

# State Department of Geology and Mineral Industries

702 Woodlark Building  
Portland 5, Oregon

## FERRIS & KREHBEIL COAL MINE (a partnership)

Marion County

Operator: Frank Ferris, Pratum, Oregon (Lessee)

Owner: Land is owned by W. P. Emery, Pratum, Oregon

Area: 120 acres of deeded land under lease

Location: Block of ground partly in sec. 28 and partly in sec. 33, T. 7 S., R. 1 W. The property is reached via Garden Road from Salem east to Pratum, and 317 miles east of Pratum on road to Silverton to intersection with Cemetery Road. At 0.9 mile from intersection turn left into Ferris house at short distance from mine.

History: About a year ago Ferris, who has mined coal in Colorado, opened up the coal bed. A little exploration work has been done and a small amount of coal mined in the general area, but this particular development is new work.

Topography, etc: Few rolling hills, a farming country typical as to climate and vegetation of upper Willamette Valley.

Development: An incline shaft has been sunk at about 40° for a distance of about 100 feet. From the bottom of the shaft where it penetrates the coal an entry or drift has been run in the bed for ~~about~~ 80 feet. A sump has been dug at the side of the drift about half way from the shaft to the present face at which a small electric rotary pump has been placed. It is necessary to run the pump only a short time each day. Shaft and drift are small in cross-section and would permit only a small operation.

A small wooden car holding about 500 pounds of coal is used in the shaft and drift. 16-pound rails are set on stringers in the shaft, and timber stringers with scrap iron are used for track in the drift. An automobile engine and chassis have been converted to a hoist using a hoisting drum and half-inch steel cable. Accompanying sketches show lay-out, and thicknesses of coal seams in present face of drift.

Geology: Coal seams separated by seams of clay and dirt form a bed about 4½ feet in thickness with shale in roof and floor. The bed has a probable slight dip to the south. The coal appears to be less broken and to contain less bone as the drift is driven.

Economics: A small amount of coal is being taken out in the development. After hoisting, it is dumped over a punched screen with 2" round holes. Over-size is raked off for lump. Under-size is put over a 1" screen for nut and stoker coal separation. Equipment is available so that crude washing could be practiced. The coal is sacked and sold for 35¢ a hundred at the mine.

Ferris states that if further drifting continues favorable he plans to sink a working shaft farther north, make connections below and use present shaft for air.

Sample of clean coal and representing seams totalling 39" in a 54" bed, as shown on accompanying map sketch, was sent to U.S.B.M. at Seattle (4/2/42) for proximate analysis. Results are as follows:

Coal	Moisture	Volatile	Fixed Carbon	Ash	Sulfur	B.t.u.
As received	20.7	24.7	33.7	20.9	.7	7,470
Air dried	6.1	29.3	39.9	24.7	.8	8,850
Moisture free		31.2	42.5	26.3	.9	9,420
Moisture and ash free		42.3	57.7		1.2	12,790

A sample analyzed at Oregon State College (5/18/42) gave results as follows:

13.3      46.9      24.2      15.6      .62      8,725

Report by: F. W. Libbey, Mining Engineer, 3/27/42.

Section of unnamed bed in Valde Hills mine  
Laboratory No. 3-40250

Roof, firm sandy shale:	ft.	in.
Shale, soft, brown	2	5 $\frac{1}{2}$
Coal, friable		2 $\frac{1}{2}$
Reme and shale	2	2
Coal, friable		1 $\frac{1}{2}$
Clay, gray, plastic	2	1
Coal, bright, friable		3 $\frac{1}{2}$
Clay	2	3
Coal, shale streaks		2 $\frac{1}{2}$
Shale, firm	2	3
Coal		4 $\frac{1}{2}$
Shale, soft, gray	2	6
Coal, bone streaks	1	
Shale	2	4
Coal, bright		3
Bone	2	2
Coal, bony		9 $\frac{1}{2}$
Bone, soft	2	7 $\frac{1}{2}$
 Floor, smooth firm shale.		
Thickness of bed	5	6-3/4
Thickness in sample	3	2-3/4

<sup>a</sup> Not included in sample.

