

Known Variables	
Costs	
Fixed Costs	
Monthly Administrative Costs	\$13,000.00
Monthly Refinery Overhead Costs	\$4,500.00
Variable Costs	
Raw Material X Costs	\$1.33
Raw Material Y Costs	\$0.73
Direct Labor Costs Primary Product	\$0.42
Direct Labor Costs Secondary Product K	\$0.20
Direct Labor Costs Secondary Product M	\$0.10
Direct Labor Costs Special Treatment of Liquid Waste	\$0.25
Selling Prices	
Primary Product Selling Price	\$5.70
Secondary Product K Selling Price	\$0.80
Secondary Product M Selling Price	\$0.65
Special Treatment Liquid Waste Selling Price	\$0.00
Available Monthly Resources	
Raw Material X	7500
Raw Material Y	9000

Calculated Variables	
Production Costs	
Primary Product Production Costs	\$3.21
Secondary Product K Production Costs	\$0.87
Secondary Product M Production Costs	\$0.46
Special Liquid Waste Treatment Production Costs	\$0.25
Unit Profit	
Primary Product Unit Profit	\$2.49
Secondary Product K Unit Profit	-\$0.07
Secondary Product M Unit Profit	\$0.19
Special Treatment Liquid Waste Unit Profit	-\$0.25

Decision Variables	
Production Level of Primary Product	4500
Production Level of Secondary Product K	6000
Production Level of Secondary Product M	0
Production Level of Specially Treated Liquid Waste	1500

Production Level Overview	
Resource/Product/Treatment	Resource Used/Production Level
Raw Material X Devoted to Primary Product	4500
Raw Material Y Devoted to Primary Product	9000
Production Level (Primary Product)	4500
Liquid Waste Produced (Primary Product Byproduct)	4500
Solid Waste Produced (Primary Product Byproduct)	4500
Raw Material X Devoted to Secondary Product K	3000
Liquid Waste Devoted to Secondary Product K	3000
Production Level (Secondary Product K)	6000
Raw Material Y Devoted to Secondary Product M	0
Liquid Waste Devoted to Secondary Product M	0
Production Level (Secondary Product M)	0
Liquid Waste Devoted to Secondary Product K	1500
Production Level (Specially Treated Liquid Waste)	1500

Constraints			
Constraint	Current Value		Bounded/Allowed Value
Total Raw Material X Used	7500	<=	7500
Total Raw Material Y Used	9000	<=	9000
Remaining Liquid Waste	0	=	0

Output	
Total Primary Product Revenue	\$25,650.00
Total Secondary Product K Revenue	\$4,800.00
Total Secondary Product M Revenue	\$0.00
Total Special Treatment of Liquid Waste Revenue	\$0.00
Total Revenue	\$30,450.00
Total Monthly Administrative Costs	\$13,000.00
Total Monthly Refinery Costs	\$4,500.00
Total Fixed Costs	\$17,500.00
Total Primary Product Production Costs	\$14,437.50
Total Secondary Product K Production Costs	\$5,200.00
Total Secondary Product M Production Costs	\$0.00
Total Special Treatment of Liquid Waste Production Costs	\$375.00
Total Production Costs	\$20,012.50
Total Costs	\$37,512.50
Total Profit	-\$7,062.50