



DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

MINED LAND RECLAMATION OFFICE

3523 S. PACIFIC BLVD., P.O. BOX 1028 • ALBANY, OREGON 97321 • (503) 928-5386

June 27, 1977

ROBERT W. STRAUB
GOVERNOR

MEMORANDUM TO: Mr. Jim Mair, State Forestry Department

FROM: Jerry J. Gray, Department of Geology and Mineral Industries

SUBJECT: Rock Quarry, SESW, Section 19, T 10S, R 3E, Linn County, Oregon

Pit run rock from this quarry had been used for base and road surface for seven miles of timber access road. During the first timber sale which used the road, 20 tires were lost due to rock cuts. On June 23, 1977, Jim Mair, Chuck Sanders, and myself inspected the rock material source. The rock is a hard, tough, fine grain, platy andesite. The platy jointing ranges from 1/8" to 1/2". The rock used on the road did not have any clay binder. The platyness of the rock, combined with the hardness and toughness, produced a great many arrowhead shaped stones. The arrowheads ranged from 12" x 6" x 1/2" down to 1 1/2" x 3/4" x 1/16". The material was packed down on the roadbed by a grid roller. This caused some of the arrowheads to stand on end. The lack of binder allowed the arrowheads that had been packed flat to shift upright with motor traffic.

The following suggestions may be useful.

1. Close the pit and reclaim the site.
2. Add a binder to the pit run of at least 25%, and road work it damp. The clay bearing overburden should work as a binder.
3. Use a grid roller to pack the road base, then use a smooth roller to final flatten the road surface.
4. To use the pit to produce crushed rock, the flats would still be a problem if the crushing was done with a jaw or rolls. An impact crusher would make a cubic product; however, with the use of the road, the stone would continue to split along the platy joining.

Memo to Mr. James Mair
June 27, 1977
page 2

In summary, stone from this quarry will always be difficult to work with, whether or not it is used as pit run or crushed.



Jerry J. Gray
Economic Geologist

JJG/lb

July 20, 1976

Oscar Granger
Polk County Planning
Room 2, County Courthouse
Dallas, Oregon 97338

Dear Oscar,

Herbert G. Schlicker, Departmental Engineering Geologist and I inspected Polk County proposed rock pit in section 11 and 14, T 7S, R 4W, July 16, 1976. The Mined Land Reclamation number given to the site is 27-0007. Standley L. Ausmus inspection report of July 15, 1976 which is attached, covers most of the situation, however, a generalized cross section was added to his report to show the relationship of the basalt to the ground line and to the other rock units. The quarry is to be in a basalt outcrop which is the top portion of a rotated and down dropped landslide block. The cross section gives a general view of that landslide block.

Two of the points should be accented; one, the mining should be conducted without the use of explosives and two, the mining should help stabilize the area by unloading the land slide top.

If you have further questions, please advise.

Sincerely,

Jerry J. Gray
Jerry J. Gray
Staff Geologist
Mined Land Reclamation

JJG/am
encl.

