

State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon
Baker County,
Oregon

BIRCH CREEK CINDER OCCURRENCE

- Introduction A tremendous amount of volcanic cinders (millions of yards) occurs on the headwaters of Birch Creek in Baker County. They appear to constitute the bulk of a prominent oval-shaped butte which is nearly a mile in length and somewhat in excess of half a mile in width at its base. This butte occurs on the flank of a "table top" lava and rises an estimated 600' above the lava surface. A county road-metal pit is situated on the southwestern flank of the butte.
- Owner Both public domain and patented ranch land cover the butte. The patented land embraces by far the most of the occurrence and this land is owned by Mr. J. B. West and associates. Mr. West's address is Route 1, Huntington, Oregon.
- Location The occurrence is situated in Tps. 13 and 14 S., R. 43 E. Rough mapping from section and quarter corners as identified by Mr. West indicates that the butte is nearly one mile long at its base along its longest or north-south dimension. It begins essentially on the line which divides the southern half of sec. 5, T. 14 S., into north and south halves, and it extends northward to the same line in sec. 32, T. 13 S. The width is about half a mile or slightly more. The western flank begins somewhat east of the western north-south section line. The eastern flank lies somewhat east of the north-south quarter line. The crest of the butte occupies the eastern half of the northwest quarter of sec. 5.
- Huntington is the nearest shipping point, a total of 13 miles from the county pit as follows: 11 miles by graveled county road up Durbin Creek to the F. J. Haw ranch on Birch Creek, plus 2 miles of access road through the Haw and West properties.
- Development The only development work on this occurrence has been that done in connection with the recently opened county pit. This pit was located from evidence obtained in a bulldozer cut which showed an abundance of readily available road-metal material. Subsequent operations have resulted in a pit 200 feet long with a 25-foot face.
- Geology This "butte", as it is locally called, appears to be a volcanic cone. As already mentioned it is situated on the flank of a lava flow which caps the hills to form a mesa. The lava is basic as are the cinders. The top of the cone is flat with a sizeable depression in its center. Only the lack of a small segment prevents the trace of its periphery at the very crest from making a symmetrical oval.
- While lava as well as fragmental material may occur in the core of the cone, a traverse around the cone, and to the crest, showed fragmental material to occur exclusively on the surface excepting for a small area in the dissected portion of the crest where lava is exposed.

The fragmental material as exposed in the county pit is black and is estimated to contain 95 percent minus $3/4$ -inch mesh, bank run. The common size appears to be about $1/8$ to $3/8$ -inch. Large chunks do exist but they are not common. This material is composed of both scoriaceous lava and solid fragments. Elsewhere on the cone and particularly at the crest, the color is brick red but an admixture of off color pieces grading to gray or black suggests that the red color may be limited to the exposed surface material.

As is the case in the pit the fragments elsewhere on the cone are both solid and scoriaceous in character but larger pieces (up to 3 and 4 inches in diameter) are to be seen in some places.

Economics

A test of a small sample from the county pit indicates that the material weighs 73 pounds to the cubic foot. This is intermediate in weight compared to cinders (about 45 pounds to the cubic foot) and clean gravel (about 100 pounds to the cubic foot). This weight is greater than is altogether desirable for use as a light-weight aggregate. However, the scoriaceous fraction alone would weigh considerably less, and in consideration of the enormous size of the occurrence it is possible that careful investigation would show areas in which scoriaceous fragments existed in relatively greater abundance.

The nature of the occurrence as judged by the county pit would permit mining operations using a shovel or dragline and screen only. Because of the low initial cost of such mining due to the lack of any appreciable overburden and to the lack of necessity of crushing, it might be practicable to install some means of segregating the scoriaceous and non-scoriaceous fractions should a lighter weight aggregate be desired.

From the standpoint of quantity only, the potential tonnage of reserves is very large. The location of the occurrence with respect to rail distribution is fairly good, but a large market for building-block aggregate is lacking. Unless very favorable freight rates may be had, the immediate market area would appear to be limited to the numerous small cities in the farming area from Weiser, Idaho, to Ontario, Oregon.

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Portland, Oregon

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Birch Creek Cinder Occurrence

Baker County, Oregon

by
Norman S. Wagner

Morman Basin District
Baker County

Introduction
Foreword:

A tremendous amount of ^{volcanic} cinders (millions of yards) occur on the headwaters of Birch Creek in Baker County. They appear to constitute the bulk of a prominent oval-shaped butte which is nearly a mile in length and somewhat in excess of half a mile in width at its base. This butte occurs on the flank of a "Table Top" lava and rises an estimated 200 to 300 feet above the lava surface. A county roadmetal pit is situated on the southwestern flank of the butte.

Owner:

Both ^{public domain} U. S. land and patented ranch land cover the butte. The patented land embraces by far the most of the occurrence and this land is owned by Mr. J. B. West and associates. Mr. West's address is Route #1, Huntington, Oregon.

