

Interoffice Memorandum

TO (Name and Location)	DATE
Mr. C. H. Love - Bay City	June 12, 1980
(Name and Location)	REFERENCE NO.
J. C. Susil	JCS-430

cc: C. D. Yates - Lakeland
 C. E. Boswell
 M. A. Whitley
 J. F. Harper
 T. L. Markham

I have discussed with T. L. Markham the cooling tower basin area where we strip asbestos insulation. It will not be feasible for us to only strip insulation there one day a week, since we normally accumulate a couple of weeks work, and one day a week would not keep up.

There is another basin we can use, located north of the old tank farm and south of the fresh water pond. Since the plant paid for removal of concrete pedestals in the existing basin (to make room to work), we would expect the project to pay for removal of the pedestals in the other basin. Also, the basin we would move to has a very rough inside finish (aggregate is exposed), and some smoothing or floating would be required in order to have a work surface that could be cleaned. Finally, a culvert and driveway would have to be installed to provide access to the basin. T. L. Markham estimates the total cost of preparing this other basin to be \$4,500.

Please advise if and how we should proceed.

J. C. Susil
 J. C. Susil *DFS*

JCS:ds

00247



CENTRIFUGAL PUMP SPECIFICATIONS, ITEM NO. P-2420 SP-2531
CELANESE CHEMICAL COMPANY,

REV. 1, 11-24-73 CHANGED
 P2420 DASH FROM 1001
 TO 57541 TURBINE

DATE 10-31-73

REV. 0, 1001 BY T.C.W.

REV. 2, 3-4-74 FROM PUMP

Service <u>HYDROLYSIS FEED</u>	Manufacturer <u>BINGHAM</u>	Page No.
Number Required <u>2</u>	Size <u>2x4-14 C/P</u>	Job No. <u>T-7136-60004-4</u>
Driver <u>MAIN TURBINE MOTOR/TURBINE</u>	Type <u>PROCESS HORIZ.</u>	P. O. No. <u>T-7136-60004-4</u>

PROCESS DATA

Liquid <u>QUENCH SLURRY</u>	GPM Hot <u>NDR 180 DES. 200</u>	If Critical, Min GPM <u>30</u>
Pump Temp <u>F MAX. 150; NDR 130</u>	Disch Psig <u>310</u>	Npsh Avail Ft <u>10</u>
Sp Gr at Pt <u>.97</u>	Suct Psig <u>2</u>	Npsh Reqd Ft Water <u>6</u>
Vap Pr at Pt Psia <u>MAX. 9; NDR 10</u>	Diff Head Psi <u>318</u>	Submergence Reqd Ft <u>-</u>
Via at Pt Cp <u>0.9</u>	Diff Head Ft <u>734</u>	Length Below Base Ft <u>-</u>
Corr or Solids <u>SLURRY</u>	Max Suct Psig	

REQUIREMENTS

Axis <u>HOR.</u> Split <u>VERT.</u>	Mech Seal Mtg <u>DURAMETAL</u>	Min Case Corr-Allow <u>1/8"</u>
Impeller Type <u>CLOSED</u>	Type <u>PT: EMSEVT</u>	Furnish Parts Checked Under Mat'l.
Support <u>CENTERLINE</u>		Tapped Openings <u>DRAIN</u>
Cooling Water <u>- F -</u> Psig	Brg Lub <u>RING OIL/COMPATIBLE</u>	SEAL FLUOROPOLYMER
C W JACKETS	Reqd GPM	Cp/g
Bearings	Cp/g Guard <u>YES</u>	SHOP TESTS
Packing Box	Baseplate <u>DRAIN BUM</u>	Hydrostatic
Pedestal	Drivers By <u>PUMP VEN.</u>	Running
	Mounted By <u>PUMP VEN.</u>	Npsh
		Performance

