

## CLAY

### DEAD INDIAN (Ashland) AREA

#### Location

The Dead Indian Clay deposits are located on the Dead Indian road east of Ashland. This road ascends Walker Creek. A semi-flint clay occurs from 1/8 to 1/4 of a mile south of the summit of the road, 15.6 miles from the south city limits of Ashland, on the west side of the road. The location is further given as the south-central part of Sec. 19, T. 38 S., R. 3 West W.M. The clay forms a subordinate ridge extending ~~325~~ S. 30° W. from the highway about 1000 feet in length. The headwaters of Walker Creek cut into the summit, and the ~~east~~ north side ~~is~~ bears a cliff about 200 feet high which extends N.W. thru Sec. 19. The area is in Jackson County, at the extreme east edge of the Medford quadrangle. (Advance sheet in 1937)

All mileages given are computed from the south city limits of Ashland at the junction of highways # 66 and # 99, as mile 0.0; south on highway # 66 a distance of 1.9 miles to beginning of Dead Indian road; thence to the left (east) up Walker Creek.

#### Topography

Ashland lies at the head of the Bear Creek Valley, better known as the Rogue River Valley agricultural area altho the Rogue River is some distance to the north. To the west are mountains composed of metamorphics and granatoid rocks; the granatoids being probably a portion of the Siskiyou batholith of probably Jurassic age, and the metamorphics being probably correlative of the Colebrooke or May Creek schist series. Some Paleozoics are present~~as~~ as evidenced by limestones of that age. The mountainous area south of Ashland is quite rough, relief is considerable, streams have steep gradients, and the rocks are chiefly granites and sediments of Cretaceous age.

The valley of Neil Creek extends S.E. ward of Ashland, making a deep incision between the mountains of the west and the east. Highway #66 lies in this valley. From the literature, it is judged that Neil Creek and Bear Creek lie approximately

on the contact of Tertiary and pre-Tertiary rocks.

East of Ashland, the foothills of the Cascades rise to elevations of 5000+ feet in a distance of 5 miles and although there is considerable relief, the hills have smoother outlines, somewhat different from the tortorous ~~sharpened~~ canyons in the metamorphics. This area is composed of Eocene sediments, and volcanics, capped by lava flows of a more recent age.

Walker Creek flows southwesterly, entering Bear Creek Valley east of Ashland. The valley has a wide, (2 mile) flat floor and the entrance to the creek canyon is "guarded" by abrupt, steep hills 600 ft. high. The one on the N.W. is known as Pompadour Bluff and its distinctive feature is a ~~Wxxxdipping~~ 100 foot cliff of conglomerate which has a N.E. dip at a low angle.

### Geology

South of Ashland, on highway # 99 which was opened to the new re-location in the fall of 1937, numerous cuts expose the bedrock most beautifully. There is a succession of sediments and granatoid rocks; the granatoids are usually deeply weathered, frequently to a point that the grains can be separated with the fingers, and cut by numerous pegmatite dikes of varying sizes.

At a point 1.08 miles south of the S.P.R.R. undercrossing, a road cut exposes an indurated sediment striking N. 48° W, dip 22° N.E. Between beds of this sediments are 6" - 12" seams of schistose material, quite soft, which appears on casual examination to be a hornblende schist. At one point, this schistose seam disappeared, or pinched out in the sediment; leading to a conclusion that perhaps these schistose seams represented planes of weakness developed during deformation. Invertebrate shells in an excellent state of preservation were located in two layers; the shells were pronounced Cretaceous by Dr. E. L. Packard.

Northward (toward Ashland) at a wooden stake marked "M. P. 332" which was interpreted to mean the point where Mile Post 332 should be placed, the granite-Cretaceous contact is visible, somewhat obscured by slumpage. No contact metamorphism was observed here, and as the strike and dip were approximately the same as noted before, it was concluded that the granite is pre-Cretaceous. Furthermore

the sediment was ~~not~~ <sup>not</sup> cut by the the pegmatite dikes. Still farther northward, there is a change in the character of the sediment, but with the same general dip and strike; no evidence of age was obtained.

On the east side of Bear Cr. valley at the entrance to Walker Creek canyon on the Dead Indian road, at mile 2.6 from the junction of hwy. # 66 & 99, are black shales and massive sandstones, striking N. 60° W., dip 17° N.E. The shales break readily into  $\frac{1}{4}$ " layers parallel to the bedding, and also when exposed to the weather, tend to have conchoidal fracture across the bedding. Thickness varies from 6" - 2'. No fossils. The interbedded sandstones are arkosic in nature, buff colored, medium grain size, 1' - \* 3' thick. Eastward, the shales become more dominant, almost excluding the sandstone, and are then overlaid by conglomerate.