Sediments

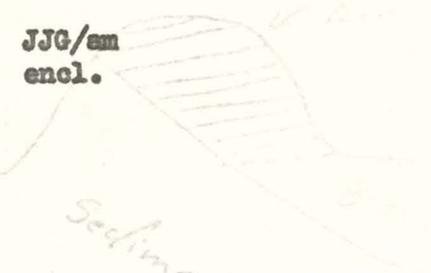
Landslide

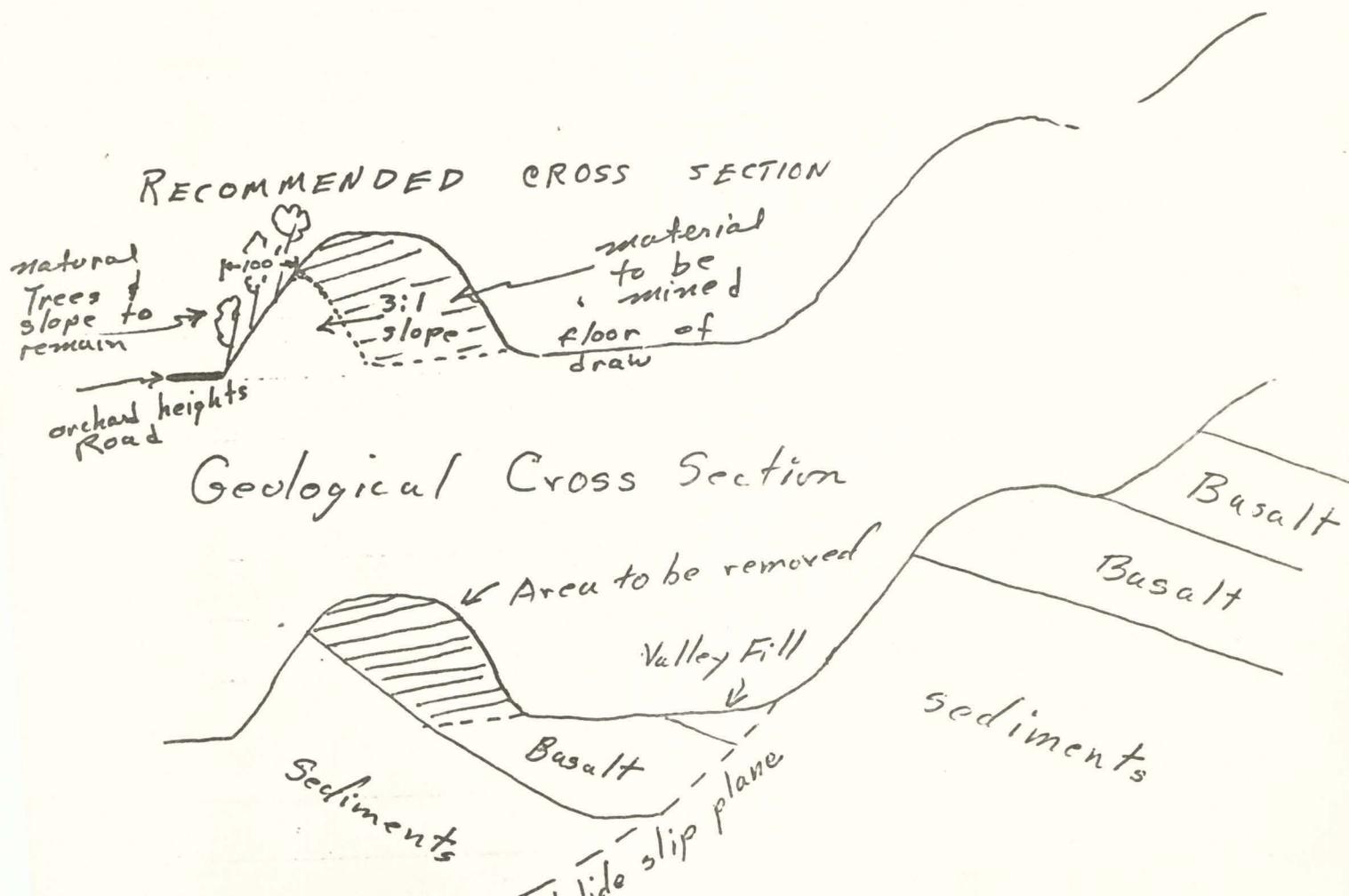
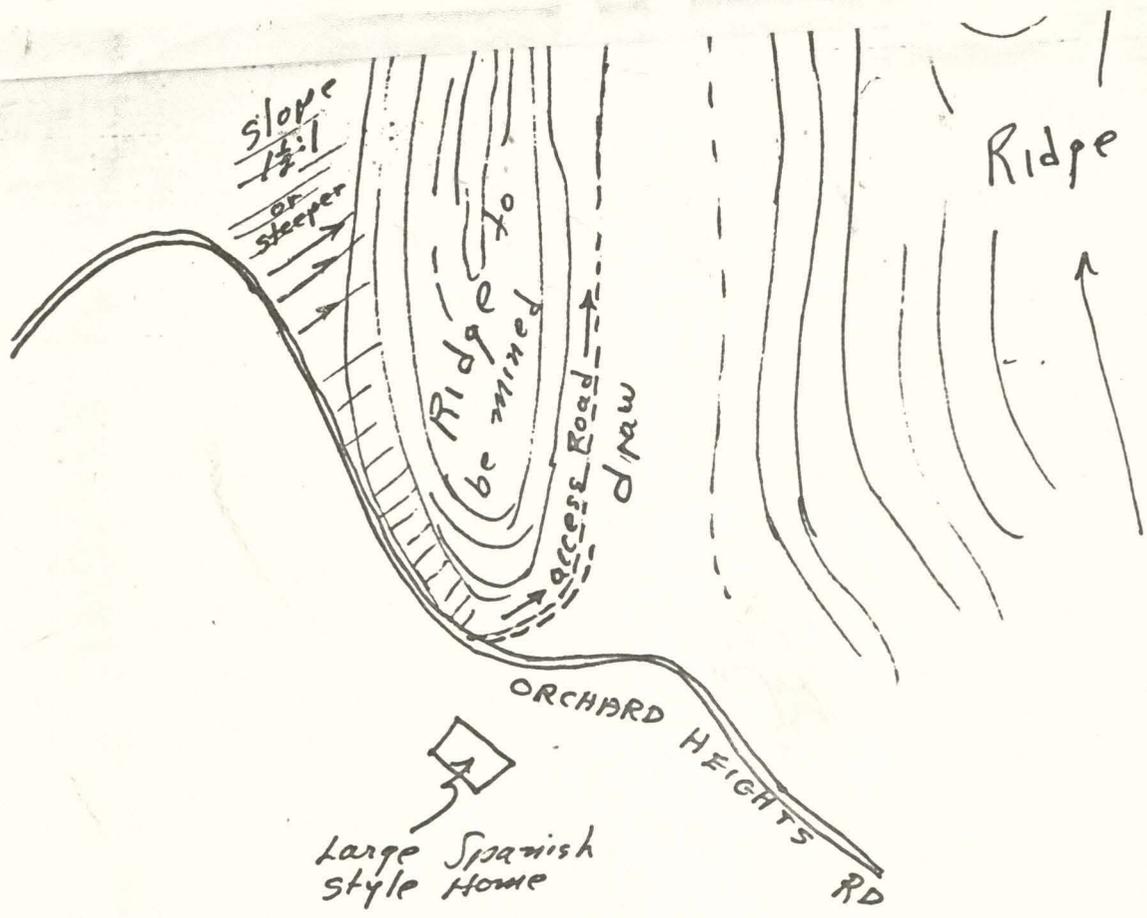
C
O
P
Y