MATERIALS

Case <u>316 SS</u>	Diaphragms <u>-</u>	Mech Seal Parts
Inner Case or Bowls <u>-</u>	Diffusers <u>-</u>	Rotating Face <u>CARBON</u>
Impeller <u>316 SS</u>	Throat - Bush <u>MI-RESIST</u>	Fixed Face <u>TUNGSTEN **</u>
Case Wrg-Ring <u>316 SS</u>	Packing <u>-</u>	Compress Ring <u>316 SS</u>
Imp Wrg-Ring <u>316 SS</u>	Cage Ring <u>-</u>	Collar <u>316 SS</u>
Shaft <u>316 SS</u>	Bal Drum or Sleeve <u>-</u>	Springs <u>316 SS</u>
Shaft Sleeve <u>316 SS</u>	Baseplate <u>STEEL</u>	Pins <u>316 SS</u>
Spacer Sleeve <u>-</u>	Case Studs <u>316 SS</u>	Shaft Packing <u>TEFLON</u>
Inter-Sig Bush <u>-</u>	Gland Studs <u>316 SS</u>	Set Screws <u>316 SS</u>
	Case Gasket <u>CONFINED ASB.</u>	Gland Seal Rings <u>ASSORTED</u>
		Gland <u>316 SS</u>

DESIGN

No Stages <u>ONE (1)</u>	Design Eff <u>38</u>	Speed Rpm <u>3550</u>
Impeller, Max <u>14</u> Min <u>11</u>	Design BHP <u>94.5</u>	Rotation Facing Cp/g <u>CCW</u>
Impeller, Bid <u>13 1/2</u>	Motor or Turbine HP <u>105 (SHEET 2)</u>	Max WP <u>735</u> Psig at <u>PT F</u>
Max BHP, Bid Imp <u>122</u> Max <u>130</u>	Motor Frame <u>- NAV 5</u>	Hydro Test Psig <u>1100</u>

REMARKS: Supplier fills in all data and/or furnishes items marked /

* 1 GPM (MIN.) COOL COMPATIBLE EXTERNAL FLUSH.

** TUNGSTEN MUST BE UNION CARBIDE LW-5 TUNGSTEN

SHEET I OF I

002472

CENTRIFUGAL PUMP SPECIFICATIONS, ITEM NO. P-2620 P-2621
CELANESE CHEMICAL COMPANY,

DATE 10-31-73
 REV. 0 IND. BY TGW

Service <u>HYDROLYSIS FEED</u>	Manufacturer <u>UNION</u>	Page No.
Number Required <u>TWO</u>	Size <u>3x4x14 HHS</u>	Job No. <u>7136-60004-4</u>
Driver <u>MDTOR</u> Motor/Turbine	Type <u>SLURRY</u>	P. O. No.

PROCESS DATA

Liquid <u>QUENCH SLURRY</u>	GPM Hot <u>NDA. 180 ; DES. 200</u>	If Critical, Min GPM
Pump Temp <u>F MAX. 150 ; NDA. 130</u>	Disch Psig <u>310</u>	Npsh Avail Ft <u>6</u>
Sp Gr at Pt <u>.97</u>	Suct Psig <u>2</u>	Npsh Reqd Ft Water <u>7</u>
Vap Pr at Pt Psia <u>MAX. 23.7 ; NDA. 6</u>	Diff Head Psi <u>308 150</u>	Submergence Reqd Ft
Vis at Pt Cp <u>0.9</u>	Diff Head Ft <u>734</u>	Length Below Base Ft
Corr or Solids <u>SLURRY</u>	Max Suct Psig	

REQUIREMENTS

Axis <u>HOR.</u> *Split <u>VERT.</u>	Mech Seal Mfg <u>DURAMETALIC</u>	Min Case Corr-Allow <u>1/8"</u>
Impeller Type <u>CLOSED</u>	Type <u>PT</u>	Furnish Parts Checked Under Mat'ls.
Support <u>CENTERLINE</u>		Tapped Openings <u>DRAIN</u>
Cooling Water <u>- F -</u> Psig	Brg Lub <u>MIST</u>	SEAL FLUSH: API PLAN <u>3 2 x</u>
C W JACKETS	Reqd GPM	Cplg <u>THOMAS DBZ</u>
Bearings	Cplg Guard <u>YES</u>	SHOP TESTS
Packing Box	Baseplate <u>DBAIN RIM</u>	Hydrostatic
Pedestal	Drivers By <u>PUMP VEN.</u>	Running
	Mounted By <u>PUMP VEN.</u>	Npsh
		Performance

