



# Drinking Water Stabilization

RAVA Fontus Engineering Inc.

Ahmed Alqallaf  
 Vivianna Gamez Molina  
 Rebecca Wertz  
 Alex Winkler

Thank you for your time.  
 Any questions??  
 RAVA Fontus Engineering Inc.



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# 1.0 Project Understanding

## 1.1 Introduction and Background

- Task Description- Reverse Osmosis
- WERC Competition



## 1.2 Project Description



*Problem Statement:*  
To design an optimum mineral composition to be added into RO bottled waters which considers the nutritional requirements for children, adults, and elders, and does not negatively impact taste or odor.

## 1.3 Client, Technical Adviser, and Stakeholders

• CLIENT:  
Dr. Bridget Bero



• TECHNICAL ADVISER:  
Dr. Paul Gremillion



• STAKEHOLDERS:  
Consumers (Public)



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# 2.0 Scope of Services

Five Main Tasks:

1. Background Research
2. Testing
3. Design/ Build Bench Scale Model
4. Documentation
5. WERC Competition





# Task 1: Background Research

- Subtasks:
  - 1.1 RO
  - 1.2 Nutritional/ Health Requirements
  - 1.3 Effects on Water Distribution System
  - 1.4 Regulations
  - 1.5 Standard Analytical Methods
- Exclusions



# Task 2: Testing



## • Subtasks: 2.1 Analyze 3 RO Products

### Parameters:

1. Odor
2. Color
3. Turbidity
4. Acidity
5. Electroconductivity
6. Alkalinity
7. Total Dissolved Solids
8. Hardness



### Minerals:

1. Calcium
2. Magnesium
3. Iron
4. Copper
5. Sodium
6. Iodine
7. Potassium

## 2.2 Test 3 Optimum Mineral Compositions

### • Exclusions



- **Subtasks:**  
**2.1 Analyze 3 RO Products**

**Parameters:**

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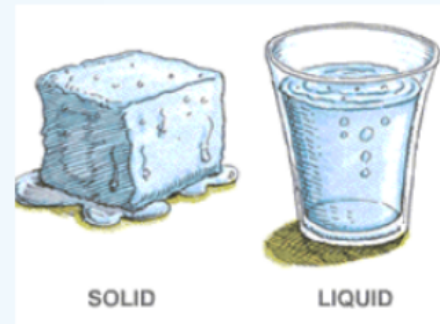
## 2.2 Test 3 Optimum Mineral Compositions

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# Task 3: Design/ Build Bench Scale Model

- Subtasks:
  - 3.1 Medium of Product
  - 3.2 Selection of Additive Mix
  - 3.3 Economic Analysis



# Task 4: Documentation

- Subtasks:
  - 4.1 Written Report
  - 4.2 Oral Presentation
  - 4.3 Website



# Task 5: WERC Competition

- Subtasks:
  - 4.1 Safety Summary
  - 4.2 WERC Competition Report
  - 4.3 Oral Presentation
  - 4.4 Bench Scale Demonstration

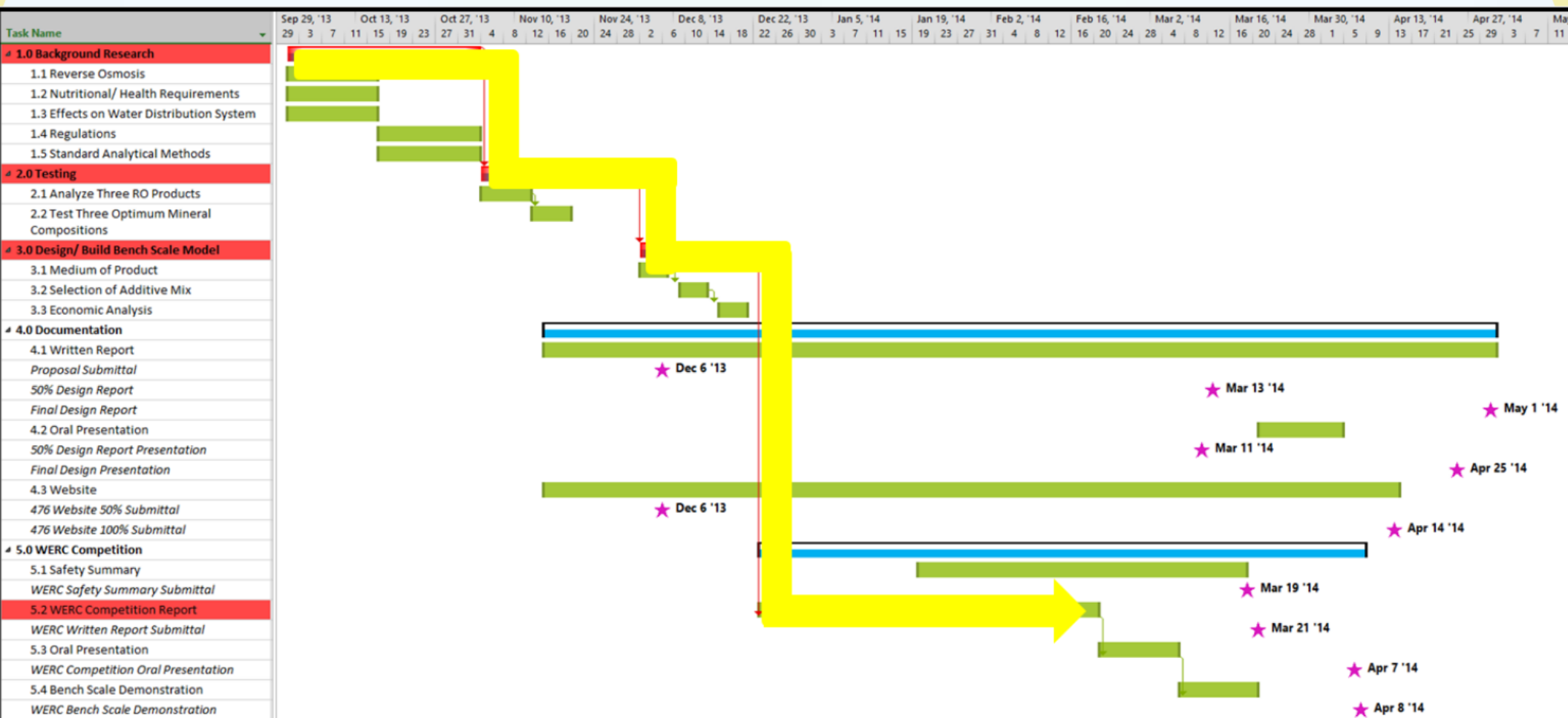


# 3.0 Project Schedule





# D.O. Project Schedule



# 4.0 Cost of Engineering Services

1.0 Personnel	Person	Hours	Rate, \$/hr	Cost, \$
	SENG	170	172	29172
	ENG	600	70	41818
	LAB	20	45	905
	INT	380	20	7571
	<i>Total Personnel</i>			\$ 79,466
2.0 Travel	<i>Local Meetings</i>	0		\$ 0
3.0 Subcontractor	<i>Lab</i>	6	11	\$ 66
<b>4.0 TOTAL</b>				<b>\$ 79,532</b>

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