RECOMMENDED

*an
slope
road
arched bridge*

Geological







STATE DEPARTMENT OF GEOLOGY

AND MINERAL INDUSTRIES

P. O. Box 1028

Albany, Oregon 97321

Telephone (503) 926-5571, Ext. 277

Ident. No. _____

Sent _____ By _____

REPORT OF ON-SITE INSPECTION

C. C. Meisel Co.
P. O. Box 206
McMinnville, OR 97128

Site Identification

1/4 Sec. center. 23 Twp. 5S Rge. 4W

County Yamhill

This is to notify you that an on-site inspection of your property described above was made on

May 17, 1974

Pursuant to ORS 517.800(3), the fee for an on-site inspection by the Department is \$100.00. Please remit this amount within 30 days of the inspection date shown above. Checks should be made payable to the State Department of Geology.

A supplementary on-site inspection was made by the Department, for which there is no charge.

REMARKS:

An inspection was made of your possible or proposed quarry site to be located near a spring which is used as a source of water for the town of Amity. The site had been drilled with 40+ holes of unknown depths. The vegetation cover was very little affected by the drilling operation. Before proceeding much further with the quarry development, the operator should secure a Surface Mining Permit. Before that permit would be issued, the question of possible damage to the spring would have to be resolved. If the quarry operations was kept to the north of the ridge line, the ridge line itself would be adequate screening for the homes and the road traffic south of that ridge. A copy of this inspection report was sent to Amity Mayor, Lois McLaughlin. A copy of H. G. Schlicker's geological report on the same subject is attached.

