

COLORED PIGMENTS

MANAGERS RTD WITH ZEE BASED

MANPOWER

PAWRTEDE

OCTOBER 11, 1983

N37142

BACK GROUND

PLAN

IMPLEMENTATION

~~EXPERIENCE AND PROBLEMS~~
OPERATING EXPERIENCE -
PROBLEMS AND SOLUTIONS
~~COLLECTIVE ACTIONS~~
~~ca~~

PAW-1

BACKGROUND

- TECHNICAL CONSOLIDATION FIRST REVIEWED ~~LATE~~ 1980

- FOCUS ON PLANT TECHNICAL GROUPS

- PRELIMINARY PLAN DEVELOPED 1Q 81 ~~FOR~~

- ~~SUPERVISORY CONSOLIDATION~~

- SUPERVISORY CONSOLIDATION

- PROJECT ENGINEERING

- UPGRADING / STREAMLINING TECHNICAL STAFF

- INITIAL PHASE IMPLEMENTED (NEWARK)

- PLAN EXPANDED MID 81 AS PART OF BUSINESS PLAN DEVELOPMENT

- CRITICAL FACTORS

- NEED FOR MAJOR FIXED COST REDUCTION ~~budget~~

- LIMITED ROLE OF R&D IN MATURE / MINIMAL SUPPORT BUSINESS

- PLAN IMPLEMENTED 3Q 81

PLAN

- RESTRUCTURE ORGANIZATION TO PROVIDE MINIMUM ESSENTIAL TECHNICAL SUPPORT FOR THE BUSINESS

- ELEMENTS FOR SUCCESS

- MAINTENANCE OF

- A COMPETENT, TRAINED STAFF

- REDUCED INVOLVEMENT WITH NON-TECHNICAL PROBLEMS

- IMPROVED PROCESS RELIABILITY

- INCREASED PRODUCTION TROUBLESHOOTING

- DOCUMENTATION

- INCREASED USE OF CORPORATE RESOURCES

- ENGINEERING DEPT

- JACKSON LAB ANALYTICAL

- STRONG PRIORITIZATION OF RTD PROGRAMS

- FOCUS ON BUSINESS STRENGTHS (QA)

