

INTER-OFFICE MEMORANDUM



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DATE

January 30, 1968

FROM

C. A. Finsland

C. A. Finsland

AT

Middletown Construction

JOB NO.

7100

COPIES TO

SUBJECT Kaiser Engineer's Weekly Field Activity Report

Transmitted herewith is the subject report for the week ending January 30, 1968.

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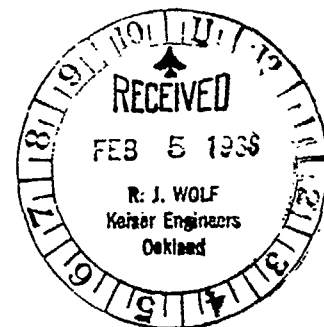
Armco

D. C. Osborne
C. G. Kramer
F. W. Barnes
T. R. Foley
P. R. Smith
D. Cox
J. S. Lotz
R. L. Brannaman

Kaiser

R. J. Wolf (Oakland)
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KEN 004471

Kaiser Engineers

WEEKLY FIELD ACTIVITY REPORT Week Ending January 30, 1968

WEATHER: Mild weather with rain
on the last two days
of the period.

CLIENT: Armco Steel Corporation

LOCATION: Middletown, Ohio

JOB NUMBER: 6471

TEMPERATURE: Maximum - 50 degrees
Minimum - 9 degrees

JOB VISITORS

none

SUMMARY FORCE REPORT

	Kaiser Engineers		Subcontractors	Foothill Electric	Total
	<u>Exempt</u>	<u>Non-Exempt</u>			
Management	5	4		1	10
General Supervision	19	3	19	5	46
Field Engineering	45	16	12	14	87
Warehs. & Mtl. Control	3	7		1	11
Survey	2	16	3		21
Office Srv. & Repro.	1	6			7
Clerical			16	16	32
Craft *	—	<u>792</u>	<u>954</u>	<u>699</u>	<u>2,445</u>
TOTAL	75	844	1,004	736	2,659

* Average for week of men on payroll.

Average for week of Crafts is as follows:

Kaiser Engineers	740
Subcontractors	910
Foothill Electric	<u>655</u>
Total Crafts Working	2,305

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PROJECT PROGRESS

1. 7148 - HOT STRIP MILL

- 1.3 Structural and Miscellaneous Steel: An average work force of twenty ironworkers was maintained in the hot strip mill during the period. Period progress consisted of completion of the heat shields at furnaces #2 and 3 entrances. Progress continued in the rougher area, oil cellar and motor room on punch list items prior to final turn-over to Armco. An average work force of twenty-five sheetmetal workers continued installation of the heat shield at furnace #3 stack together with the installation of guards and soot blowers in this area. Sheetmetal workers also continued the installation of the finishing mill motor coupling guards and the installation of the vent fan in the downcoiler area.
- 1.5 Heating and Ventilating: Electrical work was essentially completed on the bag houses during the period. Little progress was recorded by Norm Woolley on the fume elimination system area during the period due to crane availability.
- 1.6 Mechanical: During the period, Eichleay Corporation maintained an average work force of twenty-eight men on mechanical installation in the hot strip mill. In the finishing mill area, two shifts continued during the period on mechanical testing of finishing mill auxiliary equipment. The finishing mill motors 2, 4, 6 and 7 were operated with rolls installed in the mills. The top back-up roll bearings were found to be noisy in two roughing mills. These rolls are being replaced. In the hot runout area, 339 rolls have been removed and sent to local machine shops for balancing. 290 balanced rolls have been returned and reinstalled. 80 of these have been realigned at the close of this period. 18 of these are carry-over rolls now included in the balancing program. Reinstallation and realignment work will be accelerated with additional work crews during next period. In the downcoiler area, testing of mechanical equipment was restrained during the period because of the need for the downcoiler air system under leak test and the hydraulic systems flushing, connecting hoses and installing instrumentation. In the coil conveyor area, the drives for conveyors 9 and 10 were grouted in place and installation of the gear case is in progress. Speed and position devices are presently being installed on conveyors 7, 8, 9 and 10. The signode coil bander was checked out and is ready for grouting. Uncoupled tests were completed for the #2 air compressor, the #5 main mill in the finisher area and the #3 coil conveyor. Coupled tests were completed on the pinch rolls for the #1 downcoiler, the coil banding machine and four pumps in scale pit #3.

