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INTER-OFFICE MEMORANDUM

TO See Distribution
AT

DATE April 30, 1968

FROM O. A. Finsand

COPIES TO

AT Middletown Construction

JOB NO. 7100

SUBJECT KAISER ENGINEERS' WEEKLY FIELD ACTIVITY REPORT



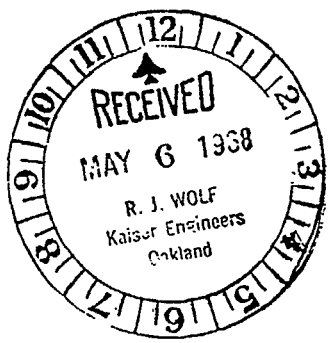
Transmitted herewith is the subject report for the week ending April 30, 1968.

OAF/sec

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KAISER ENGINEERS
WEEKLY FIELD ACTIVITY REPORT
Week Ending April 30, 1968

WEATHER: Fair weather throughout the period.

TEMPERATURE: Maximum - 71°
Minimum - 35°

CLIENT: Armco Steel Corporation

LOCATION: Middletown, Ohio

JOB NUMBER: 6471

JOB VISITORS

R. L. Bernard, L. H. Oppenheim, R. J. Wolf

SUMMARY FORCE REPORT

	Kaiser Engineers Exempt	Kaiser Engineers Non-Exempt	Subcontractors	Foothill Electric	Total
Management	4	4		1	9
General Supervision	18	1	21	5	45
Field Engineering	41	15	14	14	84
Warehs. & Mtl. Control	3	7		1	11
Survey	1	13	4		18
Office Srv. & Repro.	1	5			6
Clerical			17	14	31
Craft *	—	787	960	609	2,356
TOTAL	68	832	1,016	644	2,560

* Average for week of men on payroll.

Average for week of Crafts is as follows:

Kaiser Engineers	734
Subcontractors	924
Foothill Electric	554
Total Crafts Working	2,212

KEN 004340

GENERAL COMMENTS

The Operating Engineers serving the Dayton area (including Project "600") struck on Wednesday, May 1, apparently on the basis of no contract - no work. The contract expiration date was April 30. The immediate effect on Project "600" is as follows:

1. B.O.F. - Structural steel erection shut down. Conveyor contractor shut down. The side effects at the B.O.F. are:

   A. Our Ironworkers applying siding can work from two to three weeks.

   B. Sheetmetal Workers have about three to four weeks work.

   C. Kaiser Engineers' Pipefitters will be able to work at least three weeks.

2. Slab Mill - No effect.

3. Soaking Pits - No effect.

4. Hot Strip Mill - No effect.

5. Pickle Lines -

   A. Will curtain Delta Pipeline work where an air tugger or rig is required. Otherwise, hand rigging can be utilized.

6. Yard Work - Delta Pipeline will have to discontinue some of their yard work; however, we see no effect from this on the operation of the Hot Strip Mill, Soaking Pits or Slab Mill. Work will stop on road paving. Railroad work will be brought to a minimum due to the need of Operating Engineers on material handling.

Our on-site batch plant was shut down on the afternoon of Wednesday, May 1. On Thursday, we hauled concrete from Moraine's plant at Franklin since the Franklin Plant is on a similar union contract to the local area concrete suppliers. This latter method of supplying concrete to Project "600" may not stand up since the union may take a stand against Moraine as a Company. In any event, we are making preparation to purchase concrete from the two local suppliers providing a satisfactory price arrangement can be consummated.

On Thursday, May 2, we turned over the Stripper Building and Mold Yard to Armco on final acceptance. The formality will, of course, have to be completed on this action.

In the Hot Strip Mill, we have completed the punch list items in Area "A" which consists of the work above and below Elevation 107 in the main mill aisle and in the motor room between columns 13 and 33. We are making a concerted effort to complete all the punch list items by the end of May; however, we may have additional work orders to perform after that date.

GLR/sec

YOU ARE PROBABLY AWARE OF THIS BECAUSE OF YOUR RECENT VISIT TO MIDDLETOWN.

