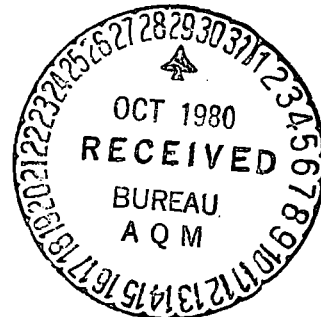




OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

October 27, 1980

Mr. Willard Hanks
Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301



Dear Mr. Hanks:

The attached data on pond water temperature indicates that 95°F is a reasonable design number. First note on Attachment I the graphs showing incoming and outgoing temperature for a period in July. Note that there is a 10°F difference between high afternoon temperature and the lower early morning temperature.

This data was obtained from a 100 acre cooling pond supporting a 650 TPD P₂O₅ plant.

Note on Attachment 2 average weekly temperatures in the summer which reach 92°F. Max-min temperatures from Attachment 2, therefore could be expected to vary \pm 5°F, i.e. 87 - 97°F.

In regard to fluorides in the feed acid please note Attachment 3 which shows a 1.6%F typical for 54% P₂O₅ acid.

If you have further questions, please don't hesitate to call.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood
W. W. Atwood
Environmental Control Coordinator

plb

cc: E. P. Estep, Consultant
J. Koogler, Sholtes & Koogler
R. E. McNeill, Manager of Safety, Health and Environmental
Control
D. S. Pittman, Project Manager

MEMO

from the desk of:
PAUL ESTEP

To
DANNY PITTMAN

COOLING POND
TEMPERATURE RECORD

5/2

Summer months,
93-96° F

Winter months
As low as 55° F

RECEIVED

OCT 27 1980

D. F. PITTMAN

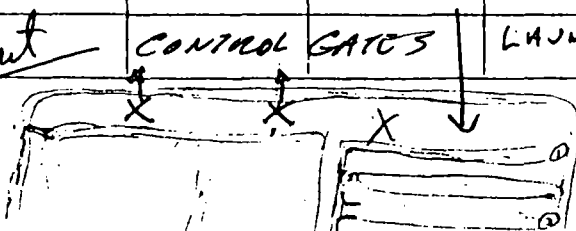
WINTER
76/77

COOLING POND WATER TEMPERATURES

1st Pond / 6th Pond / CONSERVE (VENHOLS, Fla)

DATE	LAUNDRY COOLING POND ENTRANCE	COOLING POND EXIT CONTROL GATES	ACTIVE GYP POND DISC.		GYP POND FEED LINES		COOLING POND AT SOUTHWEST CORNER #1	Dist	
			EAST AREA	WEST AREA	SOUTH TRAIN DISCHARGE	NORTH TRAIN DISCHARGE			
12/3/76	72°	55°	—	—	80°	DOWN	73°	18	
12/6/76	80°	63°	—	—	DOWN	DOWN	77°	14	
12/10/76	77°	65°	—	—	73°	DOWN	71°	6	
12/14/76	88°	69°	—	—	82°	DOWN	83°	14	
12/17/76	78°	65°	—	—	69° (on wash)	DOWN	75°	10	
12/21/76	78°	60°	—	—	76°	DOWN	73°	13	
12/23/76	73°	58°	—	—	83°	DOWN	61°	3	
12/28/76	51°	60°	—	—	78°	DOWN	76°	16	
12/30/76	72°	57°	—	—	71°	DOWN	61°	11	
1/4/77	73°	59°	—	—	72°	DOWN	71°	12	
1/7/77	75°	64°	—	—	67° (on wash)	80° (on wash)	77°	13	
1/10/77	65°	63°	—	—	DOWN	DOWN (on wash)	69°	6	
1/14/77	65°	60°	—	—	63°	61° (on wash)	65°	5	
1/17/77	70°	58°	—	—	59° (on wash)	75° (on wash)	65°	7	
1/20/77	66°	49°	—	—	50° (on wash)	67° (on wash)	62°	13	
IN		OUT							
↓		Cooling Pond							
↓		#1 Exit		#2		#3		#4	
↓		#5		#6		#7		#8	
↓		#9		#10		#11		#12	
↓		#13		#14		#15		#16	
↓		#17		#18		#19		#20	
↓		#21		#22		#23		#24	
↓		#25		#26		#27		#28	
↓		#29		#30		#31		#32	
↓		#33		#34		#35		#36	
↓		#37		#38		#39		#40	
↓		#41		#42		#43		#44	
↓		#45		#46		#47		#48	
↓		#49		#50		#51		#52	
↓		#53		#54		#55		#56	
↓		#57		#58		#59		#60	
↓		#61		#62		#63		#64	
↓		#65		#66		#67		#68	
↓		#69		#70		#71		#72	
↓		#73		#74		#75		#76	
↓		#77		#78		#79		#80	
↓		#81		#82		#83		#84	
↓		#85		#86		#87		#88	
↓		#89		#90		#91		#92	
↓		#93		#94		#95		#96	
↓		#97		#98		#99		#100	

