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NO. NAME

By Product Equipment

WILPUTTE COKE OVEN DIVISION
Allied Chemical & Dye Corporation
40 RECTOR STREET NEW YORK 6, N. Y.

RHN

PRIMARY GAS COOLERS

Our Reference 404-C

August 19, 1957

Mr. C.P. Johnson, General Superintendent
Federal Furnace & Chicago Coke Plant
Interlake Iron Corporation
11236 Torrence Avenue
Chicago 17, Ill.

Dear Mr. Johnson:

Enclosed you will find two reports covering my recent visit to your plant regarding primary gas coolers.

In connection with Mr. H.R. Nicklaus comments on the closed water system, mentioned in last paragraph of report, we believe that this should be provided in conjunction with further expansion of the coking facilities. At that time, the additional water demand will require substantial additions or changes to the existing system both to water supply and mill water sewer.

The cost of the closed water system, with its low make up water requirement, may off set the above mentioned additional costs.

Very truly yours,

Ralph N. Hall

Ralph N. Hall

RNH/ky
Encl.
CC: Mr. H.R. Nicklaus(2)

WILPUTTE COKE OVEN DIVISION
Allied Chemical & Dye Corporation
40 RECTOR STREET NEW YORK 6, N. Y.

August 7, 1957

R.N. Hall

Mr. D.C. Coleman

Interlake Iron Corporation, South Chicago, Ill.
(404-C) - Primary Gas Coolers

Messrs Miller
Carbone

The writer visited Interlake Iron Corporation, South Chicago, Illinois, August 1st and 2nd for purpose of observing and checking operation of the new, spray-type, primary gas coolers.

It is to be noted that this is our first installation of this kind and in all probability the first installation in the coke oven industry.

Engineering is certainly to be complimented in their efforts in this direction and have done an outstanding job in the design of this first spray-type primary gas cooler.

Operation of the coolers has now been changed to handle total plant gas, approximately 24 MM cu.ft. per day, through one gas cooler only, utilizing the effectiveness of increased spray pressures to cool the gas. In this manner, the total plant gas can be sucessfully handled through one gas cooler even though the suction before exhausters is increased 100 MM H_2O, thus providing a complete spare primary gas cooler unit.

The attached data sheet shows the information developed and the relationship between water, liquor and gas temperatures.

It was our firm opinion that the single gas cooler operation afforded a slight improvement over the two gas cooler operation, all other things being equal, with exception of the increased suction before exhauster.

As usual, the sumertime water temperature conditions were not conducive to low liquor, low gas temperature results. Water temperature was 32°C and Mr. Chamberlain pointed out that temperatures of 37°C are often experienced in mid-summer. It was therefore necessary to use all ten liquor coolers. By-passing two liquor coolers for test purposes resulted in a 3-1/2°C increase in outlet gas temperature.

In a meeting with Mr. Nicklaus and Mr. Chamberlain, they expressed concern over the fact that they are now utilizing all ten liquor coolers while plant is on 17 hour coking time and questioned their position in the event their operations are changed to 16 hour coking time. It was their understanding that they would only use eight liquor coolers for normal operations and have two idle or spare coolers. This in their opinion puts them up to design capacity of liquor coolers on present operation. On 17 hour coking time the present tonnage is approximately 2336 tons of wet coal. On 16 hour coking time the tonnage would increase to approximately 2500 tons of wet coal.

The subject was also brought up concerning a closed water system with water cooling tower for the primary liquor coolers. Recirculated water with small make up that could be filtered and the system maintained clean would certainly mean something to a plant of this size compared to the use of millions of gallons of dirty water now being used with the attending temperature and cleaning problems.

The following is recommended:

(1) Liquor coolers should be maintained in efficient working condition by steam cleaning at least one cooler per day.

(2) For 16 hour coking operations, two primary gas coolers should be placed in operation.

