

COLLECTION: Anna Osler Shepard Archival Collection

**CDI
ACCESSION
NUMBER:**

000104

ERRATA:

None noted.

COMMENTS:

Handwritten and difficult to read in some instances.

CITATION:

Shepard, Anna
1942 Temper and Pigment of Pottery from Red Rock region: Red Rock and Pueblo Bonito.
In Anna Osler Shepard Archival Collection, File F21, Colorado University Museum, Boulder.



Red Rock

B. M. III Red

1919
320

Paste bluish, opaque from carbonaceous matter, show some more dense lumps whitish oxidized margin light brown with darker streaks weakly birefringent. This is apparently a white-burning clay.

Temper hard angular quartz & fine greyed mica.

✓ 1920
980

Clay similar to above in oxidized zone. Finer texture, birefringent color. Differs in occurrence of minute black particles. Central zone dark brown but transmits light.

Temper similar to above. Percent fine mica & quartz. Some particles which are sandy suggest sherd not positively identified.

1921
frag of
burnt
980

Clay yellowish brown with numerous dark inclusions - some carbonaceous, minerals same as above.

1922
1132

Clay opaque temper similar to above but very little mica.

Red/red

1923

angular? pale green 5.9 x 11.8

1336

Subangular grains of sand - quartz, microcline, plagioclase, fragments of calcite apparently from cement of a sandstone, few fragments of sandstone in part with ~~to~~ iron stained cement, few particles of illite texture. Some sericitized particles


1924

909

Coarse angular to subangular grains of quartz, heavily coated with iron oxide which is brown to opaque - follows, cracks shows mosaic structure. Few grains of microcline, some sandstone particles. Some grains of quartz outwashed clay light brown. Many of quartz grains contain dusty streaks of minute inclusions or bubbles.

1925

1052

12.6 x 15.3 - frag.  clear with low α low Δ . Chalcedony with high % water.

6.2 x 19.4 grain of quartz with group of minute light red rings medium to fine quartz grains, mainly rounded. Some angular with streaks dusty inclusions & many with outline of inclusions & secondary growth. Frag. fragments microcline, calcite, ~~and~~ chalcedony? some outwashed quartz.

1926

1314b

Sand quartz, microcline grain angular to subangular medium to fine. Clay opaque of red ware paste. Several grain quartz.

1927

1314c

Similar to above with several grains zircon - some chalcedony? Clay light brown.

1928

1314e

Similar to above. One grain with iron stain.

Made lateral cl. with red

Red Rock

1. Relative stratigraphic position of ~~Red~~
Red wash }
buff }
painted }
Red/red }
- offensive core
473 478
no red - all grey?
Browden
early 600's } Red
670's } present.
350's } same group.

2. ~~Do there a gray wares or does "buff"~~
~~represent principal plain?~~

3. How does shapes compare in the different
wares?

4. How does workmanship - wall thickness
vessel symmetry, smoothness of finish
compare in wares?

5. How does the clay base compare in
the different wares?

Possible sources of the Red ware

1. Mogollon.
Can paste be matched in Mogollon?
2. Northern site making both red
& gray wares. Can paste be
matched in a northern gray ware
what comparative material which might
be intrusive in Red Rock. Note that they
had Bennett Peak pottery.
3. Northern site or district specializing
in Red ware. Look for high freq. of red type
of same paste. Note absence of unpainted slip types
in Alt. P. Red. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Red Peak.

(?- good exposures not obtained.)

Arizonicus 95

808

1138

1339

1115?

1114

411?

1110 glassy 95.

1131?

1132 ch. shape like red.

317

323

1117

414a

1128

care 8

919

589 fine grains except.

414c

unno. in board.

11.80

315

314

1309

1409

2101

606

1162 (pyrite?)

951

210m

1314c

948

1165c

308

908

1314b

303? shell-like
chalcedony

1168

unno. part like jar

332

903

4146 orb. 7/3. 09/2016

911

605

unno gobulim pad.

916

1185

unno.

9816 fine

1053

1st & recorded

unno of abada.