The analyses of the coal sample described in the above section is shown in the following table.

### Section of coal bed in Ferry and Kroghall mine

Roof, coal (4 in.) Pt. Ia.

Coal	10
Dirt	3
Coal	3
Dirt	6
Coal	11
Shale	1
Coal	3

Floor, coal (2 in.)

Thickness of bed	4	1
Thickness of sample	3	3

The sample of clean coal representing seams totalling 39 inches was sent to the U. S. Bureau of Mines at Seattle on May 2, 1942 for proximate analysis. Results were as follows:

	Moisture	Volatiles	Fixed Carbon	Ash	Sulfur	B.t.u.
As received	20.7	24.7	33.7	20.9	.7	7,470
Air dried	6.1	29.3	39.9	24.7	.8	8,850
Moisture free		31.2	42.5	26.3	.9	9,420
Moisture and ash free		42.3	57.7		1.2	12,790

Section of varved bed in Valde Hills mine  
Laboratory No. 140250

Roof, firm sandy shale:	Pt.	In.
Shale, soft, brown	4	5 $\frac{1}{2}$
Coal, friable	2	2 $\frac{1}{2}$
Bone and shale	2	2
Coal, friable	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Clay, gray, plastic	1	1
Coal, bright, friable	3 $\frac{1}{2}$	3 $\frac{1}{2}$
Clay	1	1
Coal, shale streaks	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Shale, firm	3	3 $\frac{1}{2}$
Coal	4 $\frac{1}{2}$	4 $\frac{1}{2}$
Shale, soft, gray	6	6
Coal, bone streaks	1	1
Shale	4	4
Coal, bright	3	3
Bone	2	2
Coal, bony	9 $\frac{1}{2}$	9 $\frac{1}{2}$
Bone, soft	7 $\frac{1}{2}$	7 $\frac{1}{2}$
Floor, smooth firm shale.		
Thickness of bed	5	6-3/4
Thickness in sample	3	2-3/4

<sup>a</sup> Not included in sample.

The analyses of the coal sample described in the above section is shown in the following table.

### Section of coal bed in Ferris and Krebsell mine

Roof, coal (4 in.)	ft.	in.
Coal		10
Dirt		3
Coal		3
Dirt		6
Coal		11
Shale		1
Coal	1	3
Floor, coal (2 in.)		
Thickness of bed	4	1
Thickness of sample	3	3

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	Moisture	Volatile	Fixed Carbon	Ash	Sulfur	B.t.u.
As received	20.7	24.7	33.7	20.9	.7	7,470
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Moisture and ash free		42.3	57.7		1.2	12,790

State Department of Geology and Mineral Industries

702 Woodlark Building  
Portland, Oregon

WALDO HILLS COAL MINE

Marion County

Present owner (5/19/48): J. B. Miner  
5903 N. E. Hassalo St.  
Portland, Oregon  
We. 6020. *for further information*

Mine has not been worked for past six months but watchman said that plans for opening up the mine on a large scale are being made. The watchman also indicated that they are considering putting in a briquet machine.

Name of the mine had been changed to Waldo Hills Coal Mine. Formerly Ferris & Krebheil coal mines, *which see* for further information.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

Test No. \_\_\_\_\_

G-COAL-ANALYSIS REPORT

Lab. No. \_\_\_\_\_

Sample of Subbituminous coal, NAA (non-agglomerate) Can No. \_\_\_\_\_Operator Ferris & Koehrl Mine \_\_\_\_\_State Oregon County Marion Bed UnnamedTown 1/4 miles east of SalemLocation of ~~in~~ Sec. 28 and 33, T. 7 S., R. 1 W.Method of sampling Sample in canvas sack. Gross weight, lbs. 20 Net weight, grams \_\_\_\_\_Date of sampling 3/27/42 Date of Lab. sampling 4/1/42 Date of analysis 4/2/42B. of M. or U. S. G. S. section Ore. Geol. M.I. Collector F. W. Libbey.