Ralph N. Hall

Ralph N. Hall

RNH/ky
Encl

DATE AND TIME	WATER "IN" TEMP °C	WATER "OUT" TEMP °C	GAS AFTER TEMP °C	LIQUOR TO SHELL & TUBE COOLERS °C	LIQUOR FROM "N" S&T COOLER °C	LIQUOR FROM "S" S&T COOLER °C	SPRAY PRESSURES PSIG BOT 1	2	3	TOP 4	LIQUOR FLOW - GPM	GAS VOLUME - MCF/DAY	GAS AFTER WATER IN °C DIFF.	GAS AFTER LIQUOR FROM °C DIFF.	REMARKS	SUCTION BEFORE PRIMARY MM H_2O	SUCTION BEFORE EXHAUSTER MM H_2O
7-30-57	32		40	64	37	38	10/15	10	7	5	3115 S	24,000±	8	2	10-S&T Coolers		
31	32		41	64	38	38	10/15	10	7	5	3115 S	"	9	3	2 Gas cooler Operation		
8-1-57	31-1/2		41	63	38	38	11	10	6	5	2982 S 2660 FM 3080 S	"			"		
8-2-57 7:30 AM	32	48	(N 43 - 40 S 41-1/2)	65	38	39	11	10	7	6	2660 FM	"	9-1/2	2-1/2	"	248	348
9:00 AM	32	48	41	71		37	25	20	20	5	2250 S 2000 FM	"	9	4	10-S&T Coolers 1 Gas cooler	249	448
9:20 AM	32	48	41-1/2	70		37	25	25	25	5	2398 S 2080 FM	"	9	4-1/2	"	249	455
9:35 AM	32	48	42	71		37	20	20	28	5	2300 S 2000 FM	"	10	5	"	249	455
9:50 AM	32	48	44	73		36-1/2	30	15	15	5	2145 S 1840 FM	"	12	7-1/2	"	249	460
10:10 AM	32	48	41	71		37	25	20	20	5	2250 S 1920 FM	"	9	4	"	249	460
10:35 AM	32	47	44-1/2	73		39-1/2	25	20	20	5	2250 S 2000 FM	"	12-1/2	5	8-S&T Coolers 1 Gas cooler	249	460
11:00 AM	32	48	41	71		37	25	20	20	5	2250 S 2000 FM	"	9	4	10-S&T Coolers 1-Gas cooler	249	460
2:00 PM	32-3/4	49	43	73		37-1/2	25	20	20	5	2250 S 2000 FM	"	10-1/4	5-1/2	"		

INLET TO S&T COOLERS
PUMP PRESS - 91 PSIG

"S" - CALCULATED FLOW FROM SPRAY PRESSURES
"FM" - TRUE FLOW METER READING

PLANT ON 17 HOUR COKING TIME

WILPUTTE COKE OVEN DIVISION
Allied Chemical & Dye Corporation

October 22, 1957

Primary Gas Coolers
Our Reference: 392-C

Mr. J. B. Hazle, General Works Manager
Interlake Iron Corporation
Union Commerce Building
Cleveland 14, Ohio

Dear Jack,

We are enclosing herewith copy of a report by our Mr. Ralph Hall, covering operation of the new Primary Gas Coolers at your South Chicago Plant. It's contents have been discussed with Mr. H. R. Nicklaus, during his recent visit here in New York.

As pointed out in the report, naphthalene is to be removed in the final gas cooler and, as we understand, if excessive steaming-out of this unit is experienced, serious consideration should be given to converting this packed type unit into a spray type. If you desire us to do so, we shall look into this matter and develop an estimate of what this conversion would cost.

Since you have only one final cooler, such conversion can only be done when outside temperatures are low, and it will be necessary for us to make a study to determine how long the unit will be out of service.

Very truly yours,

Frans Wethly

Frans Wethly
Executive
Vice President

FW/ac
Encl.

cc: Messrs. C. P. Johnson
H. R. Nicklaus

WILPUTTE COKE OVEN DIVISION
Allied Chemical & Dye Corporation
40 RECTOR STREET NEW YORK 6, N. Y.

