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DATE February 13, 1968

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Middleton Construction

JOB NO. 7100

SUBJECT Kaiser Engineers Weekly Field Activity Report

Transmitted herewith is the subject report for the week ending February 13, 1968.

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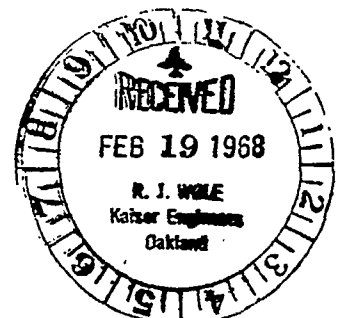
Armco

D. C. Osborne
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P. R. Smith
D. Cox
J. S. Lotz
R. L. Brannaman

Kaiser

R. J. Wolf (Oakland)
W. F. Bort (Oakland)
D. A. Daly
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Kaiser Reading File
Armco Reading File



KEN 004452

KAISER ENGINEERS
WEEKLY FIELD ACTIVITY REPORT
Week Ending February 13, 1963

WEATHER: Clear and cool
throughout the
period.

CLIENT: Armco Steel Corporation

LOCATION: Middletown, Ohio

TEMPERATURE: Maximum - 50 degrees
Minimum - 10 degrees

JOB NUMBER: 6471

JOB VISITORS

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

SUMMARY FORCE REPORT

	Kaiser Engineers		<u>Subcontractors</u>	<u>Foothill Electric</u>	<u>Total</u>
	<u>Exempt</u>	<u>Non-Exempt</u>			
Management	4	4		1	9
General Supervision	19	3	19	5	46
Field Engineering	43	15	12	14	84
Warehs. & Mtl. Control	3	7		1	11
Survey	2	14	3		19
Office Srv. & Repro.	1	5			6
Clerical			15	16	31
Craft *	---	<u>827</u>	<u>892</u>	<u>676</u>	<u>2,396</u>
TOTAL	72	875	942	713	2,602

* Average for week of men on payroll.

Average for week of Crafts is as follows:

Kaiser Engineers	769
Subcontractors	817
Foothill Electric	<u>623</u>
Total Crafts Working	2,209

KEN 004453

WEEKLY FIELD ACTIVITY REPORT
Week Ending February 13, 1968

PROJECT PROGRESS

1. 7143 - HOT STRIP MILL

- 1.3 Structural and Miscellaneous Steel: An average work force of twenty-one ironworkers was maintained in the hot strip mill during the period. In the finisher area, the ironworkers worked on swing shift to complete miscellaneous steel items required for start-up. In the downcoiler area, the ironworkers were installing the valve maintenance platform for downcoiler #3. Sixteen sheetmetal workers continued installation of the heat shield at the stack for furnace #3 together with bridge drive coupling guard installation on crane 302 in the slab yard.
- 1.4 Roofing and Siding: Installation of the dry scale skip hoist tower siding was virtually completed during the period but the roofing has not been placed.
- 1.5 Heating and Ventilating: Insulation of steam and condensate piping in the bag houses continued during the period and is now virtually completed. Minneapolis-Honeywell continued during the period with installation of the control systems for the bag houses. The pneumatic tubing has now been completed for the steam control valves at the bag houses and the remaining work consists of location of electrical instruments. Sheetmetal workers were repairing plenums during the period and still have some dampers to complete. Adjustments have been made to the belt pulleys and new belts installed where required. Filter aid will have to be removed from the bags already installed and the bags straightened prior to refilling. The fume elimination system at the finishing stands has now been completed apart from the installation of three expansion joints which will be done by Kaiser forces. Final bolt-up and testing still remains to be done.
- 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 rougher area, Armaco operations ran seventeen slabs from reheat furnace #1 through rougher #6 on Tuesday, February 13th. The next day an additional fourteen slabs were heated in furnace #1 and run through the roughing train including the crop shear. In the finishing mill area, all mechanical tests for the main mills and auxiliary components were completed. At the close of this period, Westinghouse initiated their speed regulation tests and start of mill tune-up. In the hot runout table area, good progress was made on reinstallation of the 339 hot runout and carry over table rolls. At the close of the period, all of these rolls were reinstalled and 20 rolls required final setting and coupling. In the downcoiler area, testing of the downcoiler auxiliaries continued throughout the period. The brake wheel for table 37 was received and installed.

