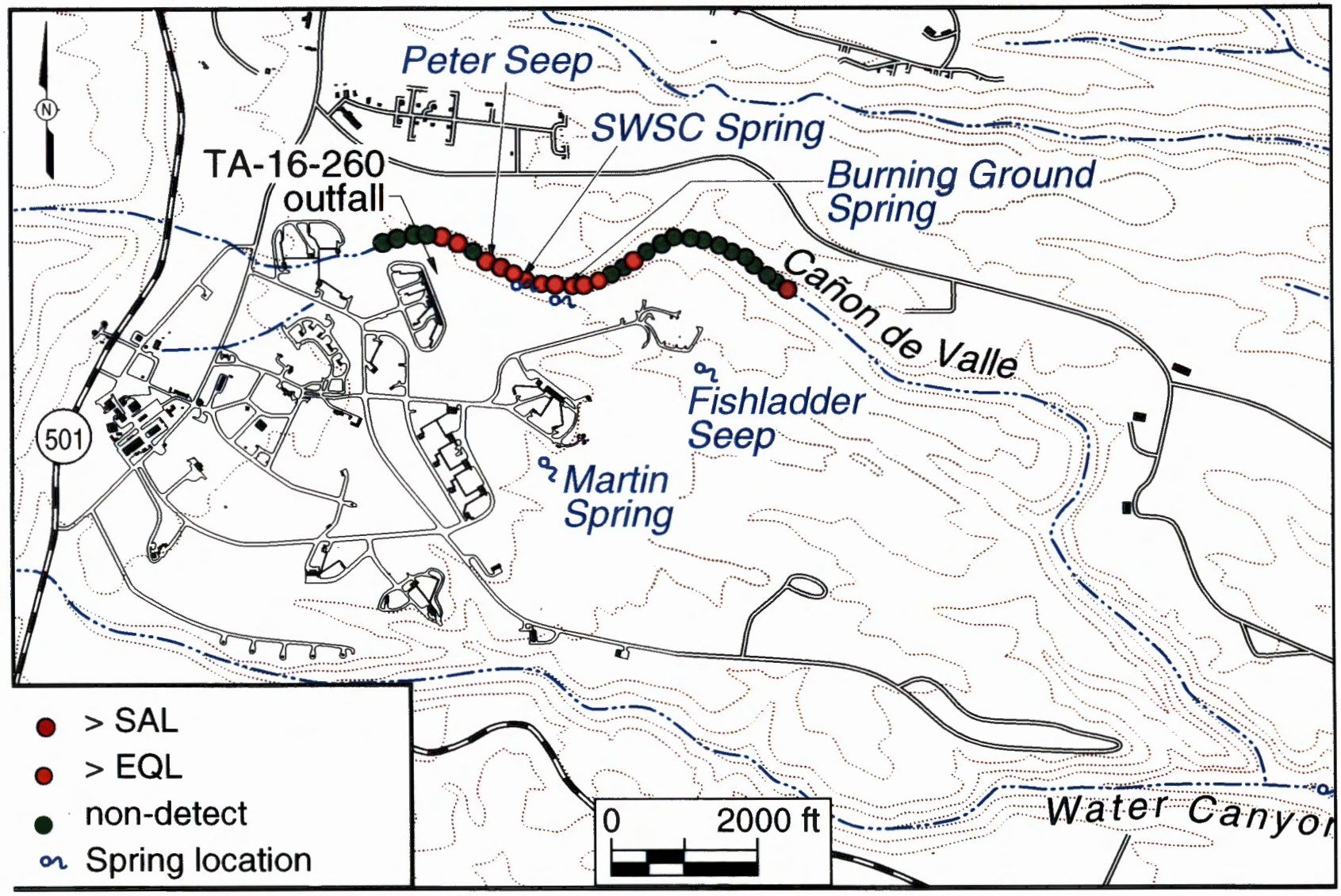
Current drilling status—16-021(c)