MATERIALS

Case <u>316 SS</u>	Diaphragms	Mech Seal Parts -
Inner Case or Bowls	Diffusers	Rotating Face <u>CARBON</u>
Impeller <u>316 SS</u>	Throat - Bush <u>316 SS</u>	Fixed Face <u>TUNGSTEN</u>
Case Wrg-Ring <u>316 SS</u>	Packing	Compress Ring <u>316 SS</u>
Imp Wrg-Ring <u>316 SS HF</u>	Cage Ring	Collar <u>316 SS</u>
Shaft <u>17-4 PH</u>	Bal Drum or Sleeve	Springs <u>316 SS</u>
Shaft Sleeve <u>316 SS</u>	Baseplate <u>STEEL</u>	Pins <u>316 SS</u>
Spacer Sleeve <u>-</u>	Case Studs <u>316 SS</u>	Shaft Packing <u>TEFLON</u>
Inter-Stg Bush <u>-</u>	Gland Studs <u>316 SS</u>	Set Screws <u>316 SS</u>
	Case Gasket <u>CONFINED ASB</u>	Gland Seal Rings
		Gland <u>316 SS</u>

DESIGN

No Stages <u>ONE (1)</u>	Design Eff <u>33.5</u>	Speed Rpm <u>3550</u>
Impeller, Max <u>14</u> Min <u>10</u>	Design BHP <u>93.4</u>	Rotation Facing Cplg <u>CCW</u>
Impeller, Bld <u>12-15/16</u>	Motor or Turbine HP <u>150</u>	Max WP <u>720</u> Psig at <u>150 F</u>
Max BHP, Bld Imp <u>150.6</u> Max <u>210.8</u>	Motor Frame <u>445 TS</u>	Hydro Test Psig <u>1100</u>

REMARKS: Supplier fills in all data and/or furnishes items marked /

* - GPM COOL COMPATIBLE EXTERNAL FLUSH.

NOTE: NPSH_R EXCEEDS NPSH_A

002473

CENTRIFUGAL PUMP SPECIFICATIONS, ITEM NO. 2-0-00 50-0001

CELANESE CHEMICAL COMPANY,

REV. 1. 1954

DATE 10-31-73REV. 2-4-73 BY TECHREV. 2-4-73 BY TECH

Service <u>HYDROLYSIS FEED</u>	Manufacturer <u>BINGHAM</u>	Page No. <u>1</u>
Number Required <u>2 TWD</u>	Size <u>2x4-14 CAF</u>	Job No. <u>7136-60004-4</u>
Driver <u>MAIN TURBINE Motor Turbine</u>	Type <u>PROCESS HORIZ</u>	P. O. No. <u>7-7136-60004-4</u>

PROCESS DATA

Liquid <u>QUENCH SLURRY</u>	GPM Hot <u>NDA 180 ; DES 200</u>	If Critical, Min GPM <u>50</u>
Pump Temp F <u>MAX 150 ; NDA 130</u>	Disch Psig <u>310</u>	Npsh Avail Ft <u>10 EA</u>
Sp Gr at Pt <u>.77</u>	Suct Psig <u>2</u>	Npsh Reqd Ft Water <u>6</u>
Vap Pr at Pt Psia <u>MAX 9 ; NDA 10</u>	Diff Head Psi <u>318</u>	Submergence Reqd Ft <u>-</u>
Vis at Pt Cp <u>0.9</u>	Diff Head Ft <u>734</u>	Length Below Base Ft <u>-</u>
Corr or Solids <u>SLURRY</u>	Max Suct Psig <u>-</u>	

