

INTER-OFFICE MEMORANDUM



TO
AT

See Distribution

DATE

April 9, 1968

FROM

O. A. Finsand

COPIES TO

AT

O.A. Finsand

Middletown Construction

JOB NO.

7100

SUBJECT KAISER ENGINEERS' WEEKLY FIELD ACTIVITY REPORT

Transmitted herewith is the subject report for the week ending April 9, 1968.

CAF/sec

Distribution

Armco

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

Kaiser

R. J. Wolf (Oakland)
W. F. Bort (Oakland)
D. A. Daly
F. X. Kast
S. Ustel
V. L. Frankson
A. L. Gordon
H. G. Boucher

cc: Central File
Kaiser Reading File
Armco Reading File



KEN 004373

KAISER ENGINEERS
WEEKLY FIELD ACTIVITY REPORT
Week ending April 9, 1968

WEATHER: Clear and mild weather
throughout the period.

TEMPERATURE: Minimum - 34 degrees
Maximum - 71 degrees

CLIENT: Armco Steel Corporation

LOCATION: Middletown, Ohio

JOB NUMBER: 6471

JOB VISITORS

L. Misner, R. D. Sahlberg and R. J. Wolf

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	4	4		1	9
General Supervision	18	1	20	5	44
Field Engineering	42	14	14	14	84
Warehs. & Mtl. Control	3	6		1	10
Survey	1	14	3		18
Office Srv. & Repro.	1	5			6
Clerical			16	15	31
Craft *	—	<u>794</u>	<u>915</u>	<u>646</u>	<u>2,355</u>
TOTAL	69	838	968	682	2,557

* Average for week of men on payroll.

Average for week of Crafts is as follows:

Kaiser Engineers	743
Subcontractors	875
Foothill Electric	<u>593</u>
Total Crafts Working	2,211

KEN 004374

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

GENERAL COMMENTS

During this past period Armco's operational forces have continued to increase the hot strip mill production on each successive night. On Wednesday, April 10th, 154 coils were produced averaging 10 tons each. The KE and Foothill forces are available each day following a night's rolling to perform whatever tasks are requested in order to prepare for the evening operation.

At the B.O.F., the large bridge crane in the charging aisle is now operable and has been completed in time to meet a milestone requirement for the start of vessel assembly. At present, the lance crane is operable and the two large teeming aisle cranes are under installation as is the small maintenance crane between columns E and F. Good weather permitted important steel erection that opened up a considerable amount of work in the way of concrete floors, roof decks and siding. Armco is now using the bridge crane in the mold yard and are storing large molds. We are also going to use a portion of the mold yard as an unloading area for vessel components for the B.O.F.

At the stripper building, the stripper crane is now being used by Armco to strip large ingots and with the exception of a few minor items this facility is complete.

Soaking pits progress has continued in a satisfactory manner and the electrical portion of the work was given a needed boost with a considerable increase in electrical manpower. Completion of the second ingot crane is now well underway and arrangements are being made to complete lighting in the hot (temperature) areas since the soaking pits light-off is not too far away.

All phases of construction work progressed well in the slab mill during the period with sufficient manpower in most areas. The completion schedule for the slab mill was reviewed in detail during the past two weeks and was presented to Armco on Wednesday, April 10th. The end date of the schedule was revised from June 18th to June 25th. The first date was given to Armco back in early February as an anticipated slab rolling date. Regardless of this schedule, however, all field forces with the help of Project and Armco personnel are making every effort to complete the slab mill as rapidly as possible since we are all aware that the new hot strip mill could be using slabs from this source in the not too distant future. It was stated and agreed that we would continue with a reasonable spot overtime effort.

WEEKLY FIELD ACTIVITY REPORT

Week Ending April 9, 1968

GENERAL COMMENTS (Continued)

In the new hot strip mill, efforts are continuing to complete miscellaneous work by area priority. The work effort in the hot strip mill is divided between punch list clean-up, modification work and rework on failures of vendor components. One of the critical items in the latter category has been the ID and FD fans in the waste heat boiler. Despite considerable work done to date the problem of overheating and wiping of bearings has not been satisfactorily solved.

Although all the high bay lighting in the green coil storage building is not complete, sufficient work has been accomplished whereby Armco personnel can operate on coil storage and load-out without interference or interruption.

