

## Impact of On-site Sewage Facilities on Drinking Water Wells

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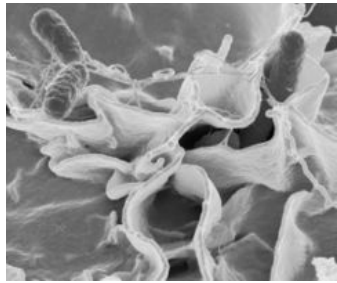
- Major Public Health Concern
- Discussion of Current Construction and Design Standards
- Measures to minimize impacts

## Impact of On-site Sewage Facilities on Drinking Water Wells

- Public Health Concerns
  - Waterborne disease outbreaks are under reported
  - Difficulty in diagnosing
  - Lack of in-depth investigations

## Impact of On-site Sewage Facilities on Drinking Water Wells

- Public Health Concerns
  - Alamosa, Colorado Salmonella Outbreak
    - >400 reported cases,
    - 112 confirmed cases,
    - 18 hospitalized
    - One death



## Impact of On-site Sewage Facilities on Drinking Water Wells

- Public Health Concerns
  - Alamosa, Colorado Salmonella Outbreak
    - Difficulty identifying the contaminate source
    - Short duration of Symptoms

## Impact of On-site Sewage Facilities on Drinking Water Wells

- Public Health Concerns
  - Proliferation of harmful microbes in OSSF waste streams
  - Concern with the movement of microbes in subsurface

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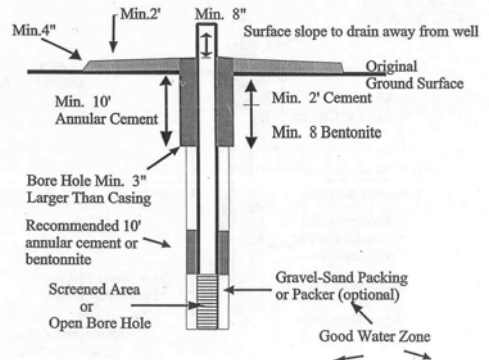
- Water Water Well Standards
  - Four Barrier Approach for Well Standards
    - Site
    - Construction
    - Treatment
    - Testing

## Impact of On-site Sewage Facilities on Drinking Water Wells

### ■ Drinking Water Well Construction

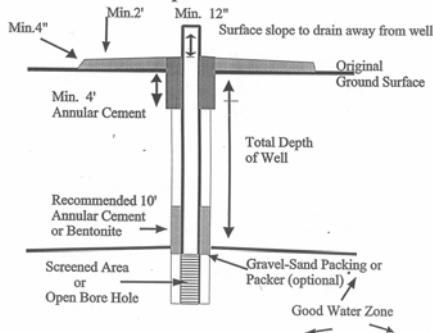
- **Private** Water Well Requirements
  - Regulated by Texas Department of Licensing and Regulations
  - "Water well" means an artificial excavation constructed to explore for or produce groundwater.

## Proper Surface & Annular Sealing Examples Chapter 76.1000 (1)

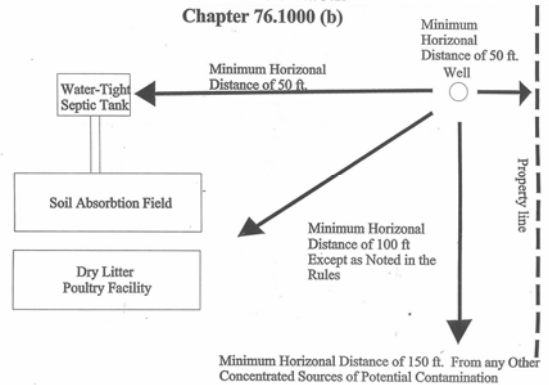


## Standards For All Water Wells

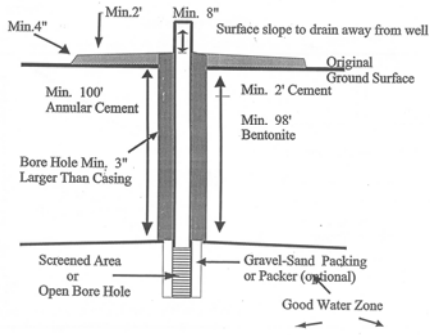
(Drilled before June 1, 1983)  
Chapter 76.1005



## Well Location Chapter 76.1000 (b)



**Annular Sealing Example For Distance Reduction**  
Chapter 76.1000 (2)



**WELL LOG and MATERIAL Attachment 2**

CUSTOMER: Montezuma County, P.O. Box 4  
LOCATION: 6 miles west of Coches, off Hwy. 102  
ADDRESS: \_\_\_\_\_  
WELL NO.: \_\_\_\_\_  
COMPLETED: 10-31-88  
CONTRACT NO.: \_\_\_\_\_