KEN 004341

PROJECT PROGRESS

1. 7148 - HOT STRIP MILL

1.3 Structural and Miscellaneous Steel: An average work force of eleven ironworkers was maintained in the hot strip mill during the period. In the furnace area, work continued on the punch list items from the preliminary inspection. In the roll shop, checkered plate was installed at roll grinder #1. An average work force of seven sheetmetal workers was maintained during the period. In the furnace area, progress was continued on the additional work orders at the F.D. and I.D. fans. In the motor room and rougher area, both crafts were concentrating on completion of preliminary inspection items.

1.5 Heating and Ventilating: All pipe rework, insulation and painting has been completed in bag houses 7, 8, 10, 12 and 14.

1.6 Mechanical: Testing and check out of the third roll grinder in the roll shop was completed this period. In the furnace area, the #1 and 2 reheat furnaces were in operation throughout the period. Additional insulation requirements proposed by Worthington Corporation for the induced draft and forced draft fans was completed at unit #1. These fans will be test operated next period to establish whether or not this additional insulation will solve the expansion and alignment problem. Insulation is also being applied to units #2 and 3. Boiler #3 has been turned over to Armco and they plan to schedule boil out and start-up of this unit as soon as the fan problem has been resolved.

1.7 Piping: In the downcoiler area, rework has been completed on the 2 inch and 3" air supply lines to the Signode bander and the pyrometers. Progress continued on the installation of the Economy sump pumps with the remaining six pumps now being repaired off the site. All other pumps have been installed. Further progress on additional work orders included the installation of valves at the downcoiler upenders and the installation of a TV camera cooling device.

1.8 Electrical: Foothill Electric Corporation maintained one hundred and eleven electricians in the hot strip mill during the period. 947 lbs. of exposed conduit was installed for a total to date of 1,456,727 lbs. or 99% complete. 927 lbs. of lighting conduit and 3,100 feet of lighting wire was installed. 2,640 feet of communications and TV cable was installed. 738 lbs. of structure grounding was installed for a total to date of 145,952 lbs. or 100% complete.

1.9 Miscellaneous Subcontracts: Owens Corning Fiberglas Company maintained an average work force of eight men on insulation during the period. Progress was continued on the rework items required in the boiler house, hot strip mill and bag houses.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 30, 1968

Delta Pipeline Constructors maintained an average work force of twenty-nine men in the hot strip mill during the period. The testing of the oxygen system has now been completed. Installation of well water piping was also completed during the period and work continued on punch list items and additional work orders on the well water tie-in at D line. Welding of the shrouding continued on the steam expansion pits east of the hot strip mill during the period together with the completion of the insulation of the fuel unloading line and the steam line at the fuel oil storage area.

Grinnell Company continued changing parts of the deluge valves in the fire protection system. This system will be tested when the electrical requirements have been completed.

Stuart Painting Company continued progress in the hot strip mill between columns 13 and 42. This work is scheduled for completion during next period.

Salem-Brosius continued the changes on the charge end of furnace #3. Steam tracing lines were being installed at unit #3 with all other piping completed and tested. All electrical work at furnace #3 has been completed apart from check out and installation of the thermocouple. This work will be performed immediately prior to light up. Insulation progress continued on the steam and oil piping and hot air ducts for unit #3.

2. 7146 - SLAB MILL

2.1 Excavation and Backfill: 2,735 cubic yards of backfill was made for a total to date of 299,300 cubic yards. This backfill was made in the vicinity of scale pit #4. The embankment for the slab cooling area was compacted around the spray header support piers. This area is now ready for membrane surfacing which is now scheduled for next period.

2.3 Structural and Miscellaneous Steel: An average work force of eighteen ironworkers continued with miscellaneous iron installation in the slab mill. At scale pit #4, installation of the hatch covers at the pump room was started. Installation was continued on the dust shield for the main mill. Revisions were made to the platform on gantry crane 364 to allow clearance at the access stairway. Two crane end bumpers were also installed for the gantry crane.

