

INTER-OFFICE MEMORANDUM



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DATE

February 6, 1968

FROM

O. A. Finsand

by J. — O.A.

AT

Middletown Construction

JOB NO.

7100

COPIES TO

SUBJECT Kaiser Engineers Weekly Field Activity Report

Transmitted herewith is the subject report for the week ending February 6, 1968.

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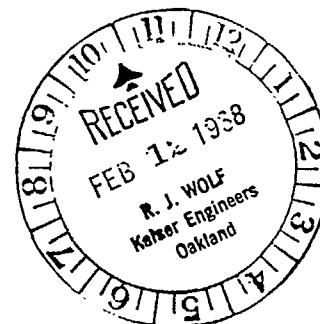
Armco

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C. G. Kramer
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D. Cox
J. S. Lotz
R. L. Brannaman

Kaiser

R. J. Wolf (Oakland)
W. F. Bort (Oakland)
D. A. Daly
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KEN 004462

KAISER ENGINEERS
WEEKLY FIELD ACTIVITY REPORT
Week Ending February 6, 1968

WEATHER: Mild weather throughout
the period.

CLIENT: Armco Steel Corporation

LOCATION: Middletown, Ohio

TEMPERATURE: Maximum - 60 degrees
Minimum - 20 degrees

JOB NUMBER: 6471

JOB VISITORS

R. J. Wolf, W. F. Bort and L. H. Misner

SUMMARY FORCE REPORT

	<u>Kaiser Engineers</u> <u>Exempt</u>	<u>Kaiser Engineers</u> <u>Non-Exempt</u>	<u>Subcontractors</u>	<u>Foothill</u> <u>Electric</u>	<u>Total</u>
Management	4	4		1	9
General Supervision	19	3	19	5	46
Field Engineering	43	16	13	14	86
Warehs. & Mtl. Control	3	7		1	11
Survey	2	15	3		20
Office Srv. & Repro.	1	6			7
Clerical			16	16	32
Craft *	—	<u>804</u>	<u>921</u>	<u>683</u>	<u>2,408</u>
TOTAL	72	855	972	720	2,619

* Average for week of men on payroll.

Average for week of Crafts is as follows:

Kaiser Engineers	743
Subcontractors	874
Foothill Electric	<u>636</u>
Total Crafts Working	2,253

WEEKLY FIELD ACTIVITY REPORT
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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. Progress consisted of rework in the furnace area together with installation of counterweight protection at the furnace extractor doors. In the rougher area, general punch list items were being completed. Work was continued on the installation of maintenance platforms and valve platforms in the finisher and downcoiler areas. Thirty-two sheetmetal workers continued installation of the heat shields at furnace #3. In the motor room, installation of the finishing mill motor coupling guards continued.
- 1.5 Heating and Ventilating: Insulation of steam and condensate piping continued during the period in bag houses 1, 2 and 7. Bag house 12 was essentially complete at the close of this period. Piping for bag houses 10 and 14 remain to be insulated as well as some final insulation work to be completed in bag houses 1 through 5. Minneapolis-Honeywell continued during the period with installation of control systems for bag houses 7 through 14. These control devices are scheduled to complete next period. Adjustments were made to the belt pulleys for fans and motors in bag houses 1, 5 and 6 when it was discovered that belts were being thrown during fan start-up because of misalignment between pulleys. No bags or filter aid has been installed to date in bag houses 6, 7, 11, 12 and 14. Permanent step-down transformer for the heating and ventilating unit in the downcoiler area was installed this period and permanent power is now available at the unit. This completes the step-down transformer installation work for all units. The heating units for the grease houses are complete and awaiting final inspection and acceptance. Norm Woolley worked over the weekend to complete the duct runs on the fume elimination system at the finishing stands. This system is now 90% complete and remaining work consists mainly of bolt-up and testing. Back-draft dampers were installed by KE for the pump house ventilation system in scale pits 1, 2 and 3.
- 1.6 Mechanicals: During the period, Eichleay Corporation maintained an average work force of twenty-seven men on mechanical installation in the hot strip mill. In the finishing mill area, all finishing mills were operated with the rolls installed. Tests for auxiliary equipment is continuing on a two shift basis. In the hot runout area, 212 of the 339 hot runout and carry-over rolls have been reinstalled. 150 of these are recoupled and 85 sets of side guides have been reinstalled as well. In the downcoiler area, testing of the #1 downcoiler was initiated this period in conjunction with testing and check-out of downcoiler air and hydraulic system 17. In the coil conveyor area, the material required for remedial work on the #6 conveyor radial turn was rescheduled to ship

WEEKLY FIELD ACTIVITY REPORT
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on February 9th from the Link-Belt factory. Completion of this radial turn will require one week of installation after the parts are received. Installation of position indicating devices continued during the period on conveyors in the green coil storage building. Coupled tests were performed on coil conveyors 1, 2 and 3. In the fuel oil pump house, coupled tests were completed on the four pumps in the fuel oil system. Fuel oil was circulated through the system between the storage tanks and the boiler house during the period. Final banding and testing of the Ric-Wil outer shell is in progress.

