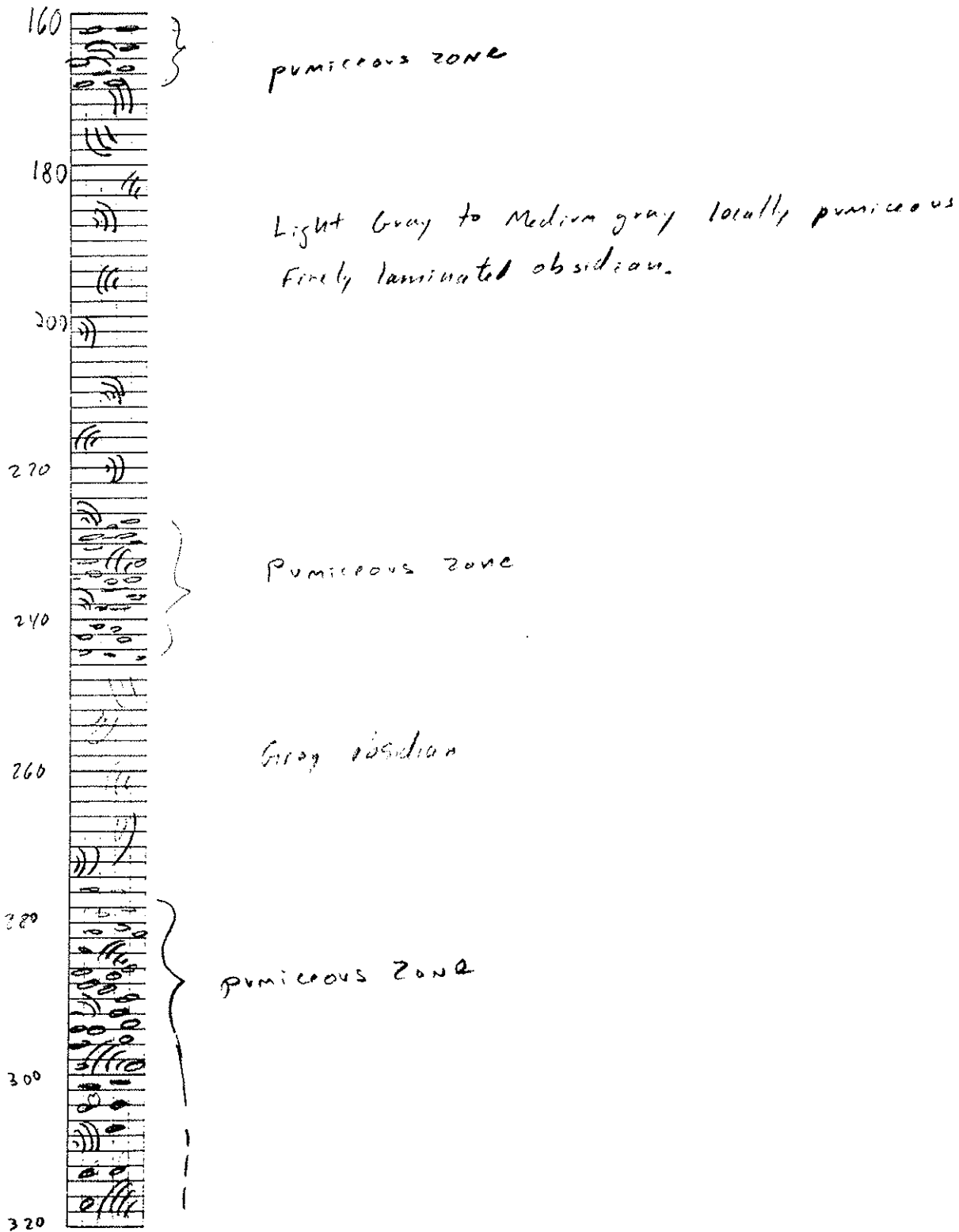


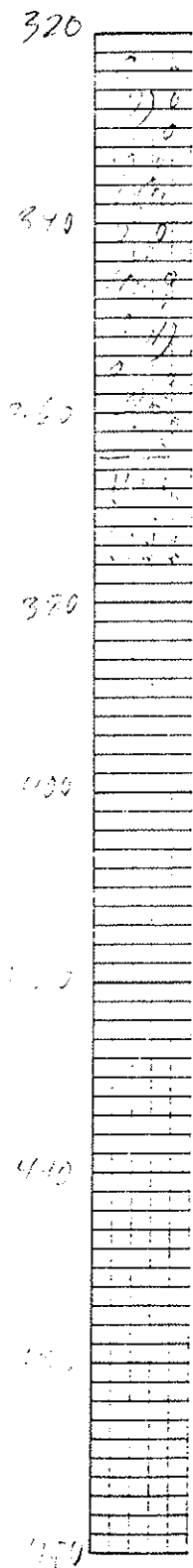
SANDIA NATIONAL LABORATORIES: Newberry Project
Lithology