CC. W. HUNT
B. Vaughn



60 SAMPLE LOCATION
70

WINTER / SPRING

1977

COOLING & PROCESS WATER TEMPERATURES

CONSERV (NICHOLS FLO) IN 10

EX. POND

DATE	PROCESS DITCH	SOUTH TRAIN DISCHARGE	NORTH TRAIN DISCHARGE	INTO POND LAUNDRER	COOLING POND ENTRANCE					EXIT CONTROL GATE	DIFF.
					#1	#2	#3	#4	#5		
1/25/77	66°	67°	(ON WASH) 84°	72°	73°	67°	61°	60°	60°	59°	23° 2
1/24/77	65°	75°	(ON WASH) 90°	80°	73°	67°	67°	61°	58°	56°	
2/1/77	63°	73°	DOWN (ON WASH)	81°	72°	65°	59°	54°	56°	54°	
2/4/77	62°	80°	(ON WASH) 67°	78°	69°	68°	64°	62°	62°	60°	
2/4/77	66°	80°	(ON WASH) 76°	78°	65°	62°	59°	59°	56°	54°	
2/11/77	64°	DOWN	(ON WASH) 64°	83°	78°	71°	62°	60°	71°	55°	*
2/12/77	60°	60°	DOWN (WASH)	60°	67°	71°	66°	65°	72°	60°	
2/18/77	68°	86°	(WASH) 71°	81°	59°	71°	64°	65°	69°	59°	
2/25/77	74°	92°	(WASH) 80°	88°	79°	76°	76°	72°	72°	71°	
3/1/77	80°	84°	(WASH) 94°	85°	79°	72°	71°	68°	68°	68°	
3/5/77	74°	94°	(WASH) 77°	79°	82°	78°	75°	72°	72°	71°	
3/15/77	80°	80°	(WASH) 79°	80°	82°	86°	84°	82°	82°	80°	
3/15/77	82°	95°	(WASH) 97°	97°	92°	85°	78°	78°	77°	76°	
3/22/77	90°	98°	(WASH) 106°	93°	90°	84°	82°	80°	79°	79°	
3/25/77	74°	86°	DOWN	89°	83°	80°	76°	74°	72°	70°	*
3/29/77	75°	85°	DOWN	92°	88°	87°	74°	73°	72°	71°	*
4/1/77	82°	93°	DOWN	93°	90°	83°	80°	79°	79°	77°	*
4/5/77	82°	87°	DOWN	95°	82°	82°	71°	76°	76°	76°	
4/12/77	82°	84°	DOWN	82°	87°	83°	80°	77°	77°	77°	
4/15/77	94°	97°	DOWN	107°	86°	88°	87°	80°	82°	84°	
4/17/77	79°	96°	DOWN (WASH)	100°	95°	83°	85°	79°	78°	* 77°	
4/24/77	80°	94°	(WASH) 107°	94°	92°	86°	85°	78°	78°	* 78°	
4/26/77	80°	94°	(WASH) 94°	88°	92°	82°	85°	78°	77°	75°	
4/29/77	77°	77°	(WASH) 77°	78°	91°	83°	81°	76°	74°	73°	

cc: W. H. Hunt
B. W. Vaughn

* Adding Fresh water to Pond to build up level

SPICING - SUMMER
1977

COOLING & PROCESS WATER TREATMENT

CONSERV (MICROFLA)