1140 fine

1172

914

906

Angular gts
 ?
 1115 808
 411 1138
 1131 1339
 114
 110
 1132
 317
 1314d - ?
 323
 1117
 414a
 1128
 Case 8 -
 919
 589
 414c
 near hard unns.
 (no no red quartzite)
 948
 1165e
 1341
 308
 908 - ?
 1314b
 303 - shell like chalcidomy
 414d rounded -
 1314a
 1168
 951
 1140 - feld + sandstone
 210 m
 1314c
 1180
 515
 314
 1309
 1409
 2101

Andesite
 ✓ 979
 ✓ 910
 unns.?
 1109
 944?
 1115
 1166
 unns.?
 dyneuroch
 1314a
 Sandstone band
 ✓ 1191 P.I banded
 210 m feld
 1154 m

Sandstone
 ✓ 1341
 8094 pink silica
 com.

with gts with
 surface chertite or magnetite
 ✓ 1147 1171(?)
 1165a 1169
 945 ✓
 917 ✓
 987 ✓ 19
 957 ✓
 981a ✓
 1134 ✓
 1165b ✓
 907 ✓
 909 quartz red
 1150 ✓ gts
 1164 ✓
 1155 ✓
 1291 ✓
 1179 red other
 210 m ✓
 unns some feld
 1129 ✓
 1004?
 1099?
 1179-3
 1314d
 red feld
 1165a
 small mineral
 quartz
 thurif

unns jar

1162?
 unns.
 332
 903
 414b, 414c
 1137 rounded
 sandstone
 210
 911
 1605
 920 felds, cleavage
 unns.
 1916
 1185
 1002 some reddish
 unns.
 981b fine 1172
 1053 914
 1-6
 unns. sand 906

red
 waste

?
1115 808
411 1138
1131 1384
1114
1110
1132
317

1314d - ?
323

1117

414a

1128

Case 8 -

919

589

414c

run band runs

(No no red quartzite)

948

1165e

1341

308

908 - ?

1314b

303 - shell like chalcid

414d rounded -

1314e

1168

951

1140 - field + Sandstone

(not white)

210m

1314c

1180

315

314

1309

1409

2101

979

910

unnamed?

1109

(?) 944?

1157

1168

unnamed?

gneiss rock

1314a

Sandstone basalts

1191

210 n

1154

Sandstone

1341

1094 pink silica

cem.

1147

1165a

1171(?)

1169

945

917

987

957

981a

1134

1165b

907

909

1150

1164

1155

1291

1179

210 n

1129

unnamed

1129

unnamed

unnamed

1162?

unnamed

332

903

414b, 414c

1137 rounded

210

911

605

920 fields

unnamed

1916

1185

1002 some reddish

unnamed

9816 fine

1053

126

1140

1004?

1099? 1.2

1179 - 3

1314d

red quartzite

1165a

black white

1179

red quartzite

1162?

unnamed

332

903

414b, 414c

1137 rounded

210

911

605

920 fields

unnamed

1916

1185

1002 some reddish

unnamed

9816 fine

1053

126

1140

1172

1914

906

Red Rock oherd then returned
Then acct. 1919-1986

Redwan

320

980

with 980

1132

1336 - alkali-Ridge Lake

Beff.

909

1002

1314 b

1314 c

1314 d

Painted wall

225 a

225 b

325

981 a

981 d

1107

1215

1189 P.I.

Red Rock Shred sent to S. F. by E. H. M. Merrill. 7/11/38

Grains of ~~sand~~ quartz stained with hematite. Lumps of hematite - (magnetic) - fragments of sandstone with ferruginous cement.

Grains of hematite, fragments of calcite of angular sand with xl faces.

Some grains quartz coated with ~~magnetic~~ hematite which is magnetic. Some grains show coating of dark iridescent material. ~~low~~ reduced hematite effect of firing on hematite must be considered.

Red quartzite with ^{quartz} chalcedony in it. grains dark red irregular coarse.

Plain-surfaced.

- mainly 95.
1. Coarse sand, well rounded, angular. Clean fine grains absent. Partly dense - 30 + 3 specimens with grains xl. calcite ∇ to 3 with calcined calcite.
 2. Sand vary from fine to coarse - 8
 3. Sand with remnants of ferruginous cements & grains of hematite. - 13 + 1 Red quartzite
 4. Igneous rock. 3.

Red. all sand temper. Mainly coarse & coated calcined calcite, 1 xl calcite, with some ferruginous material.

Red Rock thin sections

Red warr

1919. (320) Red warr

Grains of quartz, microcline sericitized feld. lumps of clay + particles which look like sherd. Core dense + dark with carbons, margin light tan birefringent.

1920. large xl of qtz. some with secondary growth microcline. One fragment grayish mica, a few fragments that look like sherd.

1921. Similar to 1920.

1922. Do type Red/Tan.
alkali Ridge

1923. Sandstone with clear calcite cement. few fragments of porphyritic igneous rock.

Buff. x - high refingence.

1924. Quartz grains with conspicuous ferruginous cements. One grain of microcline.

1925 Large grains of quartz with conspicuous secondary growth around the ^{original} grains well rounded. Sprinkling of fine grains.