October 21, 1957

R. N. Hall

Mr. D.C. Coleman

Primary Gas Coolers - Interlake Iron Corporation (392-C)

Messrs Carbone
Miller
Wethly

Recently, during a visit to the Interlake Iron Corporation, South Chicago, Illinois, the writer had an opportunity to make additional observations on the operation of the new spray-type primary gas coolers.

As per our recommendation, one gas cooler only is in operation handling total plant gas, approximately 22 mm cuft per day, and from my observations is doing a most satisfactory job.

The interlake operators seemed more than satisfied with the performance of the gas coolers, however, the one point that they continue to stress is the fact that they are required to use all ten liquor coolers. So far as Mr. Chamberlain is concerned, the liquor coolers are his only concern with the spray-type primary gas cooler installation.

It may be well to point out that Mr. Chamberlain's method of operations is to operate with as low a gas temperature as possible after the primary gas cooler. His purpose is to reduce the naphthalene content of the gas to a minimum in order to avoid naphthalene deposition in gas lines and equipment. He pointed out the following:

OUTLET GAS TEMP.	NAPHTHALENE CONTENT OF GAS	MOISTURE CONTENT OF GAS
40°C or 104°F	136 grains/100 cuft	0.32 #/100 cuft
25°C or 77°F	17 grains/100 cuft	0.15#/100 cuft
15°C diff. in temp.	= 119 grains/100 cuft naphthalene and water removed from gas	and 0.17#/100 cuft

It appears that up to now, Mr. Chamberlain has experienced considerable naphthalene trouble in the gas lines and on one occasion recently found the suction main to exhauster one-half filled with naphthalene which was difficult to remove.

The Interlake operating status was reviewed by us and we have come to the following conclusions:

(1) That suction main to exhausters is now being insulated to prevent a gas temperature drop.
(2) That outlet primary gas temperature should be maintained above the dew point of naphthalene which may be in the 38°C temperature range.
(3) That this outlet primary gas temperature is desirable and will not require additional H.P. steam to the plant.
(4) That the naphthalene will be retained in the gas and removed in final gas cooler operations and not in the circulating liquor.
(5) Provisions are available for reheating the gas after primary cooler with direct steam in the event of deposition of naphthalene in gas line.
(6) That eight or less primary liquor coolers would be required thus providing two coolers for spares.
(7) That during the summer months with cooling water temperatures at 33°C or above, all ten liquor coolers would be required.
(8) That when plant is on 16 hour coking time, operations should be changed to two gas cooler operations.
(9) That we have an experimental program under consideration for spring of 1958 (before hot weather) to try smaller sized sprays for two gas cooler operation.

The above was discussed with and suggested to Mr. H.R. Nicklaus during his recent visit to this office.

The attached data sheet gives some averaged information for August, September and early October on the relationship between water, liquor and gas temperatures.

R N Hall

RNH/ky

BY RNH DATE 10-11-57 SUBJECT PRIM. GAS COOLER OPER. SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... INTERLAKE IRON CORPORATION JOB NO. .....

SO. CHICAGO, ILL.

ONE COOLER OPERATION ONLY — SOLUTION FLOW APPROX. 2000 GPM.