In the pickle line, McGraw, KE and the lower tier subcontractors, such as brick layers, have made good progress. The pickle tanks are now set on line #4 and partially set on line #5, main floor slabs are being placed, and considerable amount of line #4 equipment has been placed over the anchor bolts. The arrival of information, materials, and equipment along with the signed piping contract has put us in a position where progress in several areas can be expected. The pickle lines schedule was reviewed and it was determined that the key to meeting completion dates rested in the main with the piping and electrical subcontractors. Recent problems have been encountered with the equipment erection contractor in which problems were corrected in the areas of lack of supervision, tools and equipment.

On Thursday, April 4th, the insulators walked off the job over a dispute with Owens Corning Fiberglas Company concerning hiring an improver as an insulator helper. The problem was solved and the men returned to work the following day.

/GLR

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. In the furnace area, grating was installed at pusher 3. At the scale pits, punch list items have now been completed in scale pit 1 and continued in scale pit 3. Scale pit 3 conveyor drive sprockets were damaged during Armco operation and investigations are presently being undertaken to determine the cause. An average work force of thirteen sheetmetal workers was maintained during the period. In the furnace area, the duct work installation at boiler 3 has been completed. Guards were being in-

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

stalled at the slab reject car. In the runout area, the guards for the downcoiler side guides were reworked. Full support was given to Armco in remedying any problems encountered during rolling operations.

- 1.5 Heating and Ventilating: Progress continued on the installation of bags in the bag houses together with completion of the necessary alterations to the heater coil piping.
- 1.6 Mechanical: During the period, Eichleay Corporation maintained an average work force of eight men in the roll shop on erection of the third roll grinder. The mechanical requirements for this grinder are now complete apart from installation of the spindle which has not been delivered to the job site. At the close of this period, this work force was moved into the slab mill area. During the period, Armco operations coiled 278 slabs through the hot strip mill. On Wednesday night, 22 coils were made followed by 71 coils on Thursday and 75 coils on Friday. During the Friday night operations, two slabs while being pushed at the charge end of furnace #1 upended and damaged refractory in the nosing portion of the furnace. Furnace #1 was then shut down for repairs. Repairs were completed on the induced draft fan for unit #2 which included installation of new bearings delivered by Worthington on Saturday. By Sunday night furnace #2 and boiler #2 was in service for rolling operations. On Monday night, 38 slabs were coiled followed by 72 slabs on Tuesday night. The refractory repair work in furnace #1 is now in progress and is expected to be complete by Monday, April 15th. An inspection is in progress to check the forced draft and induced draft fan bearings for unit #1 during this down period.
- 1.7 Piping: Kaiser pipefitters have now completed the pickling of the oxygen piping in the hot strip mill together with the piping from the hot strip mill through the green coil storage building. Progress continued on the reinstallation of the sump pumps, some of which have had new bearings installed. Piping rework in the bag house heater coil piping continued during the period.
- 1.8 Electrical: Foothill Electric Corporation maintained an average work force of one hundred and forty-five electricians in the hot strip mill during the period. During the period, Foothill installed 3,200 lbs. of exposed conduit for a total to date of 1,568,200 lbs. or 99% complete. 8,900 feet of low voltage cable was installed for a total to date of 1,976,300 feet or 99% complete. 60 low voltage cable terminations were made for a total to date of 33,295 or 99% complete. 700 feet of control cable was installed for a total to date of 2,078,200 feet or 99% complete. 34 control cable terminations were made for a total to date of 63,048 or 99% complete. 1,876 lbs. of lighting conduit, 2,800 feet of lighting wire and five fixtures were installed. 2,370 feet of communications and TV cable was installed and 42 terminations were made. 72 lbs. of structure grounding was installed for a total to date of 147,312 lbs. or 99% complete. 300 feet of computer cable was installed for a total to date of 950,800 feet or 99% complete.

- 6 -

WEEKLY FIELD ACTIVITY REPORT
Week ending April 9, 1968

- 1.9 Miscellaneous Subcontracts: Owens Corning Fiberglas Company maintained an average work force of twelve men on insulation during the period. Rework continued in the boiler house and in some areas of the hot strip mill and the bag houses.

Delta Pipeline Constructors maintained an average work force of sixteen men in the hot strip mill during the period. Completion work following the pickling and flushing of the oxygen piping was performed and 2 inch valves that were leaking are now being replaced. New teflon seats are on order for the 4 inch valves with expected delivery next period.

Stuart Painting Company maintained an average work force of sixteen men in the hot strip mill during the period. Painting continued on the various piping systems, equipment and architectural items.