- 1.7 Piping: Systems worked on during the period were the grease system, furnace cooling water, mill low pressure water and instrumentation. 22 sump pumps have been sent to the factory for installation of retainer seals and 13 of these have been repaired and returned to the site. Hydraulic system 19 is presently being flushed with the permanent oil in the system. Hydraulic system 17 is now completed apart from the installation of cylinder bleed lines. Hydraulic system 18 is also complete apart from cylinder bleed lines to be installed and hoses to be connected. The Universal filter at the finisher area has now been returned to site and is being installed. Repair of leaks continued on the downcoiler air system and downcoiler #1 has been accepted. The repair work to the looper air system in the finisher area has now been completed. The grease piping for the runout rolls is being replaced as the work on balancing the rolls progresses. The fire protection system in grease house #1 was completed during the period, apart from the installation of the strainer. The fire protection system has also been completed in grease house #2. #1 air compressor is now on line and the uncoupled test has been performed on air compressor #2. A Worthington representative will be on site next period to install vibration probes for unit #2. During the period, a pipefitter force of seventy men was maintained in the hot strip mill.
- 1.8 Electrical: Foothill Electric Corporation maintained an average work force of two hundred fifty electricians in the hot strip mill. During the period, Foothill installed 7,900 lbs. of exposed conduit for a total to date of 1,522,000 lbs. or 96% complete. 16,000 feet of low voltage cable was installed for a total to date of 1,915,000 feet or 96% complete. 370 low voltage cable terminations were installed for a total to date of 32,300 or 96% complete. 6,000 feet of control cable was installed for a total to date of 2,038,000 feet or 98% complete. 500 control cable terminations were made for a total to date of 61,500 or 97% complete. 15,000 feet of computer cable was installed for a total to date of 918,000 feet or 97% complete. 300 computer cable terminations were made for a total to date of 29,700 or 99% complete. 3,400 lbs. of conduit, 1,000 feet of wire and one fixture was installed during the period. 92 terminations and 4,500 feet of communications and TV cable was installed. 575 lbs. of structure grounding was installed for a total to date of 145,000 lbs. or 94% complete.

WEEKLY FIELD ACTIVITY REPORT
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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. 2,904 feet of steam piping was insulated in the hot strip mill and switch gear house during the period and 368 feet of condensate piping was insulated. 81 feet of lube oil #10 was insulated during the period.

Delta Pipeline Constructors installed 1,871 feet or 45 drops during the period with 24 drops remaining to be installed. During the period, the natural gas piping in the roll shop and on D line in the mill aisle was being tested. The 2" plant air line to the fuel oil pump house has now been tested. The drops installed during the period were in the slab yard on B and C lines. All air drops have been completed apart from those remaining in the slab yard and these are scheduled for completion during next period.

Salem-Brosius continued with refractory insulation on the unit #3 damper housings. Pipe insulation continued on furnace #2 together with replacement of insulation on #1 unit which had been removed for hydro testing the fuel oil system.

Honeywell is 91% complete with instrumentation in the waste heat boiler area. Period progress consisted of work on unit #3 including tubing, impulse lines and installation of instruments.

Stuart Painting maintained an average work force of fourteen men in the hot strip mill. The downcoiler and finishing mill equipment have been released for painting. During the period, painting was continued on punch list items in the main mill aisle and oil cellar together with painting of the E line service piping and piping in the maintenance repair shop.

2. 7146 - SLAB MILL

- 2.1 Excavation and Backfill: 505 cubic yards of excavation was completed during the period for a total to date of 228,641 cubic yards. 2,131 cubic yards of backfill was accomplished for a total to date of 218,093 cubic yards.
- 2.2 Concrete: 208 cubic yards of concrete was placed for a total to date of 47,910 cubic yards. Period concrete consisted mainly of mill aisle slabs and some isolated foundations.
- 2.3 Structural and Miscellaneous Steel: Three ironworker crews continued this period with installation of miscellaneous iron in the slab mill. The welding and grinding for the scarfer hood was completed and installation is expected to complete next period. The handrails and grating for the oil skimmer platform in scale pit #4 was completed. Handrail for the scarfer maintenance platform was also completed this period. Installation of plenums and air ducts for the bag houses continued through out the period. Patch work is also in progress on these plenums where air gaps are found.

