# Class III Wells

**EPA Region 6**

**Brian Graves**

**UIC Land Ban Coordinator**

**(214) 665-7193**

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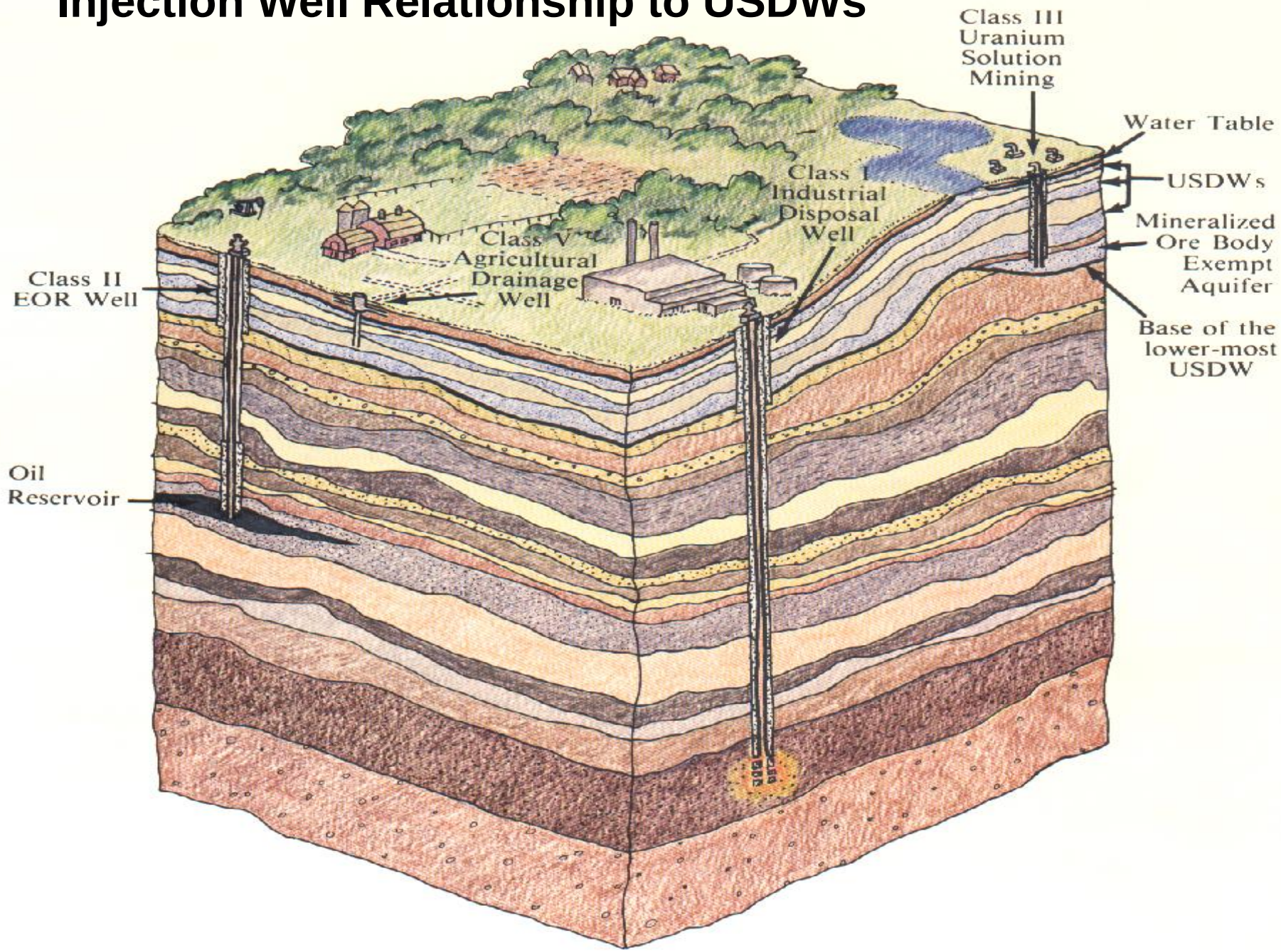
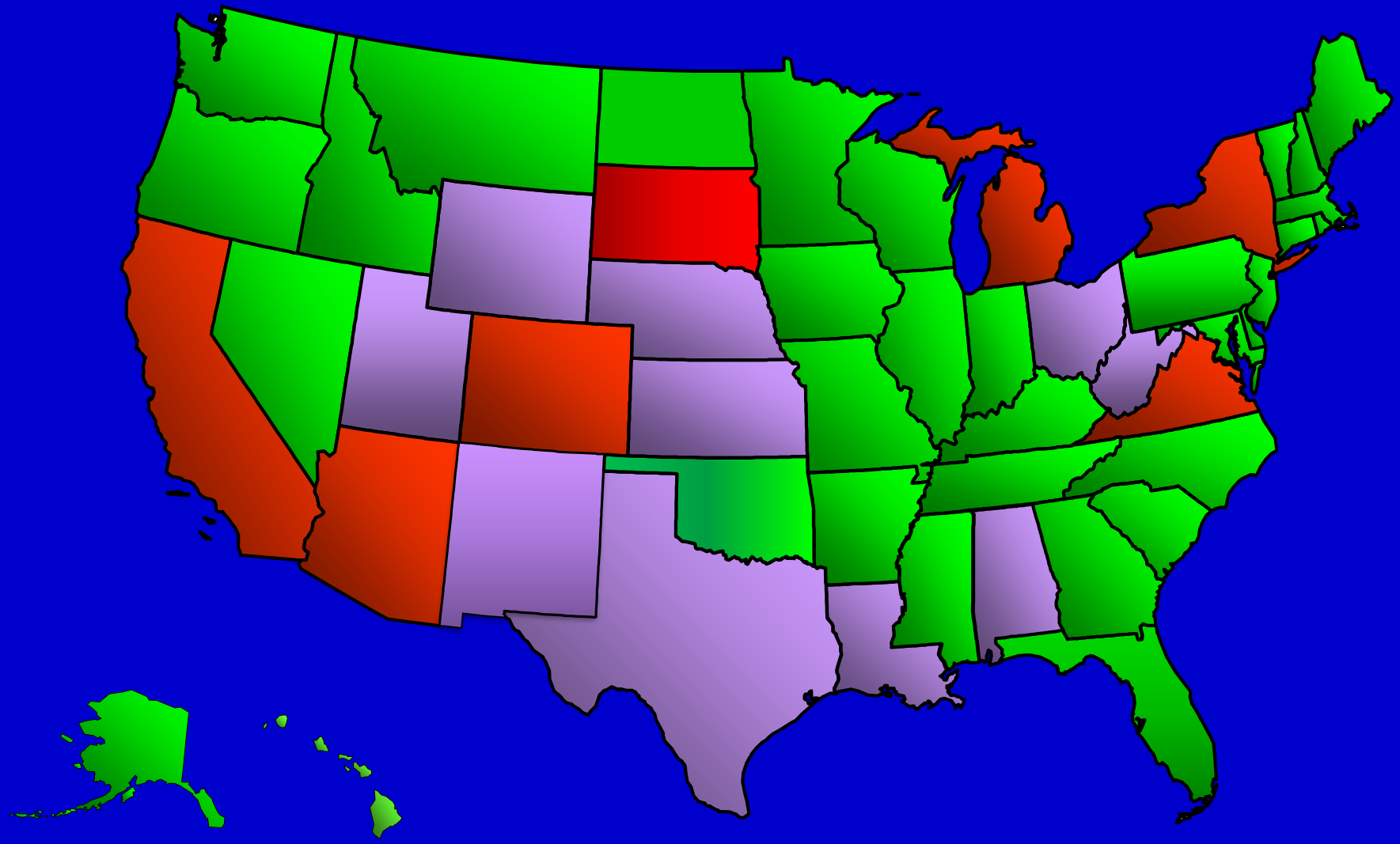
# Injection Well Relationship to USDWs