Inspected by Jerry J. Gray

Signature Jerry J. Gray

Title Staff Geologist
Mined Land Reclamation

Date May 22, 1974



DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

1069 STATE OFFICE BLDG. • PORTLAND, OREGON • 97201 • Phone (503) 229-5580

TOM McCALL
GOVERNOR

May 23, 1974

STATE GEOLOGIST
RAYMOND E. CORCORAN

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P.O. Box 417
Grants Pass 97526

3523 S. Pacific Blvd.
P.O. Box 1028
Albany 97321

Mayor Lois McLaughlin
Amity, Oregon 97101

Dear Mayor McLaughlin:

This letter is in reference to the inspection of the proposed C. C. Meisel quarry site located just north of the Art Anderson quarry several miles east of Amity. More specifically, the property is located near the center of Section 23, Township 5S, Range 4W, W. M..

The purpose of the inspection is to determine, if possible, the effects of opening the quarry upon the spring located in the SW $\frac{1}{4}$ of Section 23 which is used as a source of municipal water for the city of Amity.

The report will also speak to the aesthetics of a quarry at this location, and finally to the possibility of increasing the spring flow.

Geology

The oldest rock unit in this area is the Eugene Formation exposed at three to four hundred feet elevation on slopes facing to the west. It is composed of marine deposited tuffaceous sandstone, siltstone and clay of Oligocene age. The tuff has, for the most part, been altered to clay.

The marine sediments are overlain by Miocene age lavas named the Columbia River Basalt Formation. The formation is made up of several individual flows having a total thickness of several hundred feet. The lavas thin to the west and occasionally extend west of the crest of the Eola Hills.

The contact between the basalt and the underlying marine sediment is unconformable and in most places it slopes toward the east.

928-5386

May 23, 1974

Aesthetics

The quarry should be located to the north of the crest of the hill and in a manner which shields it from view of the homes and roadway to the south. The effects of truck traffic should be assessed by others.

Affect on Water Supply

Although detailed information is not available, it appears that the quarry would have little effect on the spring. Only if it is determined that the contact between the basalt and underlying sediment dips toward the spring could the effect of the quarry on the spring be significant.

Improvement of the Spring

It appears that the spring flow could be increased by intercepting more water flowing along the contact beneath the lavas. In a time of low flow this could be determined by digging a trench down-slope from the spring house to observe the amount of water by-passing the water catchment. From the geology it appears that additional water could possibly be obtained from the drainage channel located a short distance to the north.

We would recommend that you contact the State Engineer for more specific information concerning the occurrence of spring water in that area. Mr. Bartholomew of that office could, I am sure, provide you with details on improving your spring.

A copy of Jerry J. Gray's Mined Land Reclamation on-site inspection report is attached.