- ELIMINATE EFFORTS ON LOW ^{PROGRAMS} ~~SUCCESS~~

- WITH LOW SUCCESS PROBABILITY

- SPECIFICS

- ~~55%~~ ^{EXEMPT} RTD MANPOWER REDUCTIONS (~~55%~~ ^{24%} ~~TOTAL~~ REDUCTION) OVER 3 YEARS

EXEMPT MANPOWER

1/1/81

1/1/85

JACKSON LABS

TECHNICAL

17

~~16~~

SUPERVISION

2

1

NEWARK

TECHNICAL

10

6

CONTROL LAB

6

~~11~~

PROS ENG

4

~~—~~

SUPERVISOR

3

1

NEWPORT

TECHNICAL

11

6

CONTROL LAB

2

1

PROS ENG

4

~~—~~

SUPERVISOR

3

1

TOTAL

62 ✓

26

— 27% REDUCTION IN 1985 R+D EXPENSE
VS BASE OPERATION — WORTH \$34MM

IMPLEMENTATION

• INITIAL PHASE - NEWARK 1Q 81

- REDUCTION OF ONE SUPERVISORY POSITION
- TRANSFER PROJECT ENG TO GRASSELLI

MAIN PHASE - 3Q 81

- ESTABLISHMENT OF PROCESS IMPROVEMENT GROUPS
TO ACHIEVE

DOCUMENTATION

PROCESS RELIABILITY

- REDUCTION OF ONE SUPERVISOR POSITION (NEWPORT)
- TRANSFER NEWPORT PROJECT ENG TO PRODUCTION

• CONSOLIDATION SCHEDULE ACCELERATED MID-82 IN RESPONSE TO POOR BUSINESS STAFF CONDITIONS

- MANPOWER REDUCTIONS ACCOMPLISHED THROUGH OPPORTUNISTIC TRANSFERS AND VTI

• NEWARK COMPLETE 3Q 82 - MANPOWER 2 UNDER GOAL

• NEWPORT ~~COMPLETE~~ / JLR TO COMPLETE 1Q 83
- NEWPORT MANPOWER 1 UNDER GOAL

- DOCUMENTATION / MAJOR RELIABILITY PROGRAMS COMPLETED ON TIME

"ZERO BASE" OPERATION
ANALYSIS AND RECOMMENDATIONS

BASED ON 9-12 MONTHS EXPERIENCE

- PLANT TECHNICAL GROUPS

ANALYSIS

~ STAFF SIZE BELOW MINIMUM ESSENTIAL

- DAY TO DAY PROCESS ASSISTANCE
MAINTAINED BUT TAKING GREATER
THAN EXPECTED PERCENTAGE OF GROUP
EFFORT

	<u>% PROCESS ASSISTANCE</u>	
	<u>F/L</u>	<u>ACTUAL</u>
NEWARK	64	73
NEWPORT	61	82

CONTRIBUTING FACTORS:
~~REASON~~

SOME
- PROCESS ~~IMPROVEMENT~~ PROBLEMS STILL EXIST

- VTE HAMPERED PRODUCTION ABILITY TO
ASSUME GREATER SHARE OF TROUBLESHOOTING

• LONGER RANGE PROGRAMS SUFFERING

- Process Improvement

MOLYBDATE CRANES

WATCHING, DON REDS

- Cost Reduction

Krator® PROCESSING

GA ENERGY/ REDUCTION

GA PROCESSING IMPROVEMENTS

- PROBLEMS WITH VACATION / SICKNESS /
PERSONNEL MOVEMENT (DEVELOPMENT)

SOLUTION

- LIMITED INCREASE IN SITE TECHNICAL STAFFS

NEWARK

- ONE INORGANIC CHEMIST
ESSENTIAL TO UPGRADE ABILITY
TO SUPPORT INORGANICS
- ADDITIONAL ~~TRAINING~~ SLUT
DESIRABLE TO PROVIDE
TRAINING OVERLAP TO
ALLOW MOVEMENT IN/OUT OF GROUP

NEWPORT - ONE ENGINEER ESSENTIAL
TO UPGRADE CAPABILITY IN
THIS AREA THIS WOULD ALSO
PROVIDE FLEXIBILITY FOR
PERSONNEL MOVEMENT

JACKSON LAB R&D GROUP

ANALYSIS

- STAFF SIZE ADEQUATE FOR REDUCED
SCOPE TECHNICAL EFFORT

- SUPPORT FOR QA PRODUCT/PROCESS
DEVELOPMENT CLOSE TO HISTORICAL
LEVELS

- CAPABILITY OF STAFF IN QA AREA
EXCELLENT

- 9 NEW PRODUCTS UNDER
DEVELOPMENT \$18MM ESTIMATED
PROFIT CONTRIBUTION 1984-1988

- SUPPORT FOR AZOS/INORGANICS
ADEQUATE TO RESPOND TO
SIGNIFICANT BUSINESS OPPORTUNITIES

- MAJOR EFFECT OF MANPOWER REDUCTION FELT IN CPC / NEW CHEMISTRY RESEARCH

- CONCERNS

- LEVEL OF INNOVATION - PRODUCT IDEAS
- PERSONNEL MOVEMENT / DEVELOPMENT

SOLUTION

- INNOVATION

- Increase level of interaction of technical staff with ~~market~~ customers

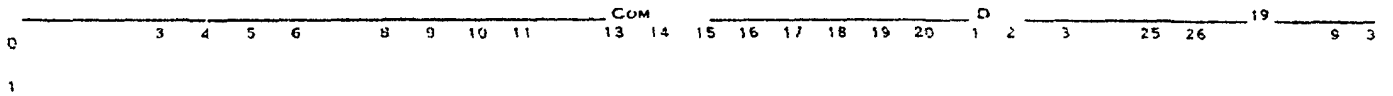
- Greater Personal Awareness of Market Trends / Needs

- ^{Encourage} GREATER USE OF 10-15% "Scouting" Time to test ideas / concepts leading up to product / process development proposals.