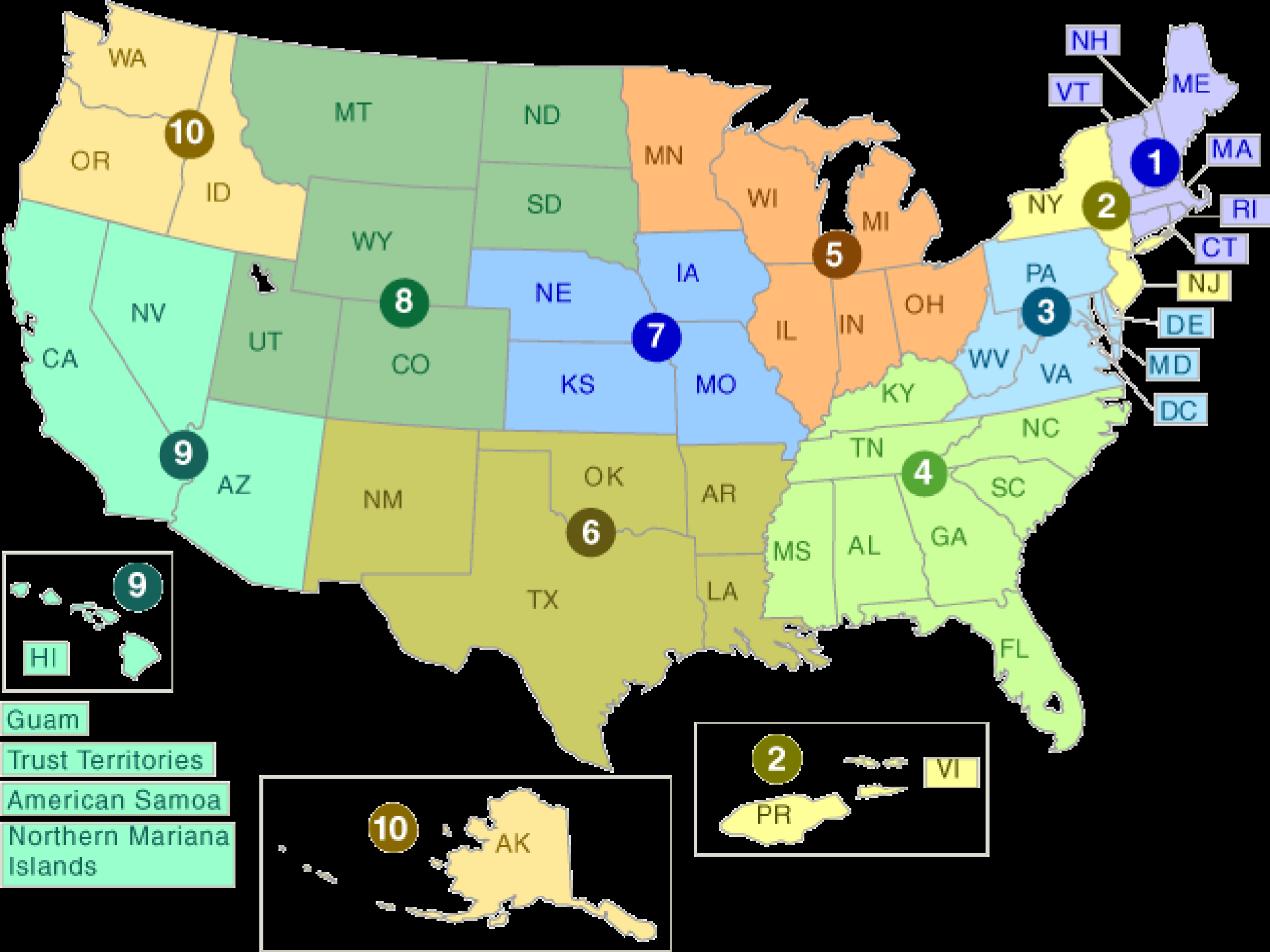
# States With Class III Injection Wells



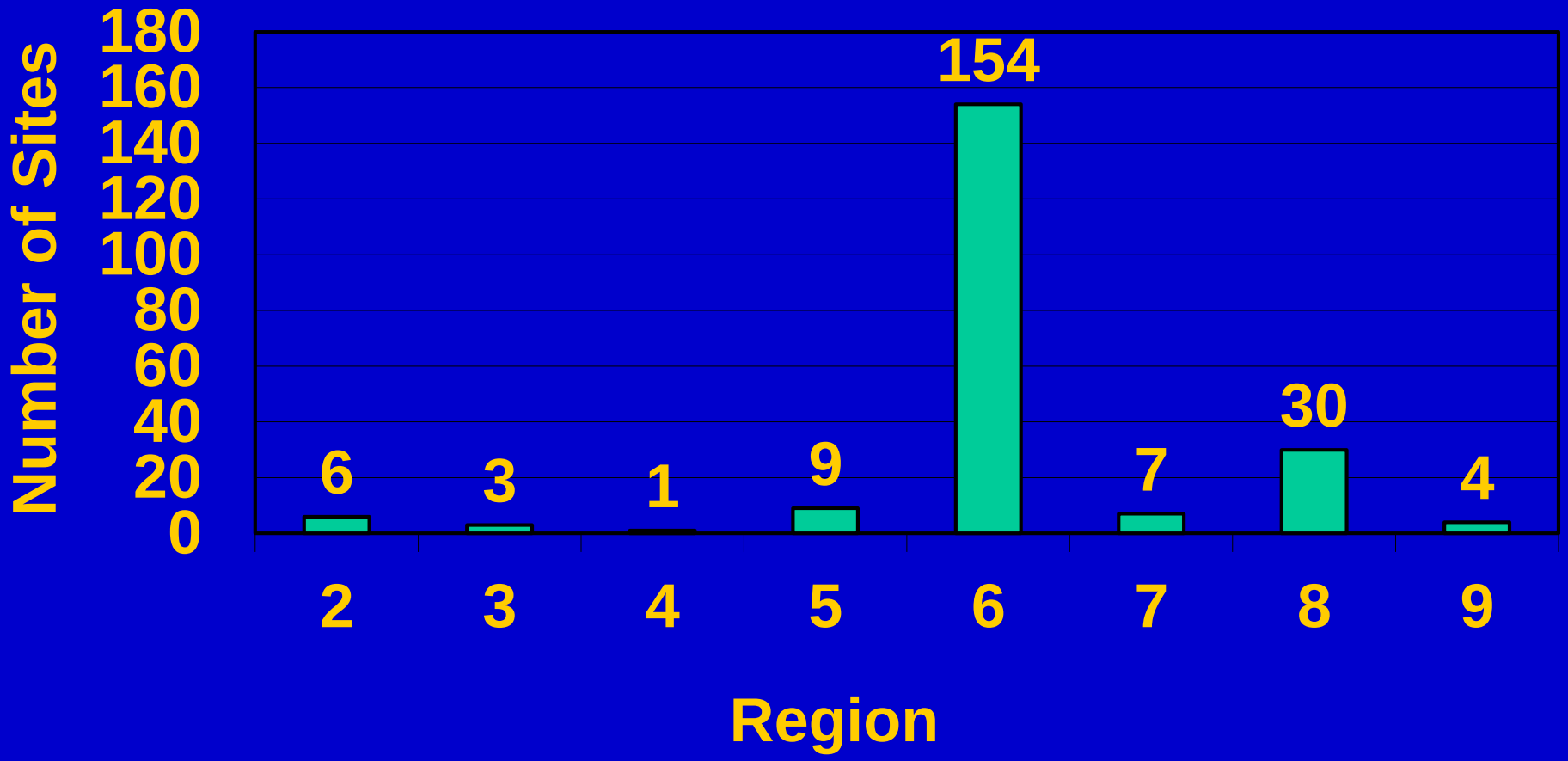
Primacy States with Class III Injection Wells

Direct Implementation States with Class III Injection Wells

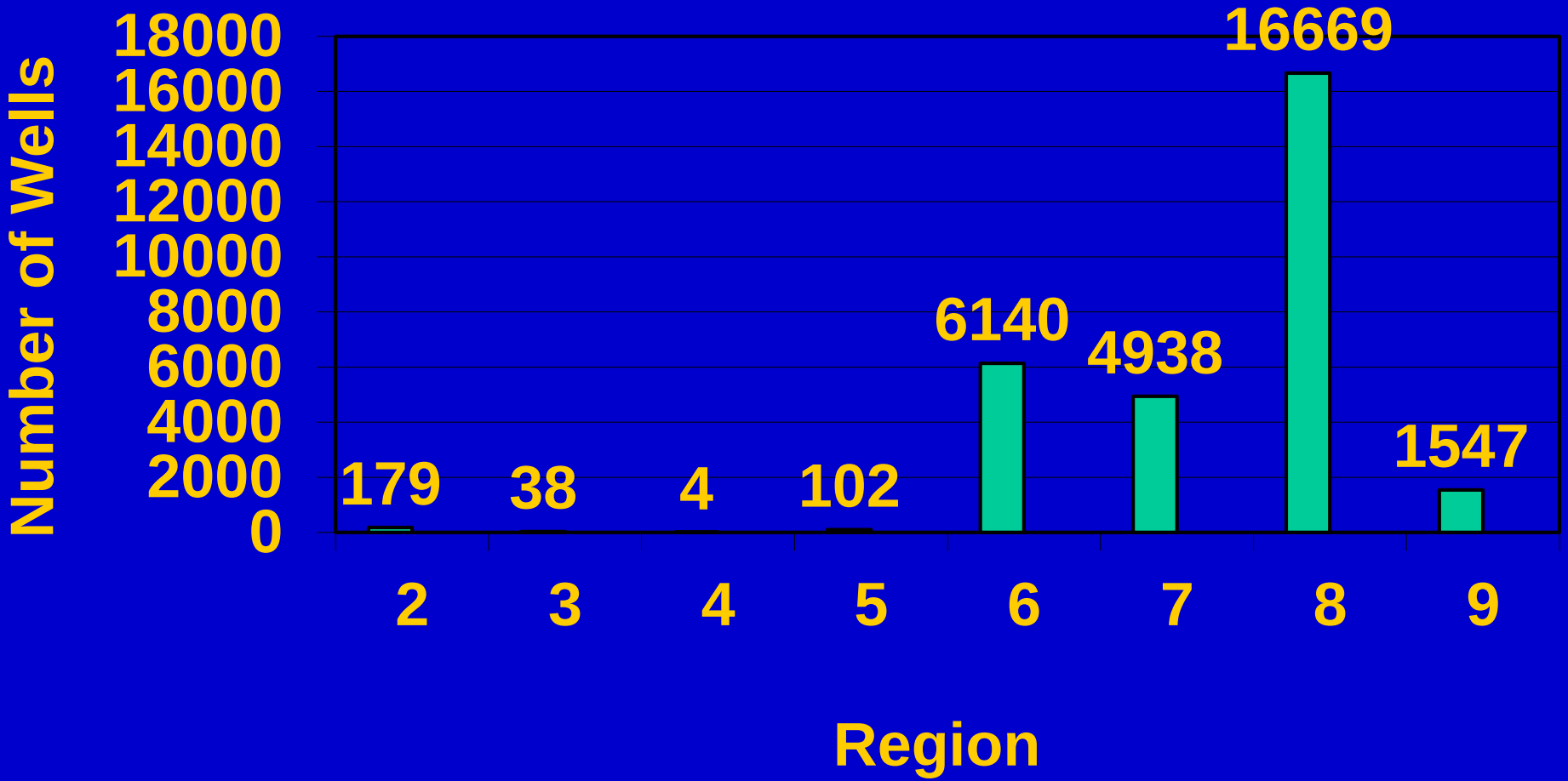
States with no Class III Injection Wells


WA
OR
CA
ID
NV
MT
WY
UT
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MI
IN
OH
KY
TN
MS
AL
GA
FL
SC
NC
VA
WV
PA
NY
NH
VT
ME
MA
RI
CT
NJ
DE
MD
DC
10
9
8
7
6
5
4
3
2
1
HI
Guam
Trust Territories
American Samoa
Northern Mariana Islands
AK
PR
VI