2.4 Roofing and Siding: Roofing was initiated on the crane access stairway at scale pit #4.

2.5 Heating and Ventilating: Bag houses 3, 4 and 5 were checked, tested and accepted by Armco. Electrical progress continued during the period on bag houses 1 and 2. Delivery of one shaker motor for bag house 1 is expected next period after which testing and check out will follow. Installation of ductwork in the main office complex continued during the period. All major heating and ventilating units in this area are set in place.

2.6 Mechanical: Eichleay Corporation maintained an average work force of forty-one men on mechanical installation in the slab mill. In the main mill area, dowelling of the upper main mill motor was in progress. The final alignment of the vertical mill motor was also continued during the period. The spindle support bearings for the main mill are now being cleaned and made ready for spindle carrier installation. The upper main mill drive motor spindle adapter has been moved to the motor room for installation. This installation is required before the closure between the mill aisle and the motor room can be completed. Mechanical test operations for the main mill motor generator units was completed. At the scarfer fume exhaust system, progress was continued on the final setting of the fan motor. Roofing and siding for this facility is scheduled to begin next period. In the ingot buggy area, the ingot buggy tables were test run together with uncoupled tests for the cable drive units. Other tests accomplished this period included the constant potential panel "A" and the average voltage panel "B". In the main mill aisle, installation of the crop conveyors chain was completed. The conveyor drive motor base is being revised to correct faulty fabrication. This revision involved removal of the motor, some plug welding and redrilling for motor mounts. Progress continued on installation of limit switch actuators on the slab stamper and dry scale drag system. Installation of the ventilation access cover for the roll table motor bases have been completed.

2.7 Piping: Hunter Corporation maintained an average work force of forty-four men on slab mill piping this period. Major systems worked on during the period were: circulating oil system 3, hydraulic system 1, bulk grease, oxygen and clarified water. 937 feet of piping was installed this period for a total to date of 40,046 feet. 13,406 feet remain to be installed. Hydraulic system 2 and lube oil system 3 are now ready for pressure testing. Lube oil systems 1 and 2 were pickled off the site and are now reinstalled in place. Kaiser pipefitters completed underground header piping for the spray cooling system in the slab storage area. Progress was continued on the hydraulic piping for crane 364. This piping is 90% complete.

2.8 Electrical: Foothill Electric Corporation maintained two hundred and thirty-three electricians in the slab mill during the period. 1,400 lbs. of exposed conduit was installed for a total to date of 186,570 lbs. or 93% complete. 207 lbs. of structure grounding was installed for a total to date of 32,966 lbs. or 82% complete. 34,500 feet of low voltage cable was installed for a total to date of 417,500 feet or 85% complete. 788 low voltage terminations were made for a total to date of 6,572 feet or 96% complete. 21,300 feet of control cable was installed for a total to date of 199,500 feet or 84% complete. 942 control cable terminations were made for a total to date of 5,996 or 60% complete. 9,000 feet of computer cable was installed for a total to of 62,000 feet or 88% complete. 174 computer terminations were made for date of 4,244 or 94% complete. 3 - 2400 V cable terminations were made for a total to date of 72 or 60% complete. 1,730 feet of TV and communications wire was installed and 308 terminations were made. 393 feet of cable tray was installed for a total to date of 13,393 feet or 92% complete. 607 lbs. of lighting conduit, 1,550 feet of lighting wire and ten fixtures were installed.

3. 7143 - SOAKING PITS

3.1 Excavation and Backfill: 594 cubic yards of slag backfill was installed for a total to date of 115,443 cubic yards. This slag backfill was placed between columns 16 and 20 south of the ingot buggy track.

3.3 Structural and Miscellaneous Steel: Modification work was continued on crane 357 together with safety items. This work is now 90% complete. Handrail changes are in progress for the skip hoist and conveyor area. Scraper bar and pit racks were installed in position this period.