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- 2.6 Mechanical: Michleay Corporation maintained an average work force of fifty-five men on mechanical installation in the slab mill. Installation during the period was continued on the front and rear manipulators and vertical mill drive assembly, structural supports for the slab stamper system and table motors and bases for tables 5 through 10 and 15. During the period, the remaining components which were previously shipped back to the Mesta factory were received at the job site for the vertical mill drive and the two piler frames. Reassembly of the vertical drive is now in progress and will complete by February 12th. Major items grouted during the period were: the crop distributor, the transfer car drives and the crop conveyor drive.
- 2.7 Piping: Hunter Corporation maintained an average work force of sixty men on slab mill piping during the period. Hydrostatic tests were completed for the steamline between the waste heat boiler area and the slab mill. Steam is now available to the oil cellar for initial pickling requirements. Hydrostatic testing of lube oil 6 was continued during the period and repairs are presently being made to the Mesta piping in this system. Further testing will be required after these repairs are completed. Water piping to the scale pit pumps is now 50% complete. 900 feet of piping was installed during the period for a total to date of 24,834 feet. Major systems worked on during the period were: hydraulic system 1, grease piping, well water, scale pit piping and steam piping to bag houses 3 and 4.
- 2.8 Electrical: Foothill Electric maintained an average work force of two hundred forty men in the slab mill. During the period, 6,400 lbs. of exposed conduit was installed for a total to date of 115,400 lbs. or 72% complete. 1,400 feet of cable tray was installed for a total to date of 18,680 feet or 98% complete. 700 lbs. of structure grounding was installed for a total to date of 28,200 lbs. or 56% complete. 1,100 feet of 2.4 KV cable was installed for a total to date of 2,600 feet or 20% complete. 21,000 feet of low voltage cable was installed for a total to date of 62,900 feet or 11% complete. 1,030 low voltage terminations were made for a total to date of 1,160 or 21% complete. 9,100 feet of control cable was installed for a total to date of 20,000 feet or 7% complete. 4,200 lbs. of conduit, 1,900 feet of wire and nineteen fixtures were installed during the period. 80 lbs. of DC bus was installed for a total to date of 26,180 lbs. or 91% complete. 18 - 13.8 KV terminations were made for a total to date of 135 or 75% complete.
3. 7143 - SOAKING PITS
- 3.1 Excavation and Backfill: 189 cubic yards of backfill was accomplished during the period for a total to date of 114,122 cubic yards.
- 3.3 Structural and Miscellaneous Steel: The soaking pit trackwork was completed this period and fill concrete in this area can now proceed to completion.

WEEKLY FIELD ACTIVITY REPORT
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- 3.4 Roofing and Siding: Installation of siding was initiated on the service bay this period and was 10% complete at the close of the period. 1,211 square feet of roofing was installed at the dormers for a total to date of 77,227 square feet.
- 3.6 Mechanical: Loftus Engineering maintained an average work force of one hundred ten men on battery installation in the soaking pits. Battery refractory work is 85% complete for all batteries excluding plastic refractory which is scheduled to be installed after April 1. Installation of recuperators, combustion air and dilution air has been completed for the six batteries. Progress was continued on structural steel installation for batteries 1 and 2. Insulation of fuel oil lines at the burners was initiated this period. No further progress was evident this period on cover carriage installation. Some equipment testing is scheduled to begin at battery 6 now that permanent power has been established in motor control center 6.
- 3.7 Piping: Delta Pipeline Constructors maintained an average work force of twenty-nine men on service piping in the soaking pits. 700 feet of service piping was installed during the period for a total to date of 8,355 feet. Progress during the period consisted mainly of installation of steam, compressed air, natural gas, oxygen and fuel oil piping. The coke oven gas pipe was completed this period. Horizontal header piping in the soaking pit area has been completed except for well water. Remaining service piping consists of drops to the respective battery equipment. This work is 50% complete.
- 3.8 Electrical: Foothill Electric installed 730 lbs. of exposed conduit during the period for a total to date of 77,500 lbs. or 55% complete. 2,000 lbs. of lighting conduit was installed during the period. Motor control center #6 was energized thus providing permanent power in the battery 6 area for initial test and check out requirements.
4. 7128 - BASIC OXYGEN SHOP AND MOLD YARD
- 4.1 Excavation and Backfill: 3,278 cubic yards of backfill was placed for a total to date of 260,018 cubic yards.
- 4.3 Structural and Miscellaneous Steel: 423 tons of structural steel was erected at the main B.O.F. facility for a total to date of 7,797 tons. (This total to date includes 2,086 tons at the mold yard.) At the main B.O.F. facility, 5,383 tons of structural steel (excluding 328 tons of anchor bolts and base plates) has been installed to date. Erection of bin sections was started on February 5th with assembly of bins continuing in the yard area. Bolt-up of floor steel at elevation 217, 263 and 169 continued during the period. Installation of channels at service floor columns is in progress to permit concrete to be placed on the service floor. At the mold yard, erection of the electrical control room building was started on January 31st and at the close of this period, roofing and siding was 50% complete.