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WEEKLY FIELD ACTIVITY REPORT
Week Ending February 13, 1968

The tail-lifting plates at the coil bander were also installed. In the coil conveyor area, gear cover installation was continued on conveyors 4, 5, 7 and 8. Some interference was experienced between structural supports and the gear covers at conveyor 7 and 8 and modifications will be required. At coil conveyor 6, the additional parts required to modify the radial turn were received at the job site and will be installed next period. Coil conveyors 9 and 10 are now ready for testing. Electrical power to operate the coil conveyors in the green coil storage area is scheduled to be available during the last week of February.

- 1.7 Piping: During the period, 333 feet of piping was installed for a total to date of 341,037 feet. The estimate at completion on the grease systems and well water piping have been revised and a total of 1,665 feet of piping now remains to be installed. Systems worked on during the period were the grease system, steam, plant air, furnace cooling water, mill low pressure water and instrumentation. The pickling and flushing operations have now been completed on all lube oil and hydraulic systems. Pickling of the oxygen system which was installed by Delta should start next period. The majority of the sump pumps that had been returned to the factory have now arrived back on site and have been reinstalled. However, the original problem on these sump pumps is still apparent and the vendor's representative has been requested to return and review this problem. The flushing of hydraulic system 19 has been completed and the system is presently being reassembled for hand over to start-up operations. Hydraulic system 17 has been completed and handed over to start-up. The cylinder bleed lines still remain to be installed at hydraulic system 18; however, the system is usable by start-up. The Universal filter at the finisher area has now been installed and the balance of the piping has been hydro-tested. Repair of leaks has now been completed on the three downcoiler air systems and these systems have been accepted. Grease piping for the runout rolls is being replaced as the work on balancing the rolls progresses. At grease house #2, (at the north end of the roll shop) well water piping revisions associated with the Foam-X system will be initiated early next period and will require re-excavation of the underground line. At the pump house, a design change on the oil pump for compressor #2 will now take one week to complete. A Worthington representative will be on site next period. During the period, a pipefitter force of seventy-nine men was maintained in the hot strip mill piping operations.
- 1.8 Electrical: Foothill Electric Corporation maintained an average work force of two hundred and forty electricians in the hot strip mill. Electrical progress was concentrated in the finishing mill area, downcoiler area and the coil conveyor area. In the furnace and rougher area, the twenty processed television units were completed. The smoke detector alarm system in the power tunnel was also completed. Installation of the smoke detector system in the E line tunnel is now in progress. During the period, Foothill

WEEKLY FIELD ACTIVITY REPORT
Week ending February 13, 1968

installed 8,300 lbs. of exposed conduit for a total to date of 1,530,000 lbs. or 99% complete. 10,000 feet of low voltage cable was installed for a total to date of 1,926,000 feet or 97% complete. 300 low voltage cable terminations were made for a total to date of 32,600 or 97% complete. 5,000 feet of control cable was installed for a total to date of 2,043,000 or 98% complete. 100 control cable terminations were made for a total to date of 61,500 or 97% complete. 18,000 feet of computer cable was installed for a total to date of 936,000 feet or 99% complete. 200 computer cable terminations were made for a total to date of 29,900 or 99% complete. 1,700 lbs. of lighting conduit and 1,700 feet of wire was installed. 300 terminations and 9,400 feet of TV and communications cable was installed. 50 lbs. of structure grounding was installed during the period for a total to date of 145,000 lbs. or 94% complete.

- 1.9 Miscellaneous Subcontracts: Owens Corning Fiberglas Company maintained an average work force of twenty-five men on insulation during the period. 2,232 feet of steam pipe was insulated in the hot strip mill and 814 feet of condensate piping was insulated. 91 feet of lube oil 10 was insulated during the period. Progress was also continued on the metal jacketing for lube oil 10.

Delta Pipeline Constructors installed 420 feet of 4" well water piping in the slab yard during the period. 1,183 feet of 3/4" piping was installed during the period in the cutting stations with seven now remaining for completion. During the period, tests were run on the natural gas piping on D line and the oxygen piping on E line in the hot strip mill. Testing has now been completed in the roll shop area.