1926. Angular to subangular grains of quartz, some microcline, dense dark paste.

1927 Grains of quartz + some microcline subangular to rounded. (one fragment of orthite)

1928 Do. ←
Painted igneous rock

1929. Weathered orthoclase some plagioclase, a green pyroxene titanite + magnetite.

1930. Fine text. tan groundmass with opaque incl. phenocrysts of feld. + quartz.

1931. Feld. phenocr. + fine groundmass. xl pyrox + horn blende

1932. Similar to 1931 green to brown horn blende but no pyrox

1933. Similar to 1929.

1934

1935, fine groundmass phenocrysts of feld, no feldspar

1936, Sandvick Basalt, biotite conspicuous
spots of altered material, no needles.

Red rock experiments

1. Repeat series of sheet to cf. skudged paste color at 800°, 900° & 1000°
2. Determine whether reddish color noted in limited areas is high ferric temp. or due to alkali.
3. Experiment with surface finish. Smoothing & polishing.

15 canes 5 x 2 in.

1186 P.T jar Pitcher. Mineral paint $\frac{1}{4}$ black, remainder brown. Surface gray with thin streaking of white. Dark spots of temper exposed. Surface smooth but not lustrous.

Temper sandvill basalt.

942. B.M. ^{III} bowl. Red brown mineral paint. Interior even but granular, temper exposed on base. Ext uneven, ^{granular} shows wiping strokes. Indentation of coil-welding shows in spots. Temper - andesite - or diorite - ground mass not noticed.

210 A. B.M. ^{III} Brown mineral paint. soft gives hematite powder, in section which has been warped by secondary firing. Paint is brownish vitrified. Mio. appears brownish on surface, has some grains quartz adhering to it. Black sluggy underneath. But except deep orange where secondary firing has been strongest. Ext red, even, faintly granular. Int even. Coarse particles of gray temper exposed. Dioritic rock.

985 B.M. ^{III} Bowl, gray, traces of fugitive red on exterior. Exterior uneven, granular. Interior ~~slightly~~ faintly granular, deeply crazed. Temper diorite or diorite porphyry.

1326 Small black bowl. Ext surface uneven. Interior slightly uneven but polished faintly lustrous. Temper coarse angular sand.

1136 Small red bowl. Slip light red dull thin ware exposing quartz grains & gray fragments. Paste badly effloresced & rim ~~is~~ brown down shown. Lamination thruout the body. Paste black. Coarse quartz temper.

210 d. Red ware bowl. Int even well smoothed dull slip thin worn leaving mottled appearance. Exposed temper med. to coarse grains red & gray. Ext buff unslipped granular. Int & ext spalled with temper. Red & gray coarse grains. to sect.

413. Small black bowl with partition thru center. Very uneven & crude traces of ties upper coils show in several places. Coarse ^{angular} quartz in soft parts.

1192. P. I bowl. Thin brown mineral paint, black on rim. Black on rim. Int. ^{uneven} smooth faintly lust. Lt. uneven. depressions from welding. faintly granular few tail marks. Sanded basalt in white paste.
1208. P III E; Organic paint bands & pearl triangles & areas. Surf. even smooth white slip pearly luster, crossed, Ext. coat thin, crossed. Paste texture fine friable. fine grains + quartz + frag. of quartz grains, granular.
1209. P III E; bowl, org. paint with numerous rust colored streaks. Int smooth, not lust. Slip thick chalky. Exterior uneven but slipped - flaked. Paste soft fine flakey contains fine green rounded quartz.
- 1196 B Red, P. I; Surf smooth faintly lust. Tempers partly exposed. Paint black lustrous. Lt. brown under gray, some black where well oxidized on interior. Tempers and silt. no unexposed paint.
1336. Red/Orange Surf. very smooth faintly lust. Paint lustrous, spread by polishing strokes. Paste soft friable - friable, contains fine grains.
- 1335 P. I mineral brown. int. smooth. Tempers exposed. Ext rough not amalgamated granular. Angular grains of quartz. Coarse few medium. Fine dense white fine test.
1170. Smooth. Tempers exposed in base which is badly corroded. Ext. irreg. uneven. granular in spots. Tempers - and silt - porphyritic.
1207. E. P. III. Orange paint. Thick white slip has pearly luster deeply crossed. Hard temper.
1123. B M III Paint. Red brown min. paint. black in one small area where paint is grazed. Int. light gray. granular Tempers exposed. Ext. rough not amalg. shows smoothing strokes. traces of fugitive red. And silt temper.
784. Small ground deeper gray uneven granular. And silt rock temper.
306. Reddish brown mineral paint B M III. Gray slightly granular surface. Gray lumps of temper exposed on interior of base. Gray grain of fields, few coarse mineral grains. no rock fragments recognized.
- 210 E. P III reg. paint. uneven, has thick pearly white slip. Friable red. fine textured paste, contains clear greenish mineral which is soft. a calcite.