DATE	Return PROCESS DITCH	SOUTH TRAIN DISCHARGE	NORTH TRAIN DISCHARGE	<u>IN</u> LAUNDRY	COOLING POND ENTRANCE					OUT EXIT CONTROL GATE	DIFF.
					#1	#2	#3	#4	#5		
5/2/77	83°	92°	(WASH) 110°	100°	94°	85°	83°	80°	80°	79°	
5/6/77	79°	DOWN	(WASH) 81°	81°	83°	84°	84°	83°	82°	81°	
5/11/77	80°	94°	(WASH) 99°	90°	92°	83°	82°	81°	78°	76°	
5/13/77	76°	92°	DOWN	94°	89°	82°	79°	75°	75°	75°	
5/18/77	78°	DOWN	DOWN	80°	93°	88°	84°	80°	80°	78°	
5/20/77	81°	DOWN	(WASH) 82°	84°	85°	88°	83°	82°	82°	81°	
5/24/77	86°	91°	(WASH) 107	92°	91°	83°	83°	81°	82°	80°	
5/27/77	86°	92°	DOWN	100°	99°	95°	88°	85°	83°	82°	
6/3/77	92°	93°	DOWN	104°	91°	86°	85°	83°	83°	83°	
6/7/77	82°	90°	DOWN	97°	91°	86°	87°	85°	84°	83°	
6/10/77	91°	(WASH) 89°	DOWN	103°	96°	91°	89°	88°	86°	85°	
6/14/77	88°	94°	DOWN	100°	95°	91°	89°	88°	86°	85°	
6/17/77	90°	(WASH) 90°	DOWN	103°	98°	91°	86°	86°	86°	84°	
6/23/77	90°	118°	DOWN	102°	102°	95°	95°	94°	93°	94°	
6/28/77	90°	95°	DOWN	101°	95°	93°	90°	85°	87°	87°	
7/1/77	94°	98°	DOWN	108°	98°	97°	96°	93°	92°	93°	
7/5/77	85°	DOWN	DOWN	86°	86°	87°	91°	90°	90°	89°	
7/8/77	101°	102°	DOWN	113°	110°	101°	98°	97°	96°	96°	
7/12/77	79°	119°	DOWN	105°	95°	92°	90°	89°	89°	89°	
7/15/77	87°	(WASH) 88°	DOWN	107°	97°	93°	90°	88°	87°	87°	
7/18/77	82/80°	118°	DOWN	102°	95°	91°	87°	84°	84°	83°	
7/22/77	89/87°	(WASH) 90°	DOWN	90°	98°	94°	90°	89°	89°	88°	
7/26/77	90/88°	119°	(WASH) 94°	98°	93°	91°	94°	92°	93°	93°	
7/29/77	90/91°										

cc: W. H. Hunt ✓
T. T. Houston

SUMMER/FALL
1977

COOLING & PROCESS WATER TEMPERATURES

CONSERV (Nichols, Fla.)