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- 1.7 Piping: Systems worked on during the period were mill low pressure water, fume exhaust system, plant air and instrumentation. Twenty-two sump pumps have been sent to the factory for installation of retainer seals and ten of these have been repaired and returned to the site. Hydraulic system 19 will be flushed during next period with permanent oil in the system. Hydraulic system 17 will be turned over to start up operations early next period. The jumpers are being removed from hydraulic system 18 and the permanent connections made. The pilot valves that arrived on site on January 29 are now being installed. Repair of leaks is presently in progress on the downcoiler air system and the loop air system in the finisher area. The grease piping for the runout rolls is being replaced as the work on rebalancing the rolls progresses. Progress was evident during the period on the fire protection foam systems in the fuel oil pump house and the two grease houses. The foam system in the fuel oil pump house was completed during the period. In grease house #2, the system will be completed during next period. During this period, blow down of all the air headers was initiated with #1 air compressor under Armco operations. The pipefitters are presently installing a blow-off pipe in the parking lot near the clarifier in order that #1 air compressor can be used under full working load. During the period, a pipefitter force of seventy-seven men was maintained in the hot strip mill.
- 1.8 Electrical: Foothill Electric Corporation maintained an average work force of three hundred electricians in the hot strip mill. Electrical progress for the period consisted mainly of requirements for mechanical start-up and testing of the finishing mills, downcoilers, coil conveyors and completion list items. Electrical completion of the north side conveyors in the green coil storage building is scheduled for March 1 since the electrical power for this area depends on energizing of the pickle area substation. During the period, 8,000 lbs. of exposed conduit was installed for a total to date of 1,514,000 lbs. or 100% complete. 22,000 feet of low voltage cable was installed for a total to date of 1,899,000 feet. 200 low voltage cable terminations were made for a total to date of 32,000 or 94% complete. 17,000 feet of control cable was installed for a total to date of 2,012,000 feet. 600 control cable terminations were made for a total to date of 61,800 or 99% complete. 5,000 feet of computer cable was installed for a total to date of 903,000 feet or 99% complete. 200 computer cable terminations were made for a total to date of 29,300 or 97% complete. 6,000 lbs. of lighting conduit, 4,000 feet of lighting wire and nine fixtures were installed during the period. 50 terminations and 11,000 feet of TV and communications cable was installed. 900 lbs. of structure grounding was installed for a total to date of 144,000 lbs. or 90% complete.

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- 1.9 Miscellaneous Subcontracts: Owens Corning Fiberglas Company maintained an average work force of twenty-four men on insulation during the period. 1,094 feet of steam pipe was insulated and 1,215 feet of lube oil and Morgoil piping was insulated. Progress continued on insulation of steam line in the boiler house. The overhead piping in the hot strip mill is presently scheduled for completion by February 20, 1968 and the boiler house area is scheduled for completion by March 15, 1968.

Delta Pipeline Constructors installed 1,920 feet or forty-six drops during the period with sixty-nine drops remaining to be installed. Three complete cutting stations on E line and sixteen cutting stations on D line were installed during the period. This completes all cutting stations in the mill aisle and roll shop. In the roll shop, the natural gas line is presently being tested and the oxygen and plant air lines have been tested and accepted. In the slab yard, ten air drops were installed along C line. The average work force was increased to fifty-eight men on this contract during the period.

Salem-Brosius continued with up-take refractory installation on the #3 furnace during the period. The repairs to furnace #1 were completed on January 29th and is to be light off on February 5. The #2 boiler damper housing has been completed and the gas flue damper is virtually completed. Piping progress continued in #3 unit where steam, oil, air and impulse lines were being installed.