DATE 1957	TEMP. WATER	TEMP. LIQUOR AFTER COOLER		TEMP. GAS AFTER PRIM. GAS COOLER	TEMP. DIFF. GAS AFTER VS. WATER IN	TEMP. DIFF. GAS AFTER VS. LIQUOR FROM	SPRAY PRESSURES				SUCTION MM H_2O GAS	
		N	S				BOT. 1	2	3	TOP 4	BEF. PRIM.	BEF. EXH.
AUG 6	32°C	34°C	36°C	38°C	6	3	25	20	20	5	255	440
" 8	32°C	34°C	35°C	38°C	6	3-1/2	25	20	20	5	250	430
" 10	31	32	33	36	5	3-1/2	25	20	20	5	240	430
" 12	31	33	33	36	5	3	25	20	20	5	250	390
" 14	31	34	34	37	6	3	25	20	20	5	250	450
" 16	34	36	36	39	5	3	25	20	20	5	220	350
" 18	34	36	36	39	5	3	25	20	20	5	225	370
" 20	32	25	25	28	6	3	25	20	20	5	235	390
" 22	32	34	34	36	4	2	25	20	20	5	230	380
" 24	33	35	35	38	5	3	25	20	20	5	235	400
" 26	30-1/2	33	33	35	4-1/2	2	25	20	20	5	235	400
" 28	29	32	32	34	5	2	25	20	20	5	230	380
" 30	31	35	34	37	6	2-1/2	25	20	20	5	225	370
SEP 1	33	37	37	39	6	2	25	20	20	5	220	380
" 3	32	35	35	37	5	2	25	20	20	5	225	380
" 5	26-1/2	31	31	32	5-1/2	1	25	20	20	5	245	400
" 7	29	34	34	36	7	2	25	20	20	5	240	410
" 9	29	34	34	36	7	2	25	20	20	5	230	410
" 11	29	35	35	37	8	2	25	20	20	5	250	390
" 13	31	37	37	39	8	2	25	20	20	5	250	415
" 15	30	38	36	39	9	2	25	20	20	5	250	415
" 17	28	36	34	37	9	2	25	20	20	5	260	440
" 19	29	34	34	36	7	2	25	20	20	5	220	370
" 21	29	35	35	37	8	2	25	20	20	5	210	350
" 23	29	36	36	39	10	3	25	20	20	5	210	340
" 25	28-1/2	35	35	38	9-1/2	3	25	20	20	5	210	340
" 27	25-1/2	31	31	33-1/2	8	2-1/2	25	20	20	5	200	310
" 29	27	32-1/2	32-1/2	34-1/2	7-1/2	2	25	20	20	5	200	310
OCT 1	27	33	33	35	8	2	25	20	20	5	200	300
" 3	25	31	31	33	8	2	25	20	20	5	200	310
" 5	25	31	30	32	7	1-1/2	25	20	20	5	200	310
" 7	25	31	30-1/2	32	7	1-1/2	25	20	20	5	200	300

HRM

{HWR - 1
RBC - 1}

cc: Messrs. Johnson, C.P. (5)
Campbell, Att'n Hazle (3)
Allingham
Carpenter
Carbone
Crossen
Burdick
Davis
Schrader
Thompson
Wethly
Wright

RE: BY-PRODUCT PLANT

INTERLAKE IRON CORPORATION
SOUTH CHICAGO, Ill. (404-C)

VISIT: AT PLANT AND ENGINEERING SURVEY
FEBRUARY 8 - 10, 1956

Note: Also refer to previous report -
Meeting January 19, 1956

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LIQUOR & TAR HANDLING PLANT LAYOUT

The new liquor and tar handling layout as shown on our studies SCS-615-E-F & G, was reviewed with Interlake operating department, also with our construction department.

A partition wall is required in the new liquor and tar handling pump house to isolate the relocated tar washing and dehydration equipment.

Interlake will take care of design and installation of the weak liquor storage tanks in the new location, including weak liquor pump house, relocation of weak liquor pumps, and weak liquor piping at the tanks.

TAR WASHING & DEHYDRATION EQUIPMENT

Interlake requirements with regard to the item were described by Messrs. Nicklaus and Chamberlain and are covered in a separate memorandum of February 10, on this subject.

GAS HANDLING SYSTEM

24" Gas Line to 1MMcf Holder: Difficulties were encountered in laying out this line because of interferences with plant roadways and other pipe lines, particularly in the area between boiler house and the old substation building. The new line has to be run along the route of existing lines to clear the roadway, but the bents supporting existing lines are old and deteriorated and not suitable to support additional load. The condition was reviewed with our construction department and Interlake, and it was concluded that the existing bents would have to be replaced with new bents located at intermediate points suitable for supporting new and existing lines.