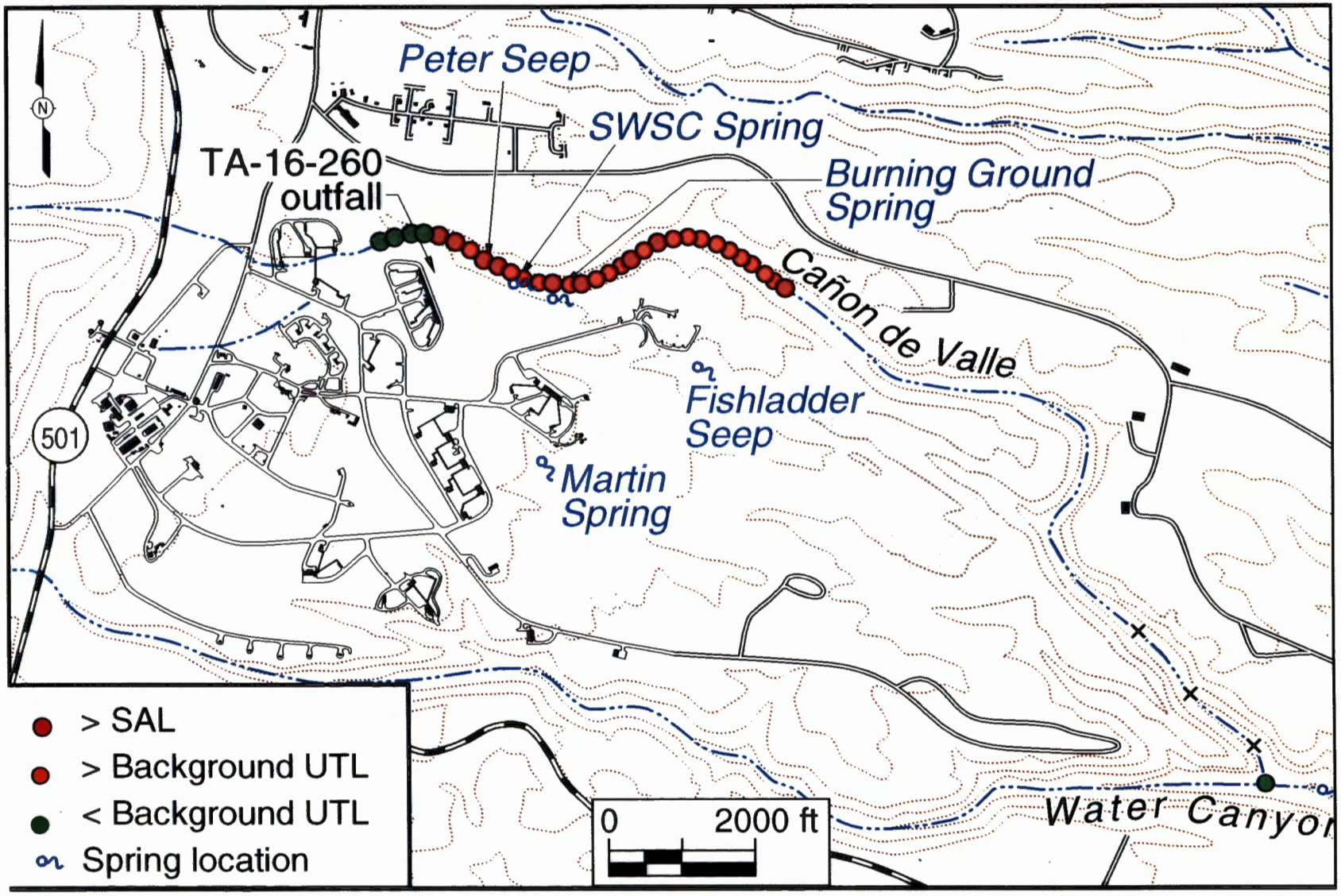
Flow Rates: TA-16 Springs