REQUIREMENTS

Axis <u>HOR</u>	Split <u>VERT</u>	Mech Seal Mfg <u>DURAMETALIC</u>	Min Case Corr-Allow <u>1/8"</u>
Impeller Type <u>CLOSED</u>	Type <u>PT : EUSEFTT</u>	Furnish Parts Checked Under Mat'l.	
Support <u>CENTERLINE</u>		Tapped Openings <u>DEAD</u>	
Cooling Water <u>- F -</u>	Psig <u>-</u>	Brg Lub <u>DISCOIL</u>	SEAL FLUSH: API PLAN 32
C W JACKETS	Reqd: GPM <u>-</u>	Cplg <u>Fast Mod. B.</u>	SHOP TESTS
Bearings <u>-</u>	Cplg Guard <u>YES</u>	Hydrostatic	Reqd. With
Packing Box <u>-</u>	Baseplate <u>DRAIN BUM</u>	Running	
Pedestal <u>-</u>	Driver By <u>PUMP VENT.</u>	Npsh	
	Mounted By <u>2 INCH VENT.</u>	Performance	

MATERIALS

Case <u>316 SS</u>	Diaphragms <u>-</u>	Mech Seal Parts -
Inner Case or Bowls <u>-</u>	Diffusers <u>-</u>	Rotating Face <u>CARBON</u>
Impeller <u>316 SS</u>	Throat - Bush <u>111-RESIST</u>	Fixed Face <u>TUNGSTEN</u>
Case Wrg-Ring <u>316 SS</u>	Packing <u>-</u>	Compress Ring <u>316 SS</u>
Imp Wrg-Ring <u>316 SS w/overlay</u>	Cage Ring <u>-</u>	Collar <u>316 SS</u>
Shaft <u>316 SS</u>	Bal Drum or Sleeve <u>-</u>	Springs <u>316 SS</u>
Shaft Sleeve <u>316 SS</u>	Baseplate <u>STEEL</u>	Pins <u>316 SS</u>
Spacer Sleeve <u>-</u>	Case Studs <u>316 SS</u>	Shaft Packing <u>TEFLON</u>
Inter-Stg Bush <u>-</u>	Gland Studs <u>316 SS</u>	Set Screws <u>316 SS</u>
	Case Gasket <u>CONFINED ASB.</u>	Gland Seal Rings <u>ASBESTOS</u>
		Gland <u>316 SS</u>

DESIGN

No Stages <u>ONE (1)</u>	Design Eff <u>38</u>	Speed Rpm <u>3550</u>
Impeller, Max <u>14</u> Min <u>11</u>	Design BHP <u>945</u>	Rotation Facing Cplg <u>CCW</u>
Impeller, Bld <u>13 1/2</u>	Motor or Turbine HP <u>105 SHEET 2</u>	Max WP <u>735</u> Psig at <u>PT F</u>
Max BHP, Bld Imp <u>122</u> Max <u>130</u>	Motor Frame <u>- NAVE</u>	Hydro Test Psig <u>1100</u>

REMARKS: Supplier fills in all data and/or furnishes items marked /

* 1 GPM (MIN.) COOL COMPATIBLE EXTERNAL FLUSH.

002474

CENTRIFUGAL PUMP SPECIFICATIONS, ITEM NO. P-2620 FP-2021
CELANESE CHEMICAL COMPANY,

DATE 10-31-73
 REV. 0 BY TGW

Service <u>HYDROLYSIS FEED</u>	Manufacturer <u>UNION</u>	Page No.
Number Required <u>TWO</u>	Size <u>4x6x14 HHS</u>	Job No. <u>7136-60004-4</u>
Driver <u>MOTOR</u> Motor/Turbine	Type <u>SLURRY</u>	P. O. No.

PROCESS DATA

Liquid <u>QUENCH SLURRY</u>	GPM Hot <u>NDA. 180 ; DES. 200</u>	If Critical, Min GPM <u>Approx 50</u>
Pump Temp F <u>MAX. 150 ; NDA. 130</u>	Disch Psig <u>310</u>	Npsh Avail Ft <u>6</u>
Sp Gr at Pt <u>.97</u>	Suct Psig <u>2</u>	Npsh Reqd Ft Water <u>7</u>
Vap Pr at Pt Psia <u>MAX. 23.7 ; NDA. 6</u>	Diff Head Psi <u>308</u>	Submergence Reqd Ft
Vis at Pt Cp <u>0.9</u>	Diff Head Ft <u>734</u>	Length Below Base Ft
Corr or Solids <u>SLURRY</u>	Max Suct Psig	