This conglomerate is first exposed at Mile 3.0 to somewhere beyond Mile 4.0. Some of the strata are "heavy" conglomerate, the pebbles being quite large, up to 6" in diameter; some ~~xxxxxxx~~ have smaller pebbles; and a few of the layers are really a coarse sandstone. The general color is cream to buff. The sand is arkosic, containing considerable quartz and mica, and the yellow or cream color apparently results from iron staining. The "heavy" conglomerate has a high percentage of quartz and/or quartzite pebbles; and the sand is more quartzose. It is surmised that this material was derived from the erosion of the granitic highlands to the west and southwest.

These shales, sandstones and conglomerates may represent the basal Eocene.

Beyond Mile 4 to within  $\frac{1}{4}$  mile of the summit, there is a succession of basalt and lava flows, tuff beds frequently altered to clay, intrusions of a felsite which "looks" younger than the interbedded flows. Alteration of the tuff beds appears to be more intense when near one of these intrusions, and the semi-flint clay immediately underlies a younger lava flow at the summit of the divide. (Mile 15.6)

Eastward from the divide, the road drops down the mountain side on an easy grade to Dead Indian Creek. This same younger basalt is exposed practically all

*Mile 16.7 where it contacts older basalt*  
 all the way to Dead Indian Creek; the road descends at about the same rate as the slope of the hill, which may represent the original dip slope of the lava. If this younger lava covered the western slopes, it has been largely removed by erosion.

At Mile 9.4 in the N.W.  $\frac{1}{4}$  of N.E.  $\frac{1}{4}$  of Sec. 27, the road cut exposes altered tuff or andesite in contact with a dense, very hard basalt; the contact is almost vertical, and is burned. The road swings back around the nose of a small hill, and immediately above this locality of Specimen # 12 is a tuff conglomerate. The basalt is probably intrusive; it is interesting to note the more intense alteration closer to the contact.

At about Mile 11, elev. 3650' in about the extreme N.N.E. corner of Sec. 27 the tuff strikes N. 10° E., dips 15° S.W. and has an interbedded coal seam 3" wide.

At mile 8.4 between Secs. 28 & 27 a search was made for a bench mark 2944, crossing a field, which after a recent heavy rain, was so clayey and sticky that walking was almost impossible.

At mile 12.5, specimen # 21, SE  $\frac{1}{4}$  of Sec. 25, T. 38 S., R. 2 W., is an altered rock which ~~xxxxx~~ appears to be an altered andesite. Some portions are quite bluish and altho altered to clay, give the impression of an igneous rock. These blue portions are surrounded by a whiter altered material which may be the andesite more completely altered; or else represent a heavy agglomerate which contained large andesite boulders. The strike is N. 10° E., dip 15° S.W.

\* from p. 5 From here on to within  $\frac{1}{4}$  mile of the summit, most of the road exposures are quite clayey. A spring occurs in the SW  $\frac{1}{4}$  of NW  $\frac{1}{4}$  of Sec. 30, T. 38 S., R. 3 W. in clayey material. The road is quite slippery in wet weather from here to the summit. Better clay material as the summit is approached.

The semi-flint clay occurs about  $\frac{1}{4}$  mile below the summit and will be described in detail.

At the summit is the younger lava flow, somewhat amygdaloidal.

\* This paragraph to go into place on p. 4.

Across Sec. 25 the outcrops show a mix-up of igneous-tuff. Some of the igneous rock looks fresher and younger. Evidently dikes, sills, and sometimes flows of younger lava came out and alteration seems to be more intense near these localities.

#### The ~~resistant~~ semi-flint clay

The semi-flint clay is exposed 1/8 - 1/4 mile south of the summit of the hwy., in the south-central part of Sec. 19, T. 38 S., R. 3 W. on the west side of the hwy. Surface float and rubble would indicate that the clay is first visible just below the highway; a sort of old road traverses the line of the outcrop. Evidence of the clay above the hwy. was not found.

The strike of the outcrop, which forms a subordinate ridge, is about S. 30° W. Two resistant outcrops occur down this road-trail about 200 feet; the material is cream colored and flint-like; some of it has a suggestion of cavities as if the rock has been a vesicular rhyolite. This material was sampled to form Sample # 17, 50# sent to Seattle. Continuing southwest, the next outcrops were a dark-cream or light ~~xxxxx~~ chocolate color, and gave the appearance of some of the hydrous opal occurring in Columbia River Basalt. This dark-cream colored clay was intermixed with clay which was very light colored. Next outcrop was deeper in limonite staining and the pieces were more granular. Some of them were strikingly colored with a brilliant red; the line between the brown and the red being quite sharp. Investigation indicated that the surface has been subjected to considerable heat (forest fires) and apparently the iron was oxidized from the limonitic to a hematitic form.

At the end of the subordinate ridge, some 1000 feet from the hwy., is an exposure, old quarry, about 30 feet high. In the quarry face, practically every kind of material previously seen, was to be found. In addition, some pieces had a beautiful pink to white mottling. An abandoned and overgrown (with brush) road leads over to the main highway. Apparently this material was mined at one

time.

Sample # 18, 50 lbs. sent to Seattle, is representative of the various kinds of clay found over the length of the outcrop. Sample # 19 was taken for office use, representative of the material. Sample # 20 is of the younger basalt taken from the vicinity of B. M. 5233. at the summit.