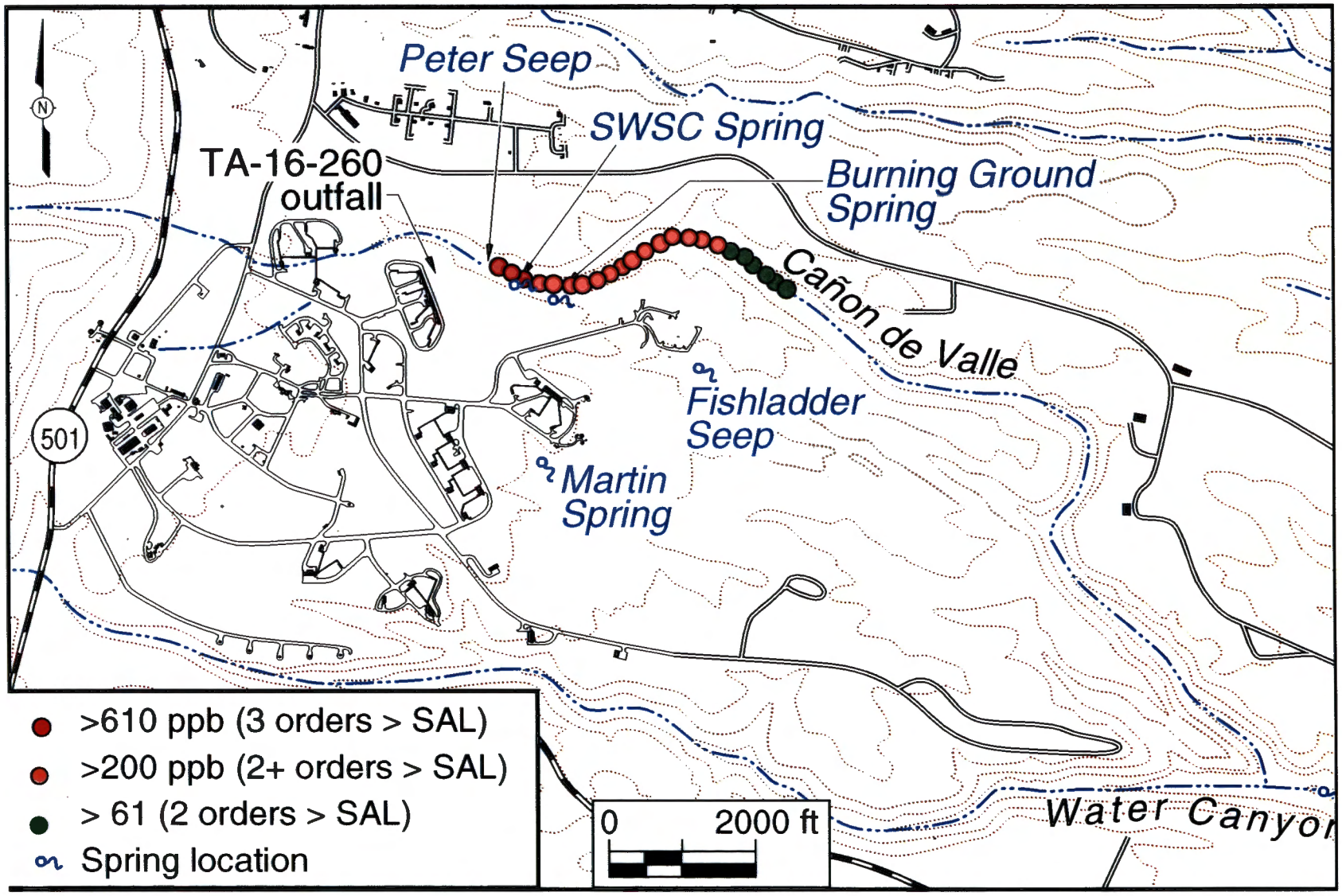
RDX in sediments - locations approx.



