

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: Low 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	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

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

Section of unmineral bed in Waldo Hills mine
Laboratory No. 3-40250

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

^a 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

	Ft.	In.
Roof, coal (4 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

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 unnamed bed in Waldo Hills mine
Laboratory No. B-40250

Roof, firm sandy shale:	Ft.	In.
Shale, soft, brown	A	5 $\frac{1}{2}$
Coal, friable		2 $\frac{1}{2}$
Bone and shale	A	2
Coal, friable		1 $\frac{1}{2}$
Clay, gray, plastic	A	1
Coal, bright, friable		3 $\frac{1}{2}$
Clay	A	
Coal, shale streaks		2 $\frac{1}{2}$
Shale, firm	A	3
Coal		4 $\frac{1}{2}$
Shale, soft, gray	A	6
Coal, bone streaks	1	
Shale	A	6
Coal, bright		3
Bone	A	2
Coal, bony		9 $\frac{1}{2}$
Bone, soft	A	7 $\frac{1}{2}$

Floor, smooth firm shale.

Thickness of bed	5	6-3/4
Thickness in sample	3	2-3/4

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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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WALDO HILLS COAL MINE

Marion County

Present owner (5/19/48): J. B. Miner
5903 N. E. Hassalo St.
Portland, Oregon
We. 6020. *to owner 1948*

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 ^{was the} 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 & Koshril Mine _____

State Oregon County Marion Bed Unnamed

Town 14 miles east of Salem

Location ^{of} ~~the~~ mine 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 4/2/42

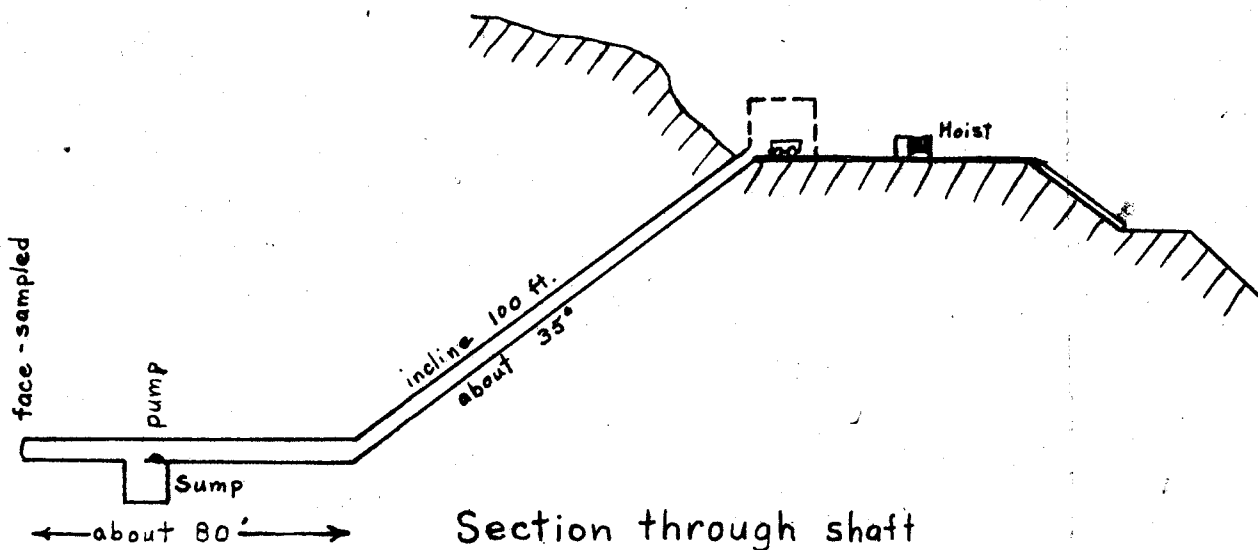
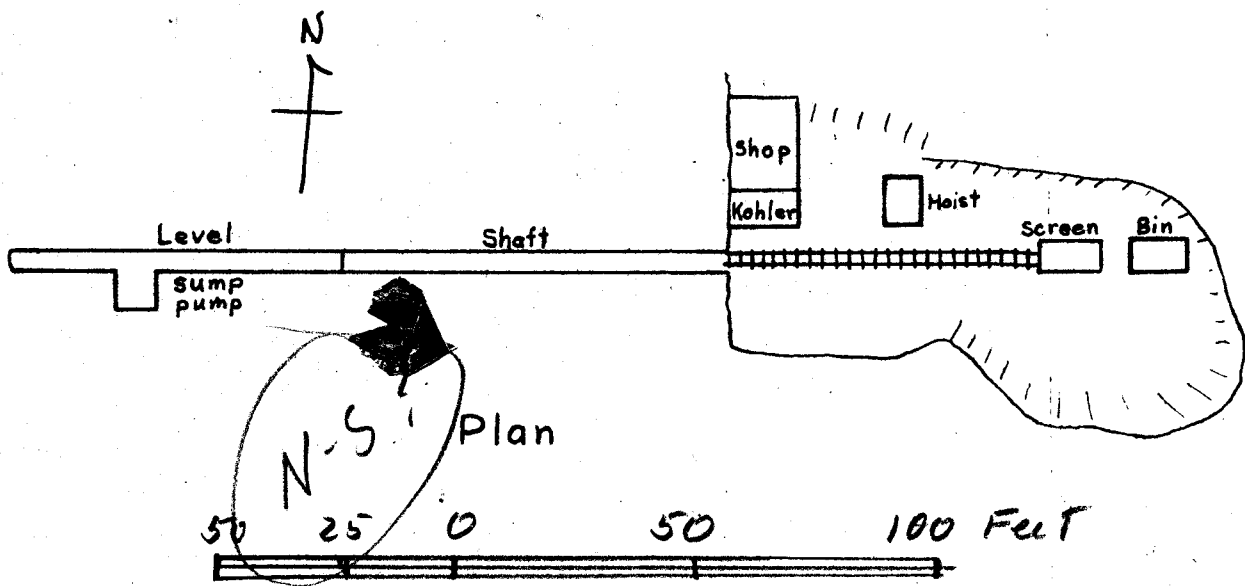
B. of M. or U. S. G. S. section Ore. Geol. M.I. Collector F. W. Libbey.