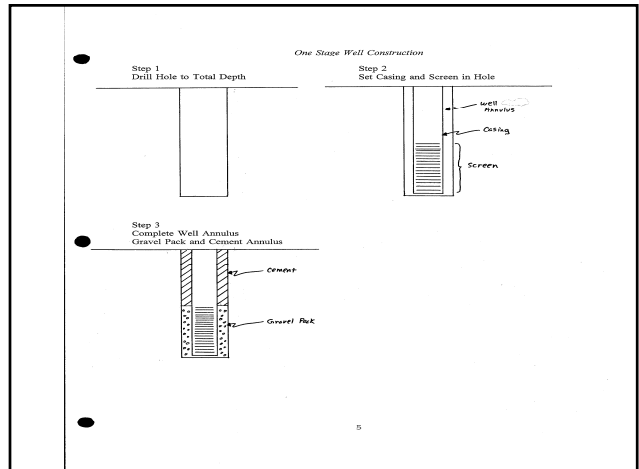
DIMENSIONS:		PUMP DATA:	
A = 908'	Serial	Bowl Assembly = 6	Steps, Size 10
B = 507'	Discharge Column = Section	305	Motor 1000R
C = 100'	Size = 4	Pipe 2 1/2" Threading	1 1/2"
D = 82'	Shaft	12 x 14 1/2" Dia	Diameter = 10"
E = 24'	Section, Length	10"	Size 8"
F = 24'	Design Conditions	250	1800RPM
G = 24'	Manufacturing	FLOWAGE	210
H = 24'	Motor Make	U.S.	Speed 1800
I = 24'	Motor Voltage	120	Frame 355V
J = 100-55'	Motor Type	_____	_____

Other data: Size 14", Weight 10.28, Well -375, J Static Level, (An Attached)

ALSAI-TEXAS CORPORATION  
Industrial & Municipal Water Wells  
Well and Pump Workover  
6815 Gant St. HOUSTON, Texas 77056  
(713) 444-0960 Telex 792830

**Impact of On-site Sewage Facilities on Drinking Water Wells**

- **Public Water Well Construction**
  - **Public** Drinking Water Well Requirements
  - Regulated by the Texas Commission on Environmental Quality
  - "Drinking Water" is defined as: All water distributed ... for the purpose of human consumption ...



### Impact of On-site Sewage Facilities on Drinking Water Wells

- Public Water Well Construction
  - Construction Barrier
    - Sealing Block requirements:
      - Extending at least three feet from the well casing in all directions
      - Minimum thickness of six inches
      - Sealed Wellheads

### Impact of On-site Sewage Facilities on Drinking Water Wells

- Public Water Well Construction
  - Site Barrier
    - 150 feet away from OSSF disposal area
    - 500 feet from Concentrated Animal Feeding Operations, Landfills, Beneficial Land Use Sites

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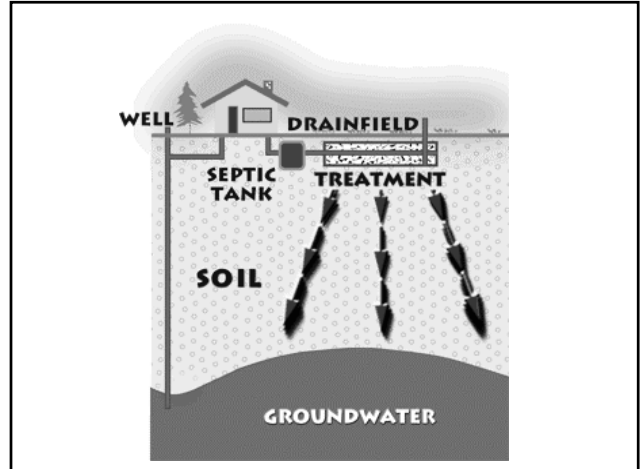
- Public Water Well Construction
  - Treatment Barrier
  - Sampling Barrier
  - Sanitary Control Easement

### Impact of On-site Sewage Facilities on Drinking Water Wells

- On-site Sewage Facility Requirements
  - Site Selection Requirements
    - Site Evaluation
    - Setbacks

## Impact of On-site Sewage Facilities on Drinking Water Wells

- On-site Sewage Facility Requirements
  - Disposal Area Design Considerations
    - Depth of Soil to Restrictive Horizon
    - Type of Soil
    - Surface Flow



## Impact of On-site Sewage Facilities on Drinking Water Wells

- Measures to minimize impacts
  - Source Water Protection
    - Public education programs on proper care, maintenance, and regular inspections of OSSFs
    - Phasing out the use of OSSFs and developing a regional wastewater treatment facility and collection system

## Impact of On-site Sewage Facilities on Drinking Water Wells

- Measures to minimize impacts
  - Periodic well inspections
  - Stormwater Pollution Prevention
  - Minimize the amount of hazardous wastes (such as excess paint, bleach, fertilizer) generated at home

# Questions?

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