3.6 Mechanical: Loftus Engineering maintained an average work force of one hundred and eleven men on battery installation. At batteries 5 and 6, five pit covers were completed and set in place. Final refractory installation has been completed on six soaking pits mainly pits 19 through 24. Refractory installation is continuing in a westerly direction. Loftus Engineering continued with remaining electrical and piping work for batteries 1 through 4. Test and check out of batteries 5 and 6 will begin thirty days prior to the first slab through the slab mill.

3.7 Piping: Delta Pipeline Constructors maintained an average work force of twenty-seven men on service piping in the soaking pit area. Major systems worked on were: bulk grease, steam, well water and fuel oil. To date, the following piping systems have been completed in the soaking pits: Delta's portion of the plumbing, bulk grease, steam syphon discharge piping, steam piping, furnace cooling water and fuel oil piping. 861 feet of piping was installed for a total to date of 20,936 feet. 5,522 feet remain to be installed. Pressure testing of the well water system and steam system is scheduled for next period. Insulation was started on the steam piping and tracer system for the fuel oil piping.

3.8 Electrical: Foothill Electric maintained eighty-two men in the soaking pits during the period. 5,900 lbs. of exposed conduit was installed for a total to date of 96,890 lbs. or 69% complete. 3,754 lbs. of lighting conduit, 1,500 feet of lighting wire and sixteen fixtures were installed. 820 feet of low voltage cable was installed for a total to date of 38,000 feet or 60% complete. 67 low voltage terminations were made for a total to date of 180 or 59% complete. 1,400 feet of control cable was installed for a total to date of 2,300 feet or 14% complete. 45 control cable terminations were made for a total to date of 80 or 13% complete. 142 lbs. of structure grounding was installed for a total to date of 4,567 lbs. or 46% complete. 120 feet of communications wire was installed and 10 terminations were made during the period.

4. 7128 - BASIC OXYGEN FACILITY AND MOLD YARD

4.1 Excavation and Backfill: 2,774 cubic yards of excavation was accomplished at the B.O.F. facility this period for a total to date of 214,643 cubic yards. 2,934 cubic yards of backfill was completed for a total to date of 250,851

cubic yards. Excavation included the car bumper at scrap scale pits #1 and 2, the underground conduit east of the electrical control room, storm sewer at column 17 on D line and the underground conduit southeast of the mold yard to the transportation office. Backfill included the clarifier sludge tunnel, storm sewers and underground conduit.

4.2 Concrete: 333 cubic yards of concrete was placed at the B.O.F. facility for a total to date of 20,421 cubic yards. This concrete included the west wall of the electrical control room, the operating floor slab between columns 22.5 and 24.5, pipe support footing in the slurry area and various conduit encasements.

4.3 Structural and Miscellaneous Steel: 565 tons of structural steel was erected at the main B.O.F. facility for a total to date of 10,647 tons. (excluding 338 tons of anchor bolts and base plates). Bolt-up work progressed during the period and welding continued on bins, fascia and checker plate. Setting of miscellaneous steel during the period included the hatch cover and stairs at the track hopper, connectors for the setting on the elevator shaft and for the siding between column 17 and 20.

4.4 Roofing and Siding: Roofing progress continued during the period with 8,650 square feet installed for a total to date of 41,872 square feet. This roofing included progress from D to H line between columns 17 and 24. Ventilator erection was initiated during the period. 4,288 square feet of siding was installed during the period for a total to date of 42,156 square feet. This siding was between columns 17 and 20 on D line and the siding was started at the higher elevations at column 20 on April 26th. Siding and roofing at the mold yard is complete including the spray stations and rectifier building.

4.6 Mechanical: Combustion Engineering continued assembly of the #1 unit gas cooler tube elements and headers. Two car loads of material including one lower hood section were received during the period.

4.7 Piping: Progress continued on the installation of the roof drains in the furnace aisle. Installation of roof drains was initiated at column F 20 in the service aisle. Progress was maintained on the service piping southwest of the B.O.F. and the steamline and sanitary sewer at manhole 590. Grease piping continued on teeming cranes 502 and 503. At the mold yard, the well water system was completed on April 29th and the mold spray service piping installation was continued through the period.