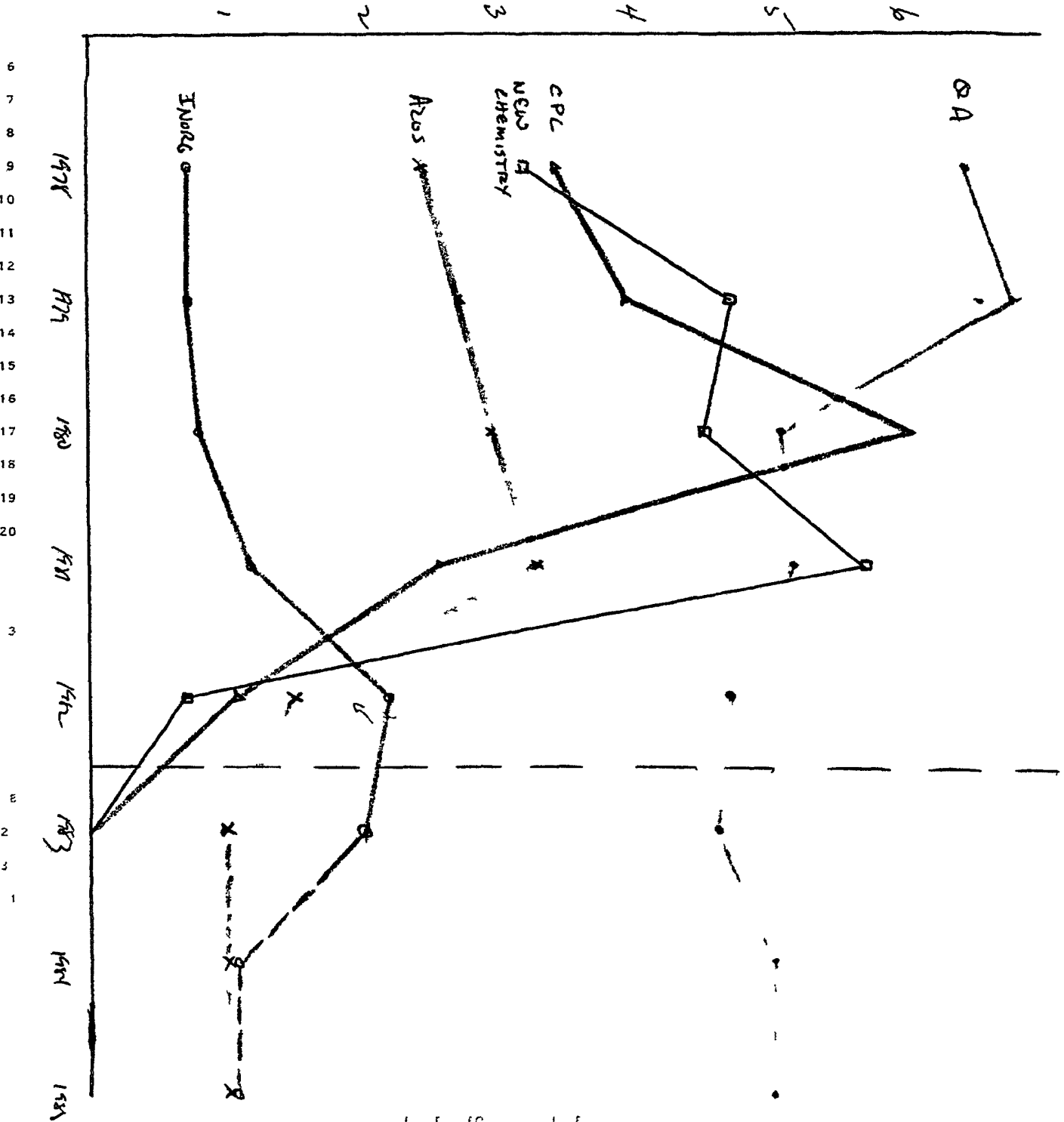
- PERSONNEL MOVEMENT / DEVELOPMENT

- ADD POSITION AS A TRAINING SLOT

TO Allow movement in/out of
Group without significantly affecting
technical capabilities of Group