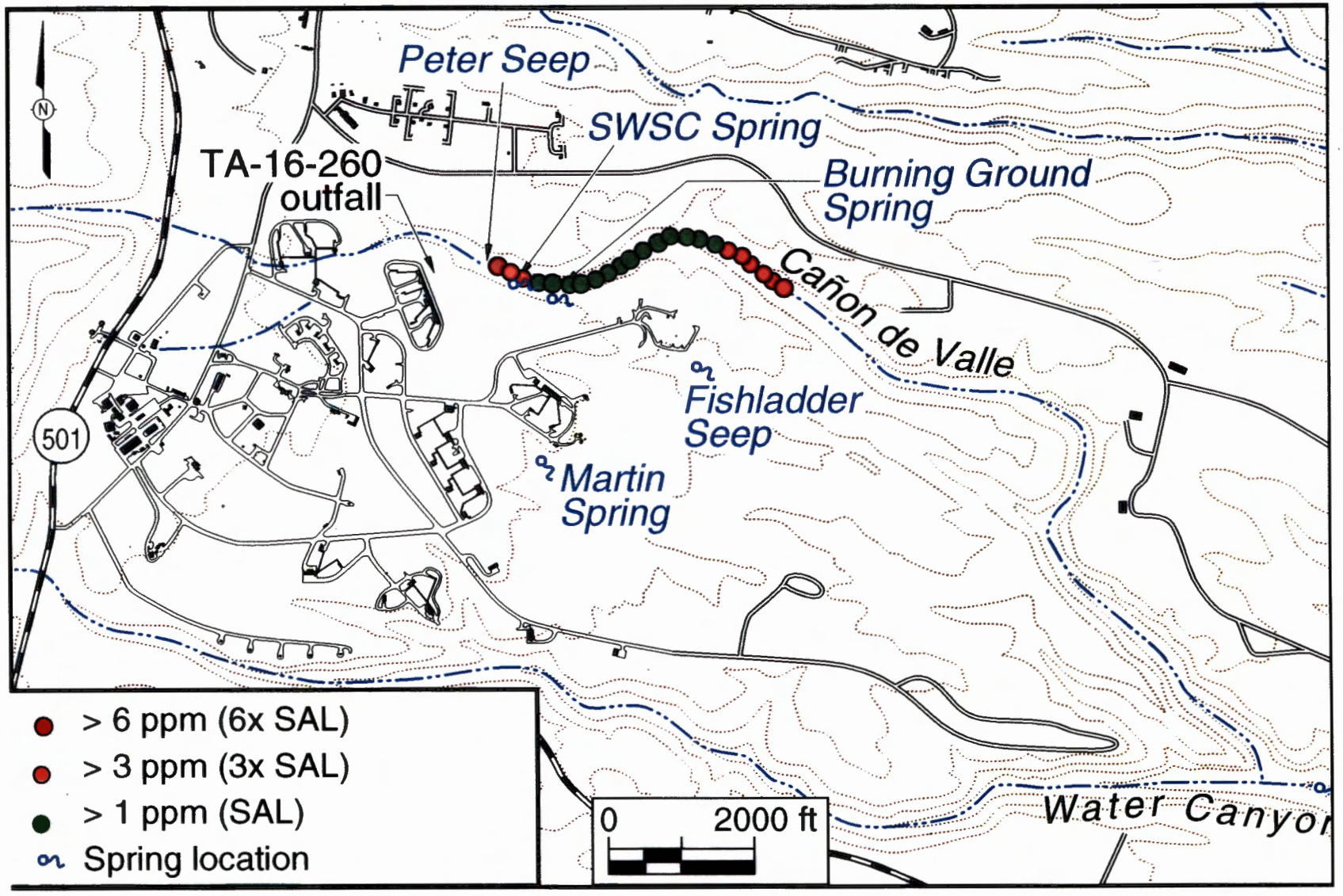
Ba in sediments - locations approx.



RDX in water - locations approx.



Ba in water - locations approx.



CMS-related activities

- Successful bench-scale bioremediation experiments: anaerobic/aerobic in stirred/non-stirred slurry reactor. Indigenous/non-indigenous bacteria with and without amendments