AIR-DRY LOSS		COAL (Air dried)	COAL (As received)	COAL (Moisture free)	COAL (Moisture and ash free)
15.6					
Proximate Analysis	Moisture	6.1	20.7		
	Volatile matter	29.3	24.7	31.2	42.3
	Fixed carbon	39.9	33.7	42.5	57.7
	Ash	24.7	20.9	26.3	
		100.0	100.0	100.0	100.0
Ultimate Analysis	Hydrogen				
	Carbon	(Marked: Sample of clean coal from seams 39" total thickness in bed 54" total thickness.)			
	Nitrogen				
	Oxygen				
	Sulphur	.8	.7	.9	1.2
	Ash				
Calorific value	Calories				
	British thermal units	8850	7470	9420	12790

Softening temperature of ash _____ °C. _____ °F.

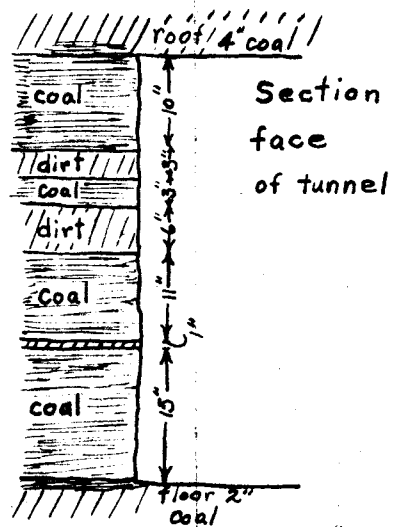
Date April 8, 1942. (Signed) K. A. Johnson. _____