1983



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1983



thin layers 2000 - 3000 feet, most are thin

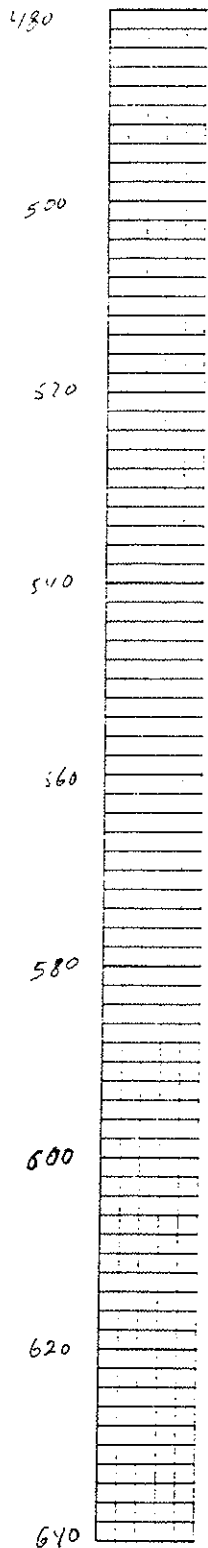
Basaltic tuff

Composed of dark brown finely vesicular microporphyratic basaltic glass. Phenocrysts include clear plagi, yellow orthopyroxene w/ minor green-brown clinopyroxene. Vesicles commonly filled w/ clear to white cryptocrystalline or amorphous material - no palagonite.

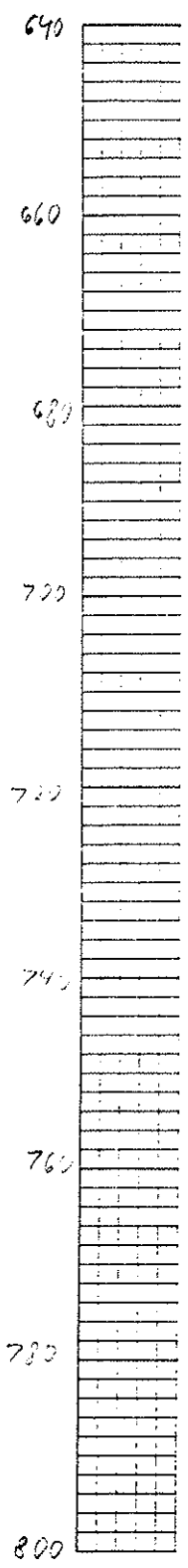
There is also a proportion (10-25%) of fine aphanitic - often microvesicular - basalt - presumably as bombs or blocks included as accidental fragments w/in the tuff.

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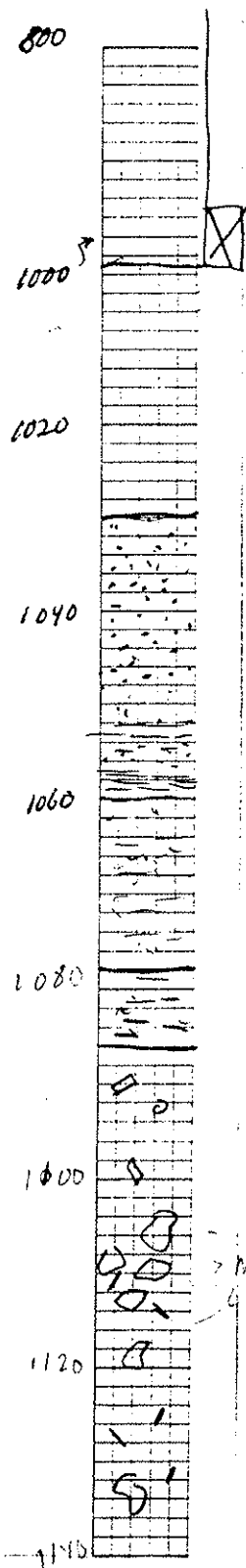


Basaltic tuff as above



RECENTE LAPILLI TUFF, AS ABOVE

Lithology



8 5/8" casing to 1003'

Basaltic tuff as above - some clasts show pervasive greenish clay alteration. Minor orange brown Fe-oxide alteration also. Occasional clasts show cryptocrystalline silica as botryoidal growths.

Brownish gray to gray clay with volcanic sandstone to sandy siltstone. Locally moderately indurated, locally friable. Fine disseminated pyrite occurs occasionally. Secondary calcite occurs as sparse 1mm fracture fillings.