Salem-Brosius completed the design changes on the refractories at the charge end of #2 furnace during the period. At #3 furnace, the discharge doors are now operable. Furnace impulse and cooling water piping for #3 furnace continued together with the testing of the gas, oil and steam lines for this furnace.

2. 7146 - SLAB MILL

- 2.1 Excavation and Backfill: 2,036 cubic yards of excavation was completed for a total to date of 233,727 cubic yards. This excavation was accomplished in the slab storage area for the slab spray cooling system. Excavation for this system is now essentially complete and final grading was initiated this period in advance of the paving requirements to follow.
- 2.3 Structural and Miscellaneous Steel: An average work force of fourteen ironworkers continued with the installation of gantry crane 364 and miscellaneous iron requirements in the slab mill. In the scale pit area, the railroad track plates were completed, handrail installation continued around the manipulators and the extended deck was installed over the scarfer oxygen panel. Basic erection of the gantry crane was essentially complete with final bolt-up now in progress.
- 2.5 Heating and Ventilating: Bag houses 3 and 4 were checked out and are now ready for operational use. Electrical work on bag houses 2 and 5 was completed with bag house #1 expected to complete next period. All sheetmetal requirements on plenums and ductwork for the five bag houses was completed this period. Roofing for the skip hoist structure was also completed this period.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

- 2.6 Mechanical: Eichleay Corporation maintained an average work force of fifty-one men on mechanical installation in the slab mill. In the main mill area, installation continued on drives and sheaves for the dry scale handling system. Progress was also continued on grease and lubrication of gear reducers. Line shaft covers are being removed for inspection to insure successful circulation of oil through the bearings. In the main mill area, progress was re-established at the vertical mill drive motor on remaining bolt-down, alignment and pedestal dowelling. A decision was reached by Project Engineering at the close of this period to continue with erection and alignment of this motor regardless of the fore and aft movement which was encountered. At the upper main mill drive motor, progress continued during the period and dowelling of the lower motor is scheduled to start next period. The west side motor bearing for the main MG unit was removed and cleaned in order to secure proper lubrication during coupled tests. At the scarfer fume eliminator system, installation of the fan and related ductwork was initiated again after the refractory installation was completed for the scrubber ducts.
- 2.7 Piping: Hunter Corporation maintained an average work force of fifty-two men on slab mill piping this period. Major piping systems worked on during the period were: circulating oil systems 1, 2, 3 and 8, hydraulic system 2, bulk grease, compressed air, natural gas, oxygen and steam piping. 1,796 feet of piping was installed this period for a total to date of 37,175 feet. 16,558 feet remain to be installed. Circulating oil systems 5, 6, 7 and 11 are now complete with permanent oil in the systems. Circulating oil system 3 was essentially completed apart from pressure testing which is now in progress. Piping for hydraulic system 2 was also completed and preparations are now being made for pressure testing this system.
3. 7143 - SOAKING PITS
- 3.3 Structural and Miscellaneous Steel: A work force of thirteen ironworkers installed miscellaneous requirements in the soaking pit area. The tong column for crane 358 was installed, installation of bumpers for crane 366 was completed and the 4 inch square guard rail above the service bay at elevation 124 was completed.
- 3.6 Mechanical: Loftus Engineering maintained an average work force of one hundred and eleven men on battery installation this period. At battery 6, ramming of final refractory lining was in progress. Pits 23 and 24 were almost complete by the close of this period while pits 21 and 22 averaged at 45% complete. Progress was maintained throughout the soaking pit area on mechanical and electrical requirements for all battery units. Ramming of refractory for the first pit cover was initiated on Monday, April 8th. Completion of the first four covers is expected by the first of May for initial dry-out of the battery 6 pits.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