# Class III Well Sites



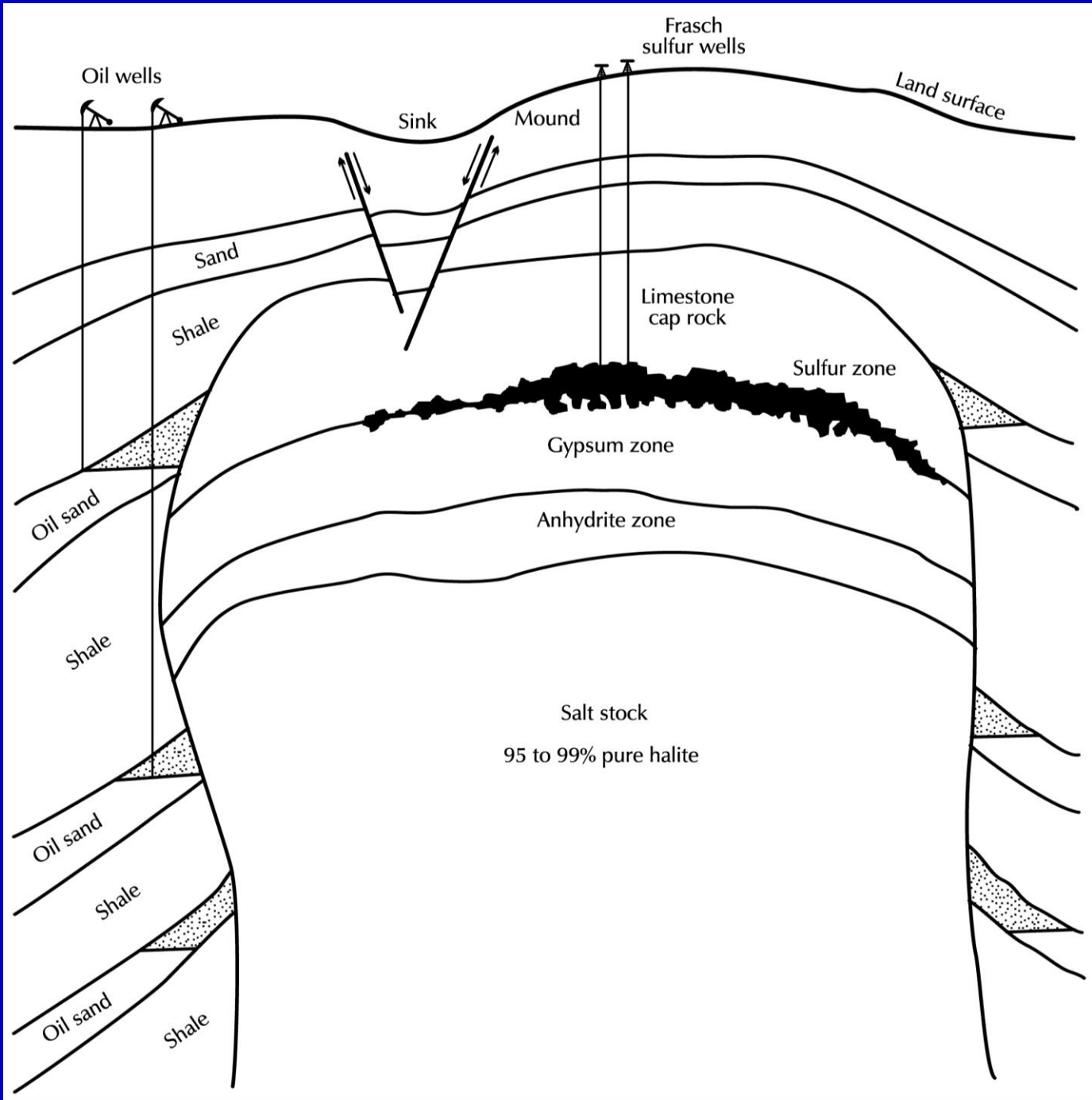
# Class III Wells

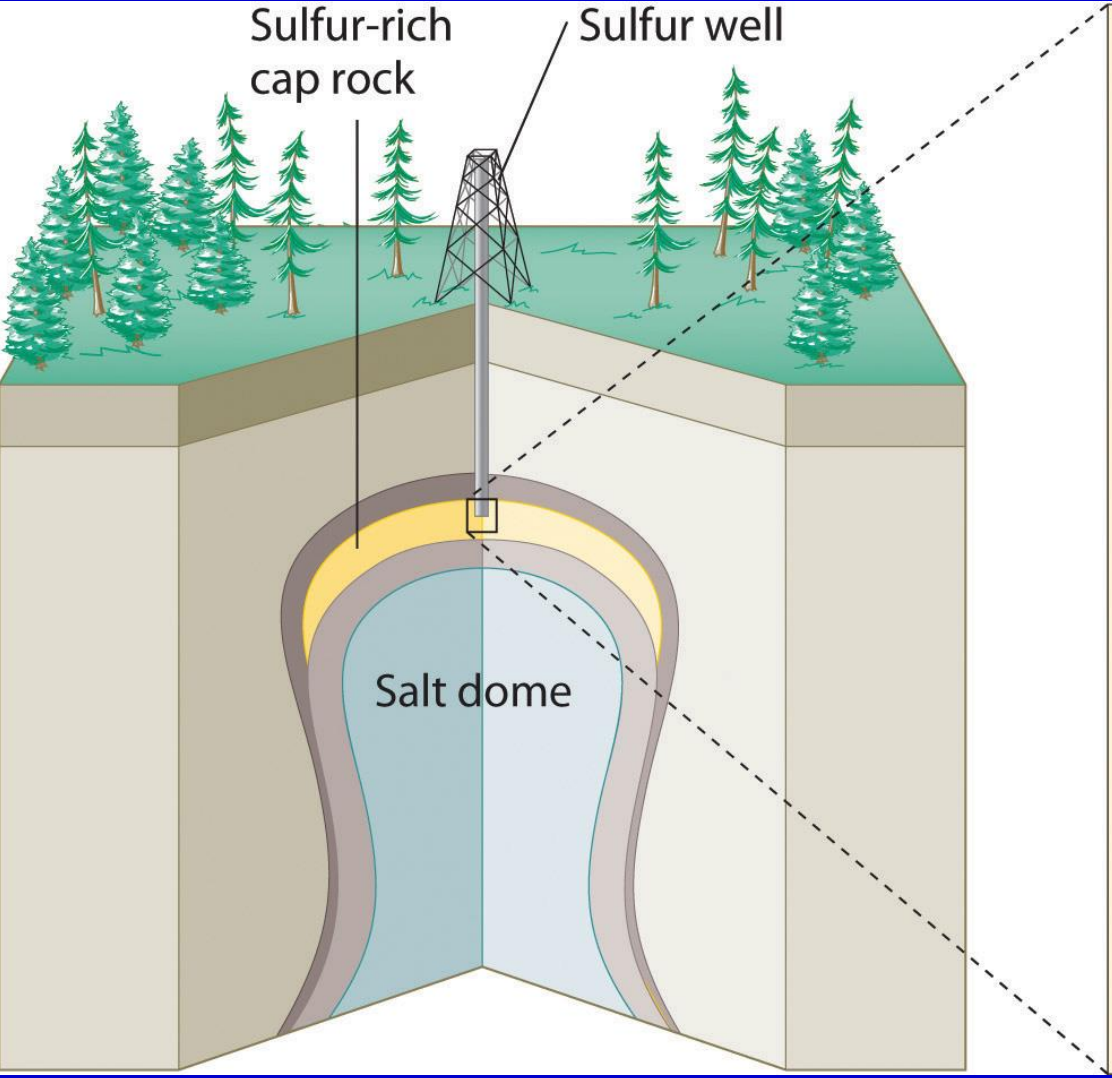


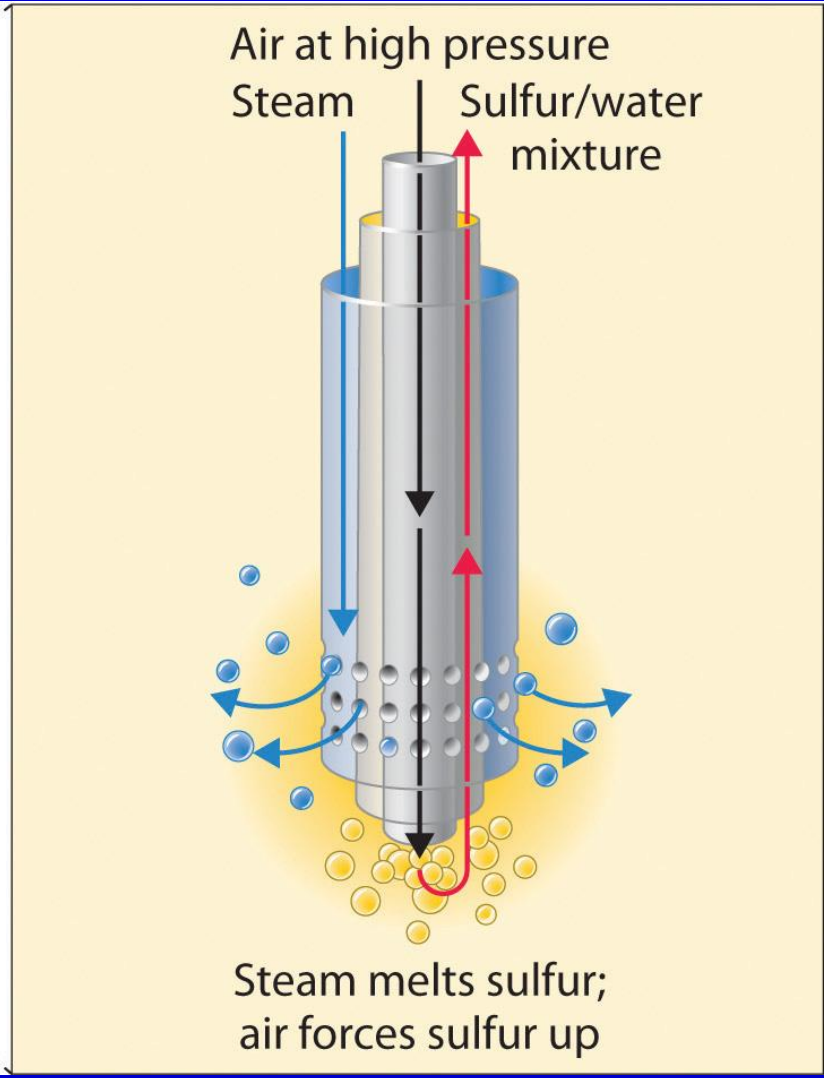
# Sulfur

# Mining

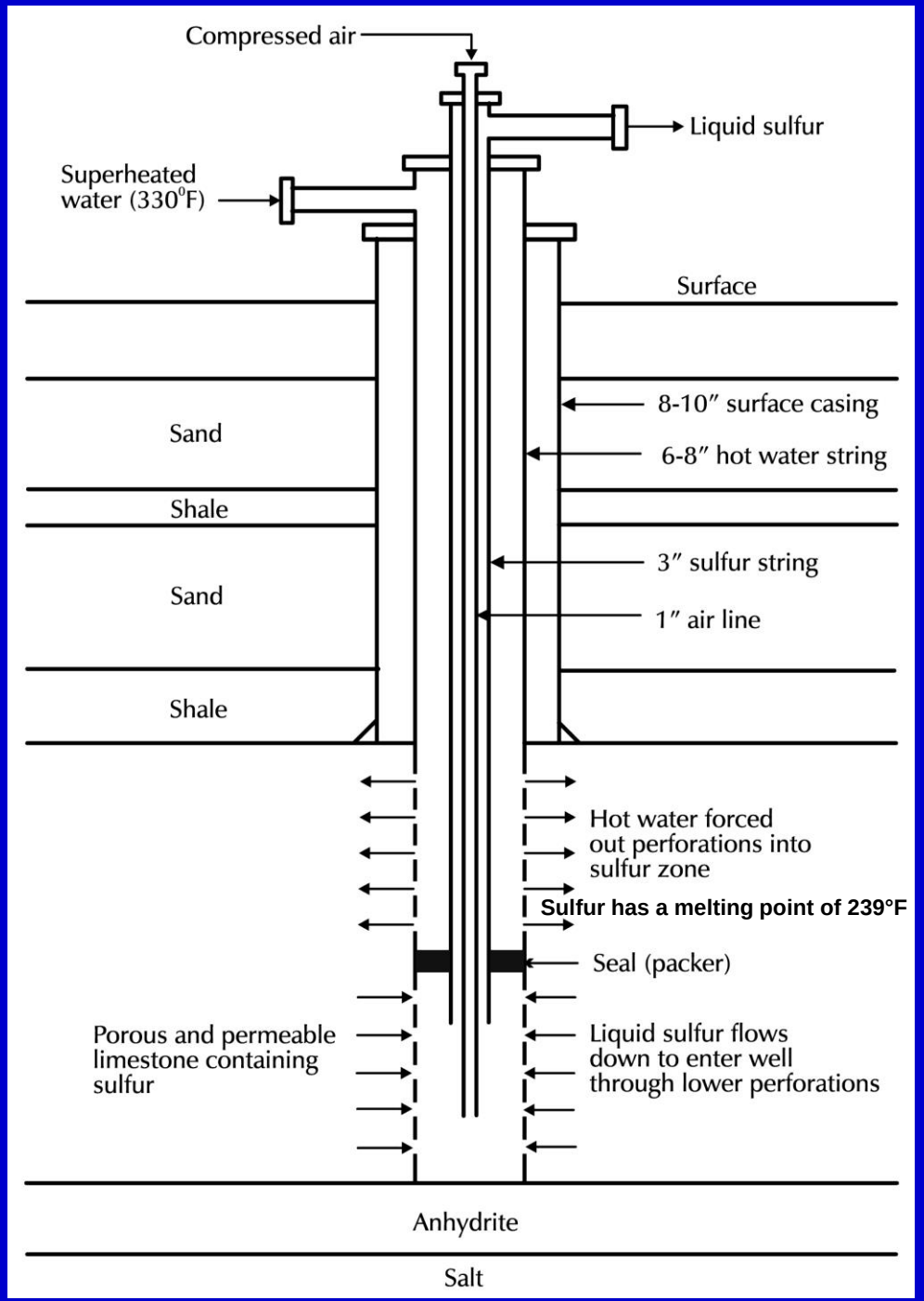
# Generalized Cross Section of a Salt Dome



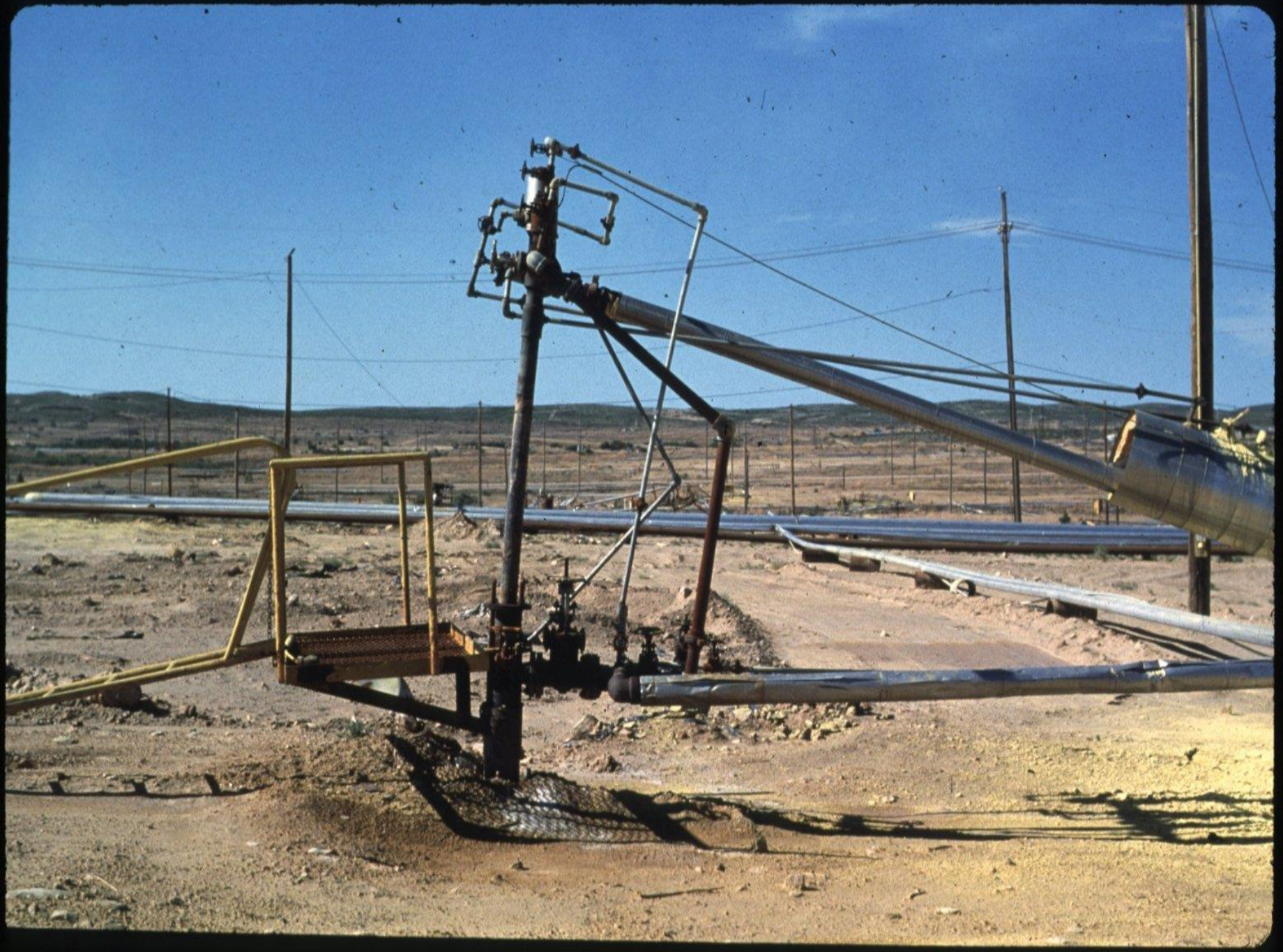

Sulfur-rich
cap rock
Sulfur well
Salt dome


Air at high pressure
Steam
Sulfur/water
mixture
Steam melts sulfur;
air forces sulfur up