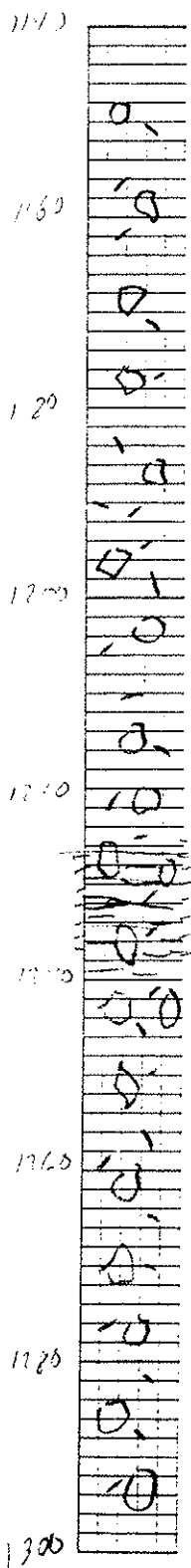
Volcanic sands.

clay rich zone

white to light gray devitrified extralithic tuff. Variable lithic clast content. Much clastic texture visible, secondary calcite and pyrrhotite. Variably indurated w/ cryptocrystalline silica.

Much calcite

Lithology

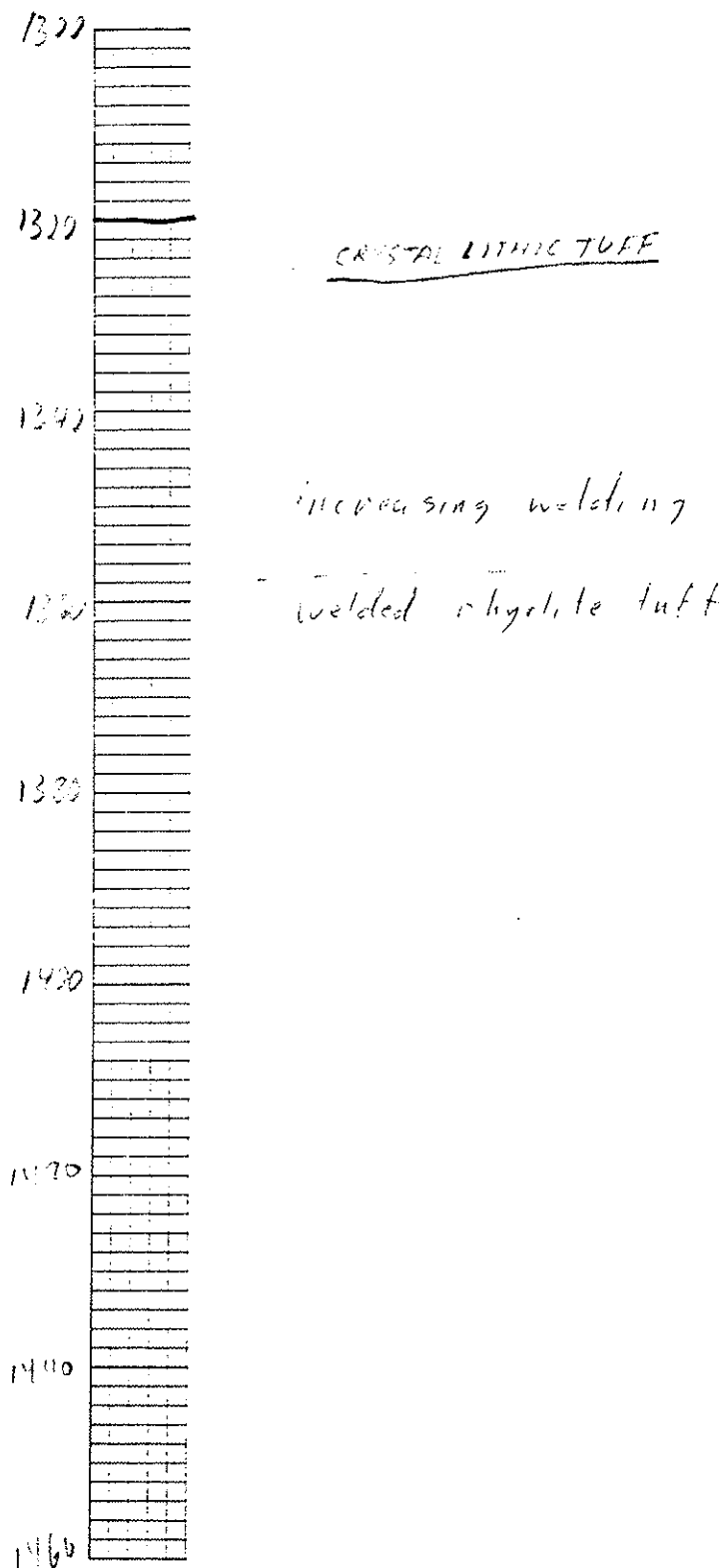


white to light gray, variably indurated, dehydrated siliceous ext lithic buff. Relic clastic texture obvious, though smaller clasts totally altered.
 @ 1150 70% clasts, diss py, tr diss, qtz, minor calcite to zeolite, cupferric SO₂ in veins