- 3.7 Piping: Delta Pipeline Constructors maintained an average work force of thirty-one men on service piping in the soaking pit area. Major piping systems worked on were: natural gas, 220 feet; oxygen, 160 feet; steam, 170 feet and fuel oil 36 feet for a total period quantity of 658 feet. Progress continued on the grease system for the conveyor and on the car thaw pits at the car unloading facility. The gas header was purged with nitrogen and is now ready to receive gas.
- 3.8 Electrical: Foothill Electric installed 922 lbs. of exposed conduit for a total to date of 96,760 lbs. or 69% complete. 310 lbs. of lighting conduit was installed. 1,100 feet of low voltage cable was installed for a total to date of 27,800 feet or 44% complete. 360 feet of crane conductor rail was installed for 97% complete.
4. 7128 - BASIC OXYGEN FACILITY AND MOLD YARD
- 4.1 Excavation and Backfill: 1,246 cubic yards of excavation was accomplished at the B.O.F. facility this period for a total to date of 204,092 cubic yards (Total excavation to date at the mold yard remains at 14,730 cubic yards). 3,966 cubic yards of backfill was completed for a total to date of 246,151 cubic yards (Total backfill to date at the mold yard remains at 33,766 cubic yards). Excavation included conduit in the furnace area and storm sewer excavation in the scrap loading aisle from manhole 381 to the scrap scale pits. Backfill included underground conduit trenching and storm sewers in the charging aisle. Backfill was started at the track hopper pit during the period.
- 4.2 Concrete: 245 cubic yards of concrete was placed at the main B.O.F. facility for a total to date of 19,215 cubic yards. (Total concrete to date at the mold yard remains at 2,022 cubic yards.) The period quantity included the suspended slab between the furnaces, the clarifier sludge tunnel base slab, the second lift of the track hopper walls and deck slab, underground conduit at column 19, the footing for the west wall of the electrical control room and moment guides for the steam line.
- 4.3 Structural and Miscellaneous Steel: 399 tons of structural steel was erected at the main B.O.F. facility for a total to date of 8,803 tons (excluding 328 tons of anchor bolts and base plates). Bolt-up and installation of girts and purlins continued during the period. Progress was continued on the laying of floor decking for the operating floor. Welding on the bins and wear plates continued during the period. At the mold yard, handrail was erected on the hoist beam platform.
- 4.4 Roofing and Siding: At the main B.O.F. plant during the period, roofing continued with 5,429 square feet being installed for a total to date of 17,882 square feet. Siding installation continued on the freight elevator shaft with 2,631 square feet installed for a total to date of 10,250 square feet. On April 5th, the siding on D line at column 17 was initiated and 6,032 square feet of siding was installed during the period. At the mold yard, the siding has now been completed on the two mold spray stations. Roofing and siding of the mold yard building was completed on April 3rd.

WEEKLY FIELD ACTIVITY REPORT
Week ending April 9, 1968

- 4.6 Mechanical: The following equipment was received for the fume control system during the period: one car load of ID fan housings and the first car load of material for Combustion Engineering consisted of tubed elements for the lower hood section.
- 4.7 Piping: Progress continued on the installation of the roof drains from column 17 to 22 including the crossovers. The storm sewer at column 20 from D to F lines was installed and progress continued on the steamline from the combination valve pit 2 to steam valve pit 5 for the setting of pipe sleeves on the operating floor. At the mold yard, all service piping is complete apart from the mold spray service piping.
- 4.8 Electrical: Underground conduit was laid from the north wall to the electrical control room to F line during the period. Progress continued on the installation of underground conduit in the pump building and from electrical manhole 6 to the electrical control room.

4.9 Miscellaneous Subcontracts:

Charging Crane 501 - Ohio Valley riggers worked over the weekend to complete the reeving of the crane. All work on this crane including the electrical work has been completed apart from minor safety and punch list items.

Lance Crane 506 - All work on this crane is complete apart from several safety items and final punch list work.

Service Crane 502 - Erection of this crane has now been completed, and grease system is in progress.

Teeming Crane 503 - Erection of this crane was started on April 9th.

Maintenance Crane 508 - This crane was erected on April 4th and the grease piping is presently being installed.

McGraw Construction Company placed the concrete slab in the spectographic lab during the period. Underground sanitary and storm sewers have now been tested and backfilled. All work has been completed on the interior roof drains. The installation of the water lines will be started during next period. 2,549 square feet of siding was installed at the lab building during the period.

At the flux material handling system, Rex Chainbelt, Inc. has been given a notice to proceed as of April 22nd. Track hopper concrete has been completed and grading of the area is in progress.

Chicago Bridge and Iron graded and formed for concrete bases in the charging aisle between columns 17 and 20 in preparation of furnace vessel erection which is scheduled to begin next week. Twelve car loads of furnace material are enroute to the job site.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

5. 7145 - STRIPPER BUILDING

The final inspection of crane 354 was held on April 8th and this crane is now in use by Armco. Ingots are presently being stripped in the building. Other progress in the building included painting, completion of work in the rectifier building including heating and ventilating.