# Frasch Sulfur Well




DVLX 1089



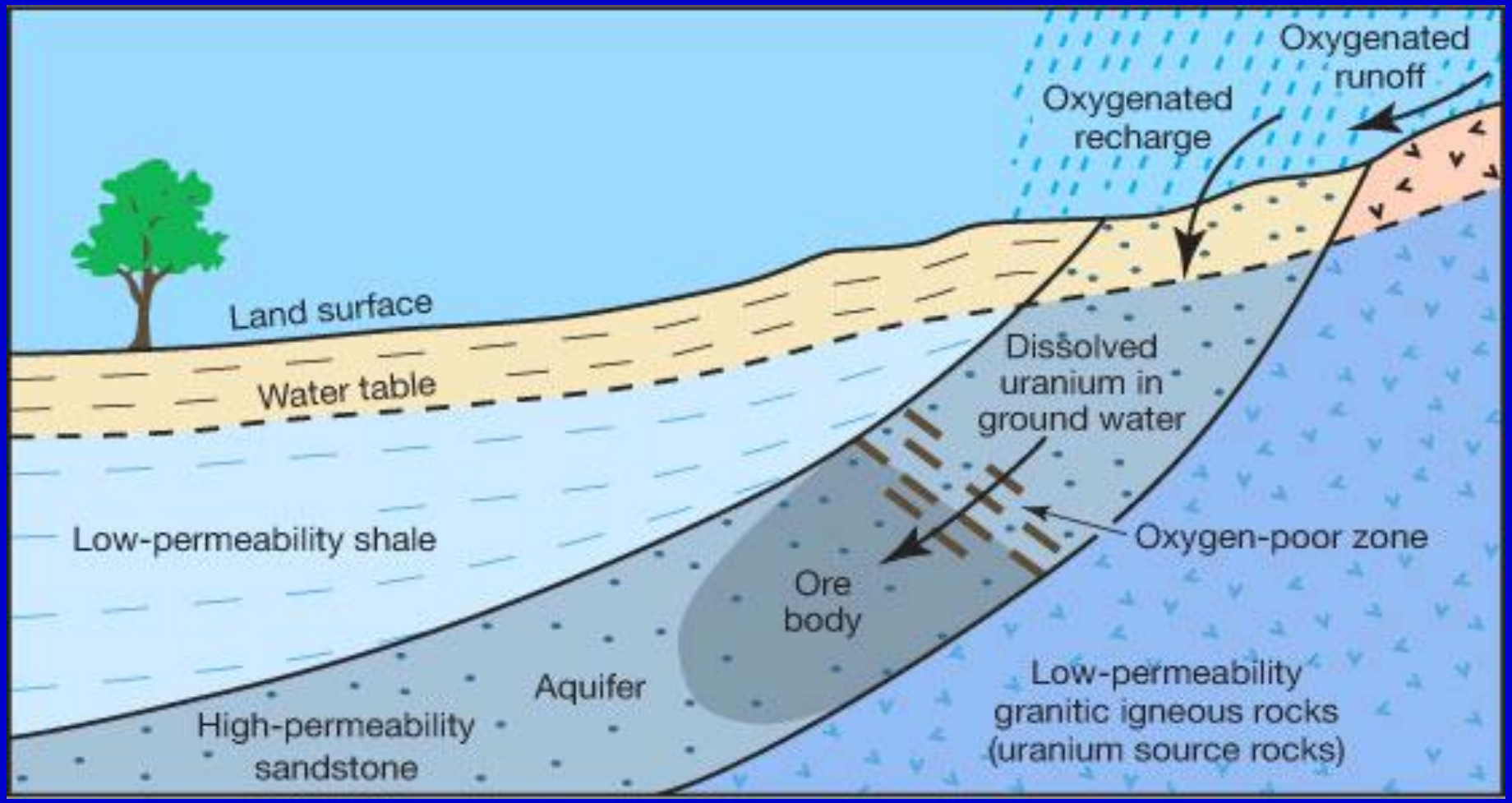

Surface Subsidence of 53 feet

# Processed Sulfur in Several Forms

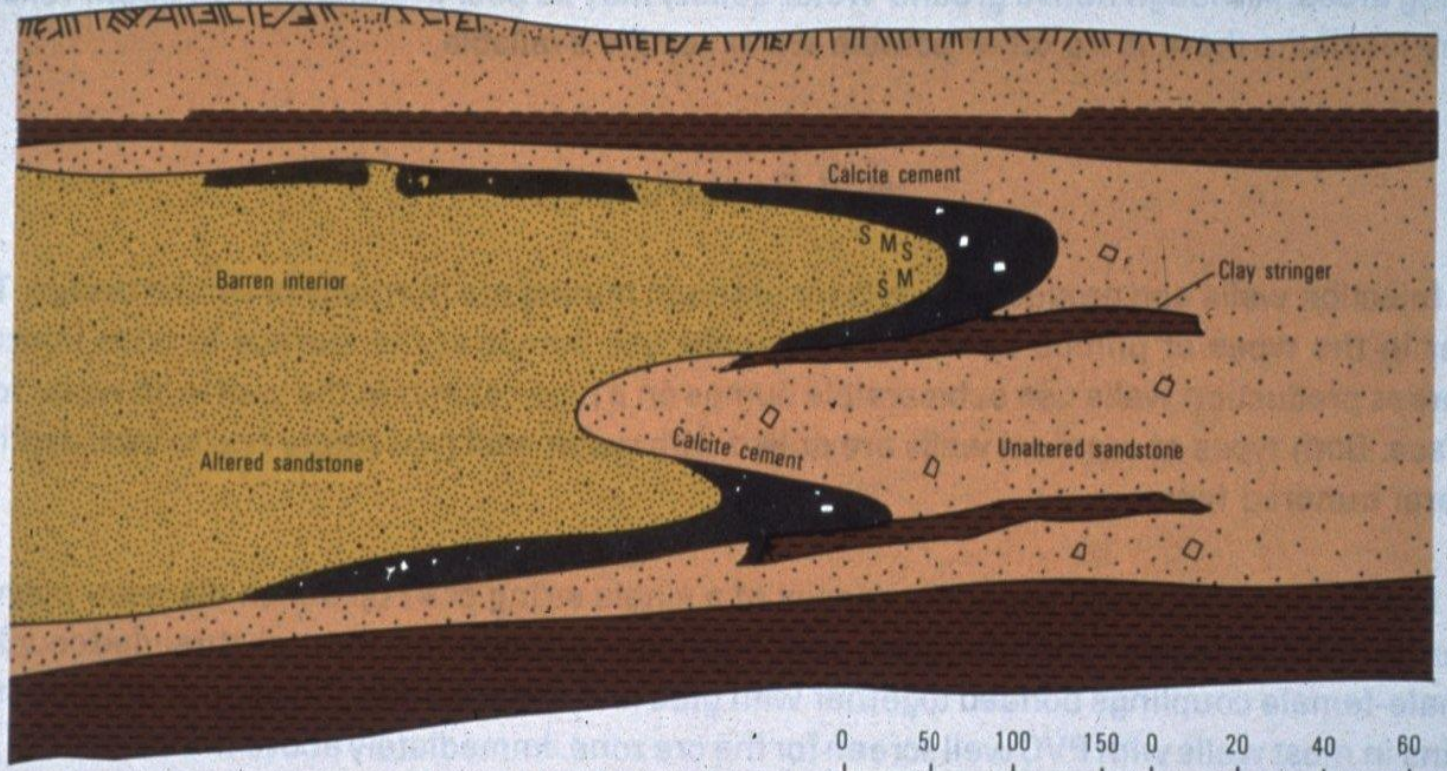
# Uranium

# Mining

# Uranium Deposition



# IDEALIZED URANIUM ROLL FRONT DEPOSITS

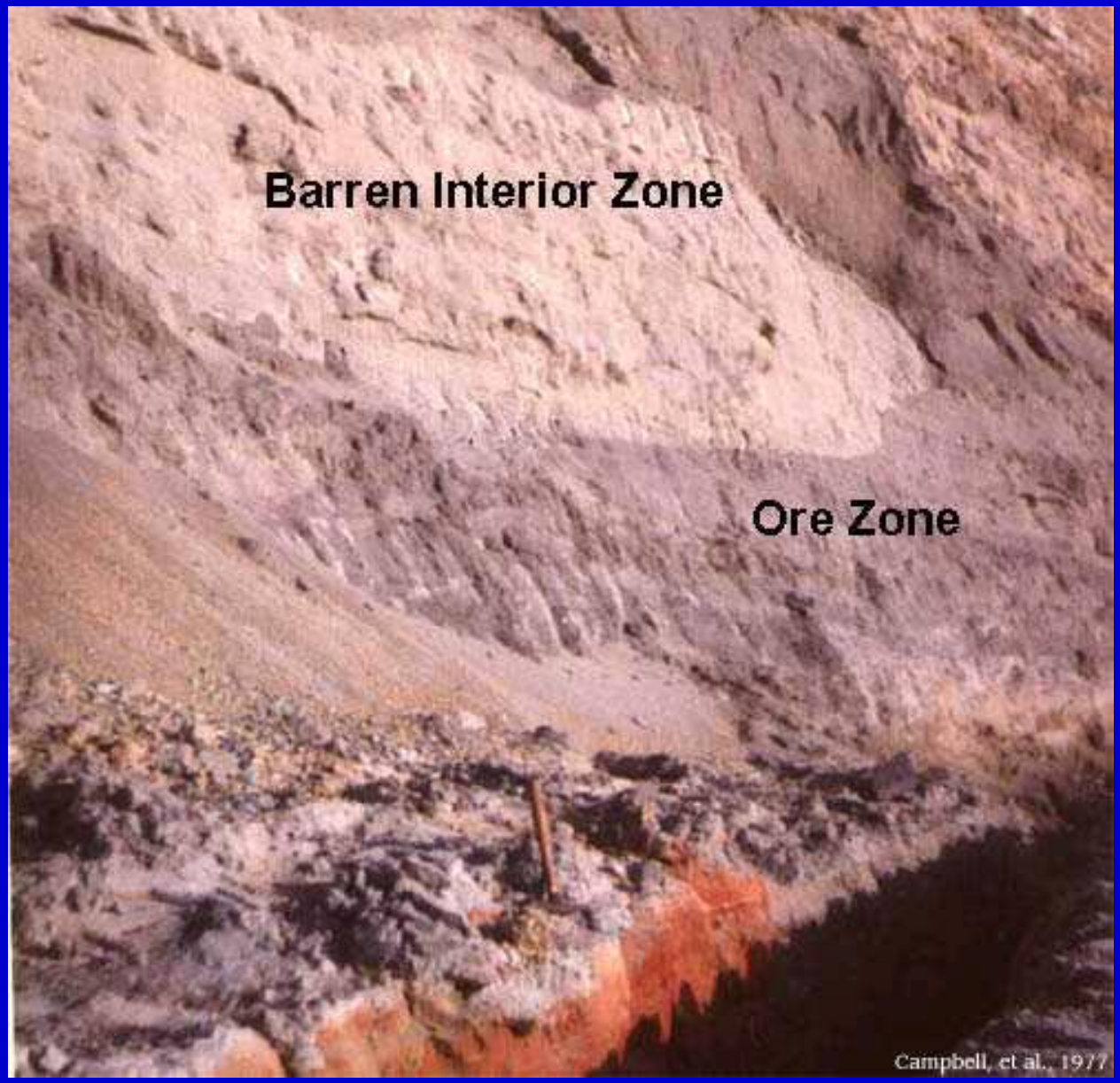


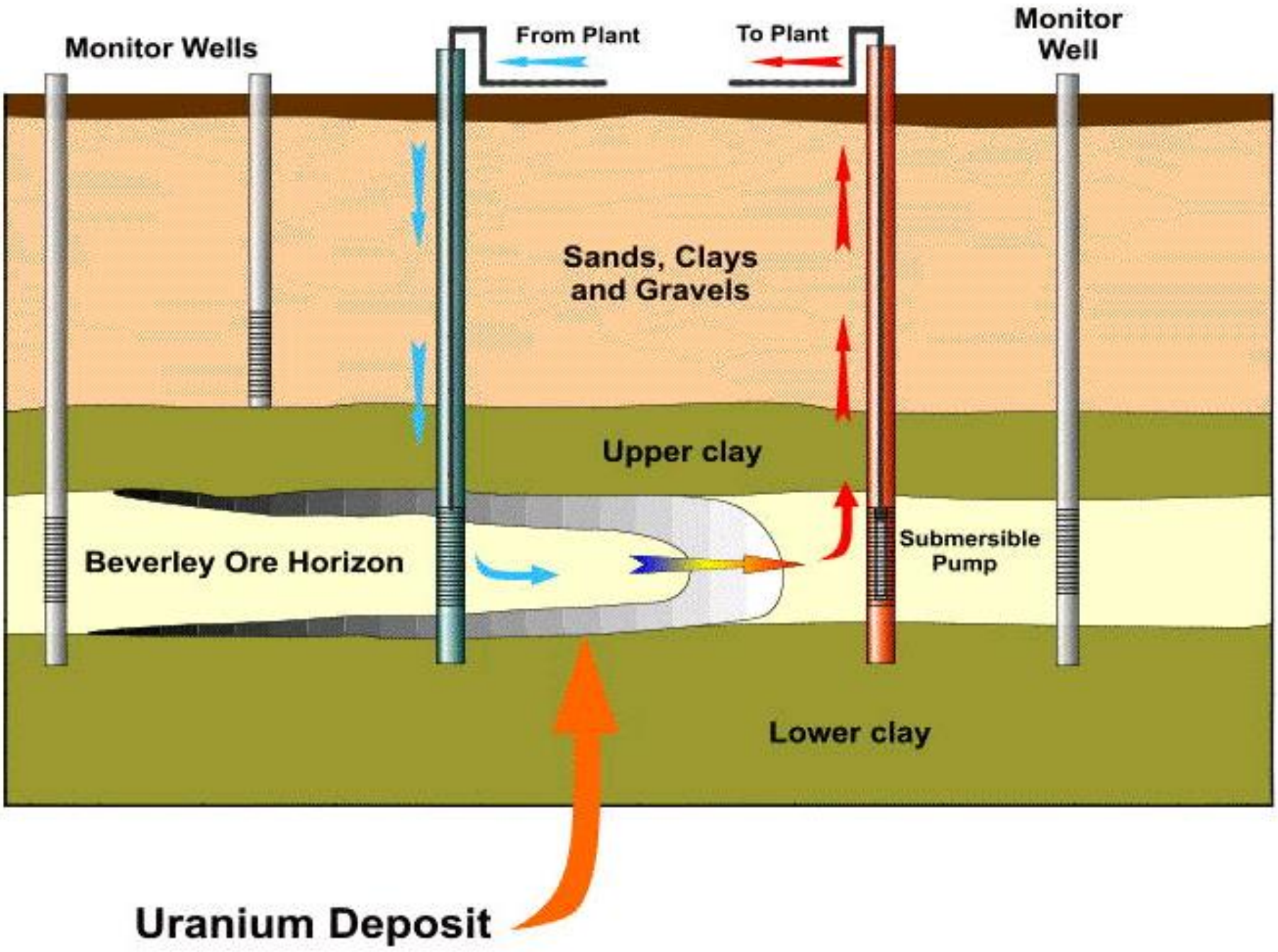

Oxidixed Barren Interior
Unaltered Sandstone
Siltstone or Claystone
Uranium Mineralization