Salem-Brosius continued with refractory installation in furnace #3 where the front end seal and water jacket refractories are completed. The same areas on #2 unit are scheduled for completion during next period.

On Tuesday, February 13th, Babcock and Wilcox operated boiler #1 on waste heat from the furnace. Prior to this operation, steam supply had been obtained by operating #2 boiler.

Honeywell is 93% complete with instrumentation in the waste heat boiler area. The majority of boiler #3 impulse lines have been tested. During the period, installation of tubing and equipment for #3 unit was in progress.

Stuart Painting maintained an average work force of fourteen men in the hot strip mill. Painting operations in the finisher and downcoiler areas were performed on swing shift due to start-up operations on the day shift. Painting was continued at the boiler house, pump house and the clarifier building together with the oil cellar from columns 33 to 47. Progress was maintained on the mill aisle punch list items from columns 1 to 42. Painting has now been completed in the roll shop and the oil cellar from columns 13 to 33.

WEEKLY FIELD ACTIVITY REPORT
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2. 7146 - SLAB MILL

- 2.1 Excavation and Backfill: 8,074 cubic yards of backfill was made during the period in the #4 scale pit area for a total to date of 226,167 cubic yards.
- 2.2 Concrete: 212 cubic yards of concrete was placed for a total to date of 48,122 cubic yards. Concrete for the period consisted mainly of mill aisle slabs along E line, curb fill concrete at the main mill MG set and the control room base slab. Forming continued throughout the period for the gantry crane track slab east of scale pit #4. The forming for this pour is 20% complete.
- 2.3 Structural and Miscellaneous Steel: During the period, three ironworker crews continued with installation of miscellaneous iron in the slab mill. The scarfer smoke hood is 95% complete. The scarfer maintenance platform was essentially completed and the scarfer house reel was installed. Progress continued on the oil skimmer platform handrail which is now 50% complete. An estimated 388 tons of miscellaneous steel including hatch covers remain to be installed in the slab mill area. Good progress was maintained on installation of stacks for bag houses 3, 4 and 5. The stack erection for bag house 3 was 80% complete at the close of the period.
- 2.6 Mechanical: Michleay Corporation maintained an average work force of fifty-six men on mechanical installation in the slab mill. At the main mill area, the vertical mill drive was installed. Progress continued on related components including the front and rear manipulator drive motors throughout the period. The eighteen slab mill tables are all installed and 80% are grouted in place. Erection of the fume elimination structure is scheduled to begin next period. Michleay Corporation worked Saturday, February 10 on mechanical installation in the slab mill.
- 2.7 Piping: Hunter Corporation maintained an average work force of fifty-nine men in the slab mill. In the oil cellar, pickling of lube oil 6 and the fill line was completed and circulation of flushing oil was in progress at the close of the period. Preparations were under way for hydro testing of lube oil 7 which is scheduled for next week. Progress was continued on the fabrication of header piping for the scarfer slag water system in the scale pit pump room. The process water lines in the pipe tunnel are 50% installed. It was established this period by Michleay Corporation that Hunter could proceed with piping on the main mill in limited areas to be coordinated with mechanical installation. 994 feet of pipe was installed during the period for a total to date of 25,828 feet.
- 2.8 Electrical: Foothill Electric maintained an average work force of two hundred and forty men in the slab mill. During the period, 3,700 lbs. of exposed conduit was installed for a total to date of 119,000 lbs. or 74%

WEEKLY FIELD ACTIVITY REPORT
Week Ending February 13, 1968

complete. 1,300 feet of cable tray was installed for a total to date of 20,000 feet. 900 lbs. of structure grounding was installed for a total to date of 29,000 lbs. or 56% complete. 28,000 feet of low voltage cable was installed for a total to date of 92,000 feet or 16% complete. 8,000 feet of control cable was installed for a total to date of 28,000 feet or 10% complete. 1,400 feet of computer cable was installed for a total to date of 1,400 feet or 2% complete. 1,900 lbs. of conduit, 3,800 feet of wire and forty fixtures were installed. 21 - 13.8 KV terminations were installed for a total to date of 156 or 87% complete.