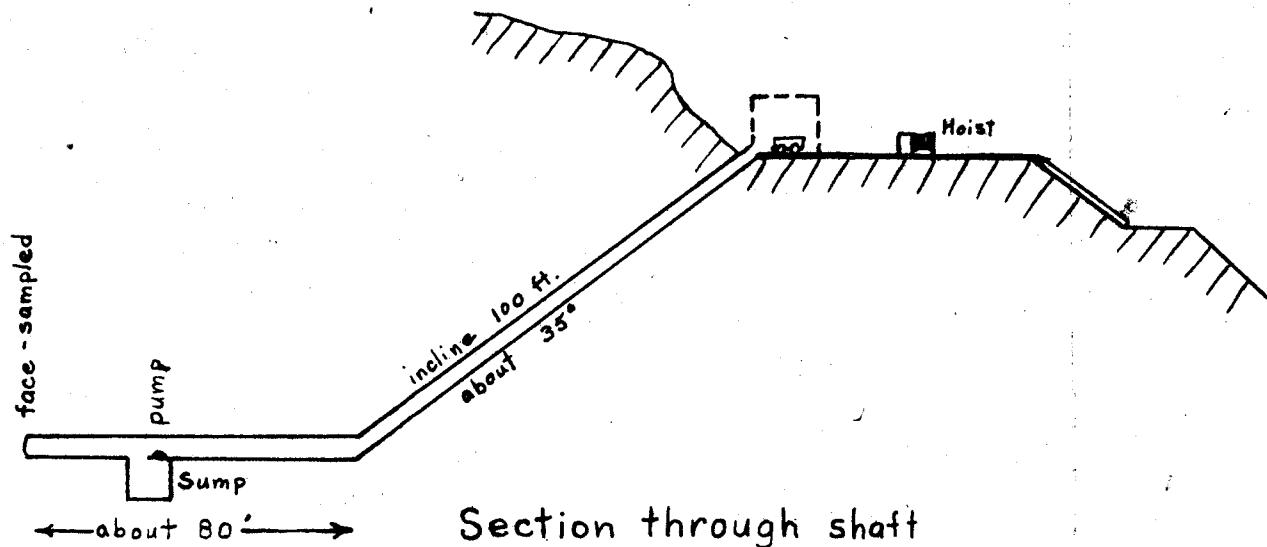
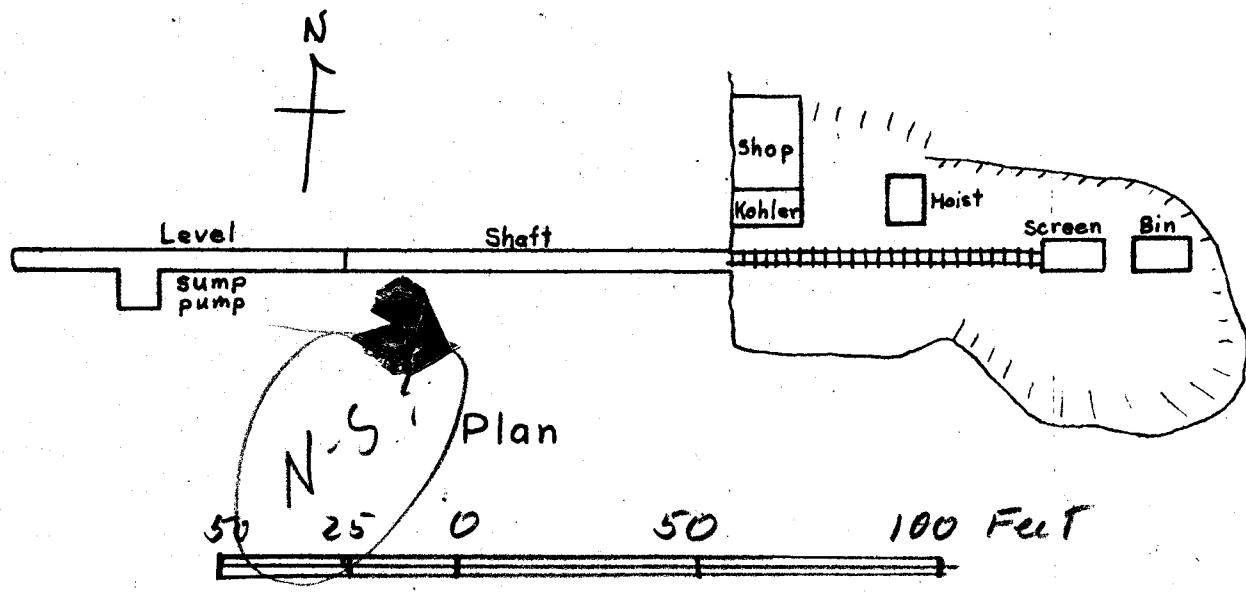
ANALYSIS	ARE-DRY LOSS	COAL (Air dried)	COAL (As received)	COAL (Moisture free)	COAL (Moisture and ash free)
Proximate Analysis	Moisture	<u>6.1</u>	<u>20.7</u>		
	Volatile matter	<u>29.3</u>	<u>24.7</u>	<u>31.2</u>	<u>42.3</u>
	Fixed carbon	<u>39.9</u>	<u>33.7</u>	<u>42.5</u>	<u>57.7</u>
	Ash	<u>24.7</u>	<u>20.9</u>	<u>26.3</u>	
		<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Ultimate Analysis	Hydrogen				
	Carbon	(Marked: Sample of clean coal from seams 39" total thickness in bed 54" total thickness.)			
	Nitrogen				
	Oxygen				
	Sulphur	<u>.8</u>	<u>.7</u>	<u>.9</u>	<u>1.2</u>
Calorific value	Ash				
	Calories				
	British thermal units	<u>8850</u>	<u>7470</u>	<u>9420</u>	<u>12790</u>