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- 4.6 Mechanical: Wiring of bridge cranes 521 and 522 at the mold yard continued during the period. At the B.O.F. building, preparations for erection of crane #501 continued during the period.
- 4.7 Piping: At the mold yard, work continued on roof drains which is now complete from column 1 to 14. An interference problem between cranes 521 and 522 and the roof drains is presently being resolved.
5. 7145 - STRIPPER BUILDING
- 5.3 Structural and Miscellaneous Steel: Erection of the rectifier building was initiated on February 5th. Wiring of the bridge crane 354 continued during the period.
- 5.4 Roofing and Siding: 800 square feet of siding was installed during the period for a total to date of 25,333 square feet. Erection of ridge ventilators continued during the period. Building closure is now 80% complete.
6. 7150, 7156 and 7159 - PICKLE AREA
- 6.2 Concrete: A total of 429 cubic yards of concrete was placed during the period in the first lift of #1 and 2 tension reels on #4 pickle line. Formwork is near completion for the second lift of #1 and 2 pay-off reels. On #5 pickle line, pile driving continued on #2 catenary pit. Formwork was continued on the wet loop pit slab.
- 6.3 Structural and Miscellaneous Steel: During the period, Ohio Valley erected 42 tons of structural steel in the pickled coil storage building for a total to date of 1,324 tons. 10 tons of steel was erected at the pickle building for a total to date of 2,998 tons. There now remain five trusses to be erected for completion of roof steelwork.
- 6.4 Roofing and Siding: Installation of Steelex siding continued during the period on the east gable of the pickler building. Siding was also installed in the maintenance aisle at column 13. Valley Sheetmetal recommenced installation of the bolt-up roofing of the south lean-to between column 17 and 21. In the green coil storage building, installation of the roof vents continued together with the gable end closures. Steelex siding is virtually complete in the green coil storage building.
- 6.7 Piping: Delta Pipeline Constructors has completed the piping brackets along G line and will initiate the installation of service piping in the pickler building during next period. Progress continued on the storm water pipes in the south lean-to and the plumbing for toilets in the maintenance aisle. In the green coil storage building, Norm Woolley continued the installation of service piping along C line. To date, a total of 1,020 feet of plant air and natural gas piping has been installed.

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- 6.8 Electrical: During the period, Lake Erie Electric continued pulling cable between the entry motor room and the storage building. Cable terminations have been started in the green coil control room.

7. UTILITIES

7105 - Miscellaneous Piping: No progress was reported by Delta Pipeline Constructors during the period. The first three car loads of steel for the elevated water storage tank have arrived on site and construction is scheduled to start near the end of February.

7110 - Power Distribution: In the melt area switching station, progress during the period consisted of installation of metering equipment and conduit grounding. The terminations to the pot heads on the terminal pole for the temporary line to the pickler building were completed this period together with high potting of the cables. Cable pulling for the 13.8 KV lines to the mold prep and stripper building are scheduled to start next period.

7111 - Sanitary Sewers: Delta Pipeline Constructors continued corrective work on the infiltration problem in the steelmaking area.

7112 - Drainage and Site Development: 4,974 cubic yards of excavation was accomplished for a total to date of 771,036 cubic yards. 2,338 cubic yards of backfill was accomplished for a total to date of 997,459 cubic yards. No progress was reported by John R. Jurgensen Company on road paving during the period.

7113 - Trackwork: DHS Corporation installed 700 feet of track north west of the mold yard in the steelmaking area. Total track installed to date is 93,969 feet.

7114 - Locker Rooms: In the steelmaking area, personnel locker erection is essentially complete in the east locker area with the overhead vent ducts presently being installed. Rough-in plumbing is nearly complete. Interior and exterior painting continued during the period.

7186 - Waste Disposal for the Pickle Facility: 1,353 cubic yards of backfill was placed during the period. 45 cubic yards of concrete was placed in the walls of the flocculator and aeration tanks up to the underside of the base slabs. Erection of the structural steel for the waste disposal building continued during the period with a total of 54 tons erected to date.

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