225b. Brown paint. B III. Int. even very smooth
Crazed. Ext. uneven Diorite

325a. Red paint surface. very even base corroded
ext. rel. even finely granular. Diorite.
Red painted, even fine temper exposed.
Diorite temper

1197. P II Squash pitched organic paint faint light gray.
Surface uneven faceted from smoothening strokes.
Strokes on base horizontal, on neck vertical.
Patch fine friable numerous minute ^{light} flakes of
biotite in paste - some green, mineral sandpaper coarse

1338. vegetable paint, ext. crack from imperfect wedding but coarse
grain. Coarse quartz, few grains feldspar.
Red coarse

115b. Red jar with bulging neck. Vertical lugs.
medium angular quartz.

Small unnumbered bowl vertical lugs on shoulder
Decorations in brown paint, Andesite rock.

(210. buff with wide lines in dark red outlined in
brown. Jar with vertical lugs. surface slightly
lumpy neck with coarse temper.
Temper coarse gray, ^{finely} grains with prismatic
grains heavy neck color

1211. Red bowl brown paint. section unattractive.
In parts identical.

unnumbered fragment of red bowl exterior mottled
Angular quartz grains, numerous particles
of laminated clay.

210 H. Plain bowl exterior granular shaven
finer streaks. Temper coarse quartz.

1159. Well smoothed red bowl. Strokes on interior
vertical. not lustrous. Temper coarse quartz.

1327. Red well smooth. strokes on interior vertical
exterior slightly lustrous, interior dull. Angular quartz.

Large red jar with restricted orifices & vertical lugs.
Some quartz grains parts heterogeneous in temper
as though shell tempered. Could not check in section
studied.

1424 Mesa Verde sherd of 2 bowl sherd temper.

445 sherd temper.

452 Historic repair & 2 in sherd, red & white fine sand

475. Small plain dipper - sandstone bowl.

148 Wagon sherd.

53 Kayenta B/W sherd

53 Red ware sand & sand stone with lamellar sand

B. M. III bowl Red-brown to brown mineral paint
Ext surface even smooth, temper exposed. Corroded
in base. Ext rel. even but granular. Underneath
rock temper.

602, Small B. M. III bowl. Red-brown to dark brown,
Ext uneven granular, int. uneven, faintly granular,
temper exposed in base in gray & ls. Fragments of sandstone
with siliceous cement, grains med to coarse, gray & l
angular. One blackish grain noted looked like
shardian

1212. P. II vegetable paint, Lt. gray
exposed on interior, Ext uneven coarse fine temper
exposed. Shard temper, slipped?

1188. P. II or P. III veg. paint, light to med. gray. Int. Smoothed,
pearly, crazed. Fine temper exposed, slipped? Ext ^{rel} uneven
Temper exposed. Angular quartz sand.

1215. - B. M. III Brown to bone black mineral paint
Int even smooth, gray particles of temper exposed especially
on base. Ext uneven granular.
Dioritic rock temper.

1139. Plain pot with four lobes. surface uneven poorly
amalgamated but not granular. Coarse quartz sand.

1113. Red on tan, red ext. malleated Int even smooth
ool. strokes run from rim to center.
Temper coarse angular quartz.

904 Brown to bone black paint. Int. rel. even smooth
crazed. Temper exposed in base.
Ext uneven crazed. Dioritic temper.

210.6. ^{B.M. III} Brown paint. surface granular uneven.
coarse grains of quartz

1160. Dark brown paint. ^{B.M. III} Surface even, slightly
granular, flaked with mica. Exterior
rough. granular. Dioritic temper. Coarse
grains.

1107. ^{B.M. III} Brown paint. surface uneven, granular.
Ext rough, deeply dented, granular. ^{etc} Small
white & dark gray fragments that look shard temper
some angular quartz, grains coarse.

981d. ^{B.M. III} Brown mineral paint. Surface, crazed
crazed. Ext rough finely granular. Temper dioritic

915. Dark brown paint. Surface rel. even.
Temper exposed, surface uneven granular.
Dioritic

210 C. Dark brown ~~min~~ min paint B. M. III Ext surface
Dioritic temper

53 well red stripe or brown - paint similar
to the red wax

58 corrugated violet sandstone basalt

1212 - ~~large~~ ^{est} box full B/W + B/R 990 Do. 1081

1077 B/W III Brown paint. igneous rock diorite

450 ind. corrup. quartz & quartzite.

449. Banded neck gas, sandstone basalt.

31.

440 Red wax stand with flaky particles heavy
conchoidal fract & sand with white silica cement

440 4 B/W Red diorite

440 1 B/W sandstone basalt

1337 Plain bowl, similar in finish to painted.

Coarse quartz.

1314 ~~large~~ ^{small} linen but well smoothed, exterior
malleated. Buff color med to coarse gr sandy
texture.