Our construction department has prepared new survey to establish location of bents and footings and suitable location of line.

Exhauster Suction Headers Inside Exhauster House: Original proposal called for a crossconnection at north end of basement to complete the loop between the headers on east and west side.

GAS HANDLING SYSTEM: (Cont'd)

Exhauster Suction Headers Inside Exhauster House: (Cont'd)

Interlake have found the headers to be deteriorated, and to require replacement. Portion of header, moreover, is not 30", as old record shows, but 26" which would restrict capacity.

Our construction department is anxious to have old exhauster in northwest corner removed so that they can complete clearing of site for installation of the new booster foundation. Before this can be done, Interlake operation want the suction header on west side repaired, also a new sectionalizing valve installed at north end of header, so that installation of the new exhauster later can proceed without further interruption.

Where practical, gas suction header replacement will be 36", instead of 30", to provide for future capacity, and that pipe will be of 3/8" wall thickness.

We recommended also that since the headers have to be replaced, instead of running new line on west side through basement to complete the loop with header for exhausters on the east side, this new line be run overhead above operating floor to complete the loop. This will avoid further congestion in the basement space of the exhauster house.

GAS EXHAUSTER HOUSE

Entire basement floor is in bad condition. New concrete floor is required with proper drainage, including sump and pump for discharging water to sewer.

Lighting in basement required. Flashlights used now to get around. This space will contain much piping and equipment and adequate lighting is advisable for proper inspection and maintenance.

Lighting should be improved on operating floor also. This will also serve much additional equipment: gas boosters, steam control station and also control center for gas dispatching. Other improvements may be required.

GAS REGULATION

Further developments covered in reports of subsequent meetings of February 14 and 15, but chief items discussed at this visit were:

Calorimeter for gas to Republic can be located in room under new coal bin extension, together with the calorimeter for the blast furnace gas. There is an existing calorimeter also, located in small enclosure outside north wall of by-product building.

There is definite objection to placing orifice for total gas in downcomer of second light oil scrubber. We have to arrange the new gas piping to obtain sufficient run of line ahead of, not only the 24" takeoff to 1MMcf holder, but ahead of oven fuel gas takeoff also, for total gas orifice.

TAR PRECIPITATOR

Existing acid storage tank has to be shifted 90° to provide space for the new tar precipitator.

STEAM SYSTEM

Low Pressure Steam Main: The low pressure steam line from exhaust main in exhauster house basement now runs east, to east side of batteries 6 and 7, thence north to light oil plant. The line interferes with the gas suction main extension for new exhauster, inside exhauster house. The line takes up space east of the batteries, in vicinity of light oil plant, that could be used for new wash oil cooler.

It is recommended that this line be rerouted to run directly in north direction, past the by-product plant, and connecting at north end with the existing low pressure steam line that runs from the mill water pump turbine to the light oil plant.

Steam Traps: Interlake maintenance department advises that because of existing standards, Strong traps are to be used.

For small drain traps, for heaters, steam tracers and the like, they want the new Sarco Thermodynamic trap.

Our job Specification, now calling for Armstrong and Nicholson respectively for these services should be amended accordingly.

SULPHATE BUILDING & LIGHT OIL SCRUBBER PUMPS

Latest thought is to leave wash oil pumps for scrubber service in present location, since they appear adequate for the new conditions.

A partition would be installed across the sulphate building, isolating the north end bay where these pumps would be contained, leaving remaining building for sulphate storage. The existing electric controllers in sulphate area would be replaced with new controllers which would be mounted in the same room as the pumps. Electrical conduits from transformer station outside the north end wall could be run on inside of wall since the space would be isolated from sulphate storage. Space in the room would be available for additional pumps in the future for another train of scrubbers if plant is extended further.

We should prepare study and proposal on these building changes.