4.8 Electrical: Foothill Electric continued installation of the underground conduit banks in the electrical control room together with the conduit to the elevator area at columns F19 and F20. At the mold yard, underground conduit installation continued to the transportation office. Wire pulling to the traveling platform continued together with feeders to the mold spray stations and perimeter lighting. Wiring and power feed system continued on crane 508. 65 lbs. of structure grounding was installed for a total to date

of 2,400 lbs. or 20% complete. 17,840 lbs. of embedded conduit was installed for a total to date of 180,845 lbs. or 63% complete. 654 lbs. of exposed conduit was installed for a total to date of 33,504 lbs. or 11% complete. 534 lbs. of lighting conduit, 210 feet of lighting wire and sixteen fixtures were installed.

4.9 Miscellaneous Subcontracts: Service crane 502 - Electrical progress continued during the period on termination of cables to the motors, switches and contactors. Piping installation on this crane has now been completed. Reeving has not yet been started.

Teeming Crane 503 - Erection and bolt-up was completed on this crane during the period. Electrical work was started on April 29th. Installation of pull boxes and conduit was started during the period. Piping installation progress was maintained on this crane.

Ladle Additive Crane 507 - Erection and bolt-up of this crane was completed during the period.

Maintenance Crane 508 - Erection and bolt-up is complete and wiring of this crane continued during the period with installation of collector rails and brackets.

Chicago Bridge and Iron have now unloaded all material for two furnaces apart from one drive. Progress continued on furnace #1 erection on the temporary footings in the charging aisle with the two base sections and six side sections fitted and welding started. On furnace #2, the two base sections have been fitted and are ready for heating and welding. The trunnion for #1 and 2 furnaces have been set on the erection pads but not lined up.

At the lab and office building, McGraw Construction Company continued with installation of underground piping which is complete apart from the Duriron line to acid pit #1. Main electrical feeder line installation is now complete and progress has been initiated on the overhead conduit. Masonry work continued along columns A and B. Masonry work will now start in rooms #14, 16 and 20. Installation of the second floor interior dry wall partition has been started.

At the flux material handling system, further equipment was unloaded and part of the support steel below the unloading hoppers has been lowered into the structure.

Otis Elevator Company moved equipment to the elevator site on April 29th with installation of the elevator to be started during next period.

5. 7145 - STRIPPER BUILDING

Final inspection was held on April 24th and completion is presently awaiting issuance of final punch list.

6. 7150, 7156 and 7159 - PICKLE AREA

6.2 Concrete: 179 cubic yards of concrete was placed on pickle line 4 during the period for a total to date of 14,324 cubic yards. Major concrete pours included floor slabs between columns 21 and 23 and conduit encasement between columns 15 and 16. On pickle line 5, 160 cubic yards of concrete was placed during the period for a total to date of 8,152 cubic yards. Major concrete pours included the fume scrubber sump wall and embedded conduit between columns 18 and 19 and 29 and 32. Extraction of sheet piling from catenary pit 2 on the #5 line was continued during the period.

6.3 Structural and Miscellaneous Steel: At the pickled coil storage building, progress during the period consisted of completion of miscellaneous detail work on the crane rail, vent platforms and walkway with 51 tons of steel erected. In the green coil storage building, a further crane rail break on B line was repaired on April 30th.

6.4 Roofing and Siding: At the pickled coil storage building, 7,008 square feet of roofing was installed for a total to date of 53,717 square feet. Setting of Steelox siding was started on the north wall of the pickled coil storage building where 4,460 square feet was set for a total to date of 10,050 square feet. In the pickle lines, the roof on the maintenance aisle office complex was set with a period quantity of 1,850 square feet. At the east end of the pickle building, the siding was continued with 1,102 square feet erected during the period.

6.6 Mechanical: Ohio Valley completed the welding of the pickle tanks on #4 line during the period and vulcanizing operations have started. Five pickle tanks have now been set on #5 line and are being levelled prior to welding. Preparation for grouting was continued on #1 and 2 processor, the looper car winch and #5 pinch roll. #4 pinch roll and the wet loop pit side plates were grouted during the period. The 110 ton Taylor Winfield welder was set on its anchor bolts on April 30th.