Honeywell is 90% complete with instrumentation in the waste heat boiler area. Installation of instrumentation continued on units #2 and 3 including extra work requirements on the elevation 154 control room panels.

Stuart Painting maintained an average work force of thirteen men during the period in the hot strip mill. Additional manpower has been requested to expedite completion in the hot strip mill. During the period, painting was completed in the oil cellar and main motor room from columns 13 to 33. All punch list items have been completed in the roll shop and grease house. Punch list completion continued in the main mill aisle from columns 1 to 42, together with painting in the maintenance area complexes and scale pits 1, 2 and 3.

2. 7146 - SLAB MILL

- 2.1 Excavation and Backfill: 1,389 cubic yards of backfill was completed in scale pit 4 area for a total to date of 215,962 cubic yards.
- 2.2 Concrete: 45 cubic yards of concrete was placed during the period for a total to date of 47,702 cubic yards. Period concrete consisted mainly of the mill aisle slab on the west side of the railroad.

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- 2.3 Structural and Miscellaneous Steel: Three ironworker crews continued during the period on installation of miscellaneous iron in the slab mill area. The framework for the oxygen panel and the access stairway at the scarfer maintenance area were installed. Progress continued on the rework requirements for the scarfer smoke hood. The smoke hood is now 90% complete. Installation of the mill aisle crossover platform and stairs were installed and the scarfer maintenance access platform is now 75% complete. Two sheetmetal crews installed ductwork in the slab mill area during the period. Progress continued on ductwork in scale pit #4 pump room which is now 20% complete. Heating and ventilating duct installation continued during the period for the office facility. Installation of stack sections for the #3 and 4 bag house filter units was in progress throughout the period and is 60% complete. Glazing was completed during the period on the scarfer pulpit enclosure, pilot pulpit, the stamper pulpit and the shear pulpit. Installation of panels and desks for these pulpit units is underway.
- 2.6 Mechanical: Eichleay Corporation maintained an average work force of fifty-eight men on mechanical installation in the slab mill. Installation during the period was continued on the front and rear manipulators, the slab stampers, the transfer car drives, the main mill and table motors. During the period, the following units were grouted in place: table #5 motor bases, the exciter for the main MG set, the transfer car drive and the north and south accumulator drive. It was reported this period that the piler frames and vertical mill drive components which were returned earlier to Mesta factory for rework have been shipped from the factory to the job site. Four of these gear assembly units for the vertical mill arrived at the job site by the close of this period.
- 2.7 Piping: Hunter Corporation maintained an average work force of fifty-nine men on slab mill piping during the period. Preparations continued during the period for a hydrostatic leak test which is scheduled for February 3rd. A hydrostatic leak test is presently in progress on the #6 lube oil piping. Progress was evident on a majority of piping systems in the slab mill. 859 feet of pipe was installed for a total to date of 23,934 feet. 2,840 feet of hydraulic piping has been installed to date from an estimated total of 6,670 feet or 42% complete. 3,380 feet of lube oil piping has been installed from an estimated total of 6,687 feet. 3,295 feet of grease piping has been installed from an estimated total of 11,800 feet. 14,429 feet of general service piping mainly headers has been installed from an estimated total of 34,568 feet.
- 2.8 Electrical: Foothill Electric Corporation maintained an average work force of two hundred men in the slab mill. During the period, 10,200 lbs. of exposed conduit was installed for a total to date of 109,000 lbs. or 67% complete. 2,200 feet of cable tray was installed for a total to date of 17,200 feet. 1,000 lbs. of structure grounding was

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installed for a total to date of 27,500 lbs. or 55% complete. 21,000 feet of low voltage cable was installed for a total to date of 51,000 feet or 9% complete. 21 low voltage terminations were made for a total to date of 161 or 4% complete. 5,000 feet of control cable was installed for a total to date of 11,000 or 4% complete. 3,400 lbs. of lighting conduit and twenty-one fixtures were installed during the period.