AMMONIA STILL WASTE BASIN

Interlake state that difficulties due to lime waste deposits in outgoing sanitary sewer line. These deposits occur under normal flow conditions, since they divert the effluent from the basin when emptying the basin and for some period after that,

AMMONIA STILL WASTE BASIN: (Cont'd)

until basin settles down. The basin is cleaned twice a week under present conditions.

Writer advised that we usually provide for 8-hour retention time at the start. This was confirmed on writer's return to the office.

It may be that for the special conditions at Interlake, more lime waste settling capacity is required. For the increased plant, settling time will be reduced to 6 hours at start of cycle.

We are preparing study on this item.

MISCELLANEOUS

On new flushing liquor decanter, difficulties were encountered due to blockage of liquor inlet distributor with pitch deposits.

Distributor will be cut out by our construction department, and on the additional new decanter this device will be omitted.

Insulmastic coating is recommended by Wilputte over outside surface of gas lines subject to deposits at cold temperatures, as for instance the gas line after primary gas cooler.

Note: Print of our studies SCS-615-E-F & G left in Mr. Nicklaus' office.

M. J. Miller

MJM/Rfs

February 10, 1956.

INTERLAKE IRON CORPORATION
SO. CHICAGO, Ill. (404-C)

MEMORANDUM RE: TAR WASHING & DEHYDRATION EQUIPMENT

Three - Sharples Dehydrators: Two operating,
One standby.

Rated capacity - 1,000 gph tar processed per machine.
Normal " - 20,000 gpd per machine.

Total quantity tar processed varies, but the average is about 800,000 gpmo.
Specific gravity varies from 1.16 to 1.24, averages about 1.2.
Carbon average 9.4%.

Plant design capacity - 1,250,000 gpmo.

Each dehydrator originally provided with Cuno type vertical filter.

Interlake replaced one of these filters with improved type horizontal selfcleaning filter, Sharples type CG; 3/4 hp motor type EIX 220/440 V., 1150 rpm. New filter handles entire feed.

They want a duplicate filter unit to serve as standby; the remaining two Cuno filters to be discarded.

Tar from outside sources is unloaded from tank cars into 1MM gal wet tar storage tank. From these it is pumped into the plant tar cooker mixing with plant make tar. From tar cooker tar is pumped directly through filters into the Sharples dehydrators.

Temperature of tar feed about 190°F. They want suitable type of automatic temperature controller to maintain required temperature in cooker.

Water wash equal to 10% of the tar volume is introduced directly with the tar feed. They recommend that this be injected at suction of pump. The more intimate the mixing, the more effective are the results. An emulsified mixture would be desirable.

Water now used is boiler feed water.

Since boilers will be discontinued at the coke plant site, it was agreed to use mill water with suitable heater and strainer.

No water meter is used. They adjust water feed by results of analysis of product from dehydrator.

With 10% water wash, practically tenfold dilution of chlorides is obtained and the ammonium chloride is reduced to about 1/10 original content. Typical result: reduction from 0.07% to 0.008% ammonium chloride, or about 90% removal; moisture in tar product 1-1/2%.

The waste water flows by gravity into a gas drip sump from where it is discharged into the flushing liquor decanter.

The finished tar flows by gravity into a 5000-gal tar collector from which it is pumped into the 1MM gal treated tar storage tank.

In the new tar washing station it was agreed that the tar collector tank would be replaced with a pump tank fitted with automatic level control.

Make of tar pump that is used and that they favor in this service is:

3 VEU - 3" Worthington Transit rotary pump, all iron construction, fitted with cast iron vanes; provided with pressure relief valve with iron trim set for 50 psig. Capacity - 100 gpm at 475 rpm.

Pumps are driven through belt drives comprising: 2 B6-6 type VT sheave 1-7/16" bore 3/8 x 3/16 keyway; 2 B 25.0 type VT sheave 2" bore 1/2 x 3/16 keyway; B 105-S Super Vulco ropes matched.

Motors 1200 rpm.

Belt drives reduce the pump capacity from 100 gpm to 77 gpm.