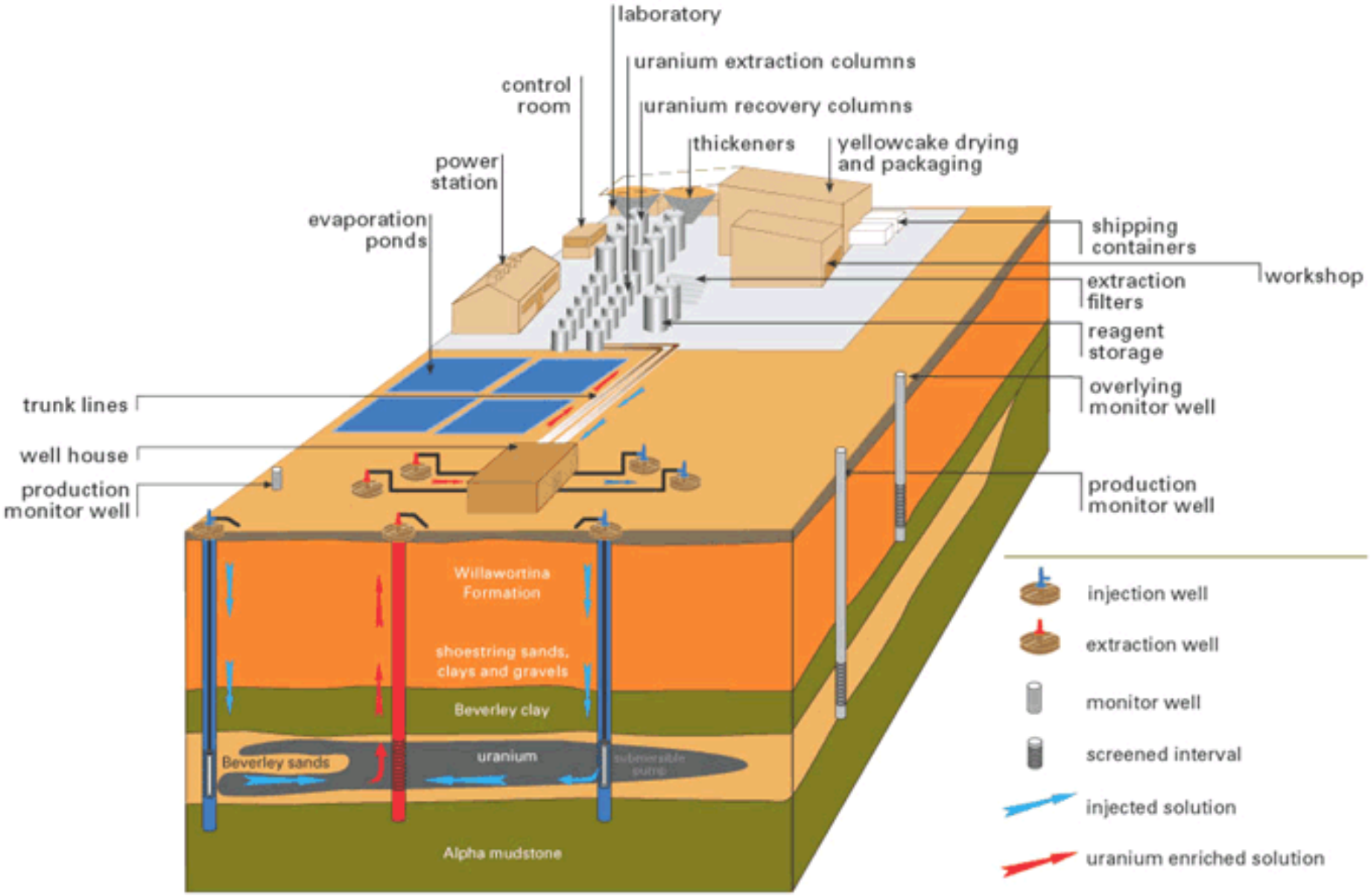
SMS
SM
Selenium
Molybdenum
ERRATIC

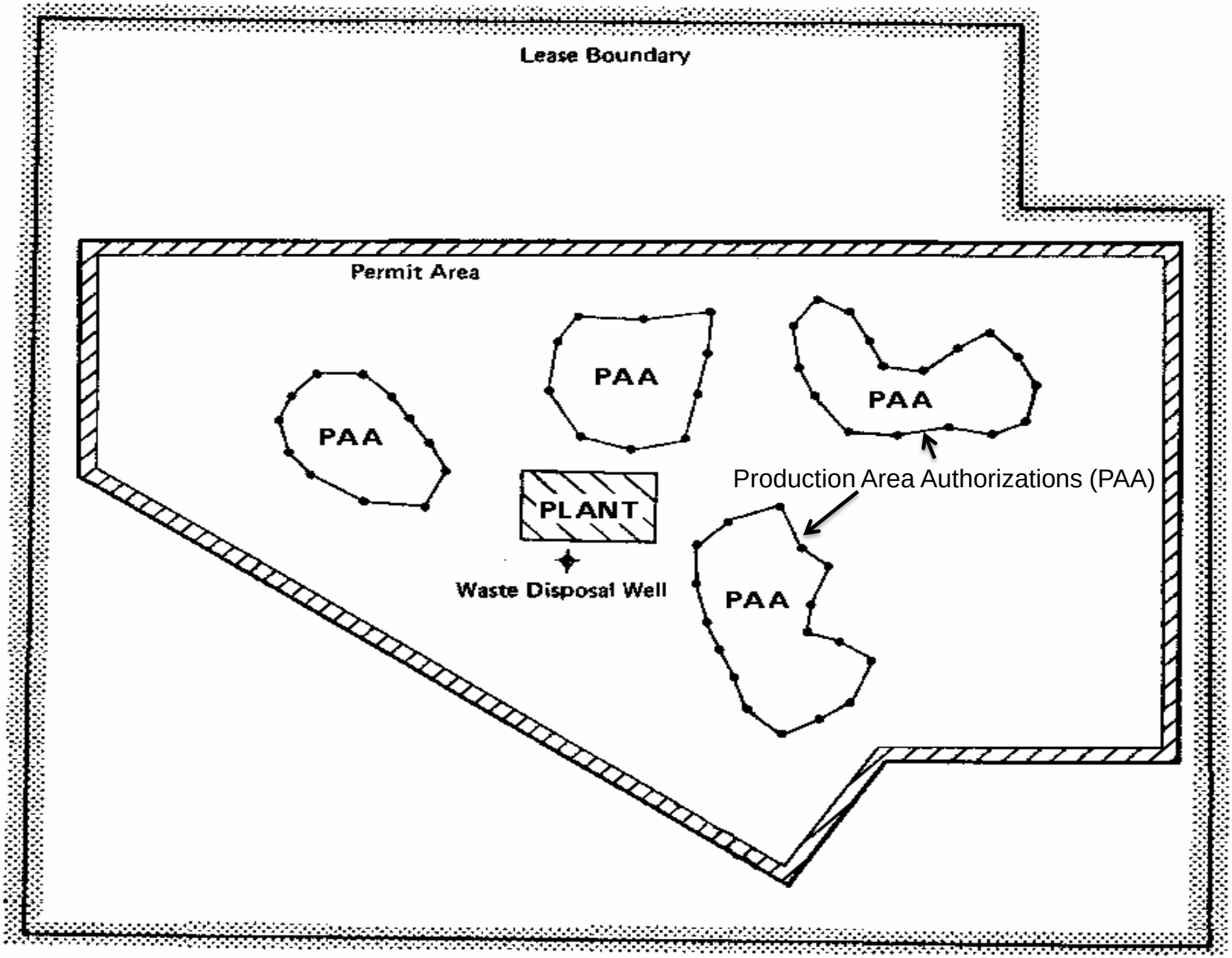
Pyrite

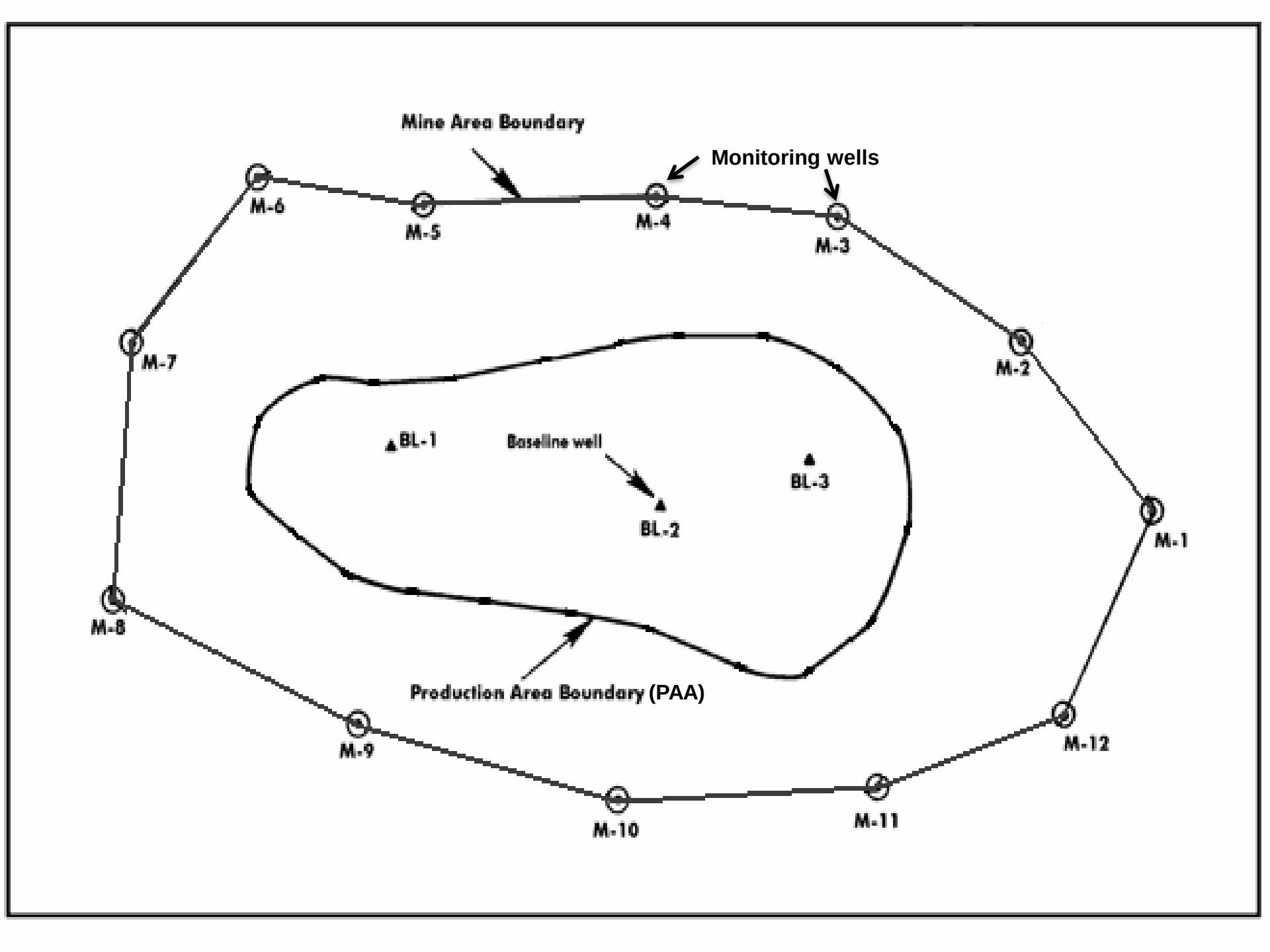
# Roll Front Uranium Deposit

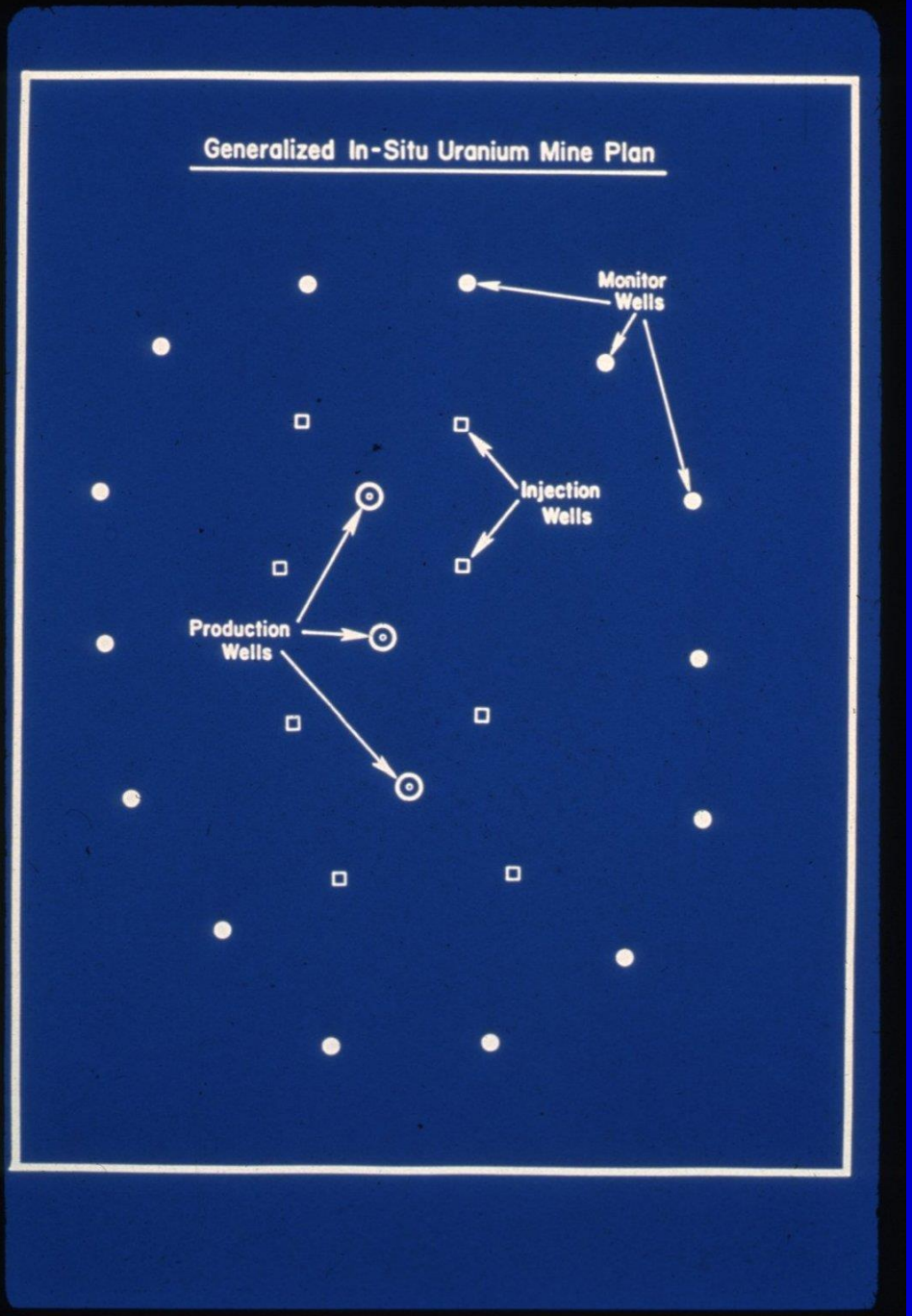



Monitor Wells
From Plant
To Plant
Monitor Well
Sands, Clays and Gravels
Upper clay
Beverley Ore Horizon
Submersible Pump
Lower clay
Uranium Deposit

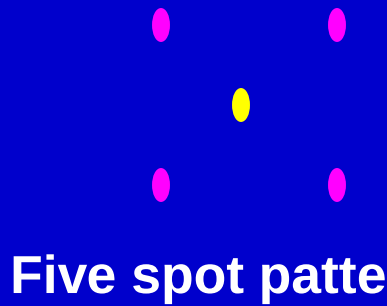

laboratory
uranium extraction columns
control room
uranium recovery columns
thickeners
yellowcake drying and packaging
power station
evaporation ponds
shipping containers
workshop
extraction filters
reagent storage
overlying monitor well
trunk lines
well house
production monitor well