6. 7150, 7156 and 7159 - PICKLE AREA

- 6.2 Concrete: 574 cubic yards of concrete was placed on pickle line #4 during the period for a total to date of 13,403 cubic yards. Major concrete pours included the footing and wall for bag house A, floor slabs between columns 22 and 30 between the pickle lines and north of the scalebreaker, pipe trenches and conduit encasement. On #5 pickle line, 255 cubic yards of concrete was placed for a total to date of 7,550 cubic yards. Major concrete pours included the pay-off reel base and conduit encasement between columns 20 and 21.
- 6.3 Structural and Miscellaneous Steel: In the pickled coil storage building, bolt-up of trusses continued together with the installation of sag rods, ventilator walkways and platforms.
- 6.4 Roofing and Siding: In the pickled coil storage building, 4,674 square feet of roofing was installed for a total to date of 31,394 square feet. In the green coil storage building, all work on the roof was completed.
- 6.6 Mechanical: Ohio Valley continued setting the pickle tanks on #4 line during the period. The tanks are now ready for welding. On #4 line, the unfolding rolls and the strip separators are being set and aligned. The soleplates for the wet loop pit side guides are being set.
- 6.7 Piping: Delta Pipeline Constructors maintained one crew in the pickle lines during the period. 115 feet of piping was installed including 80 feet of natural gas and 15 feet of water piping. Pipe and pipe supports were being installed along F line and plumbing at column 16.5 progressed. In the green coil storage building, Norm Woolley has completed the 2 inch plant air piping and is testing the natural gas and plant air lines. KE forces were pickling the oxygen line. During the period, 200 feet of 2 inch plant air piping was installed.
- 6.8 Electrical: In the green coil storage building, Lake Erie Electric continued work on the punch list items for the cranes. Conduit was also installed to the high bay lighting fixtures along C line and to the welded panels. In the pickle line building, Lake Erie Electric set the lighting distribution panels in the maintenance aisle and north of #4 pickle line.
- 6.9 Miscellaneous Subcontracts: FBS Builders completed their masonry walls in the entry motor room apart from the bay between columns 18.5 and 19 which will be used for access for electrical equipment. Work was started on the walls in the delivery motor room for #4 pickle line at column 32.
- Stuart Painting has resumed painting of the structural steel in the pickled coil storage building.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

7. 7160 - COLD MILL

During the period, 16,568 cubic yards of excavation was completed for a total to date of 50,537 cubic yards.

8. 7186 - WASTE DISPOSAL FOR THE PICKLE FACILITY

During the period, 125 cubic yards of concrete was placed for a total to date of 1,942 cubic yards. This concrete included the loading bay floor slab in the building and the completion of electric manholes 1 and 2. 10 tons of miscellaneous steel was set for the various structural stairs and ladders in the building. 1,950 square feet of siding was installed for a total to date of 3,672 square feet.

International Pollution Control started drilling of the #2 disposal well on April 3rd. The 13-3/8 inch OD casing has been set and cemented to the surface. The concrete plug was drilled and at the end of the period the 12-1/2 inch drilled hole had reached a depth of 1,797 feet.

9. UTILITIES

7105 - Water Distribution System: Delta Pipeline Constructors installed 440 feet of 8 inch well water piping in the steelmaking area.

7110 - Power Distribution: Mechanical and electrical check-out of the melt area switching station was completed by General Electric during the period. Work remaining at this station includes the installation of the communication circuits, the 15 KV cables to the B.O.F. area and the relocation of the aisleway relays and meters. These items are awaiting approved design drawings. In the hot strip mill, fabrication of the panels for the pulse recorders in the dispatcher's office was started on April 9th.

7111 - Sanitary Sewers: Delta Pipeline Constructors continued work on the manhole tops in the steelmaking area.

7112 - Drainage and Site Development: 2,372 cubic yards of excavation was completed during the period for a total to date of 803,260 cubic yards. 2,215 cubic yards of backfill was placed for a total to date of 1,051,556 cubic yards. Delta Pipeline Constructors continued installation of manholes in the steelmaking area. There are now approximately 25 manhole tops remaining to be installed. Westinghouse Electric Corporation installed the lighting contactor in parking lot 3. Pole setting has not yet been started.

7113 - Trackwork: DHS Corporation installed 560 feet of track and one turnout bumper in the south area during the period. 200 feet of flange way was also installed in the south area.

WEEKLY FIELD ACTIVITY REPORT
Week Ending April 9, 1968

7114 - Locker Rooms: In the steelmaking area locker room, work has been completed. A preliminary inspection is scheduled for April 11th to compile any punch list items.

OAF/LM/sec

Prepared by O. A. Finsand
O. A. Finsand

Approved by G. L. Roberts
G. L. Roberts
Construction Manager