- Umatilla Army Depot visit to evaluate cleanup technologies

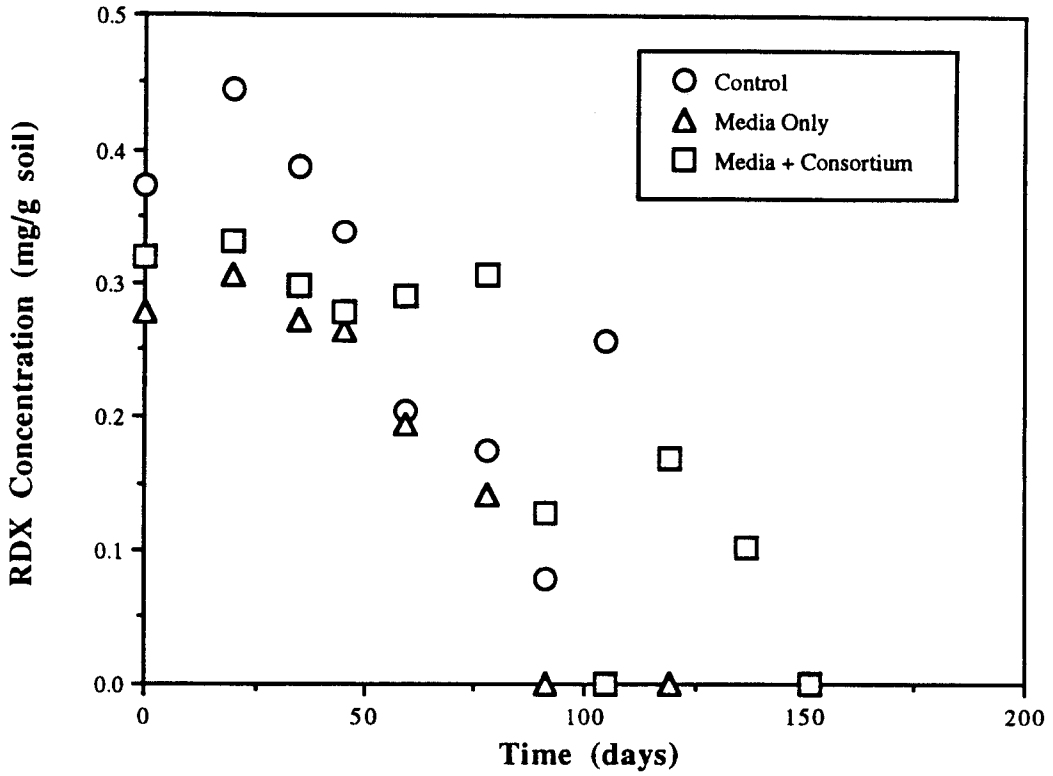


Figure 5: The concentration of RDX over time in the soil slurry units for the second phase of the experiment.