REQUIREMENTS

Axis <u>HOR.</u> Split <u>VERT.</u>	Mech Seal Mfg <u>DURAMETALIC</u>	Min Case Corr-Allow <u>1/8"</u>
Impeller Type <u>CLOSED</u>	Type <u>PT</u>	Furnish Parts Checked Under Mat'ls.
Support <u>CENTERLINE</u>	(EMSEVT)*	Tapped Openings <u>DRAIN</u>
Cooling Water <u>- F -</u> Psig	Brg Lub <u>FLINGER **</u>	SEAL FLUSH: API PLAN <u>32*</u>
C W JACKETS	Reqd GPM	Cplg <u>THOMAS DBZ</u>
Bearings	Cplg Guard <u>YES</u>	SHOP TESTS
Packing Box	Baseplate <u>DRAIN RIM</u>	Hydrostatic
Pedestal	Drivers By <u>PUMP VEN.</u>	Running
	Mounted By <u>PUMP VEN.</u>	Npsh
		Performance

MATERIALS

Case <u>316 or 304 SS</u>	Diaphragms	Mech Seal Parts -
Inner Case or Bowls	Diffusers	Rotating Face <u>CARBON</u>
Impeller <u>316 or 304 SS</u>	Throat - Bush <u>316 SS</u>	Fixed Face <u>TUNGSTEN</u>
Case Wrg-Ring <u>316 or 304 SS</u>	Packing	Compress Ring <u>316 SS</u>
Imp Wrg-Ring <u>316 or 304 SS HF</u>	Cage Ring	Collar <u>316 SS</u>
Shaft <u>17-4 PH</u>	Bal Drum or Sleeve	Springs <u>316 SS</u>
Shaft Sleeve <u>316 or 304 SS</u>	Baseplate <u>STEEL</u>	Pins <u>316 SS</u>
Spacer Sleeve	Case Studs <u>316 SS</u>	Shaft Packing <u>TEFLON</u>
Inter-Stg Bush	Gland Studs <u>316 SS</u>	Set Screws <u>316 SS</u>
	Case Gasket <u>CONFINED ASB</u>	Gland Seal Rings <u>Gasket Asbestos</u>
		Gland <u>316 SS</u>

DESIGN

No Stages <u>ONE (1)</u>	Design Eff <u>22</u>	Speed Rpm <u>3550</u>
Impeller, Max <u>14</u> Min <u>10</u>	Design BHP <u>163.4</u>	Rotation Facing Cplg <u>CCW</u>
Impeller, Bld <u>13 1/4</u>	Motor or Turbine HP <u>180</u>	Max WP <u>720</u> Psig at <u>150 F</u>
Max BHP, Bld Imp <u>284</u> Max <u>284</u>	Motor Frame	Hydro Test Psig <u>1100</u>

REMARKS: Supplier fills in all data and/or furnishes items marked /

* 1 GPM COOL COMPATIBLE EXTERNAL FLUSH.
 MIN

NOTE: NPSH_r EXCEEDS NPSH_a

** CONNECTIONS PROVIDED FOR OIL MIST LUBRICATION
 BY CUSTOMER

002475

CENTRIFUGAL PUMP SPECIFICATIONS, ITEM NO. P-2620 EP-2621

CELANESE CHEMICAL COMPANY,

REV 1 NOC 7/23/74

INSTALL MAX IMP.

REV. 1, 11-28-73 CHANGE

P2621 DRIVE PUMP IN
TO STEAM TURBINEDATE 10-31-73REV. Q.M.D. BY T.G.W.REV. 2-4-74 PUGHService HYDROLYSIS FEEDManufacturer BINGHAMPage No. 2Number Required 2 TWOType PROCESS HORIZ.Job No. 7-7136-60004-4Driver MAIN TURBINE Motor TurbineP. O. No. T-7136-60004-1