Red Rock - entire series.

808. ^{surf} Uniform dark gray.

Surf. finish - temper not exposed, but test.
granular from temper. Evenly fine striation
One area lustrous on high spots.

Paste - gray angular grain quartz.

Paste dense quartz grains angular to
subangular surfaces rough, coarse
uniformly graded. few fine grains

1138 Surface - dark gray area of $\frac{1}{8}$ reddish
brown.

Finish uneven fine granular but grains
not exposed. In conspicuous striations
luster over $\frac{1}{3}$ patchy.

Paste - gray - dense, quartz grains, fine to
medium angular.

979. Light gray mottled, spotted spot and one
side of base.

Surface uneven, fine granular, temper not
exposed. few lustrous streaks.

Paste gray - dense contains field of showing
xl faces - opaque white grain gravel mass
of andesite shows blende mass - grain
medium scattering of fine grains

1147 Surface dull buff with spots of gray.

Surface uneven distinctly granular,
striations - non lustrous

Paste gray - dense, quartz grains angular coarse
fine fine dark grain several $\frac{1}{8}$? grains
show xl faces. Inside partly conoid.

1171. st gray. surface. surface uneven, very granular
temper exposed via part. No luster.

Paste gray dense, angular quartz grain. brown
earthy lumps. some fragment darker mass portion
One fragment fine grain suggested such but
none identified. Inside partly conoid.

1239. Light gray to buff.

Texture granular. coarse many grains exposed
striation marked. dense

Paste - grayish white, quartz grains, coarse angular
uniform in gradation

1115. - Buff mottled with light gray with spots of buff. - uneven but not granular.
 Paste - dk gray somewhat sandy in texture sand cast. few inclusions of lumps red etc.
1114. Lt. gray to buff. uneven, not granular striations faint patchy no luster.
 Lt. gray paste, dense angular quartz grains. Inside badly corroded exposing temper.
1169. Part gray buff - part pitted surface smooth not granular. streaks lustrous. dk spot luster visible but not in relief.
 Paste gray dense, quartz grains, fragments of quartz grains cemented with bluish earthy material contain some magnetic particles.
411. Dk gray with light gray spots - all uneven. very smooth as above wear on basis exposes sandy paste. Int. corroded, one side.
 Paste dense gray. - some very clear glassy grains some fragments suggest sand in surface cast.
1110. Lt. gray buff one side - granular, uneven not smooth.
 Paste dense gray coarse angular flung quartz.
- 1131 5/18/35 Dk gray uneven, coarse granular, no exposed striations. upper
945. Deep buff with gray on sides & base, few spots of red as though affected by alkali. Surface uneven, temper level with surface, exposed shows burnishing streaks but no luster. Interior corroded.
 Paste buff dense grains coarse, some perfectly rounded. some more angular - several together interlocked but not cemented, some brown spots some grains reddish. one clear fragment with blackish veil, magnetic.
1132. Black, slightly uneven not granular. Showing smoothness. Dense gray paste - angular quartz grains - temper not distinctive. (shape like red ware).
- 317 Black to gray surface not granular rel. even. temper only dk exposed. no striations or luster. Angular quartz grains. Some have lustrous graphic appear - few deposits of a

in coating of the part.

- 323 Light gray surface very uneven, granular, temper not exposed. Slight striations no smoothing strokes or luster. Badly spalled on opposite sides & base. Dense gray to cast soft angular quartz.
1117. Gray sooted on base. Grains of temper exposed, uneven smoothing or burnishing strokes do not show. Paste gray dense, gtz grains angular, coarse, one with pores, as though of secondary origin.
- 444a - Buff - uneven, soaped slippy but not granular from temper & temper not exposed. Hard dense gray paste. gtz grains angular, sparse.
987. Deep gray sooted on one side uneven temper not exposed no smoothing or burnishing strokes. Light gray dense, angular glassy gtz - dark grains possibly magnetite, not earthy could not test magnetism.
1128. Dark gray, ^{half sooted} surface uneven lumpy but temper not exposed few wide striations no smoothing or burnishing strokes. Dense gray paste - angular gtz grains. Some grains have graphite appearance on surface.
- 944 Gray, uneven, extremely granular, grains not exposed but some cracking of paste around grains. Dense gray paste, angular glassy gtz coarse. Some white opaque grains, matrix & ground mass from an andesite.
- 1099, uneven rel. smooth not granular - no burnish or smoothing strokes. angular gtz - some sandstone frags, no cement. lump of opaque white hard thin test material. Many gtz grains well rounded - andesite.
- Core 8. Light gray sooted on one side. Slight lumpy uneven. Badly cracked in refiring. Dense gray paste - angular gtz grains coarse.