Pumps furnished by Transmission Machine Company, 1741-43 West Madison, Chicago; Drives by Gates Rubber Company Sales.

They would like, however, to consider gear reducer instead of belt drives for new installation.

Centrifugal pumps were discussed for the service, but their maintenance department prefers the existing type. Blackmer pumps used previously for this service were not satisfactory. They do not like duplex steam pumps.

The new tar washing station is to be in a separate room, and not with any other equipment, since operation is messy at best and should be isolated.

The electrical controls, which are furnished by Sharples as part of the equipment, are to be housed in the same room.

Vent on finished tar pump tank is to run outside.

Ample ventilation is to be provided for the room with exhaust fan at low level for expelling vapors.

Hoist is to be provided over the dehydrators for dismantling and handling bowls to the cleaning table. The table to be in straight line with the dehydrators for direct handling.

Each dehydrator is cleaned usually after eleven to twelve days' operation.

An emergency water connection is provided into feed lines as part of the standard equipment. If tar feed should be interrupted while dehyrator is running, a Fisher valve opens automatically to admit water and keep dehydrator bowl filled.

During initial operation considerable difficulty was experienced because of oil getting into the drive motors. This was remedied however by suitably located tap in frame to drain oil away before it gets into the winding. This should be checked on any new installation.

M. J. Miller

MJM/Rfs

INT ER

MR H R NICKLAUS

PLEASE GIVE US AT AN EARLY DATE COMPLETE INFORMATION ON THE SYPHON YOU USE FOR HANDLING NAPTHALENE FROM YOUR SUMP TO YOUR GAS MAINS