3. 7143 - SOAKING PITS

- 3.2 Concrete: 95 cubic yards of concrete was placed at the charging tracks for an overall total of 29,594 cubic yards.
- 3.3 Structural and Miscellaneous Steel: Installation continued on the square tube handrail along the loading dock ramp. This handrail is now 80% complete. The seals and door mountings at the west end of the soaking pits are essentially completed. Steel framing for the ingot buggy drive house was completed and miscellaneous ironwork for crane #358 was also completed this period. The skip hoist structure including the bucket and chute has been erected and the coke breeze conveyor structure is 40% complete.
- 3.4 Roofing and Siding: 5,165 square feet of siding was installed for a total to date of 103,070 square feet. 325 square feet of roofing was installed for a total to date of 77,552 square feet. The service bay siding is 50% complete and completion of the east end crane repair dormer is 80% complete. Roof decking for the ingot buggy drive houses were completed this period.
- 3.6 Mechanical: Loftus Engineering maintained an average work force of ninety-eight men on battery installation in the soaking pit. Refractory installation in batteries 4, 5 and 6, apart from plastic refractory, has been completed. Twelve cover carriages were assembled and are ready for installation next period. Progress continued on battery steel platforms and handrail for the three west end units. Overall piping for the batteries continued through out the period at batteries 1 and 2 and is now 70% complete. Electrical progress for batteries 1, 2 and 3 is 40% complete.
- 3.7 Piping: Delta Pipeline Constructors maintained an average work force of twenty-nine men on service piping in the soaking pits. Progress consisted mainly of vertical drops from the headers for compressed air, oxygen, well water and fuel lines. 1,705 feet of pipe was installed during the period for a total to date of 10,060 feet.
- 3.8 Electrical: Foothill Electric Corporation installed 2,400 lbs. of exposed conduit for a total to date of 80,000 lbs. or 57% complete. 2,500 lbs. of lighting conduit, 2,300 feet of lighting wire and twenty-six fixtures were installed.

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4. 7128 - BASIC OXYGEN SHOP AND MOLD YARD

- 4.1 Excavation and Backfill: 3,400 cubic yards of excavation was completed for a total to date of 203,175 cubic yards. 1,142 cubic yards of backfill was placed for a total to date of 261,160 cubic yards.
- 4.2 Concrete: 175 cubic yards of concrete was placed for a total to date of 20,193 cubic yards. This concrete included a pier at the track hopper, the flux conveyor base slab, conveyor 5 footing and the grade beam and stair pads at column 17. At the mold yard, all the conduit risers were poured together with the subgrade slab for the railroad crossing.
- 4.3 Structural and Miscellaneous Steel: 388 tons of structural steel was erected at the main B.O.F. facility for a total to date of 8,185 tons. (This total to date includes 2,086 tons at the mold yard.) At the main B.O.F. facility, 5,771 tons of structural steel (excluding 328 tons of anchor bolts and base plates) has been installed to date. No steel was erected on February 9th due to bad weather conditions. Erection of flux bins continued with bins #1, 2, 5 and 6 being erected and the top sections for bins #3 and 4. Sufficient crane rail has now been welded in place to permit complete erection of lance crane #506. Progress was continued on the erection of stairways during the period. This was initiated on February 8th.
- 4.6 Mechanical: At the mold yard, the rectifier and switchgear was moved into the rectifier building on February 8th. The majority of the switchgear was set during the period. Wiring of bridge crane #521 and 522 continued during the period together with the lube system on crane #522.
- 4.7 Piping: At the mold yard, piping continued on the crossovers for roof drains. The interference problem between the crane trolley and the roof drains has been resolved and the roof drains are now to be completed as originally planned.

5. 7145 - STRIPPER BUILDING

- 5.3 Structural and Miscellaneous Steel: Erection of the rectifier building continued through the period. Setting of fixtures was initiated in the rectifier building on the 12th of February. The heat shield at the rectifier building is presently being installed.
- 5.4 Roofing and Siding: 3,184 square feet of siding was installed for a revised total to date of 30,211 square feet. 664 square feet of roofing was installed for a total to date of 22,248 square feet. Progress continued on the installation of the ridge ventilators during the period. A start was made on the welding of brackets for the roof drains on February 12th.