OUT

DATE	PROCESS TEMP	SOUTH TRAIN DISCHARGE	NORTH TRAIN DISCHARGE	LAUNDRY	COOLING POND ENTRANCE					EXIT CONTROL GATE
					#1	#2	#3	#4	#5	
8/2/77	89°/90°	113°	(WASH) 110°	107°	101°	94°	92°	91°	91°	90°
8/5/77	83°/84°	106°	(WASH) 99°	99°	95°	93°	89°	87°	85°	83°
8/9/77	84°/85°	(DOWN)	(DOWN)	83°	88°	90°	90°	87°	87°	86°
8/12/77	84°/85°	108°	(WASH) 91°	93°	92°	90°	88°	87°	84°	84°
8/16/77	82°/92°	117°	(DOWN)	101°	98°	92°	92°	90°	89°	90°
8/19/77	84°/87°	107°	(DOWN)	92°	92°	91°	85°	83°	82°	82°
8/22/77	84°/80°	(DOWN)	(DOWN)	(DOWN)	84°	82°	80°	80°	79°	79°
8/26/77	79°/76°	(WASH) 80°	(DOWN)	(DOWN)	74°	78°	78°	77°	77°	77°
8/30/77	76°/80°	(WASH) 79°	(DOWN)	90°	83°	83°	80°	78°	77°	76°
9/2/77	74°/79°	102°	(DOWN)	79°	88°	80°	79°	76°	74°	74°
9/6/77	84°/88°	111°	(DOWN)	99°	97°	92°	94°	89°	86°	86°
9/9/77	84°/88°	110°	(DOWN)	92°	93°	91°	90°	89°	87°	85°
9/13/77	85°/90°	113°	(DOWN)	95°	94°	92°	91°	89°	86°	85°
9/16/77	79°/85°	115°	(DOWN)	95°	91°	89°	85°	82°	79°	78°
9/19/77	84°/90°	(WASH) 103°	(DOWN)	107°	94°	90°	84°	84°	83°	82°
9/23/77	78°/82°	93°	(DOWN)	89°	78°	76°	72°	68°	76°	73°
9/30/77	88°/84°	104°	(DOWN)	110°	100°	91°	87°	86°	86°	84°
10/4/77	72°/72°	(DOWN)	(DOWN)	87°	78°	76°	74°	73°	73°	72°
10/17/77	72°/70°	86°	(DOWN)	84°	76°	74°	72°	71°	69°	68°
10/28/77	77°/74°	95°	(DOWN)	83°	80°	79°	77°	74°	74°	73°
11/1/77	72°/73°	92°	(DOWN)	84°	80°	78°	76°	75°	75°	74°
11/4/77	76°/78°	(DOWN)	(DOWN)	92°	86°	80°	77°	76°	75°	74°
11/11/77	66°/64°	87°	(DOWN)	74°	70°	68°	67°	66°	64°	62°

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SUMMER/FALL
1977

COOLING & PROCESS WATER TEMPERATURES

CONSERV (Nichols Fla.)

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DATE	PROCESS DITCH	SOUTH TRAIN DISCHARGE	NORTH TRAIN DISCHARGE	LAUNDRER	COOLING POND ENTRANCE					EXIT CONTROL GATE	DI
					#1	#2	#3	#4	#5		
8/2/77	89°/90°	113°	(WASH) 110°	107°	101°	94°	92°	91°	91°	90°	
8/5/77	83°/84°	106°	(WASH) 99°	99°	96°	93°	89°	87°	85°	83°	
8/9/77	84°/85°	(DOWN)	(DOWN)	83°	88°	90°	90°	87°	87°	86°	
8/12/77	84°/85°	108°	(WASH) 91°	93°	92°	90°	88°	87°	84°	84°	
8/16/77	82°/92°	117°	(DOWN)	101°	98°	92°	92°	90°	89°	90°	
8/19/77	84°/87°	107°	(DOWN)	92°	92°	91°	85°	83°	82°	82°	
8/22/77	84°/80°	(DOWN)	(DOWN)	(DOWN)	84°	82°	80°	80°	79°	79°	
8/26/77	79°/76°	(WASH) 80°	(DOWN)	(DOWN)	74°	78°	78°	77°	77°	77°	
8/30/77	76°/80°	(WASH) 79°	(DOWN)	90°	83°	83°	80°	78°	77°	76°	
9/2/77	74°/79°	102°	(DOWN)	79°	88°	80°	79°	76°	74°	74°	
9/4/77	84°/82°	111°	(DOWN)	99°	97°	92°	94°	89°	86°	86°	
9/9/77	84°/88°	110°	(DOWN)	92°	93°	91°	90°	89°	87°	85°	
9/13/77	85°/90°	113°	(DOWN)	95°	94°	92°	91°	89°	86°	85°	
9/16/77	79°/85°	115°	(DOWN)	95°	91°	89°	85°	82°	79°	78°	
9/19/77	84°/90°	(WASH) 103°	(DOWN)	107°	94°	90°	84°	84°	83°	82°	
9/23/77	78°/82°	93°	(DOWN)	89°	78°	76°	72°	68°	76°	73°	
9/27/77	88°/82°	101°	(DOWN)	110°	100°	91°	87°	86°	86°	84°	
10/4/77	72°/72°	(DOWN)	(DOWN)	87°	78°	76°	74°	73°	73°	72°	
10/17/77	72°/70°	86°	(DOWN)	84°	76°	74°	72°	71°	69°	68°	
10/28/77	77°/74°	95°	(DOWN)	83°	80°	79°	77°	74°	74°	73°	
11/1/77	72°/73°	92°	(DOWN)	84°	80°	78°	76°	75°	75°	74°	
11/4/77	76°/78°	(DOWN)	(DOWN)	92°	86°	80°	77°	76°	75°	74°	
11/11/77	66°/64°	87°	(DOWN)	74°	70°	68°	67°	66°	64°	62°	