softening temperature of ash \_\_\_\_\_ ° C. \_\_\_\_\_ ° F. \_\_\_\_\_

Date April 8, 1942. (Signed) K. A. Johnson.

Chemist.

Ferris Coal Mine  
Waldo Hills E. of Salem



Equipment

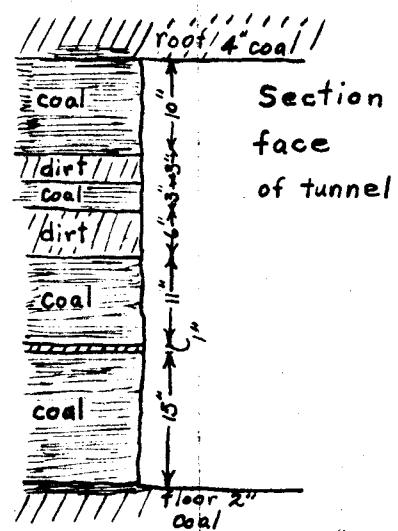
Kohler System electric pump, 200 g.p.h.  
Hoist from converted auto

$\frac{1}{2}$ " wire rope

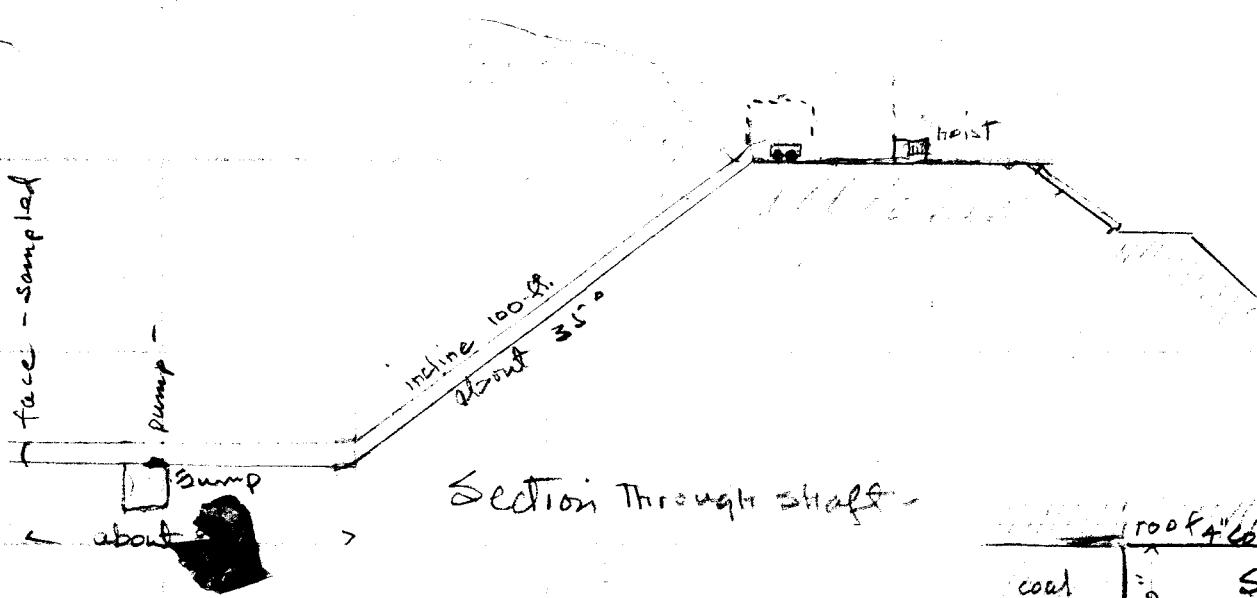
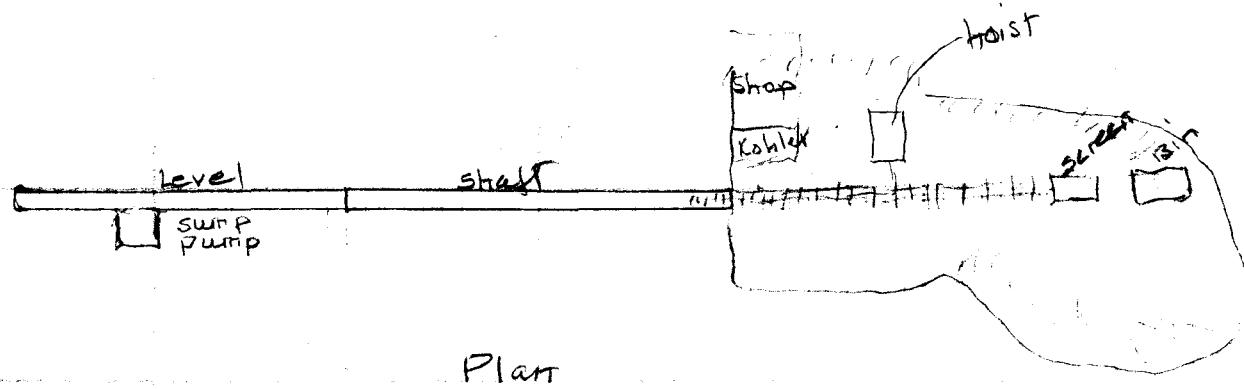
Wood car 500# capacity

Forge

Picks & shovels



Ferris Coal Mine  
Waldo hills E. of Salem



Section through shaft

Equip.

Kohler system elec. pump 200g.p.t. "

Hoist from converted auto

1/2" wire rope

wood car. 500# capacity

torque

picks & shovels