Sincerely,



H. G. Schlicker
Engineering Geologist

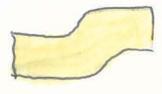
HGS/BJ

cc: State Engineer

MIocene
 Oligocene

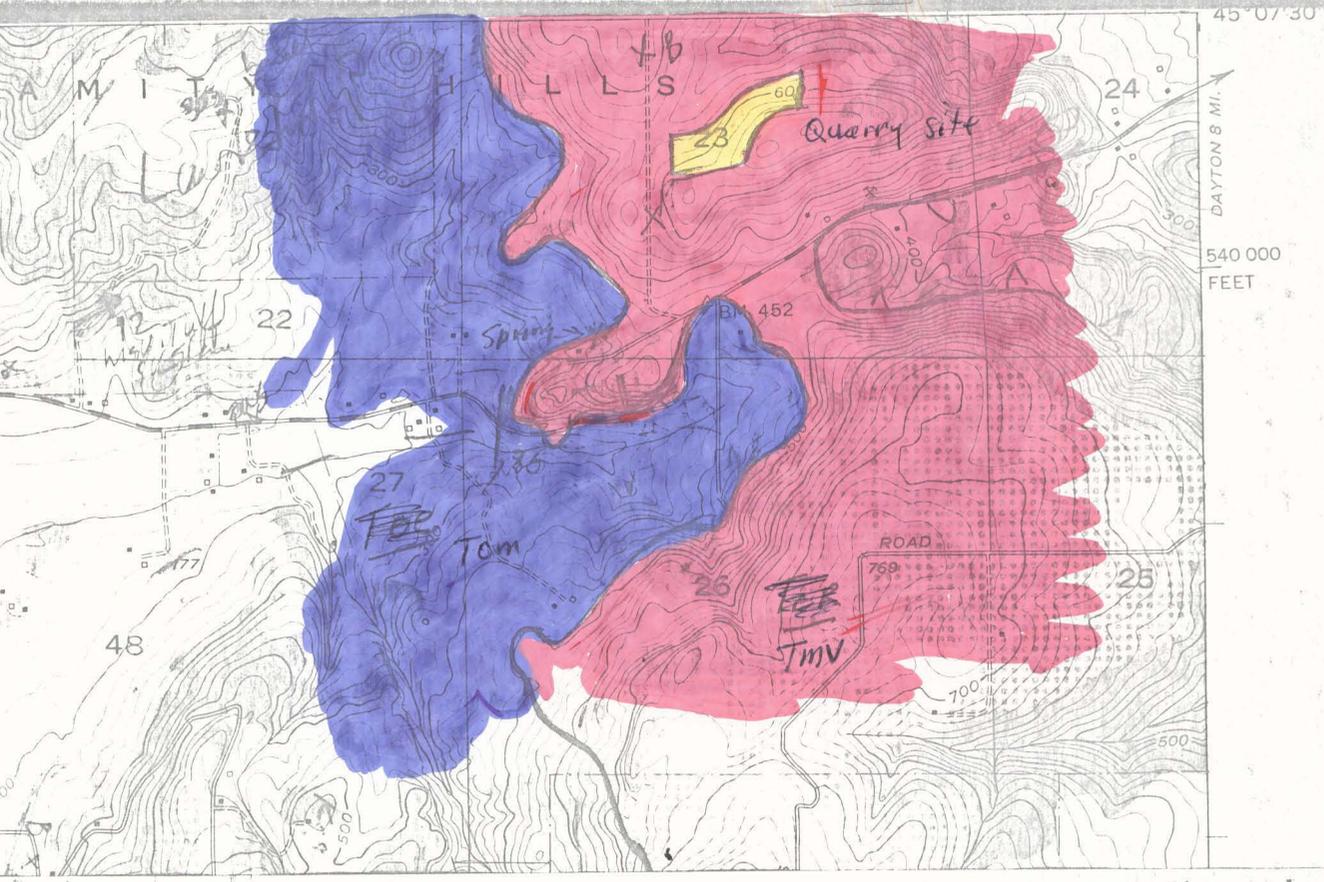
Tmv

Tom



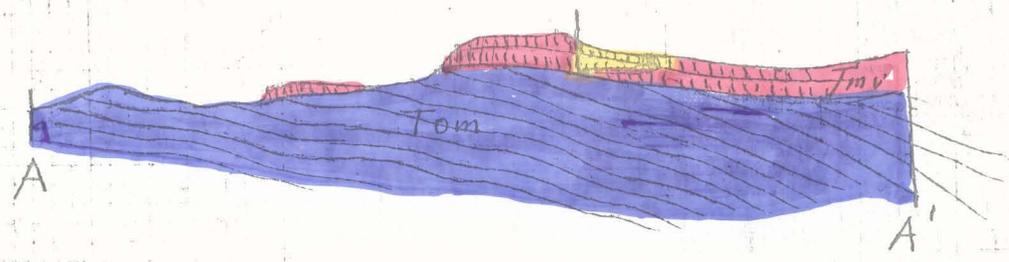
Columbia River BASALT
 unconformity
 Eugene formation

Meisel Quarry prospect determined by
 drill holes and suggested location to remain
 hidden from highway.



Elevation 1000'
 500'
 0

Apparent quarry location proposal



Cross section

1 mile



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ROBERT W. STRAUB
GOVERNOR

March 17, 1977

Mr. Al Couper, Planning Director
Benton County Planning
129 NW 4th St., Suite 203
Corvallis, Oregon 97330

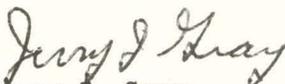
Dear Mr. Couper:

We are enclosing an interim report for the rock material sites in and near the Willamette River.