production monitor well
Willawortina Formation
shoestring sands, clays and gravels
Beverley clay
Beverley sands
uranium
Alpha mudstone
injection well
extraction well
monitor well
screened interval
injected solution
uranium enriched solution


Lease Boundary
Permit Area
PAA
PAA
PAA
PLANT
Waste Disposal Well
PAA
Production Area Authorizations (PAA)

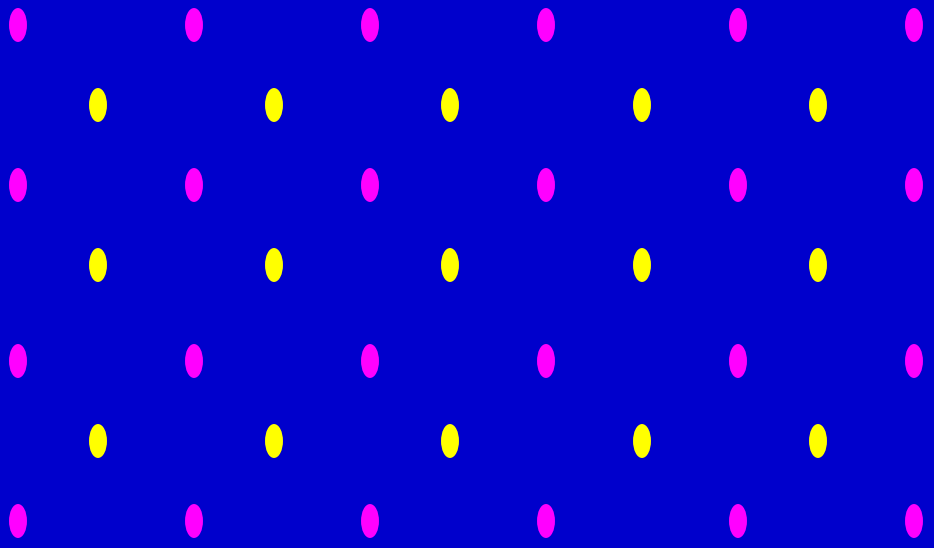

Mine Area Boundary
Monitoring wells
M-6
M-5
M-4
M-3
M-7
M-2
BL-1
Baseline well
BL-3
BL-2
M-1
M-8
Production Area Boundary (PAA)
M-9
M-12
M-10
M-11


Generalized In-Situ Uranium Mine Plan
Monitor Wells
Injection Wells
Production Wells

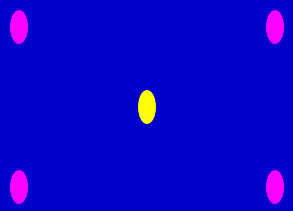
# Common Patterns of Injection and Production Wells