#### Conclusions

This clay material appears to immediately underlie the younger lava flows; the nature of the original material is not clear, but it may be rhyolitic. From observations along the highway, it would appear that proximity to intrusions or younger flows, has caused an alteration of some of the rocks; when rhyolitic, the alteration is more complete; when andesitic, there is considerable alteration but not to the flint- or semi-flint stage.

The clay will probably not test to a very high P.C.E. number. The iron-staining will probably cause considerable color in the fired product. However, the outcrops are interesting from the standpoint of origin and the stratigraphic sequence along the Dead Indian Highway gives an excellent cross-section of the rocks east of the Bear Creek Valley.

# State Department of Geology and Mineral Industries

702 Woodlark Building  
Portland, Oregon

## DEAD INDIAN CLAY

Jackson Unclassified

### Owner:

Location: S. Central sec. 19, T. 38 S., R. 3 E., just west of Dead Indian Road, 15.6 miles from Ashland city limits and  $\frac{1}{4}$  mile south of the summit.

Area: The deposit occurs in the SW $\frac{1}{4}$  of sec. 19 and probably would cover 20 acres or so.

History: At one time material was removed from the west side of the deposit and fired as refractory brick. Some two or three truckloads were used.

Geology: Altered Cascade lavas and tuffs outcrop for about 1000 feet west of the Dead Indian Road, trending S. 30 degrees W. They underlie young lavas. The material is cream colored and flint-like and some has cavities suggestive of vesicular lava. Southwestward, the outcrops are dark-cream to light chocolate color, becoming more iron stained. Some of it is brilliant red, as if oxidized by a previous forest fire.

Samples analyzed indicate that the flint-like material is 90 per cent silica with alumina and iron oxide. Samples were tested for refractory-clay purposes and the white material is good refractory; there is a decrease in refractoriness with increasing iron oxide.

The white material has more of a chert-like character than clay and probably could be used for this purpose.

(For further details see Bulletin no. 6 of the State Dept.)

Informant: Ray C. Treasher 1/6/42

Reference: Wilson and Treasher (38:82-83, 84, 93)

Report by: Ray C. Treasher 1/5/42

RECORD IDENTIFICATION

RECORD NO..... MO13807  
RECORD TYPE..... XIN  
COUNTRY/ORGANIZATION. USGS  
FILE LINK ID..... CONSV  
MAP CODE NO. OF REC..

REPORTER

NAME..... LEE, W  
DATE..... 74 01  
UPDATED..... 81 01  
BY..... FERNS, MARK L.; (BROOKS, HOWARD C.)

NAME AND LOCATION

DEPOSIT NAME..... DEAD INDIAN CLAY  
SYNONYM NAME..... NO. 44, 45, 46

MINING DISTRICT/AREA/SUBDIST. SOUTHWESTERN

COUNTRY CODE..... US  
COUNTRY NAME: UNITED STATES

STATE CODE..... OR  
STATE NAME: OREGON

COUNTY..... JACKSON  
DRAINAGE AREA..... 17 ROGUE RIVER  
PHYSIOGRAPHIC PRDV..... 13 WEST CASCADES  
LAND CLASSIFICATION..... 01 49

QUAD SCALE QUAD NO OR NAME  
1: 62500 LAKECREEK AND ASHLAND

LATITUDE LONGITUDE  
42-15-12N 122-30-43W

UTM NORTHING UTM EASTING UTM ZONE NO  
4677800. 540250. +10

TWP..... 38S  
RANGE..... 03E  
SECTION.. 19  
MERIDIAN. W.M.

COMMODITY INFORMATION

COMMODITIES PRESENT..... CLY



EXPLORATION AND DEVELOPMENT  
STATUS OF EXPLOR. OR DEV. 8

DESCRIPTION OF DEPOSIT  
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA

SIZE OF DEPOSIT..... SMALL  
MAX LENGTH..... 1000 FT

PRODUCTION CLY

YES  
SMALL PRODUCTION

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... OLIGO-MID  
HOST ROCK TYPES..... ALTERED RHYOLITE

GEOLOGICAL DESCRIPTIVE NOTES. THE CHARACTERISTICS OF THE CLAY AND THE POSITION OF THE OUTCROP INDICATE AN ALTERED RHYOLITE.

LOCAL GEOLOGY

NAMES/AGE OF FORMATIONS, UNITS, OR ROCK TYPES  
1) NAME: LITTLE BUTTE VOLCANICS  
AGE: OLIGO-MID

GENERAL COMMENTS

AT ONE TIME IT WAS SHIPPED TO PORTLAND AND USED IN MAKING FIREBRICK.

GENERAL REFERENCES

1) STATE OF ORE. DEPT. OF GEOL. & MIN. INDUS. BULL. #6, PRELIMINARY REPORT OF SOME OF THE REFRACTORY CLAYS OF WESTERN OREGON, BY HEWITT WILSON AND RAY C. TREASHER, 1938 PG. 82