919. Buff. uneven sparse, lumpy - lumps
not generally exposed, Badly spalled one
one side

Paste dense, sand grains angular, no
fine & med. no min. other than gts.
pinkish streak one side.

589 Buff. uneven, surf. set. lumpy, limited
section shows burnishing. Temple-
coarse gts - regular grain. some very
fine grains exceptional.

414C. uneven, sparse lumpy, gray sooted.
Paste - dense gray, coarse grains - gts. no
fine grains

unnumbered - rim band. fractured $\frac{1}{2}$ " spalled on
sooted, uneven sparsely lumpy.
Quartz grain coarse no fine grains thin
dense gray paste.

1157. Buff - spot. of gray. Surf. surf smooth
show void of burnish but not luster,
spongy, rock of. frags with few
nichelovites.

951 Gray to sooted, buff near one rim
surface uneven - not granular, upper half -
tool burnished. Interior corroded.

Quartz grain mainly angular, a few rounded,
many magnetite or hematite. - magnetite grain
conspicuous - grain magnetite on quartz,
some particles earthy hematite.

98a. Light gray to buff with smudge spots.
surface uneven, slightly grainy near rim only
smoothing strokes in limited areas, noticeable
on shoulders.

Quartz grains angular, coarse, few fine to med.
some dark earthy lumps, some grains magnetite.

No. 710. - Buff. with sooted section one side & burr.
uneven few burnish strokes. Interior shows
smooth strokes of hand tool. Part of left stone
smoothed with plastic.

Paste denser buff. grain heterogeneous, some
red quartz - some grains very fine sandstone,
not consolidated. Red & gray quartzite.
Red quartzite - characteristic

1166. Light gray uneven granular, dull finish

1179. Andesite. Unnumbered - large jar with narrow neck. Gray to brown, uneven fine slight granular, medium to coarse qtz grain. Red ochrace some hematite.

1180. Light gray. Coarse granular temper not expressed so smooth. Dense white parts, coarse angular qtz grain.

315. Sooted mottled with light gray, carbon partially burned out. Surface uneven, dull, slightly lumpy. Angular quartz grains. Coarse, no fine mineral matter past, dense gray. ^{many grains blackened on surface}

317. Dark gray spots of buff. surface uneven, dull, angular qtz grains medium to coarse.

1309. small jar. Gray, 1/2 sooted. surface uneven dull. Angular quartz medium to coarse

1409. Small pot, sooted, uneven lumpy, quartz grains medium in dense paste.

2101. Tan with sharply defined sooted spots remnants after defiring. Surface uneven coarse granular. Temper not expressed. Temper angular qtz - med. to fine.

606. Buff. uneven, smoothed ^{temper exposed} except on neck which is granular, some smoothing strokes visible. Angular quartz, mainly medium, sprinkling of fine.

1162. Sooted, patches of brown & gray. Surface uneven with striations & imperfect bedding but not granular. Quartz grains medium. In one mould of grains brassy looking coating, (pyrite?) from surface of grains.

Large buff jar with small neck, unnumbered. Buff with restricted patches of red on face. Surface pitted as though from evolution of fluid. Quartz grains - many in dark brown matrix. ~~The igneous rock or qtz in the same sedimentary material, or limestone which has been affected by heat~~

210K Buff ^{one side} to reddish on shoulder, color follows outline of fractures. uneven but smooth & lustrous. Temper ~~is~~ even with surface with few ~~is~~ ^{expressed} ~~is~~ ^{expressed} Angular qtz grains mainly coarse, stains to hematite. Some very fine flakes white mica.

1150. Buff. Mottled with gray. Surface uneven, Temper even with surface, exposed. Large proportion of grains dark gray. Few faint traces of tool smoothing. Interior deep by corroded. Part dense buff grains coarse angular quartz, many with hematite staining on the surface. Some dark red grain.

95. Medium gray sooted. Uneven coarse granular. No visible smoothing strokes. Paste dense gray, irregular quartz grains coarse only.

119. Small P. I banded neck. Body relatively even, very granular surface. No smoothing strokes. Paste dense gray, Tempered granular basalt. Large prismatic xl of augite.

521/134. Gray sooted on one side, uneven fine granular, partly crazed from excessive heat. Paste numerous medium as well as coarse grains. Fragments of sandstone of same character of grain, grains separated with difficulty, tightly interlocked or cemented.

1140. Gray with a few shreds of buff. Uneven granular. Rim neck crazed from excessive heat. Angular of grains, large xl of feldspar showing xl faces, ~~fine~~ fragment fine text sandstone, gray fine-text Chalcedony.

1164. med. gray. some brown parts. Surface uneven coarsely granular. Temper not exposed. Crazed from excessive heat on neck. Coarse of grains stained with hematite & magnetite. Some hematite particles.