B J MINIER E 6 4-2-56 11-49

END MS

END LB

Mr. B. J. Minier - Perry Plant

April 2, 1956

H. R. Nicklaus - Chicago Plant

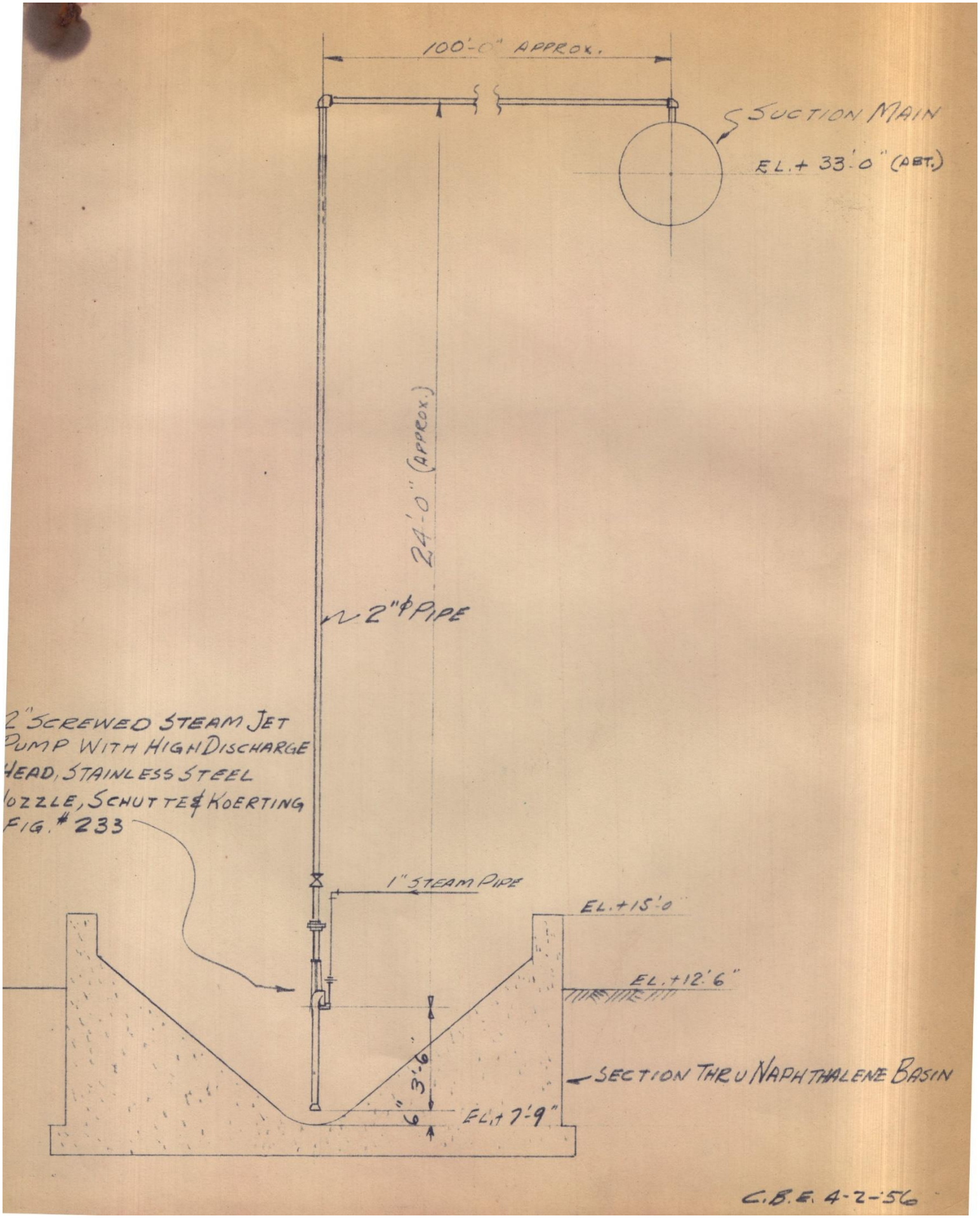
Naphthalene Siphon

Attached is a sketch of our naphthalene siphon assembly as requested in your teletype today. If this is not sufficient information, please let me know.

H. R. Nicklaus

lb.

attach.


100'-0" APPROX.
SUCTION MAIN
EL. + 33'-0" (ABT.)
24'-0" (APPROX.)
2" ϕ PIPE
2" SCREWED STEAM JET PUMP WITH HIGH DISCHARGE HEAD, STAINLESS STEEL NOZZLE, SCHUTTE & KOERTING FIG. # 233
1" STEAM PIPE
EL. +15'-0
EL. +12'-6"
3'-6"
EL. + 7'-9"
SECTION THRU NAPHTHALENE BASIN
C.B.E. 4-2-56

Mr. E. Ferguson

March 27, 1952

J. Erickson

Roots-Connerville Blower Corporation

Mr. H. R. Nicklaus

We quote letter dated March 21, 1952 from above company, relative to repairs to our 36 x 48 Gas Exhauster, serial #3791:

"With reference to the recent visit of Mr. Clyde Garriott to your plant to inspect the subject blower, we have followed with our factory to check on the advisability of re-fitting the loose impellers by metal spraying.

"Our engineers in Connersville, Indiana, advise they do not recommend metal spraying for this type of job and would not want to accept any responsibility for the success of this job for this reason. Most always the impeller must be rebored after the old shaft has been removed, consequently quite a bit of metal spraying would have to be put on the old shaft for refitting to the impellers. Since the old shaft is already furnished for the gear and bearing fits, it makes a difficult job to properly re-center the old shaft in the impeller.

"Our records on this exhauster show that it was shipped originally in February 1913, supplied with a new drive shaft in the old impeller in March 1923, and again in March 1925. These are the only repairs which have been furnished for this exhauster.

"Our recommendation is that a new shaft be installed in the old impeller. This will insure a satisfactory unit which should be trouble-free as the old ones have been since 1925. We would suggest that you send us your purchase order for a new shaft for this impeller and we will proceed to obtain and machine the shaft, and when this is completed we will advise you. We would then suggest that you send the old impellers and shafts to Connersville where we will install the new shaft and time the impellers in our factory.

"We trust you will find this information of service to you. We will be very happy to discuss further questions with you at any time."

J. Erickson

lp.