Umatilla Army Depot site visit

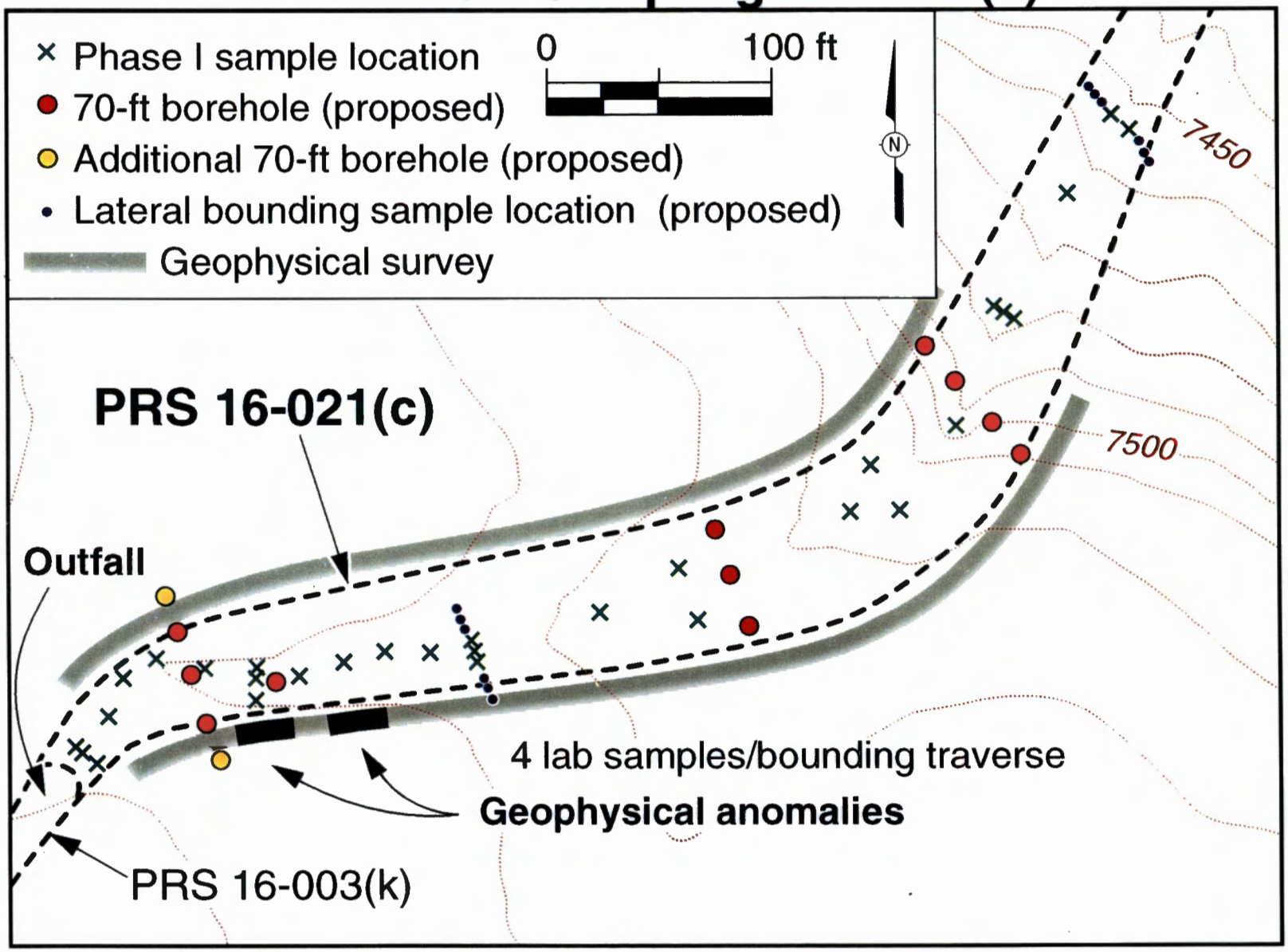
- HE washout lagoons soils OU - windrow composting complete
- Groundwaters OU - 10-30 year pump and treat w/ carbon filter unit
- Ammunition Depot Area (ADA) OU - Stabilization/landfilling

NMED Letter of 12/5/96 Discussion

" NMED HRMB questions the sole use of field methods sucha s spot test kits and immunoasay tests to estimate the lateral extent of contamination ..... DOE/LANL shall validate the lateral extent of contamination as estimated by the field screening techniques by using fixed laboratory analytical methods"

- DOE/LANL concur

RFI Phase II Sampling—16-021(c)