2/10 M. Light gray to tan with large sooty splashes, uneven, fine granular. Coarse angular quartz grains in dense parts.

1155. Surface uneven granular in parts all even - other tan & gray. Coarse quartz grains stained with hematite & magnetite. Grains medium to coarse angular.

1291. Gray to brownish with hematite staining. Uneven faintly coarse granular, temper not exposed. Large of grains with staining of magnetite some earthy hematite particles.

1314C Buff & gray. uneven but smooth, not lust. Fine to coarse of grains angular.

910. Medium gray with spots of buff.
Area of deep red brown in center of
dark gray part on one side.
Surface uneven + granular. No lustre
streaks.

Paste: dense buff contains coarse grains
of igneous rock having gray fine texture
ground mass, opaque white seldspar
phenocrysts, dark weathered grains,
ult. amphibole, numerous grains
magnetite.

1314d Gray mottled with buff. Surface
uneven fine textured. not granular.
marks of polishing tool not visible. but area
have slight luster.

Paste dense buff. Quartz grain med. to coarse.
subangular. Few grains red quartzite,
some magnetite.

917. Buff mottled with gray. Relatively even
surface smooth. temper exposed. Smoothing
strikes conspicuous from shoulder to rim.
Rim in general horizontal direction. Much
never conspicuous on one side than the
other. started when moist dried before
completion of smoothing & interior badly
corroded. to within two to three inches of
rim.

Paste dense buff. angular gty - glassy &
reddish quartzite. earthy ferruginous &
magnetite which give the temper a
dark appearance where exposed.

un numbered - dense gray mottled with buff.
uneven granular. Retreated patches or
strikes show faint luster as from stone
smoothing.

Paste - Dense gray. Grains opaque white
feld. one small frag. looks like ground-
mass of igneous rock. Black grains.
some sluggy looking - darkened by coat in
graphitic in appearance.

1159. Light gray with nothing in buff. Of uneven
sparse granular. Irregular striations
weld of rim (also shows fine print + spread
weld. in several places.

Paste - dense relatively soft. opaque white
grains - derived from ign. rock in gty ^{soft} ~~hard~~
all grain coarse. Some grain black - ~~normal~~
carbonaceous streaks.

948. Buff to around rim. base random fragments black. Relatively even, temper protrudes slightly, exposed. No smoothing strokes visible. Paste dense buff - angular quartz grain coarse well assorted. no fine

1134. Blackened. Relatively even not granular shows some marks of a smoothing tool. Paste gray dense contains angular quartz with patches of black earthy material. some lumps of black material particles in it magnetic.

1165a Dark gray basal fragment buff. Surface uneven only slightly granular. Areas here & there show strokes of smoothing tool. Temper angular quartz, one part of l. Show bipiram & prismatic faces. some black earthy material & magnetite.

1165c. Dark gray, surface uneven not granular lusterless. except for few places open pores where coarse material has been scraped. Angular quartz grains coarse, even graded.

1165b. Black base, tan above shoulder surface uneven, finely granular, not lustrous. angular quartz grain some with coating of magnetite, numerous small red grains that are magnetic. many grains stained grain medium to coarse

907. Buff - base & side blackened uneven. uneven grains even with the surface exposed, dark.

Buff - dense, grains flattened on two faces earthy hematite. quartz not conspicuous. some small grains of calcite, some jagged

134. Gray, uneven coarsely granular. Temper not exposed. No luster. Paste dense gray, med. to coarse quartz grains some iron stain.

308 - light gray to buff - Relatively even. Temper does not protrude exposed. It has been smoothed over. Quartz grains, coarse & medium.

909. Buff with few black sherd.
Rd. Ever surface, granular upward. Smoothing
strokes show over entire surface.
Grain reddish quartz, proper angular,
very few clear grain. Grains mainly coarse.

908. Buff - some large smudge.
Surface uneven granular, ~~Even~~
Patch on shoulder corroded.
Paste fine sandy, scattered coarse of grain.

1314 b. Deep orange buff - few fragments gray.
Surface uneven smooth. Fairly lustrous.
Angular quartz grains.

5/21/38

303. Light gray, sorted in spots. Uneven, coarse
granular, temper not exposed.

Poor specimen for paste examination, one
flake showed large xl feldspar, angular
quartz grain and shell-like opalescent
stratified piece - Chalcedony?

414 d. Buff & black sherds. Surface slight
uneven, very granular, coarse, temper
partially exposed well rounded quartz xls.
On one side some fine spall & cavity, white
material exposed calcined calcite, one appeared
to have ~~quartz~~ small clear xls. on the surf.
of the powder material.