Location:

The occurrence is situated in ^{Tps. 13 and 14 S., R. 43 E.} townships 13 and 14 south, range east 43. Rough mapping from section and quarter corners as identified by Mr. West, indicates that the butte is nearly one mile long at its base along its longest or north-south dimension. It begins essentially on the line which divides the southern half of section 5, ^{T. 14 S.} Township 14 South, into north and south halves, and it extends northward to the same line in section 32, ^{T. 13 S.} Township 13 South. The width is about ^{more} half a mile or slightly in excess thereof. The western flank begins somewhat east of the western north-south section line. The eastern flank lies somewhat east of the north-south quarter line. The crest of the butte occupies the eastern half of the northwest quarter of section 5.

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Huntington is the nearest shipping point, ~~and it is~~ a total of 13 miles ~~from there~~ to the county pit as follows: 11 miles by gravelled county road up Durbin Creek to the F. J. Haw ranch on Birch Creek, plus 2 miles of access road thru the Haw and West properties.

Development: The only development work on this occurrence has been that done in connection with the recently opened county pit. This pit was located ~~on the~~ ^{from} strength of a dozer cut which ~~revealed~~ ^{showed} an abundance of readily available, useable road-metal material. Subsequent operations have resulted in a pit 200 feet long with a 25-foot face.

Geology: This "butte" as it is locally called, appears to be ^a volcanic cone. As already mentioned it is situated on the flank of a lava flow which caps the hills to form a mesa. The lava is basic as are the cinders. The top of the cone is flat with a sizeable depression in its center. Only the lack of a small segment prevents the trace of its perhipery at the very crest from making a symmetrical oval. As is, it is horseshoe shaped.

While lava as well as fragmental material may ~~well~~ compose the cone, a traverse around the cone and to the crest ~~showed~~ fragmental material to occur exclusively on the surface excepting for a small area in the dissected portion of the crest where lava is exposed.

The fragmental material as exposed in the county pit is black and is ^{to contain} an estimated 95% ^{inch} minus 3/4" mesh, bank run. The ^{common size} usual mesh appears to be about 1/8 to 3/8". Large chunks do exist, but ^{they} ~~such~~ are the exception. This material is composed of both scoriaceous lava and solid fragments. Elsewhere on the cone and particularly at the crest, the color is brick red but

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an admixture of off color pieces grading to gray or black suggests that the red color may be limited to the exposed surface material.

As is the case in the pit the fragments elsewhere on the cone are both solid and scoriaceous in character but larger pieces (up to 3 and 4^{inches} in diameter) are to be seen in some places.

Economics:

A test of a small sample from the county pit indicates ^{that} the material there ~~to weigh~~ ^s 73 pounds to the cubic foot. This is intermediate in weight ~~as~~ compared ^{to} with cinders (45 ~~lbs/cu/foot~~ ^{about pounds to the cubic}) and clean gravel (100 ~~lbs/cu. foot~~ ^{about pounds to the}) ~~as given~~ by Peete.

no # This weight is greater than is altogether desirable for use as a light-weight aggregate. However, the scoriaceous fraction alone would weigh considerably less, and in consideration of the enormous size of the occurrence it is ~~quite~~ possible that careful ^{show} investigation would ~~reveal~~ areas in which scoriaceous fragments existed in relatively greater abundance.

The nature of the occurrence as judged by the county pit would permit mining operations using a shovel or dragline and screen only. Because of the low initial cost of such mining due to the lack of any appreciable overburden and to the lack of necessity of crushing, it might be practicable to install some means of segregating the scoriaceous and non-scoriaceous fractions should a lighter weight aggregate be desired, ~~and should a natural segregation of such not be found.~~

From the stand point of ^{quantity only} size, the potential tonnage of reserves ~~to be had here~~ ^{very large} is great. The location of the occurrence with respect to rail distribution ^{is fairly good} is reasonable, but a truly large market ^{for building block aggregate} is lacking. Unless very

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favorable freight rates ^{can} be had, the immediate market area would appear to be limited to the numerous ~~relatively~~ small cities in the farming area from Wieser, Idaho to Ontario, Oregon.

Reference -- ~~Mining Engineers Handbook, 3rd Edition, Peelle~~

Notes on building block materials of
Eastern Oregon. GMI Short Paper No 14
State Dept of Geology and Mineral Industries 1946.

Birch Creek Cinder Occurrence

Volcanic Cinders

NAME

OLD NAMES

PRINCIPAL ORE

MINOR MINERALS

13 & 14 S

43 E

32 & 5

T

R

S

PUBLISHED REFERENCES

Baker COUNTY

Morman Basin AREA

4300 ELEVATION

Durbin Creek ROAD OR HIGHWAY

13 miles to Huntington DISTANCE TO SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S) J.B. West et al

U.S. Government

Address .. Route 1, Huntington, Oregon

OPERATOR

Name of claims Area Pat. Unpat. _____

Patented Ranch Land and open ground _____

Name of claims Area Pat. Unpat. _____

EQUIPMENT ON PROPERTY _____

REPORTS

Birch Creek Cinder Occurrence N.S.W. July 8 & 10, 1946

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SHIPMENT AND ASSAY RECORDS

MAPS

Recon Geologic Map with Birch Creek Cinder Occurrence Report by N.S.W.

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