IL R+D Manpower



Summary

* EXPERIENCE WITH 'ZERO BASE' OPERATION
INDICATES

- ORIGINAL GOAL MANPOWER WAS
REALISTIC

ACCELERATED IMPLEMENTATION
SCHEDULE AND VTI HAVE
HURT EFFECTIVENESS OF PLANT
TECHNICAL STAFFS

- LIMITED INCREASE IN EXEMPT
STAFF (3-4) IS REQUIRED TO
~~INCREASE~~
~~MUST~~ ACHIEVE MINIMUM ESSENTIAL
~~SUPPORT~~ TECHNICAL ~~SA~~ SUPPORT
FOR THE BUSINESS

Colored Pigment Products Contributed to Ethenines (JMW)

N37142.01

EXISTING PROCESS Improvement

1980 1981 1982 1983 1984 1985 1986 1987 1988

GA

.3 5 12 22 28 31 38 48 —

LPC

.6 13 15 19 22 26 31 35 —

Inorganic

2 5 .6 8 10 13 15 17 —

Azus

1 4 4 5 6 8 9 10 —

TOTAL

12 2.7 37 5.4 66 78 93 110 —

EXISTING PRODUCT Improvement

GA

.3 11 33 45 57 69 81

LPC

5 5 .4 4 4 4 .4

Azus

.2 2 3 3 3 2 2

TOTAL

COLORED FLUORESCENT PRODUCT

CONCENTRATION TO STREETS 1 THOUS PER CM (MIN)

N37142.02

DUP050146662

EXISTING PRODUCT
IN PRESENT

QA	1982	1983	1984	1985	1986	1987	1988
04	15	49	7	91	113	140	
CPC	12	10	8	8	8	8	7
A205	5	6	7	7	7	6	6
TOTM	21	31	64	85	106	126	15

New products

1983 Sales

QA's

	over	Volume 4 M	S+T \$ 585M	C _{int to E_u} 1283
RT-959-D				
RT-273-D	3	H	108	18163
RT-859-D	16	4/8	933 6	1822
RT-343-D	06	11	391.8	25.9
RT-891-D	-	5	11	-
YT-915-D	✓	2	<u>76</u>	76 04
RT-891-D				

CPE's

BT-498-D	566	80	566	744
BP-565-D	71	16	479	76
BT-579-D	15	2	18	31
GW-957-P	30	29	187	173
448 72	57			
957 30	00			
957	5		21	
273	3/124		0	

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<u>Organics</u>	<u>Volume</u>	<u>STI</u>	<u>Cost to Earn</u>
RT-444-0		35	
RT-445-P			

YW-928-P	(23)	21	(91) 86
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YW-958-P	(13)	30	(55) 129
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YW-968-P	(17)	20	(78) 97
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YW-911-P	(54)	40	(315) 218
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YW-912-P		12	68
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↑
~~2~~

- #3.14mm

	<u>84</u>		<u>85</u>
928	19	—	19

958	18		15
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968	22		19
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911	13		21
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912	72		50
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737

Data for JP glass

8/24/83

<u>CHROMATES</u>	<u>YEAR OF CODE ASSIGNMENT</u>	<u>YEAR OF COMMERCIALIZATION</u>	<u>1983 SALES FORECAST</u>	<u>SALES YTD, 8/1/83</u>	<u>\$ Sales YTD, 8/1/83</u>
KY-907-D	1977		540,600	318,340	739,558
KY-908-D	1977		540,600	266,292	584,817
KO-906-D	1977		126,000	63,297	185,584
KO-909-D	1977		234,000	107,898	332,998
⌘ KY-995-D	1982		—	18,800	61,967
KR-981-D	1979		17,000	13,847	94,273