@ 1190 Tr epidote after plg in clasts, representing local chlorite as alteration products. Clasts pyritic locally

V- Clay rich zone @ 1230

Much tabular calcite and botryoidal chlorite on up fractures and surfaces on clasts. Tr. epidote after plg, may chlorite calcite magnetite and pyrite on up matrix



Tour Report

Date 9/30/83

T.D. 1390

Δ T.D. (tour) 0

Time 1pm to 11pm

Current Status _____

Activity Since Last Report shut down, pull up ~200', shut
in well waiting on barite,

Drilling Rates

Drilling Breaks

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Mud Loss/Gain _____

Mud Temp. IN 68.3 Out 76.4°C Time 1056 Depth 1390

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Visc. _____ Wt. _____ Filt. _____ LCM (lbs/bbl) _____

Alk. _____ pH _____ Cl (ppm) _____ PP _____ SPM _____

H₂S _____

Surveys _____

Additional Comments:

Tour Report

Date 9/20/80

T.D. 1390

Δ T.D. (tour) 40

Time 7:11 to 10:11

Current Status Drilling waiting on barite

Activity Since Last Report _____

Drilling Rates

Drilling Breaks

<u>1375-1380</u>	<u>2 1/2 h</u>	
<u>7th bit air circulation</u>		<u>well flowing on its own *</u>
<u>at 1380' - 1386' - 1390'</u>		<u>temperature close to 114°F,</u>
<u>hard down 117°F.</u>		
<u>1375</u>	<u>mod temp climbing rapidly</u>	<u>now 135°F</u>
<u>1380</u>	<u>temp level off at 135°F</u>	
<u>1389-1390</u>	<u>3 h</u>	<u>mod 122°F</u>

Mud Loss/Gain _____

Mud Temp.	IN	Out	Time	Depth
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Mud: Visc. _____ Wt. _____ Filt. _____ LCM (lbs/bbl) _____

Alk. _____ pH _____ Cl (ppm) _____ PP _____ SPM _____

H₂S _____

Surveys 11:00 Surveys 1-2 mile

11:40 shot in with BOP after pulling back 200(?)'

Additional Comments:

* Well began flowing on its own at 1350. Shut out flow at 1330. However, continuously also drilling began at 1336' (Don's notes).

Tour Report

Date 9/29/83

T.D. 1350

Δ T.D. (tour) 90'

Time 5 PM to 3 AM

Current Status DRILLING

Activity Since Last Report DRILLED ALL NIGHT

Drilling Rates

1250-1260 ~10"/HR

1270-1280 28 MIN

1300-1310 V. SLOW

1330-1340 3 HRS

-1350 4 1/2 h

Drilling Breaks

1266 ~~1260~~-1270 ~2 MIN.

1310-1320 ~30 MIN

got hard at 1328

set back at 1349

Mud Loss/Gain _____

Mud Temp.	IN	Out	Time	Depth
	<u>33.3</u>	<u>44.4</u>	<u>6:35</u>	<u>1270</u>
	<u>33.4</u>	<u>44.8</u>	<u>9 PM</u>	<u>1300</u>
	<u>33.4</u>	<u>44.9</u>	<u>10:39</u>	<u>1320</u>
	<u>32.7</u>	<u>45.4</u>	<u>11:51</u>	<u>1335</u>
	<u>32.6</u>	<u>44.3</u>	<u>3:21 AM</u>	<u>1338</u>

Mud: Visc. _____ Wt. _____ Filt. _____ LCM (lbs/bbl) _____
 Alk. _____ pH _____ Cl (ppm) _____ PP _____ SPM _____

H₂S _____

Surveys _____

Additional Comments:

Driller notes not done. got hard at 1328, stayed
 hard for some at 1340-50, better drill - more soft
 bottom in cuttings

Tour Report

Date 9/29/83

T.D. 1260

Δ T.D. (tour) 170

Time 6 AM to

Current Status Drilling

Activity Since Last Report Drill all day, shut down

for 1 hr to service rig

Drilling Rates

Drilling Breaks

1040-1110 ~ 1 min/foot 1042 - slow rough drilling for few feet

1110-1130 ~ 1 min/ft (18 min/70')

1150-1155 slowed down ~ 2 min/ft

1155-1159 speed up - 1 min/ft rough

1159-1161 6 min/ft

1161-1175 fast - smooth 1.2 min/ft

1175-1260 present, slower

Mud Loss/Gain Ø

Mud Temp. IN 32.6 Out 33.3 Time 9:30 Depth 1155

Mud: Visc. Wt. Filt. LCM (lbs/bbl)

Alk. pH Cl (ppm) PP SPM

H₂S

Surveys

Additional Comments: