

INTER-OFFICE MEMORANDUM



TO: See Distribution
DATE: January 2, 1968
FROM: O. A. Finsard
O. A. Finsard
AT: Middletown Construction
JOB NO.: 7100

SUBJECT: Kaiser Engineer's Weekly Field Activity Report

Transmitted herewith is the subject report for the week ending January 2, 1968.

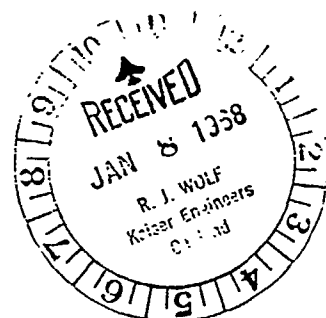
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KEN 004511

KAISER ENGINEERS
WEEKLY FIELD ACTIVITY REPORT
 Week Ending January 2, 1968

WEATHER: Very cold with some
 scattered snow flurries.
 Temperatures dropping
 below zero.

CLIENT: Armco Steel Corporation

LOCATION: Middletown, Ohio

JOB NUMBER: 6471

TEMPERATURE: Maximum - 33°
 Minimum - 4° below zero

JOB VISITORS

none

SUMMARY FORCE REPORT

	<u>Kaiser Engineers</u>		<u>Subcontractors</u>	<u>Foothill</u>	<u>Total</u>
	<u>Exempt</u>	<u>Non-Exempt</u>		<u>Electric</u>	
Management	5	3		1	9
General Supervision	12	3	16	5	36
Field Engineering	47	19	9	15	90
Machns. & Mtl. Control	3	8		1	12
Survey	2	15	3		20
Office Srv. & Repro.	1	7			8
Clerical			14	15	29
Craft *	—	<u>867</u>	<u>277</u>	<u>718</u>	<u>2,562</u>
TOTAL	70	922	1,019	755	2,766

* Average for week of men on payroll.

Average for week of Crafts is as follows:

Kaiser Engineers	714
Subcontractors	877
Foothill Electric	<u>543</u>
Total Crafts Working	2,164

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WEEKLY FIELD ACTIVITY REPORT
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PROJECT PROGRESS

1. 7246 - HOT STRIP MILL

- 1.3 Structural and Miscellaneous Steel: An average work force of twenty-five ironworkers was maintained in the Hot Strip Mill during the period. Progress during the week consisted of replacing the downcoiler floor steel which had been removed for placing of the Delaval valves. In the finishing area, work continued on setting the one-half inch checker plate between the roll change rig and the mill stands. In the furnace area, handrail was set in the furnace basement at the entrance to the oil cellar and in the boiler house, the ID and FD fan motor maintenance platforms were worked on. In scale pit 3, the siding in the conveyor structure was removed for installation of the monorail. An average work force of twenty sheetmetal workers continued installation of heat shields on the waste heat boilers together with installation of furnace liner panels. Work continued on installation of guards on the runout tables and check extractor cars.
- 1.5 Heating and Ventilating: Electrical progress was maintained during the period in bag house 12. Instrument air piping has been completed on all bag houses except 8, 9 and 10. These bag houses should be complete next period. Charging and bag installation have yet to be complete on bag houses 6, 7, 10, 11 and 14. Norm Woolley completed the heating and ventilating units in the grease house apart from the power connection. No progress was evident by this subcontractor in the clarification area during the period. Norm Woolley completed the installation of the two unit heaters in the grease house. The exhaust fans and power connection will be installed during the next period. Some minor changes in the finishing area and punch list items are required to complete this subcontract.
- 1.6 Mechanical: During the period, Eichleay Corporation maintained an average work force of thirty-five men on mechanical installation in the Hot Strip Mill. In the furnace area, the only remaining mechanical work consists of test out of the dry scale removal system. This work will be accomplished following the completion of the electrical requirements for those units. Screwdown bearings for the #6 and 7 finishing mills have been machined at the Armco Machine Shop and are presently being installed. Repair work continued on finishing mills #1 and 2 delivery guides. In the hot runout area, all the table motors have now been installed. Sixteen coupling rings and bolts have been purchased and will now be installed in order to complete mechanical requirements in this area. In the downcoiler area, the one remaining brake drum for a motor on table 36 is on order. Progress continued during the period on installation of conveyors 7, 8, 9 and 10 drives and chains. In the roll shop, the third roll grinder is now scheduled for delivery in February. Uncoupled tests were made during the period on finishing mill motor 6. Coupled tests were made as follows: in scale pit 3, one mill water return pump and in the clarifier pump house, slab mill low pressure cooling water pump, five top strip cooling water pumps and six bottom strip cooling water pumps.

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- 1.7 Piping: During the period, 549 feet was installed for a total to date of 338,716 linear feet. 3,291 feet of pipe remains to be installed by Kaiser forces in the Hot Strip Mill. Major systems worked on during the period were: hydraulic system 19, system drains, fume exhaust, well water, plant air and instrumentation. Hydraulic system 17 has now been flushed and the jumpers have been removed. This system is ready for permanent oil which will be placed in the system next period. Hydraulic system 18 has been pickled and flushed and the jumpers will be removed next period. Operational tests have been completed on the sump pumps in pit 4. Some special requirements developed during the period regarding modifications to United equipment as follows. In the runout area, it was found necessary to remove flange connections for the spray headers and re-align the forty headers in their correct position. On the mill low pressure water system in the finishing area, it was necessary to refabricate the Chikan flex joints for the sprays. This requirements will be necessary at all seven mill stands. In the finishing mill area, it was also found necessary to remachine at the Arco Machine Shop the United furnished Universal strainer in order to resolve leaking conditions in the high pressure descale system due to the scored face on the top flange. Additional requirements are being determined in the downcoiler area on the downcoiler air system for locating lubricators. This additional requirement will be fully established next period. The 3,291 remaining feet of pipe indicated above consists of 84% 1-1/2" and smaller piping. In the clarifier pump house, the #1 air compressor was completed and a forty minute trial run was accomplished. The air compressor will be connected to the dryer and operational conditions will be tested next period. The #2 air compressor piping was pickled this period and the pipes are presently being fitted into their permanent location. An average pipe force of ninety-one men was maintained in the hot strip this period.
- 1.8 Electrical: Foothill Electric Corporation installed 12,500 lbs. of exposed conduit for a total to date of 1,486,500 lbs. 10,000 feet of low voltage cable was installed for a total to date of 1,836,000 feet. 700 low voltage cable terminations were made for an adjusted total to date of 30,500. 51,000 feet of control cable was installed for a total to date of 1,952,000 feet. 1,500 control cable terminations were made for a total to date of 58,800. 10,000 feet of computer cable was installed for a total to date of 896,000 feet. 200 computer cable terminations were made for a total to date of 28,900. 7,000 lbs. of conduit and 5,000 feet of wiring was installed during the period. 2,200 feet of TV and communications wire was also installed. Foothill Electric maintained an average work force of 315 electricians in the hot strip mill. Major work effort was concentrated in the downcoiler area, the finisher area, coil conveyors and building services.
- 1.9 Miscellaneous Subcontracts: Moeschl-Edwards has completed all repairs on docks damaged to date.

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Owens Corning Fiberglas Company continued with insulation of steam and lube oil piping in the Hot Strip Mill. 969 feet of 165 lb. steam pipe lines were insulated, 1,980 feet of Morgoil pipe was insulated and 700 feet of lube oil systems were insulated during the period. An average work force of twenty-five men was recorded on insulation work this period. This force should be increased extensively in order that accelerated progress can be maintained on insulation requirements not only in the Hot Strip Mill proper but also in the pump house, clarifier building, waste heat boiler area and bag houses. It is estimated that this force should be doubled.

Grinnell Company was testing systems 2 through 9 of the fire protection systems in the oil cellar during the period together with installing thin wall conduits and remote control lines. Completion of the systems and their operation is presently scheduled for January 15.

Delta Pipeline Constructors maintained an average work force of twenty-eight men on installation of service piping in the Hot Strip Mill. 640 feet of 10" well water piping was installed along D line and 35 feet of 6" plant air at column 57 on E line together with one cutting station at D line and column 56. Total pipe installed to date is now 34,071 linear feet excluding 12,500 feet of piping under 2" diameter. Pressure testing continued throughout the period on the plant air on D and E lines. Delta Pipeline Constructors have yet to complete 3,000 feet of service piping. This piping was scheduled to complete in December. Present indications show completion by the end of January. An accelerated effort must be maintained mainly on well water and plant air systems since related tie-ins and check out by KE pipe forces is dependent on header line being completed.

Salem-Brosius continued with installation of #3 furnace refractories in the roof and up-take sections. Slide blocks were moved into the #3 soak zone area. Work on #2 furnace discharge door operators continued during the period. Piping work continued on unit #2 with repairs to frozen piping being made during the period. Wire pulling and terminating continued in furnace #2 as well as color coding of #1 furnace pipe. The refractory problems above the charging doors in furnace #1 have been analyzed and corrective measures are presently being taken by Salem-Brosius and Dietrick to resolve the brick fall out. This condition developed during furnace operations. As a result, it was necessary for Armco to shut down the furnace. A new date for furnace start-up is expected by next period. Preparations are presently being made to boil out waste heat boiler #2. A definite date for boil out is expected next period.

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In the induced and forced draft fan area, work revision continued on the installation of drains for the #3 units. Insulation of the #2 unit was completed on December 27. Work has now started on #2 ventilating duct erection. Lagging of #3 insulated fan housings and ductwork continued during the period.

Mo Piping together with Delta completed the pressure testing of the fuel oil lines between the fuel oil storage area and the furnaces. Remaining tests include the steam tracing lines along the fuel oil system. Lube oil piping at the #3 ID fan was complete together with hanger installation on the 4" jumper line for air heater #1 steam.

Because of the cold weather conditions, it has become increasingly important that Mo Pipeline Contractors and Delta accelerate their work efforts toward completion of the fuel oil system as soon as possible. A definite date for completion of this system is being determined.

Honeywell continued with instrumentation requirements for the three boilers. Progress for this contractor is 83% complete.

Norm Woolley Company has been awarded the subcontract for erection of the fume elimination system in the finishing mill area. Work on this system will start next period.

2. 71A6 - SLAB MILL

- 2.2 Concrete: No concrete was placed this week due to frozen ground conditions and insufficient volume of concrete to warrant extra costs.
- 2.3 Structural and Miscellaneous Steel: A work force of twelve ironworkers installed miscellaneous iron in the slab mill during the period. Progress consisted of assembly of the liner plate in the flume for the scarfer smoke hood which is now 20% complete.
- 2.6 Mechanical: Eichleay Corporation maintained an average work force of fifty men in the slab mill. Progress was continued on erection of all major roll equipment in the main mill aisle from the mill table #5 motor bases and motors to the slab pushers. In the motor room, installation continued on the main drive M-G sets and the lower horizontal mill drive motor bases and pedestals. The load levelers are due on site during the next period. The vertical edger gears that were returned to Mesta for rework will be shipped back to the site on January 15. This fabrication error on the vertical edgers has had considerable effect on mechanical installation and progress will be resumed as soon as these units are returned. In the main mill pulpit, the air conditioner ductwork is in progress and heat in this unit is scheduled for next week.

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- 2.7 Piping: Hunter Corporation maintained an average work force of fifty-six men on slab mill piping this period. Pipe progress in the slab mill is on schedule and 60% completed. Preparations are presently underway for pickling and flushing of lube oil systems in this area. A pickle schedule is presently being prepared. In the basement oil cellar, 87% of system equipment has been set in place. Steam and condensate piping progress during the week on lube oil systems 3, 6 and 7 and is now 95% complete. Progress was also maintained on lube oil 5 and 8 and hydraulic system 1 along the east wall and basement. In the main mill aisle, progress continued on the installation of well water pipe along D and E line. Progress was also evident on pipe supports, steam pipe, scale pit pipe and 2" grease piping. 685 feet of pipe was installed during the period for a total to date of 20,400 feet.
- 2.8 Electrical: Foothill Electric Corporation installed 2,700 lbs. of exposed conduit for an adjusted total to date of 80,400 lbs. or 50% complete. 9,600 lbs. of embedded conduit was installed for an adjusted total to date of 648,600 lbs. 500 lbs. of structure grounding was installed for a total to date of 25,100 lbs. or 50% complete. 3,000 feet of low voltage cable was installed for a total to date of 8,900 feet. 2,700 feet of control cable was installed for a total to date of 3,500 feet. One hundred twenty electricians were maintained on electrical work in the slab mill. High potting was completed in the slab mill substation and the high voltage lines from the switching station to the slab mill substation were energized on Friday, December 29, 1967. A concentrated effort is being maintained to energize this substation in order that power can be made available both in the slab mill and soaking pits.
3. 7143 - SOAKING PITS
- 3.3 Structural and Miscellaneous Steel: An average work force of fifteen ironworkers installed miscellaneous iron in the soaking pit area this period. The ramp from the dock slab to the 124 foot deck has been completed and is ready for railing installation. A safety inspection on crane 357 was held on December 29 and this crane is being made ready for service. Erection of steel for the east ingot tong tower will be started early next period. Welding has been completed on the ramming track and McGraw Construction Company continued construction of the armored walkway. Assembly in place has started on the skip hoist.
- 3.6 Mechanical: Loftus Engineering maintained an average work force of one hundred forty-seven men on battery installation in the soaking pits. During the period, armored protection plate and brick container angles were installed for batteries 4, 5 and 6. Installation of the two tong quench tank base frames were started and two cylinder bell plates were installed. At batteries 4, 5 and 6, electrical progress advanced 12% during the period to an average completion of 48% complete. Piping for these first three batteries advanced 4% during the period for an average completion of 78% complete. Instrumentation work for these batteries advanced 22% for an average completion of 50% complete. System testing will be initiated at battery 6 late in January pending completion of service pipelines and electrical power to the area.

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- 3.7 Piping: Delta Pipeline Constructors maintained an average work force of twenty-four men on service piping in the soaking pits. During the period; six furnace cooling water ventilators and seven bosh drains were installed. The 50 lb. natural gas pipe with branch lines to the pit cover and pit areas was tested and accepted. Service piping installed to date is as follows: treated water, 1,400 feet; natural gas, 1,795 feet; steam, 400 feet; compressed air, 880 feet; grease system, 65 feet; coke oven gas, 340 feet for a total to date of 4,940 feet.
- 3.8 Electrical: Foothill Electric installed 5,400 lbs. of exposed conduit for a total to date of 72,300 lbs. or 52% complete. 3,100 feet of low voltage cable was installed for a total to date of 14,700 feet or 27% complete.
4. 7123 - BASIC OXYGEN SHOP AND MOLD YARD
- 4.1 Excavation and Backfill: 1,501 cubic yards of backfill was completed during the period for a total to date of 245,579 cubic yards. This backfill was at the track hopper.
- 4.3 Structural and Miscellaneous Steel: 272 tons of structural steel was erected at the main B.O.F. facility for a total to date of 5,576 tons. (This total to date includes 2,086 tons at the mold yard.) At the main B.O.F. building, 3,162 tons of structural steel (excluding 328 tons of anchor bolts and base plates) has been installed to date. Erection has now been completed for the present at column 17 pending erection of the overhead charging crane. This crane was initially scheduled for delivery by the first of January but latest information indicates that delivery will be made near the end of January. The lance crane arrived at the job site during the period, but erection of the lance crane is dependent on additional steel erection for support of the crane. Steel erection of the B.O.F. plant is continually falling behind the Ohio Valley sequence schedule because of inclement weather conditions. Ohio Valley is now 900 tons behind their scheduled requirements. Two erection cranes are now working on the furnace aisle. The elevator shaft was topped out on January 2. Chicago Bridge and Iron continued with the erection of the nitrogen sphere throughout the period. Plate and ladder erection has now been completed and the erection crane has been released. Welding and x-raying of the welds continued through the period. Structural steel erection on the transportation office was started this period.
- 4.6 Mechanical: Erection of the bridge cranes 521 and 522 continued with concentration on crane 521.
5. 7145 - STRIPPER BUILDING
- 5.3 Structural and Miscellaneous Steel: Bolt-up for stairway steel and handrail installation continued during the period.
- 5.4 Roofing and Siding: 2,500 square feet of siding was installed for a total to date of 5,660 square feet. During the period, erection of the ridge ventilator was started.