1004. Buff with slight firing cloud on one side
& base. Surface mottled uniformly smooth
& decidedly lustrous.
- no paste from orig. notes.

13.14 a. Tan to buff with sorted base. Surface
uneven not granular, shows marks of a
smoothing tool. Paste treatable, fine sandy
material as well as coarse fragments of
igneous rock, diorite porphyry, platy black
material, fine distorted - mica? - not typical. ^{fine & med}
1168. Gray, badly sorted, one small patch cream; ^{grains as coarse}
Surface uneven granular.
Angular xls of gtz.

unnumbered, large black jar.
Entirely coated. surface uneven, roughly granular.
Coarse angular quartz.

332. Coated, red around rim. uneven but
surface smooth. Marks of scraping or smoothing.
Medium to coarse quartz.

903. Coated with buff patches. Surface shows
smoothing marks not granular. Strokes in
general horizontal direction. Quartz grains.
medium to coarse.

4146. Gray, coated surface uneven but not
granular. Fine to medium ^{quartz} quartzite, &
one feldspar.

1137. Medium gray. Surface uneven, fine angular
grains protrude, exposed. Medium well rounded
grains & fragments of sandstone.

210 n. Gray fired to red in areas, warped badly
in refiring. Surface uneven, Crayed from over-
firing. Coarse granules exposed quartz. ~~fine~~ gray
Coarse to very coarse grains of feldspar.

911 Light gray, patches of buff. Surface uneven
Coarse grains of temper exposed. Somewhat pitted
from dragging or breaking out of temper.

Dense gray paste, Coarse angular quartz
unnumbered, large narrow necked jar. Coated.
Surface uneven, shows no smoothing strokes
but not granular. Failed to obtain a good sample.

605. Light gray to buff with sharply defrined
spots. Carbon not burned off. Angular quartz gran-
ules to coarse, blackened by carbon.

920. Coated on one side. buff on other, uneven surf.,
sparsely coarsely granular. Badly warped ~~with~~ by
secondary firing. Paste dense large fl f grains &
feldspar with distinct cleavages.

unno. small blob pot. One side ~~is~~ has clay patch
surface uneven but smooth with some smoothing
strokes. Angular, medium to coarse quartz.

unnumb. Globular pot. buff to orange. spots of gray
relatively even, surface, granular. temper exposed
some dark grains. Coarse angular grains many coated
hematite. One fragment of reddish feldspar. Red to coarse

916. Light gray to buff with few sooty patches. Slightly uneven, granular with some grains exposed. Coarse, irregular, ^{angular} grains clear quartz.
1185. Buff spots of gray & red, surface relatively even, very fine granular. Clear quartz angular, medium, some fine occasional coarse. Paste fine & dense.
1002. Light tan to gray. Uneven very smooth. Lustrous in irregular areas. Fine to medium grains rounded quartz, some grains reddish unnumbered, pitted with bulging neck. Uneven, rough pitted, imperfectly smoothed. Not granular. Paste fine dense, sparse medium angular quartz.
1154. Gray, coated on one side uneven but ^{not} granular. Shoulder shows horizontal smoothing strokes; extend to within few inches of base which is rough. & to base of neck although this part is not so well smoothed as shoulder. Neck shell has been scraped vertically with tool which has left fine striations, slightly lumpy ~~very~~ very finely sandy paste. Scattered grains of nephritic rock.
1129. Sooted except for buff area around rim & down one side. Uneven, shows scraping marks. Medium temper even with surface exposed. Medium quartz grains angular & pitted coated with fine oxide.
1094. Tan coated on base. Relatively even, finely granular. ^{coarse} rounded grains of quartz. Sand should medium grains with pinkish siliceous cement.
9816. Gray & buff to orange. Surface faceted by tool strokes. Fine textured, smooth, faintly lustrous. Fine subangular quartz. no coarse grains noted.
1053. Caked with soot. surface uneven faintly granular, angular grains of quartz coarse & medium.
- 7-6 Sooted, uneven surface, faintly granular. Medium angular quartz grains some dark. ^{small globular part} next lips each side. Unnumbered globular, dark gray, uneven, coarse, granular, temper not exposed. Paste fine dense, temper sparse rounded quartz grains.
- 7-6's sharp pitted on rim right shows line of rim. Sooted. med to fine dense. Troch right. silt granular.
- 1142 Gray shows evening. Troch right. silt granular. Fine sandy texture. no coarse grains.

- 1172, Small pot, grayed & sooted. Dented & uneven but not granular. Coarse angular gts.
- 914, Small pot with legs pierced horizontally. Orange to buff & light gray, surface very uneven granular, dull. Coarse angular gts. grains in dense buff parts.
- 906. Sooted surface uneven, faintly granular. no smoothing, angular gts. med grain.