DALAMARS/ TOLUIDINE YELLOWS

YT-828-D	1973		20,000	4,590	27,153
⌘ YW-928-P	1980		20,000 x 0.5	20,400	83,640
YT-848-P	1975		—	—	—
YT-858-D	1975		65,000	21,550	181,208
YT-868-D	1976		20,000	20,000	142,658
⌘ YT-889-P	1979		24,000	5996	44,970
⌘ YW-958-P*	1978		80,000 x 0.5	18,650	79,306
⌘ YW-968-P	1980		20,000 x 0.5	18,050	87,534
⌘ YW-911-P	1982		46,000 x 0.3	27,150	144,270
⌘ YW-912-P	1982		—	7200	40,220
⌘ YT-839-P	1978		24,000	—	—
⌘ YT-840-P	1978		—	—	—

* Same as YW-869-P for which assignment date is given, and data included

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N37142.04

QUINACRIDONES

	<u>YEAR OF CODE ASSIGNMENT</u>	<u>YEAR OF COMMERCIALIZATION</u>	<u>1983 SALES FORECAST</u>	<u>SALES YTD, 8/1/83</u>	<u>\$ SALES YTD, 8/1/83</u>
RT-218-D	1972	-	24,000	1724	43,219
YT-815-D	1972	-	13,000	10,650	318,387
YT-823-D	1972	-	34,000	23,415	599,575
RT-229-D	1973	-	-	2560	72,031
RT-233-D	1974	-	38,000	35,054	969,225
RT-235-D	1975	-	24,000	8244	242,013
RT-242-D	1975	-	149,000	61,776	1,745,450
X RT-959-D	1980	-	15,000	2523	36,908
X RT-273-D	1980	-	-	210	5679
X RT-859-D	1982	-	73,000	20,445	474,504
X RT-343-D	1983	-	11,000	3,689	106,662
X RT-891-D	1983	-	-	110	2409

CPC'S

BP-479-D	1972	-	44,000	34,648	378,190
BT-482-P	1973	-	-	3,766	30,546
BT-483-P	1974	-	-	8,319	71,959
X BT-498-D	1978	-	59,000	47,999	443,191
X BP-565-D	1981	-	160,000	16,000	76,000
X BT-579-D	1981	-	15,000	1,805	20,788
X GW-951-P	1981	-	80,000 X 2	21,600	129,095

WATCHUNGS

RT-251-D	1977	-	9,000	11,350	73,902
X RT-444-D	1981	-	60,000	4,225	19,813
X RT-445-P	1982	-	-	-	-

PAW

KHD1ET2

6/30/83

guesswork background for numbers provided to WWS

CODEC	1983			1984			1985		
	M LB ①	PTE \$M	PROF CONTR EST \$M	M LB ①	PTE \$M	PROF CONTR EST \$M	M LB ①	PTE \$M	PROF CONTR EST \$M
RT-859-D	35 ②	433	478	60	742	819	90	112	1230
XRT 343-D	10 15 ②	(39)	7	60	(188)	32	145	(455)	78
YT-915-D	1 ②	6	11	3	19	33	58	342	612
XRT 353-D	-	-	-	10	(70)	-	50	(348)	-
XRW 453-D	-	-	-	40	(72)	-	50	(90)	-
XRT 301-D	-	-	-	20	60	158	80	238	630
RW 252 P ③	5 ③	6	10	50	58	108	65	75	140
XRT 891-D	4 ③	7	26	10	17	66	20 ③	34	132
XRT 318-D	-	-	-	1	(4)	-	40	(142)	-
XKO 986-D	4 ③	-	2	30 ③	5	15	50 ③	9	25
XYT 898-D	-	-	-	20 ③	(13)	10	40 ③	(26)	20
-	-	413 ~400	534 ~530	-	554 ~550	1241 ~1240	-	749 ~750	2867 ~2870

① B GARTH FORECAST 6/29/83

② 1st 470 83 x 3

③ OWN GUESS

④ N) KANE'S GUESS (107 OLD QA + 107 NEW QA BUSINESS, FOR WHICH YEAR?)