Ferris Coal Mine
Waldo Hills E. of Salem

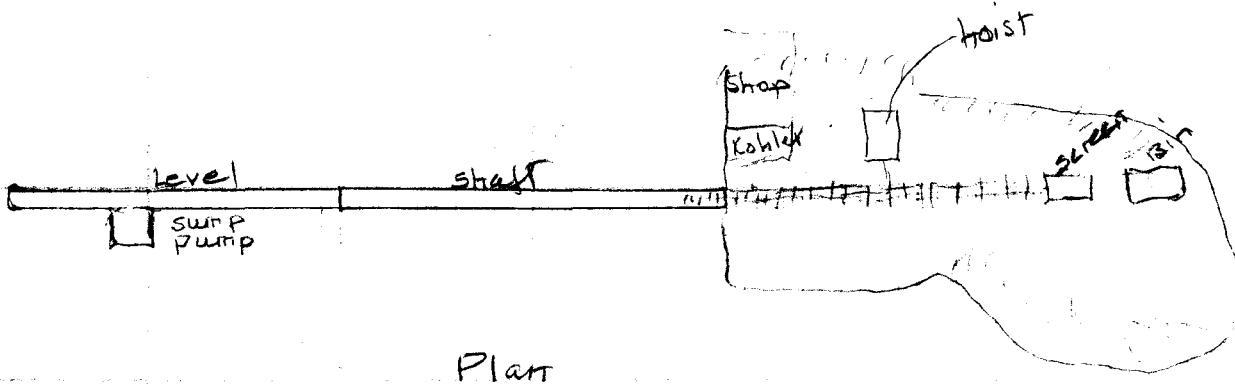


Equipment

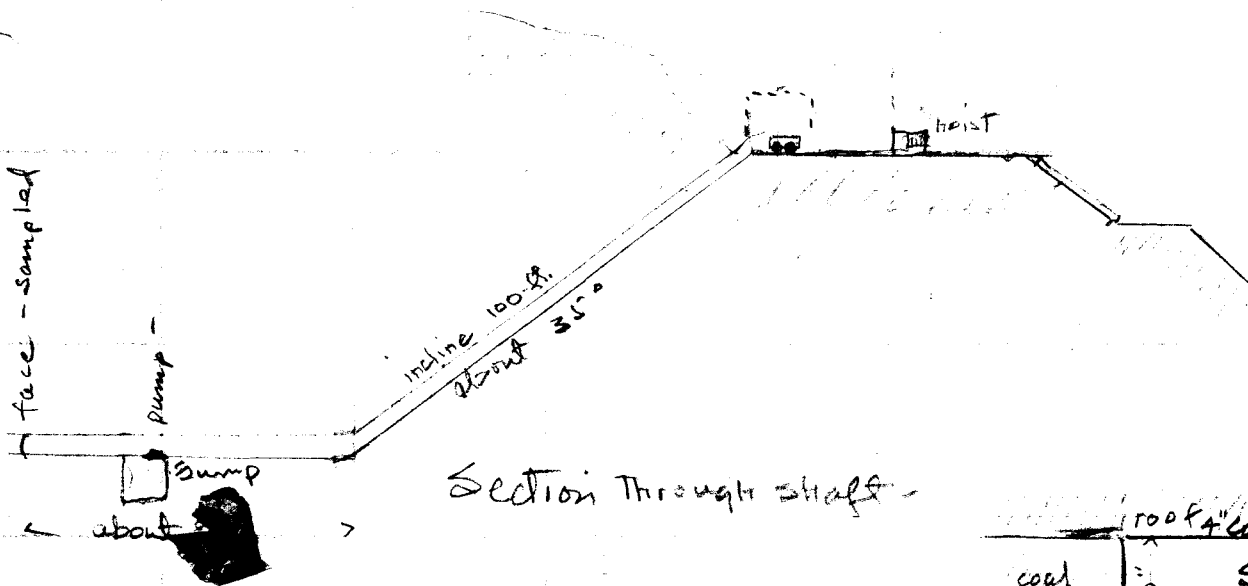
- Kohler system electric pump, 200 g.p.h.
- Hoist from converted auto
- 1/2" wire rope
- Wood car 500* capacity
- Forge
- Picks & shovels



Ferris Coal Mine
Waldot Hills E. of Salem



Plan



Section Through shaft -

Equip -

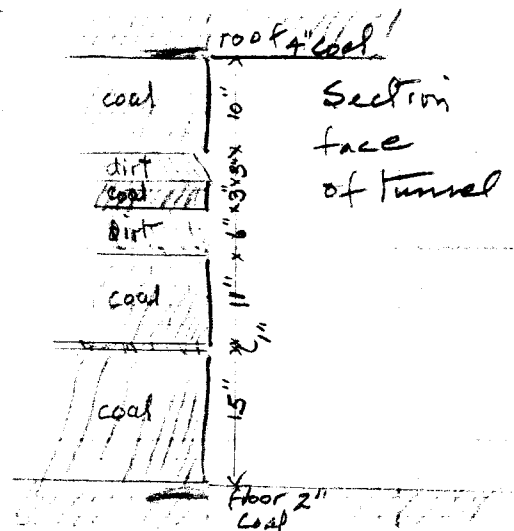
Kohler systems elec. pump 200q.p.l.

Hoist from converted auto

1/2" wire rope

wood car. 500# capacity

targe
picks & strakes



Section
face
of tunnel