cc: W. H. Bant
P. T. Houston

WINTER
7.2/78

COOLING & PROCESS WATER TEMPERATURES

CONSERV (NICHOLS Fla)

Out

DATE	PROCESS DITCH	SOUTH TRAIN DISCHARGE	NORTH TRAIN DISCHARGE	LAUNDRY	COOLING POND ENTRANCE					EXIT CONTROL GATE	DIFF.
					#1	#2	#3	#4	#5		
11/15/77	77°/78°	93°	(DOWN)	83°	84°	79°	74°	73°	71°	72°	
12/2/77	76°/78°	97°	(DOWN)	95°	87°	84°	80°	76°	74°	74°	
12/9/77	68°/64°	(WASH) 72°	(DOWN)	72°	72°	70°	68°	65°	64	64°	
1/13/78	60°/58°	(DOWN)	81°	76°	74°	70°	65°	62°	60°	60°	
1/20/78	62°/62°	(DOWN)	89°	70°	70°	67°	64°	62°	61°	61°	
1/27/78	58°/59°	(DOWN)	(DOWN)	68°	66°	64°	60°	60°	56°	56°	
1/31/78	60°/60°	(DOWN)	89°	77°	74°	70°	66°	63°	61°	61°	
2/3/78	64°/64°	(DOWN)	96°	76°	70°	66°	64°	63°	62°	62°	
2/7/78	58°/56°	(DOWN)	84°	70°	66°	65°	66°	61°	63°	61°	
2/10/78	62°/58°	(DOWN)	84°	74°	67°	62°	59°	56°	55°	55°	*
2/14/78	68°/66°	(DOWN)	88°	83°	77°	76°	71°	70°	69°	68°	
2/21/78	64°/62°	(DOWN)	(DOWN)	64°	68°	70°	66°	66°	65°	65°	
2/24/78	56°/56°	(DOWN)	(on wash) 59	59°	64°	62°	60°	56°	55°	55°	*
2/28/78	72°/70°	(DOWN)	91°	82°	72°	78°	73°	73°	71°	71°	*
3/17/78	68°/74°	—	—	68°	69°	67°	70°	70°	67°	66°	
3/21/78	77°/78°	101°	101°	94°	87°	83°	80°	78°	79°	79°	
5/19/78	79°/78°	(WASH) 72°	(DOWN)	86°	77°	77°	77°	75°	76°	74°	
6/8/78	92°/92°	101°	(DOWN)		93°	90°	89°	87°	86°	86°	
6/16/78	8 / 86°	98°	102°	98°	86°	84°	82°	82°	82°	82°	
6/23/78	84°/82°	(WASH) 88°	116°	101°	88°	83°	84°	84°	82°	82°	
6/30/78	93°/92°	108°	109°	112°	99°	97°	95°	92°	94°	93°	
7/7/78	95°/94°	103°	114°	108°	106°	101°	98	95°	96°	93°	
7/14/78	88°/92°	111°	(WASH) 90°	103°	91°	91°	91°	90°	89°	89°	
7/21/78	85°/84°	(WASH) 87°	107°	100°*	92°	88°	85°	84°	84°	82°	

V.P. HF & SiF₄ OVER SOLUTIONS OF H₂SiF₆