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6. 7150, 7156 and 7159 - PICKLE AREA

- 6.2 Concrete: A total of 142 cubic yards of concrete was placed in pickle lines 4 and 5 during the period. This concrete included the second lift for the welder foundation on pickle line 4. During the period, formwork continued for the second lift of the #1 and 2 pay-off reels on #4 pickle line. On #5 pickle line, pile driving was completed at #2 catenary pit and excavation is in progress. Forming continued for the wet loop pit slab. Excavation was completed for #1 and 2 pay-off reels.
- 6.3 Structural and Miscellaneous Steel: During the period, Ohio Valley erected 43 tons of structural steel in the pickle coil storage building for a total to date of 1,367 tons. Four trusses were set during the period and the remaining two trusses have been assembled on the ground. Bolt-up of the structure continued together with spreading of the purlins. Erection of the pickle tank support steel and looper car rails for the #4 pickle line was initiated on February 12th.
- 6.4 Roofing and Siding: At the green coil storage building, installation of the roof vents continued during the period. These ventilators are 65% complete. In the pickle lines, construction of the built-up roofing on the south lean-to continued and is now complete up to column 29. Progress was recorded on the installation of Steelox siding for the east gable of the pickler building. The outside lean-to roof has been completed to column 42 and the built-up roofing can proceed.
- 6.6 Mechanical: Ohio Valley started erection of the looper car rail and pickle tank support columns on pickle line #4. To date, 300 feet of looper car rail and ten pickle tank support columns have been set. In the green coil storage building, Ohio Valley has now set grating of conveyor #7 downenders. Handrails on the crane access platforms were also installed.
- 6.7 Piping: Delta Pipeline Constructors has installed 1,570 feet of pipe in the pickle lines. Running of the service pipe headers was initiated along G line on February 7th. Progress was continued on the storm water piping in the south lean-to. In the green coil storage building, work has been resumed on the grease piping for the cranes. Grease piping for crane #404 is complete and has been started on crane #403. Norm Woolley continued installation of service piping along C line and has installed 1,120 feet of piping to date.
- 6.8 Electrical: During the period, Lake Erie Electric continued cable pulling required for the energizing of the substation on February 21. The charger and distribution panels have been set in the battery room. Terminations in the #4 motor room are scheduled for completion during next period. Terminations in the green coil control house have been completed. Check out of the 13.8 KV gear Allis-Chalmers is complete and ready for test on February 19th.

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7. UTILITIES

7105 - Miscellaneous Piping: Steel has been unloaded for the elevated water storage tank and erection is scheduled to start during the week of February 19th.

7110 - Power Distribution: In the melt area switching station, the installation of metering equipment has been completed. Pulling of the cables into the mold prep rectifier building was completed on February 12 and cable pulling to the stripper rectifier building will be started early next period.

7111 - Sanitary Sewers: Delta Pipeline Constructors continued corrective work on the infiltration problem in the steelmaking area. 120 feet of 8" pipe has been relayed between manholes 572 and 573. Pipe laying has been initiated between manholes 585 and 586 north of the B.O.F. office building.

7112 - Drainage and Site Development: 7,500 cubic yards of backfill was placed during the period for a total to date of 1,004,959 cubic yards. Work continued on the manhole tops in the vicinity of the mold yard, stripper building and B.O.F. 60 feet of 12" CMP was placed between manholes 469 and 228 together with 150 feet of 8" CMP west of the B.O.F. building.

7113 - Trackwork: DHS Corporation installed 1,500 feet of track north west of the mold yard together with three turnouts in the area. 652 feet of flange way crossings were installed at various locations on the project.

7114 - Locker Rooms: In the steelmaking area, personnel locker erection was started in the east locker area and overhead vent ducts are now being installed. This building is 80% complete.

7186 - Waste Disposal for the Pickle Facility: 1,290 cubic yards of backfill was placed during the period west of the waste disposal building. During the period, concrete for the southeast wall of the tank farm was placed. Forming has started for the slabs of the aeration and flocculation tank slabs together with the railroad track slab in the waste disposal building. Erection of the structural steel for the waste disposal building continued during the period with a total of 108 tons erected to date.

OAF/sec

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