

50M



Petrochemical Department

Continental Oil Company
V C M Plant
P.O. Box 605
Westlake, Louisiana 70669
(318) 882-0550

July 22, 1971

To: R.H. Gerlach

Subject: Oxy Catalyst Recharge - June 1971

The three primary oxychlorination reactors were given to maintenance at 7:00 a.m., Monday, June 14. Water blasting and drilling of the tubes on R-302 and R-303 was completed by 6:00 p.m., Thursday, June 17; R-301 was not completed until 6:00 p.m., Friday, June 18. At these times the catalyst support screens were bolted on and the tubes were then steam dried.

Loading of R-302 and R-303 was started by midnight, Thursday, June 17; the loading of R-301 did not start until 7:00 p.m. on Friday, June 18 because of the difficulties encountered in cleaning it. Loading was complete on R-302 and R-303 by 1:00 a.m., Monday, June 21, for an elapsed time of 73 hours, while the loading of R-301 was complete at 5:00 a.m., Monday, June 21, for an elapsed time of 58 hours. The exceptionally fast loading time on R-301 was accomplished by using 10 men/shift throughout the loading on this reactor; and, in addition, the best, most experienced loaders were used. Eight men were used on the other two reactors.

Loading Details

A. R-301

1. 1/2" Raschig Rings - 7" deep, 13 hours
2. 100% catalyst - 26" deep, 10 hours
3. 65% catalyst - 26" deep, 11 hours
4. 45% catalyst - 26" deep, 10 hours
5. 32% catalyst - 40" deep, 12 hours
6. Silica - 19" deep, 1 hour
7. Thermowell tubes, 1 hour

B. R-302

1. 1/2" Raschig Rings - 7" deep, 18 hours
2. 100% catalyst - 52" deep, 20 hours
3. 65% catalyst - 26" deep, 14-1/2 hours
4. 45% catalyst - 40" deep, 15-1/2 hours
5. Silica - 19" deep, 1 hour
6. Thermowell tubes, 1 hour

CCR 000034294

C. R-303

1. 1/2" Raschig Rings - 7" deep, 23 hours
2. 100% catalyst - 91" deep, 21 hours
3. 90% catalyst - 12" deep, 10 hours
4. 100% catalyst - 15" deep, 11 hours
5. Silica - 19" deep, 1 hour
6. Thermowell tubes, 1 hour

Special Comments

Long delays were encountered at R-302 and R-303 because the catalyst retaining screens had to be welded in places to the reactor. This procedure caused a 6-7 hour delay in the recharging of these reactors. The welds are necessary because many of the screen support bolts are missing on these reactors. These bolts should be replaced during the next catalyst outage.

No special tubes were loaded during this turnaround.

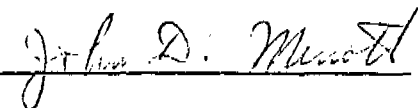
Pressure drop measurements for the reactors are attached. An air flow rate of 14 on the rotameter was used to make these tests. This represents a 39.2 scfh actual flow at 80°F.



D.C. Skokna
Process Engineer

bs

cc: DOP-RDG-GTH-JDM-RWC

APPROVED: 

NOTE: One traverse from the center to the west edge along the center-line, measuring every third tube, was used to obtain the tube pressure drop on each reactor. The No. 1 tube is nearest the center. The pressure drops shown below are in inches of water.

Pressure Drops - R-301

1. Thermowells		Spent Catalyst		Fresh Catalyst	
		P	% Deviation	P	% Deviation
NE		>25"	-	4.1	3.8 high
NW		Missing	-	3.7	6.3 low
SE		10.6	26 low	4.3	8.9 high
SW		18.0	26 high	3.7	6.3 low
Avg:		<u>14.3</u>		<u>3.95</u>	

2. Tubes		Fresh Catalyst		Spent Catalyst	
		P	% Deviation	P	% Deviation
1		4.2	1.9 low	8.7	6.8 low
2		4.8	12.1 high	11.2	19.9 high
3		4.2	1.9 low	>25"	-
4		4.4	2.8 high	7.7	17.6 low
5		4.6	7.5 high	9.7	13.8 high
6		4.2	1.9 low	10.1	8.1 high
7		4.2	1.9 low	9.8	4.9 high
8		4.2	1.9 low	11.8	26.3 high
9		4.1	4.2 low	>25"	-
10		4.2	1.9 low	7.5	19.7 low
11		4.1	4.2 low	8.4	10.1 low
12		4.2	1.9 low	8.5	9.0 low
13		4.3	0.5 high	-	-
Avg:		<u>4.28</u>		<u>9.34</u>	

Pressure Drops - R-302

1. Thermowells		Spent Catalyst		Fresh Catalyst	
		P	% Deviation	P	% Deviation
NE		23.0	18.9 high	4.0	28 low
NW		14.6	24.4 low	3.2	43 low
SE		>25"	-	3.6	36 low
SW		20.4	5.5 high	11.8	111 high
Avg:		<u>19.3</u>		<u>5.6</u>	

2. Tubes	Spent Catalyst		Fresh Catalyst	
	P	% Deviation	P	% Deviation
1	13.4	26 high	4.9	10.4 high
2	8.5	20 low	4.3	3.2 low
3	9.4	11.5 low	4.5	1.4 high
4	10.8	1.5 high	4.2	5.4 low
5	12.0	12.8 high	4.3	3.2 low
6	11.4	7.2 high	4.6	3.6 high
7	11.2	5.3 high	4.3	3.2 low
8	10.8	1.5 high	4.3	3.2 low
9	8.9	16.2 low	4.4	0.9 low
10	8.9	16.2 low	4.6	3.6 high
11	10.1	4.9 low	4.6	3.6 high
12	12.1	13.8 high	4.3	3.2 low
13	-		4.4	0.9 low
Avg:	10.6		4.3	

Pressure Drops - R-303

1. Thermowells	Spent Catalyst		Fresh Catalyst	
	P	% Deviation	P	% Deviation
NE	>25"	-	3.4	5.6 low
NW	>25"	-	3.6	0
SE	>25"	-	3.8	5.6 high
SW	>25"	-	3.6	0
avg:	>25"		3.6	

2. Tubes	Spent Catalyst		Fresh Catalyst	
	P	% Deviation	P	% Deviation
1	>25"	-	4.4	2.3 high
2	>25"	-	4.4	2.3 high
3	>25"	-	4.4	2.3 high
4	20.1	-	4.1	4.7 low
5	22.5	-	4.6	7.0 high
6	23.1	-	4.3	0
7	>25"	-	4.2	2.3 low
8	>25"	-	4.2	2.3 low
9	24.7	-	4.2	2.3 low
10	>25"	-	4.2	2.3 low
11	>25"	-	4.2	2.3 low
12	>25"	-	4.2	2.3 low
13	>25"	-	4.2	2.3 low
Avg:	>25"		4.3	