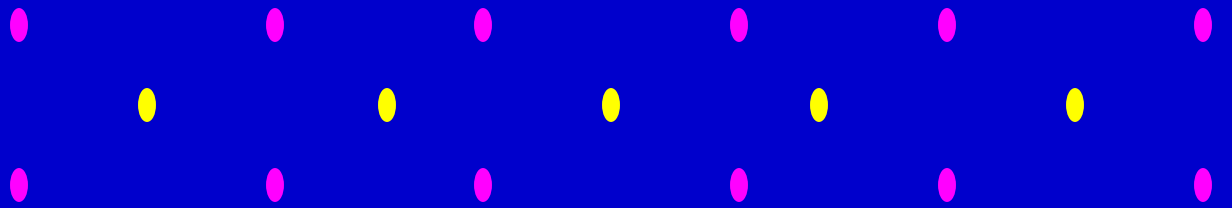
Five spot pattern



Multiple five spot pattern



Staggered line drive pattern



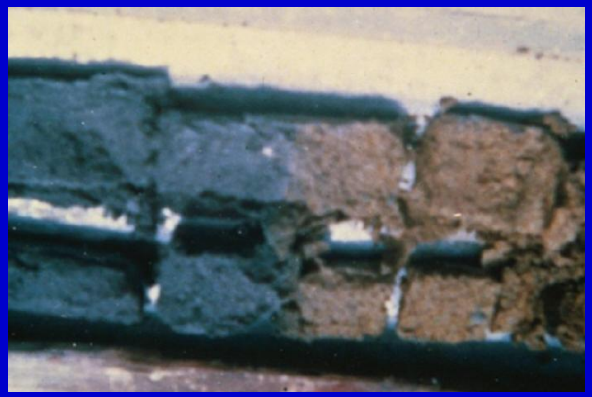
Multiple staggered line drive pattern

In situ wellfield with numerous injection and extraction wells

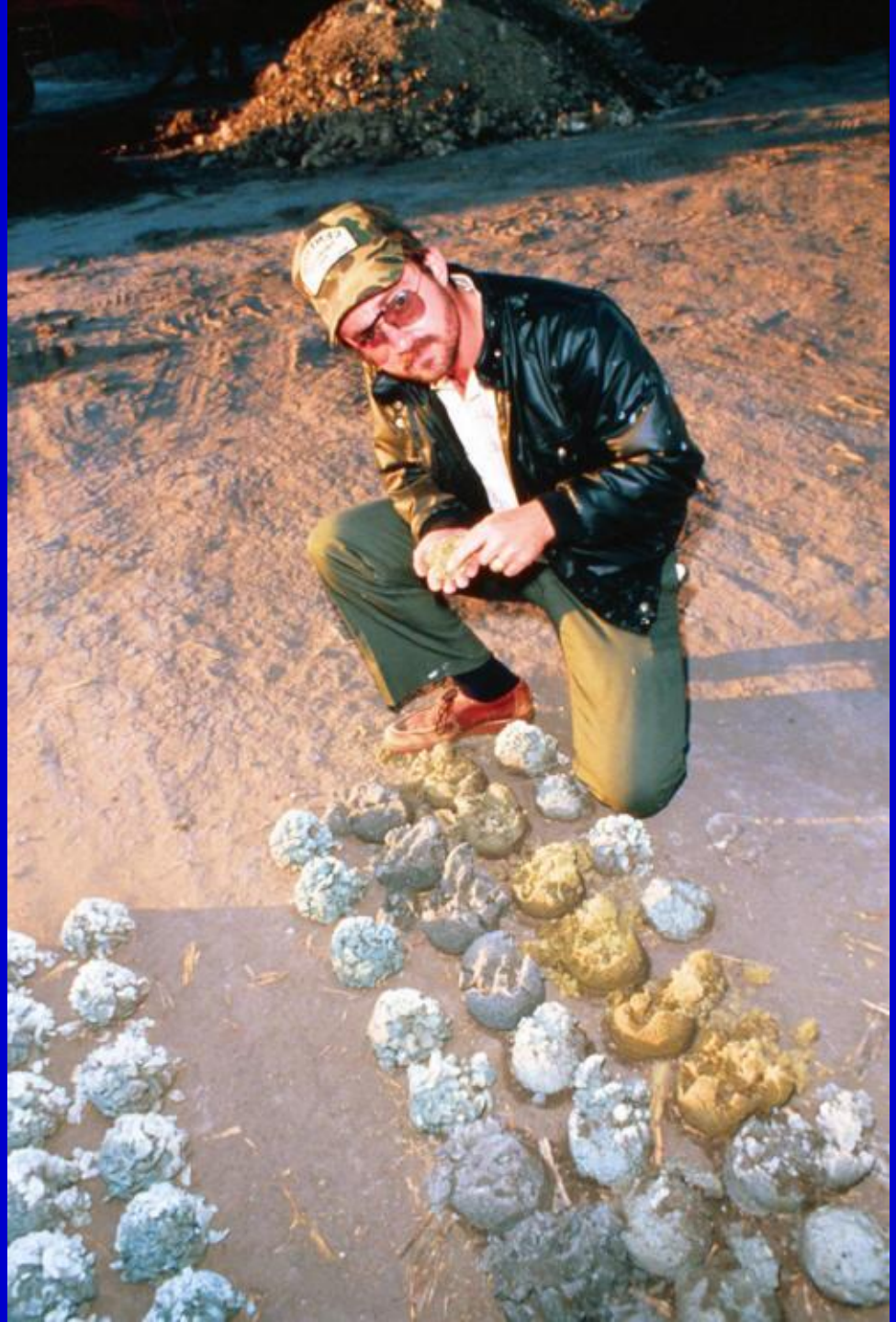
Open Pit Uranium Mine

# Drilling Rigs

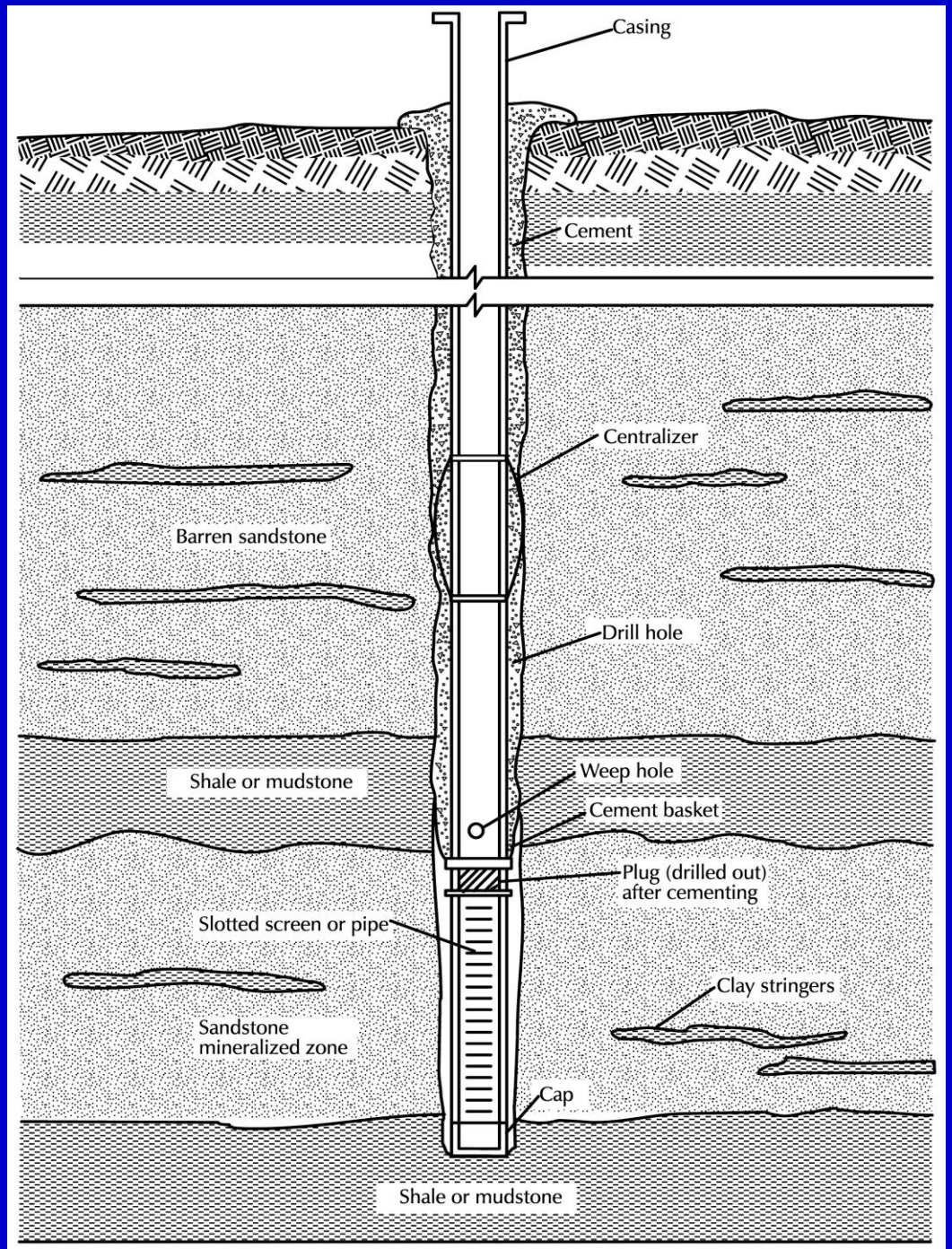