⑤ BY NEW PROCESS

A	B	C	D	E	F	G	H	I	J
CODE	1982 FACTORY COST ① PRODUCT USED AS COST BASIS	\$/LB	1983 ② FACTORY COST	ADJUSTED 1983 FACTORY COST \$/LB	SARM + DELIVERY ③	1983 COST OF SALE Doe E+F \$/LB	NET SELLING PRICE 1983 YTD THRU 4/83 \$/LB	1983 \$/ITE/LB (H-G)	(N N N N N) PAID F CONTR ESTIMATE H - D OR E \$/LB
RT-859 D	RT-759 D	9 22	8 57	9 85 ⑤	1 29	11 14	23 50	12 30	13 65
XRT 343 D	XRT-343 D	27 18	25 28		3 68	28 96	25 82	(3 14)	0 54
YT-915 D	YT-915-D	23 75	22 08	27 08 ⑥	4 90	31 98	38 20	6 22	11 12
XRT-353 D	XRT-343 D	27 18	25 28		3 68	28 96	22 00 ③	(6 96)	- ⑤
XRW-453 P	24 / OF XRT 343 D		6 07		1 01	7 08	5 28 ④	(1 80)	- ⑤
XRT 301-D	RT-20 -D	12 22	11 36		4 90	16 26	19 24	2 98	7 88
RW 252 P ④	RW 252-P	3 73	3 47		1 01	4 48	5 63	1 15	2 16
XRT 891-D	RT-791-D	14 11	13 12		4 90	18 02	19 70	1 68	6 58
XRT-318-D	RT-218 D	23 52	21 87		3 68	25 55	22 00 ③	(3 55)	~
XKO 906 D	KO 906 D					2 85 ⑦	3 02	0 17	0 50 ⑧
XYT 898 D	YT-858 -D					9 14 ⑦	8 48	(0 66)	0 50 ⑩
This is real, but I should not have used it RT 243 -B realized \$27+/lb, so ~\$30 For 343 would be more reasonable									

- ① INFO G SCHLENK
② 93 / OF 1982 (INFO G SCHLENK)
③ INFO G SCHLENK
④ RW252 P BY ARQUEX MILL PROCESS
⑤ ASSUME +15 / OVER RT-759-D
⑥ ADD \$5.00 FOR HIGHER AA COST
⑦ INFO G SCHLENK

- ⑧ OWN GUESS
⑨ ASSUME WE WOULD NOT MAKE IF THERE WERE A NEGATIVE
CONTRIB
⑩ OWN GUESS

	<u>$\Sigma 1985-88$ PTE</u>	<u>PROF CONTR</u>	<u>$\Sigma 1985-88$ MLB</u>
NEW QAs	1,135M	18,055	1265
OTHERS (OO, INOPS)	(225)	1,195	790
	<u>980</u>	<u>19,250</u>	<u>2,055</u>
"SCOUTING" (~15% OF THE ABOVE)	~ 140	2,900	~ 300

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A	B	C	D	E	F	G	H	I	J
CODE	1982 COST OF MANUFACTURE PRODUCT USED AS COST BASIS	VARIABLE \$/LB	TOTAL \$/LB	1983 COST OF MANUF	FAIRM + DELIVERY	1983 COST OF SALE (E+F)	NET SELLING PRICE 1983 YTD, THRU 4/83 \$/LB	1983 \$/LBS (H-G)	ESTIM PROFIT CONTRIB \$/LB (H-C)
RT-859-D	RT-859-D	4.78	10.47	9.74	1.29	11.03	23.50	12.47	18.72
XRT-343-D	XRT-343-D	8.45	27.18	25.28	3.68	28.96	30.00 ^①	1.04	21.55
YT-915-D	YT-915-D	17.16 ^①	28.75 ^②	26.74	4.90	31.64	38.20	6.56	21.04
XRT-353-D	XRT-343-D	8.45	27.18	25.28	3.68	28.96	~26.00 ^③	(2.96)	17.55
XEW 453 P	24% OF XRT-343-D	2.03		6.07	1.01	7.08	~6.24 ^④	(0.84)	4.21
XRT 301-D	RT-201-D	5.80	12.22	11.36	4.90	16.26	19.24	2.98	13.44
RW 252 P ^⑤	RW 252 P	1.42	3.73	3.47	1.01	4.48	5.63	1.15	4.21
XRT 891-D	RT-79-D	5.69	14.11	13.12	4.90	18.02	19.70	1.68	14.01
XRT 318-D	RT-218-D	7.57	23.52	21.87	3.68	25.55	25.00 ^⑥	(0.55)	17.43
TRANSF 787	RT-787-D	7.15	18.62	17.32	3.68	21.00	26.41	5.41	19.26
X KO-996-D	KO-906-D	1.15 ^⑦		~2.70 ^⑧		2.85 ^⑨	3.02	0.17	~1.80
PREDARK LIGHT	Y-423-D	0.56 ^⑩		1.22 ^⑪		1.61 ^⑫	1.25 ^⑬	(0.36)	0.69
XRT 898-D	YT-858-D	~4.50 ^⑭		~7.00 ^⑮		9.14 ^⑯	8.48	(0.66)	~4.50