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6. 7150, 7156 and 7159 - PICKLE AREA

- 6.1 Excavation and Backfill: 1,477 cubic yards of backfill was installed at the green coil storage facility for a total to date of 26,665 cubic yards. This backfill was a continuation of slag surfacing which is being compacted in the north aisle of the building. At the close of the period, slagging was completed except for the last 200 feet in the east end of the aisle. In the pickle line building, McGraw Construction Company continued with the pulling of sheet piling at the #2 catenary pit on pickle line 4. Pile driving was initiated for the #2 catenary pit on line 5. Excavation was completed for the two tension reel foundations on pickle line 4.
- 6.2 Concrete: 338 cubic yards of concrete was placed in pickle line 4 for a total to date of 9,339 cubic yards. 170 cubic yards of concrete was placed in pickle line 5 for a total to date of 5,929 cubic yards. Major concrete for the period consisted of the second lift of the pay-off reels on pickle line 4, the base slab for catenary pit 1 on pickle line 5 and several pours throughout the pickle line building for conduit bank encasement. The main conduit bank leading into motor room 4 has been encased and backfill for this area is in progress. McGraw Const. Co. are resistant toward maintaining scheduled requirements for foundation work because of the increased costs caused by weather protection requirements in the pickle area.
- 6.3 Structural and Miscellaneous Steel: Ohio Valley returned to the pickle coil storage building for continuation of steel erection. During the period, 39 tons of structural steel was erected in this area.
- 6.4 Roofing and Siding: 4,080 square feet of siding was installed at the green coil storage building for a total to date of 48,690 square feet. 21,000 square feet of roofing was installed at the green coil storage building for a total to date of 175,627 square feet. Siding work was initiated at the pickle coil storage building during the period with 1,000 feet installed. Progress continued on roof ventilators for the green coil storage building. The framing for the monitor ventilators is essentially complete and ventilator sheeting on the north side is 50% complete.
- 6.5 Electrical: In the green coil storage building, Lake Erie Electric completed the crane maintenance communication wiring and initiated cable pulling between the green coil building motor centers and the #4 motor room. Conveyor pit lighting was started in the green coil storage building this period. In the pickle line building, the conveyor aisle lighting was completed. 85% of the #4 motor room equipment has been installed and 13.8 KV feeders are now being pulled to the switchgear equipment. High-bay lighting is complete to column line 35 going east and temporary lighting was put into service at the west end of the pickle lines. Cable tray installation between the #4 motor room and the green coil storage facility was essentially complete this period.

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7. UTILITIES

7105 - Miscellaneous Piping: Delta Pipeline Constructors continued with the installation of the 6" well water line to the fuel oil pump house during the period.

7110 - Power Distribution: R. H. Bouligny initiated interconnection work at the melt area substation for the 13.8 KV switchgear. The cold finish substation was energized on December 28, 1967. Power will be available from this substation to the #4 pickle line motor room as soon as the switchgear is ready to receive the power which is expected near the end of January.

7112 - Drainage and Site Development: 7,535 cubic yards of excavation was completed for a total to date of 727,076 cubic yards. 3,154 cubic yards of backfill was made for a total to date of 973,358 cubic yards. No progress was reported during the period on road paving by John R. Jurgenson Company.

7113 - Trackwork: No progress was reported by DHS Corporation during the period. The total track installed remains at 90,010 linear feet.

7114 - Locker Rooms: David L. Smith Construction Company completed the interior work at the south area locker room during the period. Some clean-up items are in progress around the outside of the building. Final inspection was held on December 28 and punch list items were developed. These punch list items are presently being worked on. No progress was reported on the locker room building at the steelmaking area this period.

7186 - Waste Disposal for the Pickle Facility: The perimeter walls for the loading dock were completed and backfill in the waste disposal building area is in progress. The inside forms for the clarifier slab were set this period and the slab pour is scheduled for next period -- weather permitting.

OAF/sec

Prepared by O.A. Finsand

O. A. Finsand

Approved by G. L. Roberts

G. L. Roberts
Construction Manager

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