3. 7143 - SOAKING PITS

- 3.2 Concrete: 72 cubic yards of concrete was placed in the soaking pits area for a total to date of 29,477 cubic yards. This was fill concrete on the charging aisle track. Approximately 350 cubic yards now remain for completion in the soaking pits.
- 3.3 Structural and Miscellaneous Steel: Three ironworker crews continued with miscellaneous iron installation in the soaking pits. Welding of the ingot buggy drive house structural framework has been completed. The erection of the ingot buggy has been scheduled to start next period. The east tong tower has been completed and the quench tank has been set.
- 3.4 Roofing and Siding: 288 square feet of siding was installed for a total to date of 67,674 square feet. This completes the red siding on Y line. The roofing on the 169 elevation roof deck is 60% complete.
- 3.6 Mechanical: Loftus Engineering maintained an average work force of one hundred ten men on battery installation in the soaking pits. During the period, installation of Detrick clips were completed on pits 1, 2 and 3 and 50% for pits 4 through 8. The equivalent of two and one-half pits of Detrick refractory was installed on 17 through 24. Installation of Detrick refractory was initiated on pits 7 through 16 this period. Installation of hearth brick in pit #1 was completed thus completing hearth brick installation for all pits. Catwalks and handrails were installed on pits 1 through 6 and progress is continuing on the hand rail portion of this work. The armored plate along the south side of the soaking pits were completed during the period. Installation of cover plate carriages on pits 24 through 21 was also in progress this period. The water, steam and air piping for all pits has been completed. Piping progress by Loftus consists mainly of instrumentation and fuel oil systems for batteries 1 through 5. Battery 6 is essentially complete until the covers can be installed and a dry out period initiated. Lighting in the control house is 30% complete and the air conditioning system has been installed. Operation of the air conditioning unit is contingent on power in the area. Foothill Electric is preparing to energize the six motor control centers in this area next week.

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- 3.7 Piping: Delta Pipeline Constructors maintained an average work force of twenty-nine men on service piping in the soaking pits. 960 feet of service piping was installed during the period for a total to date of 7,655 feet and consisted of steam, compressed air, grease, coke oven gas, oxygen and fuel oil piping. The 8" steam line with the trap assembly at column Y 16.5 is scheduled for testing next period.
- 3.8 Electrical: Foothill Electric installed 200 lbs. of exposed conduit during the period for a total to date of 76,700 lbs. or 55% complete. 100 lbs. of lighting conduit was also installed.
4. 7128 - BASIC OXYGEN SHOP AND MOLD YARD
- 4.1 Excavation and Backfill: 194 cubic yards of excavation was made for a total to date of 199,679 cubic yards and 3,516 cubic yards of backfill was placed for a total to date of 256,740 cubic yards.
- 4.2 Concrete: 180 cubic yards of concrete was placed during the period for a total to date of 20,017 cubic yards. This concrete consisted of scrap scale pit #2 walls, the dock foundation walls, fan #1 piers and deck and track hopper footings and piers. At the mold yard, the electrical control room floor slab was placed.
- 4.3 Structural and Miscellaneous Steel: 415 tons of structural steel was erected at the main B.O.F. facility for a total to date of 7,374 tons. (This total to date includes 2,086 at the mold yard.) At the main B.O.F. building, 4,960 tons of structural steel (excluding 328 tons of anchor bolts and base plates) has been installed to date. Erection crews were unable to work on January 29 and 30 due to bad weather. Chicago Bridge and Iron completed the nitrogen sphere apart from painting and testing which will be done in April.
- 4.6 Mechanical: Wiring of bridge cranes #521 and 522 at the mold yard continued during the period. At the B.O.F. building, Ohio Valley has unloaded the parts of charging aisle crane #501 in preparation of erection of this crane.
5. 7145 - STRIPPER BUILDING
- 5.3 Structural and Miscellaneous Steel: Work has been started on the punch list items for the structural steel. Wiring of the bridge crane #354 continued during the period. The rectifier building floor slab concrete was placed during the period.