PROCESS DATA

Liquid <u>QUENCH SLURRY</u>	GPM Hot <u>NDA 180; DES. 200</u>	If Critical, Min GPM <u>30</u>
Pump Temp <u>F MAX. 150; NDA 130</u>	Disch Psig <u>310 (352 **)</u>	Npsh Avail Ft <u>10 (E)</u>
Sp Gr at Pt <u>.97</u>	Suct Psig <u>2</u>	Npsh Reqd Ft Water <u>6</u>
Vap Pr at Pt Psig <u>MAX. 9; NDA 6</u>	Diff Head Psig <u>303 (350 **)</u>	Submergence Reqd Ft <u>-</u>
Vis at Pt Cp <u>0.9</u>	Diff Head Ft <u>734 (835 **)</u>	Length Below Base Ft <u>-</u>
Corr or Solids <u>SLURRY</u>	Max Suct Psig	

REQUIREMENTS

Axis <u>HOB.</u> Split <u>VERT.</u>	Mech Seal Mfg <u>DURAMETALLIC</u>	Min Case Corr-Allow <u>1/8"</u>
Impeller Type <u>CLOSED</u>	Type <u>PT: EUS-PT</u>	Furnish Parts Checked Under Mat'l's.
Support <u>CENTERLINE</u>	<u>EUSEFFT</u>	Tapped Openings <u>DRAIN</u>
Cooling Water <u>- F -</u> Psig	Brg Lub <u>DISC OIL / MIST</u>	SEAL FLUSH: API PLAN <u>52X</u>
C W JACKETS	Reqd GPM	Cplg <u>FAST B #2</u>
Bearings	Cplg Guard <u>YES</u>	SHOP TESTS
Packing Box	Baseplate <u>DRAIN BIM</u>	Hydrostatic
Pedestal	Drivers By <u>PUMP VEN.</u>	Running
	Mounted By <u>PUMP VEN.</u>	Npsh
		Performance

MATERIALS

Case <u>316 SS</u>	Diaphragms <u>-</u>	Mech Seal Parts -
Inner Case or Bowls <u>-</u>	Diffusers <u>-</u>	Rotating Face <u>CARBON</u>
Impeller <u>316 SS</u>	Throat - Bush <u>NI-RESIST</u>	Fixed Face <u>TUNGSTEN</u>
Case Wrg-Ring <u>316 SS</u>	Packing <u>-</u>	Compress Ring <u>316 SS</u>
Imp Wrg-Ring <u>316 SS</u>	Cage Ring <u>-</u>	Collar <u>316 SS</u>
Shaft <u>316 SS</u>	Bal Drum or Sleeve <u>-</u>	Springs <u>316 SS</u>
Shaft Sleeve <u>316 SS</u>	Baseplate <u>STEEL</u>	Pins <u>316 SS</u>
Spacer Sleeve <u>-</u>	Case Studs <u>316 SS</u>	Shaft Packing <u>TEFLON</u>
Inter-Stg Bush <u>-</u>	Gland Studs <u>316 SS</u>	Set Screws <u>316 SS</u>
	Case Gasket <u>CONFINED ASB.</u>	Gland Seal Rings <u>ASBESTOS</u>
		Gland <u>316 SS</u>

DESIGN

No Stages <u>ONE (1)</u>	Design Eff <u>39</u>	Speed Rpm <u>3550</u>
Impeller, Max <u>14</u> Min <u>11</u>	Design BHP <u>105</u>	Rotation Facing Cplg <u>CCW</u>
Impeller, Uld <u>14</u>	Motor or Turbine HP <u>116</u>	Max WP <u>735</u> Psig at <u>PT F</u>
Max BHP, Bld Imp <u>122</u> Max <u>130</u>	Motor Frame <u>- NAVE</u>	Hydro Test Psig <u>1100</u>

REMARKS: Supplier fills in all data and/or furnishes items marked /

* 1 GPM (MIN.) COOL COMPATIBLE EXTERNAL FLUSH.PUMP WT 518BASE 520PUMP SN 242301772DRIVER 12LS

** VALUES OF PSI & HEAD WITH MAXIMUM IMPELLER.

SHEET 1 OF 2

THIS PERMITS HIGH TEMP. HYDROLYSIS.

002476