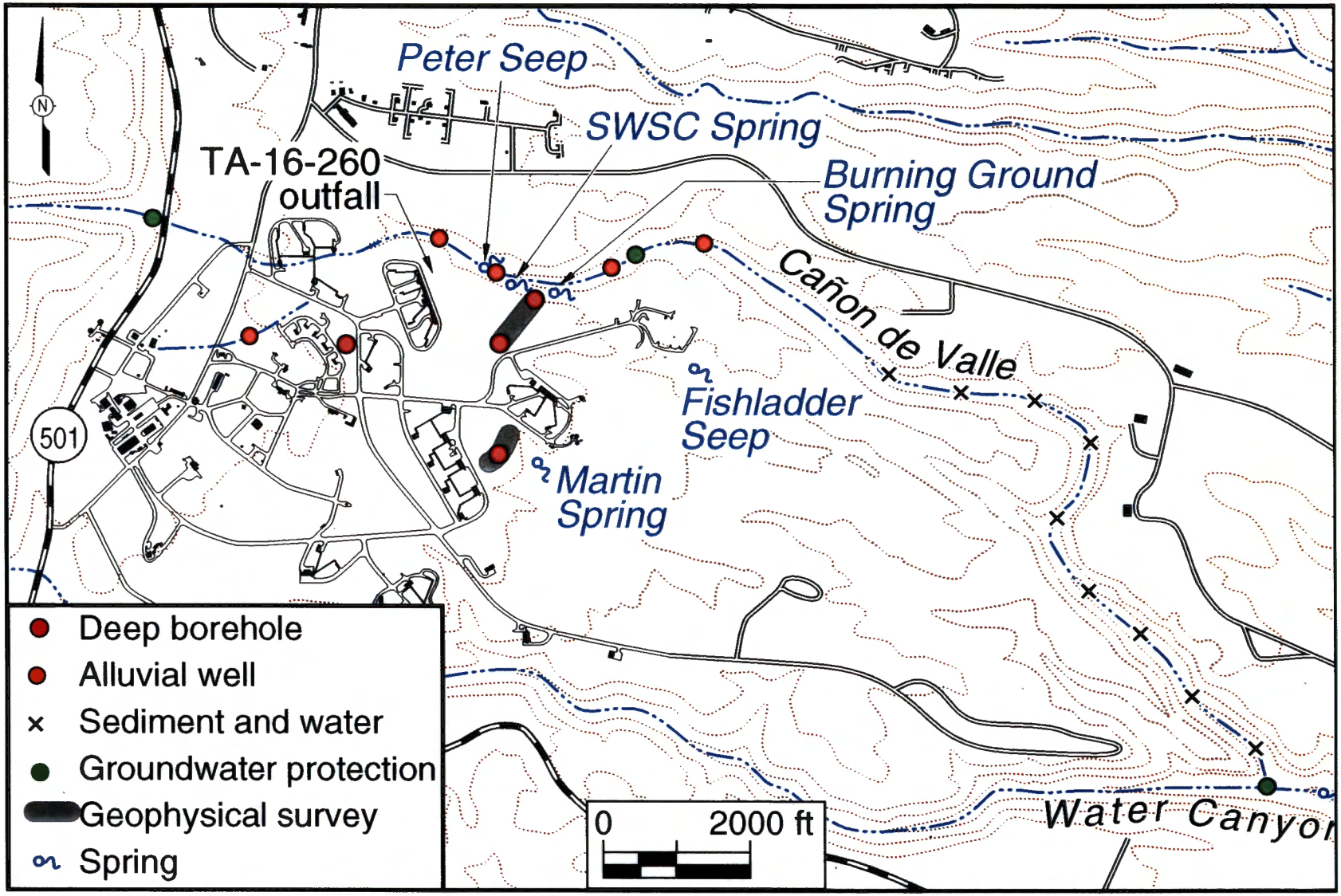
HE Screening Methods

- Two classes - immunoassay (i.e D-Tech) & colorimetric (i.e. ENSYS)
- Both are approved for SW 846 (i.e. 4050/4051 TNT/RDX D-Tech)
- Immunoassay strengths/weaknesses - rapid (< 30 minutes), good correlations with SW846 8330, compound specific, low MDLs (i.e. 0.5 ppm RDX), few false negatives (i.e. <0.1% RDX), some false positives (i.e. 4% RDX)
- Colorimetric tests strengths/weaknesses - rapid (< 30 minutes), good correlations with SW846 8330, compound non-specific (all aromatics or nitramines), low MDLs (i.e. RDX 1 ppm), few false positives and negatives

"DOE/LANL shall install monitoring wells along the drainage from the steam plant outfall to Canon de Valle in order to address impacts to shallow, perched ground water"

- DOE/LANL concur

Hydrogeologic Studies—RFI Phase II



"DOE/LANL shall site deep boreholes only after the evaluation of existing data from tracer tests, mesa-top saturated alluvium, et cetera"

- DOE/LANL would like to discuss siting of deep boreholes with NMED - preferably on a well-by-well basis

"DOE/LANL shall investigate the presence of shallow, perched ground water within the alluvium of Canon de Valle. NMED recommends the installation of 4 monitoring wells in the following locations: west of SWSC Spring, between SWSC Spring and Burning Ground Spring; between Burning Ground Spring and MDA-P, and east of MDA-P"

- DOE/LANL concurs with installing 4 monitoring wells - would like to discuss locations of wells (access difficult)