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- 5.4 Roofing and Siding: 3,933 square feet of siding was installed during the period for a total to date of 24,533 square feet. 84 square feet of roofing was installed during the period for a total to date of 21,584 square feet.
6. 7150, 7156 and 7159 - PICKLE AREA
- 6.2 Concrete: 153 cubic yards of concrete was placed in various conduit banks during the period. McGraw continued forming the foundations of the pay-off reel and tension reels on pickle line #4. Progress has been slowed on these foundations due to the large amount of conduit that is incorporated in the area. Formwork has started for the wet loop pit slab on the #5 pickle line.
- 6.3 Structural and Miscellaneous Steel: During the period, Ohio Valley erected 226 tons of structural steel in the pickled coil storage building for a total to date of 1,282 tons. There now remain nine trusses to be erected for completion of the roof steel work. The access stairs to crane #405 on column 14 and F line were installed. The structural steel for the offices in the maintenance aisle of the pickle building has been erected.
- 6.4 Roofing and Siding: 2,016 square feet of siding was placed at the green coil storage building during the period for a total to date of 57,300 square feet. This completed the Steelox siding on the east gable end. 3,008 square feet of siding was installed at the east gable end of the pickle lines for a total to date of 115,724 square feet.
- 6.7 Piping: Delta Pipeline Constructors continued installation of roof drainage for the south lean-to building in the pickle line building. Delta has installed 40% of the brackets along F line for the service piping in the pickle building. Norm Woolley installed 180 feet of 10" plant air piping in the green coil storage building during the period for a total to date of 980 linear feet of plant air and natural gas piping installed to date.
- 6.8 Electrical: In the pickle line facility, McGraw maintained good progress on the installation of underground electrical duct system during the period. Lake Erie Electric are checking for alignment of the 13.8 KV breakers in the #4 motor room. The battery charger and batteries have been mounted in place and related cable tray is 50% complete. In the green coil storage building, installation of the high bay lighting fixtures is 80% complete. Cable remaining to be pulled in the conveyor aisle include the feeders for cranes #403 and 404 and the #2 cable to the control house.

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7. UTILITIES

7105 - Miscellaneous Piping: Delta Pipeline Constructors continued with pressure testing of the 18" well water line north of the pickled coil storage building during the period. Progress was slowed due to inclement weather.

7110 - Power Distribution: In the melt area switching station, General Electric Corporation is scheduled to start check out of the equipment next period. All work on the 13.8 KV line to this switching station is complete apart from the installation of the pot heads on the terminal tower which are 50% complete.

7111 - Sanitary Sewers: Delta Pipeline Constructors continued corrective work between manholes 572 and 573 in the steelmaking area.

7112 - Drainage and Site Development: 5,353 cubic yards of excavation was accomplished for a total to date of 766,062 cubic yards. 3,670 cubic yards of backfill was accomplished for a total to date of 995,121 cubic yards. No progress was reported by John R. Jurgensen Company on road paving during the period.

7113 - Trackwork: DHS Corporation installed 1,228 feet of track and three turnouts northwest of the mold yard in the steelmaking area. Track installation inside the soaking pit building was limited to laying of track ties during the period. Total track installed to date is 93,269 feet.

7114 - Locker Rooms: At the south area locker room, a complete inspection was made on January 26th and the building has been accepted. In the steelmaking area, progress was continued on overhead heating and ventilating ductwork which is essentially complete apart from the vent ducts to each locker row. The first application of paint has been completed on all vertical and exterior surfaces apart from the masonry and curtain walls in the waiting room.

7186 - Waste Disposal for the Pickle Facility: 417 cubic yards of concrete was placed for a total to date of 1,444 cubic yards. This concrete included the tank stands and perimeter walls. Forming and rebar installation continued on the walls for the aeration and flocculator tanks with concrete scheduled for next period. Erection of the structural steel continued and is now up to the 132 foot elevation.

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KEN 004480