① INFO G SCHLENK (COST BY GRAD, 5/11/83)

② 93% OF 1982 (INFO G SCHLENK) --

③ USED NUMBERS FROM C + EXTRA \$5 VARIABLE

TO ACCOUNT FOR HIGHER COST AT

④ INFO G SCHLENK

⑤ FROM No 1 -1983 FINANCIAL FORECAST

(USED ROUNDED OFF 1982/83 AVERAGE ADDED \$0.50/LB

EXTRA VARIABLE COST)

⑥ FROM No 1 1983 F.N. FORECAST

(ROUNDED OFF 1982/83 AVERAGE)

⑦ FROM G SCHLENK CASE #1-1983 #/C
(SEE JFM TALK 1/21/83)

⑧ INFO G SCHLENK

⑨ USE RT 243-D + (C/

⑩ ~ PINKIE

⑪ OWN GUESS

⑫ MADE BY AQUEDON MILLING

CODE	1983			1984			1985			1986			1987			1988			Σ 1985-88	
	NLB	PTE	PROF CONT	NLB	PTE	PROF CONT	NLB	PTE	PROF CONT	NLB	PTE	PROF CONT	NLB	PTE	PROF CONT	NLB	PTE	PROF CONT	PTE	PROF CONT
XRT-343-B	12	125	260	60	62	1,290	70	73	1,500	80	83	1,720	85	88	1,830	90 ¹⁴⁵	94	1940	345	6990
XRT 353-B	-	-	-	10	(30)	175	20	(60)	350	30	(90)	525	40	(120)	700	50	(150)	875	(420)	2450
XRW 453-P	-	-	-	40	(30)	120	40	(30)	170	40	(30)	170	50	(40)	210	50	(40)	210	(140)	760
XRT 301-B	-	-	-	20	60	270	30	90	400	50	150	670	70	210	940	80	240	1075	690	3085
RW-252-P	5	5	20	50	60	210	50	60	210	50	60	210	65	75	270	65	75	270	270	960
XRT-491-B	4	7	55	10	17	140	10	17	140	15	25	210	15	25	210	20	34	280	100	840
SET 318-B	-	-	-	1	~	20	10	(6)	175	20	(1)	350	30	(17)	520	40	(22)	700	(65)	1745
TRANSFER 787	-	-	-	-	-	-	4	20	75	10	55	190	20	110	380	30	160	580	345	1225
																			1135	18055
XO 986-B	4	~	7	30	5	55	30	5	55	40	7	72	50	9	90	50	9	90	30	310
TT 898-B	-	-	-	20	(13)	90	20	(13)	90	30	(20)	135	30	(20)	135	40	(26)	180	(75)	540
PREDARK LIGHT YER	-	-	-	30	(10)	20	50	(11)	35	100	(36)	70	150	(54)	100	200	(72)	140	(100)	345
																			(225)	1195

OUR OWN ESTIMATES , ALL OTHERS B GARTH'S 6/83 ESTIMATES FOR 1983, 1984 1988 , OWN

ESTIMATES TO FILL IN 1985 86 87