6.7 Piping: Delta Pipeline Constructors now has two crews in the pickle area. Progress consisted of prefabricating and installing pipe in the maintenance room and along F line. Delta Pipeline have installed 9,275 feet of pipe to date. Header pipes were bolted to the pipe brackets along G line. Work was started on the roof drains in the pickled coil storage building. In the green coil storage building, Norm Woolley continued to correct leaks in the plant air system during the period. The air conditioning to cranes 401 through 404 has now been completed.

6.8 Electrical: In the green coil storage building, Lake Erie Electric continued installing conduit and wiring for the high bay lighting along C line. Permanent lighting is now provided for the north aisle and one-third of the south aisle. Progress continued on miscellaneous electrical work including installing of railroad signals, heaters for enclosures and welding panels. In the pickle line, Lake Erie Electric continued progress on the electrical equipment which has been set in the entry motor room for #4 line. Preparations are being made to pull wire between the substations and the central panels. All welding panels have been mounted on F line and are 20% complete on G line.

6.9 Miscellaneous Subcontracts: Stuart Painting Company continued painting of structural steel in the pickled coil storage building.

Bender Construction has now installed three rolled steel vent doors and progress will continue along F line.

FBS Builders completed the remaining masonry wall in the entry motor room for the #4 line.

7. 7160 - COLD MILL

During the period, 17,519 cubic yards of excavation was completed for a total to date of 97,872 cubic yards. Fine grading will now start in the areas where drawings are available. The temporary substation installation was started and the dewatering well excavation was initiated on April 25th.

8. 7186 - WASTE DISPOSAL FOR THE PICKLE FACILITY

176 cubic yards of excavation was completed during the period. The sludge tunnel and pump room slab for #2 clarifier was formed and poured during the period and forming for the tunnel walls was started. Conduit between #1 electric manhole and the waste disposal building was encased in concrete. Siding installation was completed during the period with 4,460 square feet for a total to date of 10,050 square feet. Siding will be modified at the removable panel. Walkway steel was set over the aeration and flocculation tanks. Installation of the pneumatic supply piping to the limestone bins was continued during the period together with the installation of the limestone bin heaters. Foothill Electric installed conduit between #1 manhole and the waste disposal building. Masonry block walls were started by Bilbrey on the south side of the building.

International Pollution Control completed the drilling of the #2 disposal well with a total depth of 3,285 feet. The drilling rig has been dismantled and removed from the site.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 30, 1968

9. UTILITIES

7105 - Water Distribution System: Delta Pipeline Constructors completed testing on the well water main in the steelmaking area and continued installation of hydrants in the south area.

7110 - Power Distribution System: In the melt area switching station, installation of conduit and cable for the outgoing pilot wire will be started early next period. In the hot strip mill dispatch office, progress continued on cable terminations for the terminal blocks.

7111 - Sanitary Sewers: In the steelmaking area, Delta Pipeline Constructors held a final inspection with the City of Middletown representatives and the system has been accepted. A further inspection with Armco is scheduled for May 1st.

7112 - Drainage and Site Development: 3,802 cubic yards of excavation was completed during the period for a total to date of 812,989 cubic yards. 4,161 cubic yards of backfill was placed for a total to date of 1,063,345 cubic yards. Delta Pipeline now await inspection of the storm sewer line. Westinghouse Electric Corporation energized lighting for parking lot 3 during the period. All roadway lighting poles for circuit 9 have been set and the circuit has been energized. Trench backfill in this area is now 95% complete. John R. Jurgensen placed 727 cubic yards of 8 inch aggregate base east of the hot strip mill at the end of the period. 3 inch bituminous aggregate will be placed on the roads as soon as suitable areas are made available.

7113 - Trackwork: DHS Corporation installed 1,100 feet of track and four turnouts south of the existing mold yard. 500 feet of flangeway was installed in the south area and steelmaking area during the period.

OAF/LM/sec

Prepared by O. A. Finsand
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Approved by G. L. Roberts
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Construction Manager