If you have any questions, please advise.

Sincerely,

Herbert G. Schlicker
Engineering Geologist
by:


Jerry J. Gray
Mining Geologist

JJG/lb
encl.

Rock crusher

Rock dust toughens man's blood

By JERRY EASTERLING
Of the Statesman-Journal

The small sign says: "If we don't see you — HONK."

That's the kind of operation Bethel Heights Quarry is: small and friendly, without gloss or glitter.

But you won't find it standing beside some broad smooth highway. It's hard to locate, even when you're looking for it.



DON THORN

You will, though, if you take Wallace Road out of Salem and turn right on Zena Road at Lincoln — and stay with it until it intersects with Bethel Heights Road four miles further on.

Don't get discouraged after that. Just follow Bethel Heights on through the rolling hills for 2½ miles, and as you come around a gentle bend you'll see the quarry sign.

If the crusher is not running it will be so quiet you can hear a shadow fall, there in a small hollow that's been blasted into the side of a rock-hard hill. And it is hard, says Don Thorn, who owns the quarry.

He designed the long, grey metal machine that was built there to crush the "Columbia River basalt" that literally "eats up a conventional crusher."

It's rough stuff to work. It takes a "special steel jaw" to crack it. But the one he bought — the one he incorporated into the crusher that he and a hired welder built — hasn't satisfied him. It's too slow.

That's the reason there's a minia-



Don Thorn's rock quarry revolves around the rock crusher, center, that Thorn hopes

ture crusher standing off to one side. He designed it, too. And he built it from scrap iron that represents what he calls a "series of mistakes."

On a warm sunny morning recently he fired up the Caterpillar diesel that turns the generator that supplies power for the five-horsepower motor that turns the prototype.

And it began snapping and crack-

ing as it crushed the bucket of rocks he was pouring into the feedworks. When he reached down and scooped up a handful of gravel, he smiled. It looked good to him. He dreams rock crushers.

If it pans out he believes it will increase the production of the smaller rock he crushes. It's similar to other machines on the market, so he may not be able to patent it. Even if he can't, he still wants to manufacture

them if the prototype pans out.

He's a construction man through and through. His face is weathered and tanned, and his hands are big. "The rock dust" he says he's got in his blood has had plenty of time to accumulate.

In 1946, he began working for one of his brothers, who was a "powder monkey" — one of those hardy souls who makes a living blasting rock.

When he started a rock crusher



Statesman-Journal photo by David Nuss

to manufacture and sell.

Thorn took over his blasting business. For years he was a blasting contractor. Then he and a partner started a rock crusher near Wren in Benton County.

They sold it a few years ago and he spent "about 3½ years in retirement." But that was not a blessing for a man who has been busy all his life, especially when he's not old enough to hang it up.

Now he's 58. And he felt "like a

kid with a new toy" when he finally got all the permits that were required to open the Bethel Heights Quarry.

It's been operating since January. With the help of his son, Todd, and one employee, he operates the crusher. In the afternoon, his wife, Barbara, comes out of Salem where they live to listen for the telephone in the small trailer that is headquarters for the business.

There hasn't been as much business as he expected. He thought there would be "more pickup trade" because he encourages the small orders the big crushing companies don't want to fool with.

He guarantees courteous service. "We treat everyone the same," he said, "whether they want a million yards or a bucket full."

He's selling about 40 yards of "pit run, small rip rap and landscaping rock" a day, which doesn't cut it. Not until he's selling 150 yards a day will he do any good.

When he started he bought a huge shovel because he thought it could gouge the rock out of the sheer basalt wall that surrounds the crusher without having to blast.

"But it's too hard on the machine," and when it sells he'll replace it with a big front-end loader that will make the operation more efficient.

When he started the plant, he figured it would take "1½ to 2 years" to make it profitable. Even though business has increased gradually every month, it looks like it's going to take that long.

He's been blessed with all the worries that businesses generate, but he's happy. As far as he's concerned, nothing will banish the boredom of retirement quicker than a rock crusher.