# Well Core



# Drill Cuttings

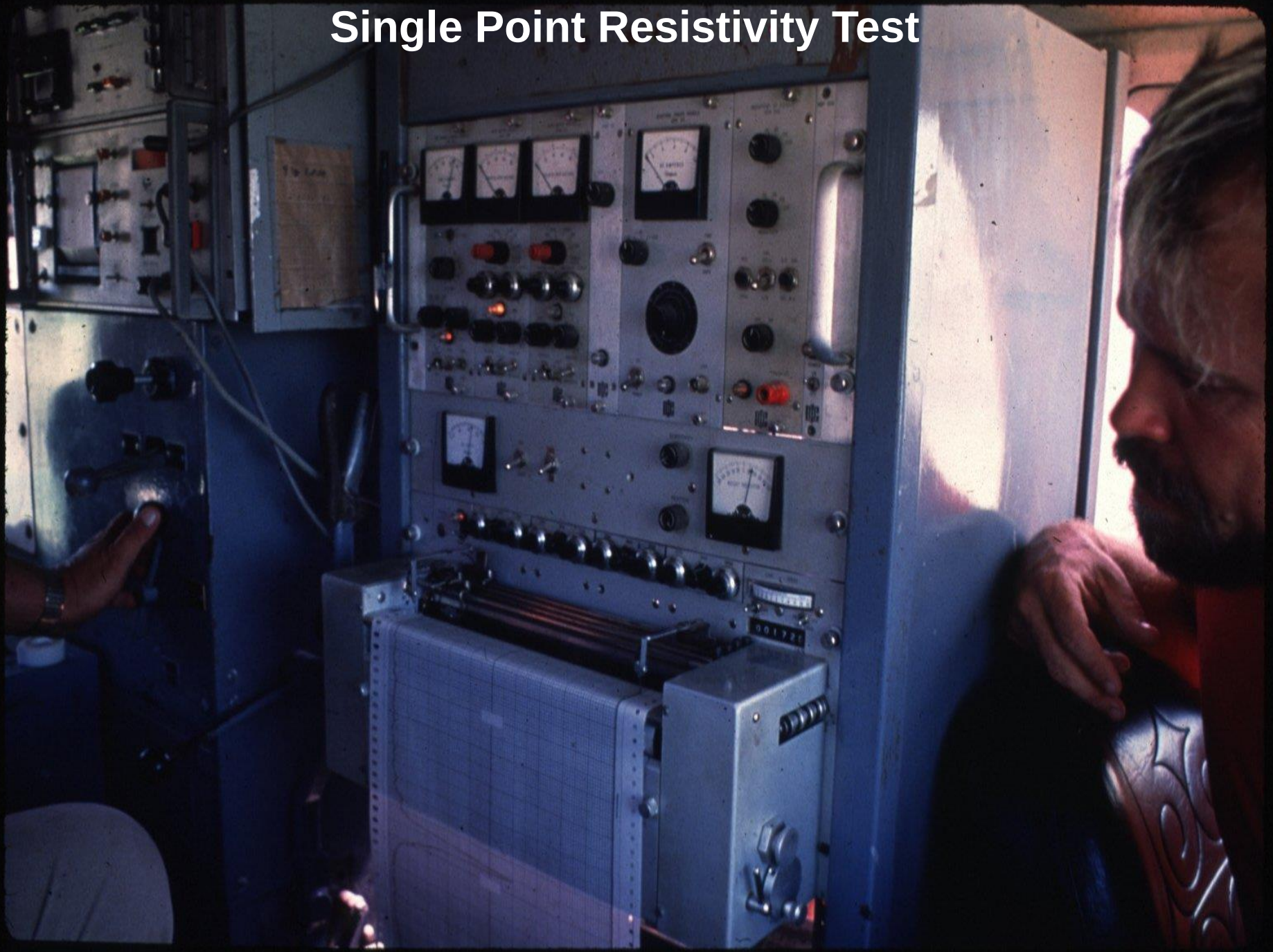


# Uranium Mining Well



Single Point Resistivity wireline truck

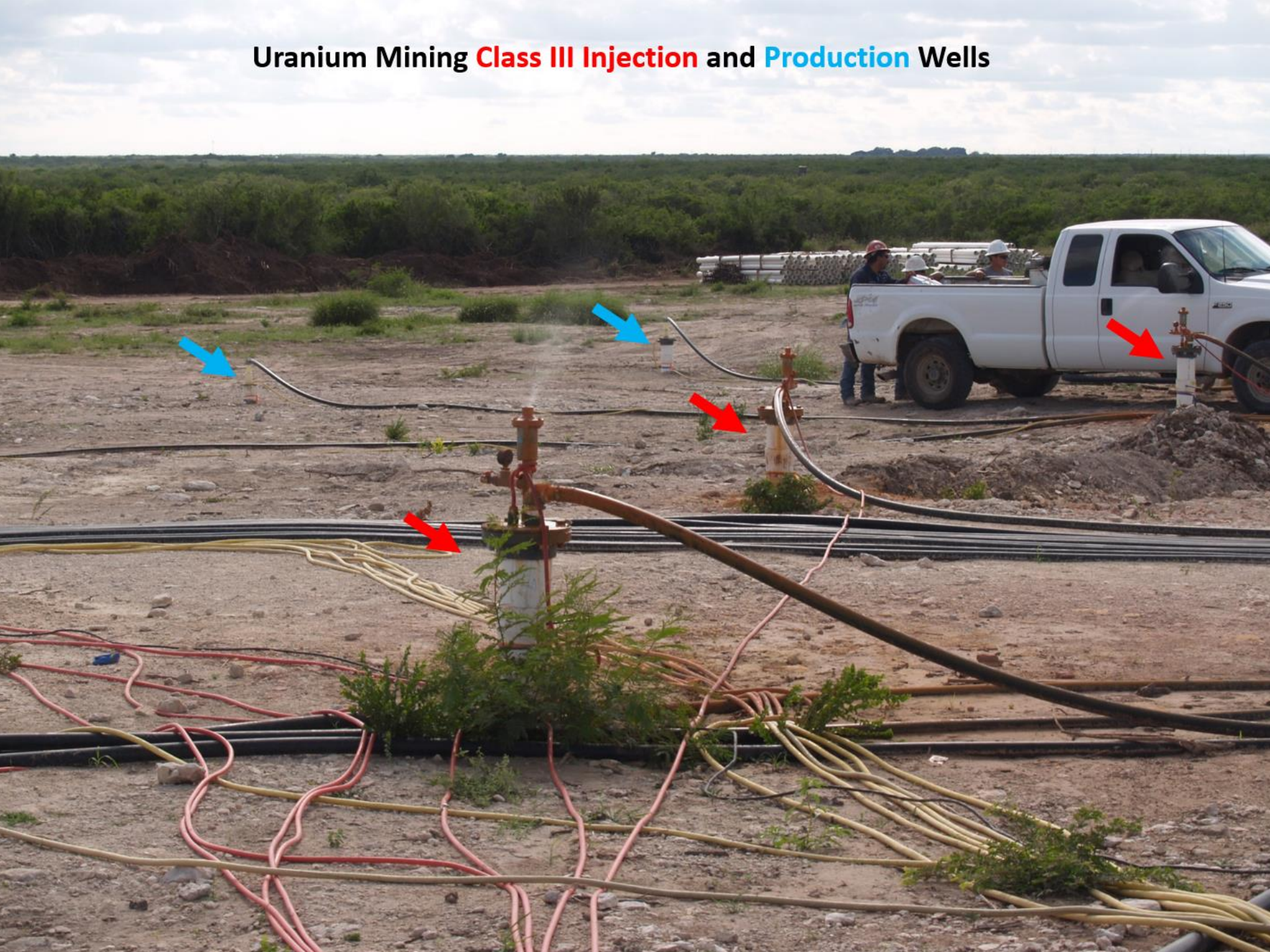
# Single Point Resistivity Test

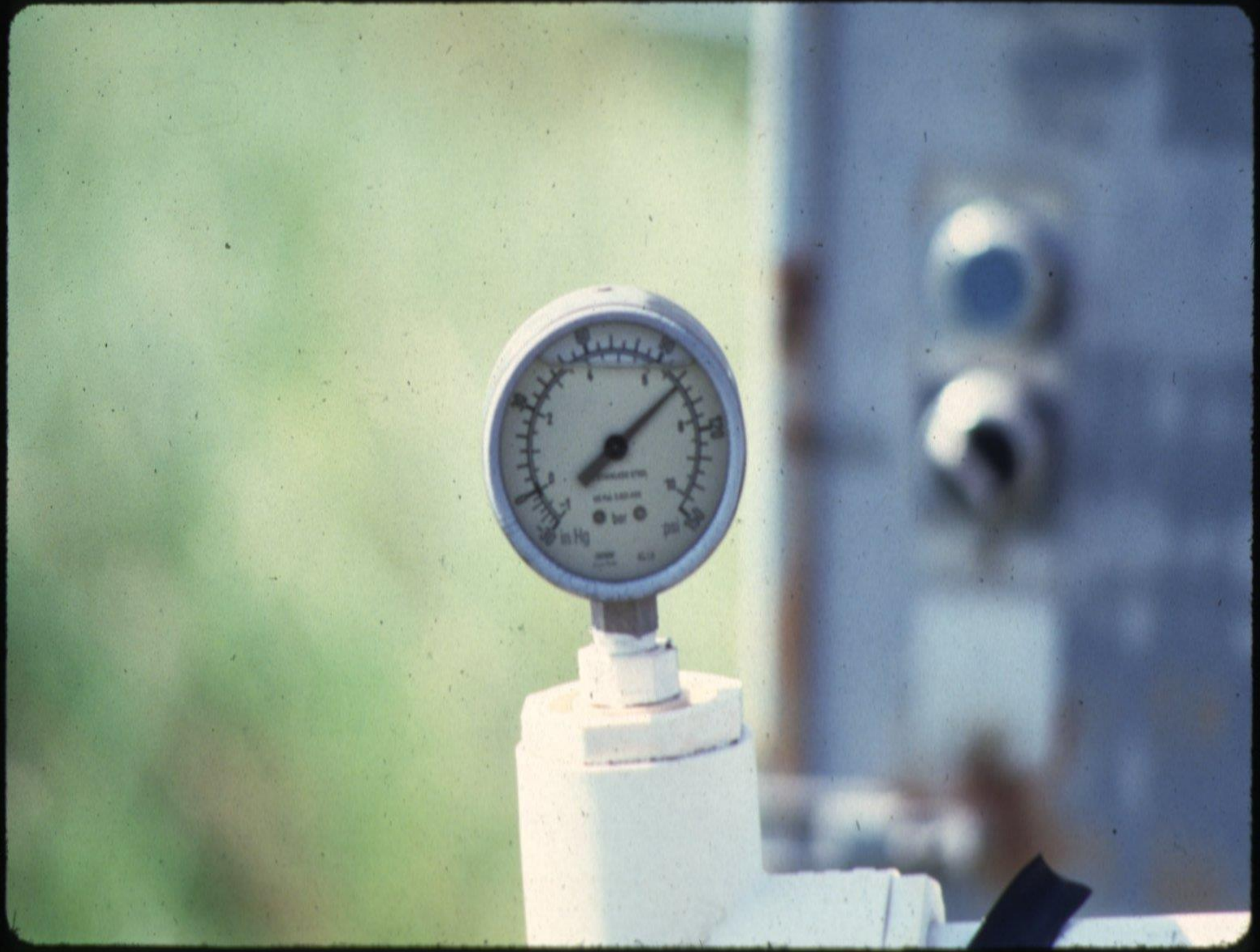


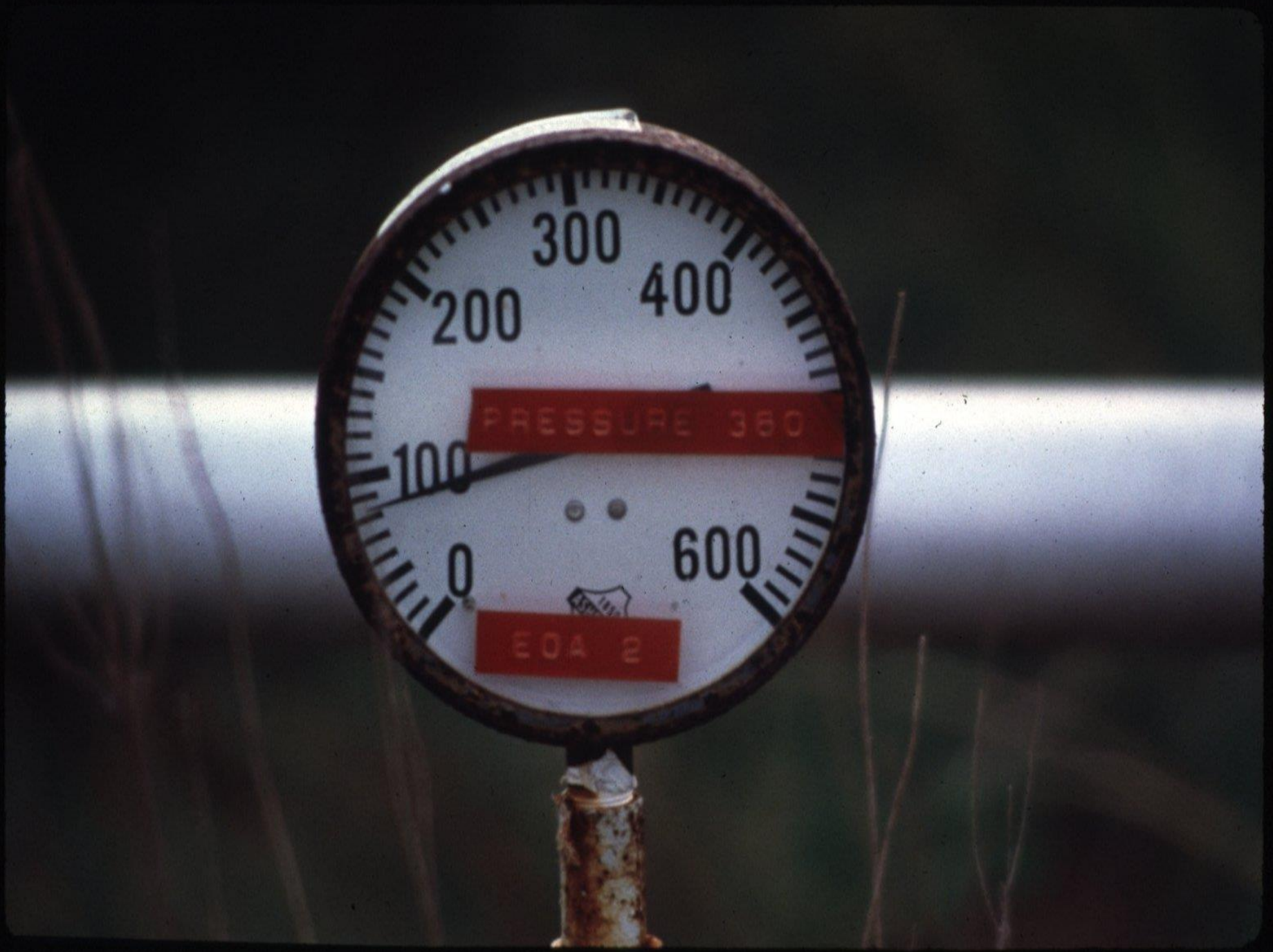
# Testing a Well to Make Sure it Will Produce Water

Flow Lines and Meters

# Uranium Mining Class III Injection and Production Wells

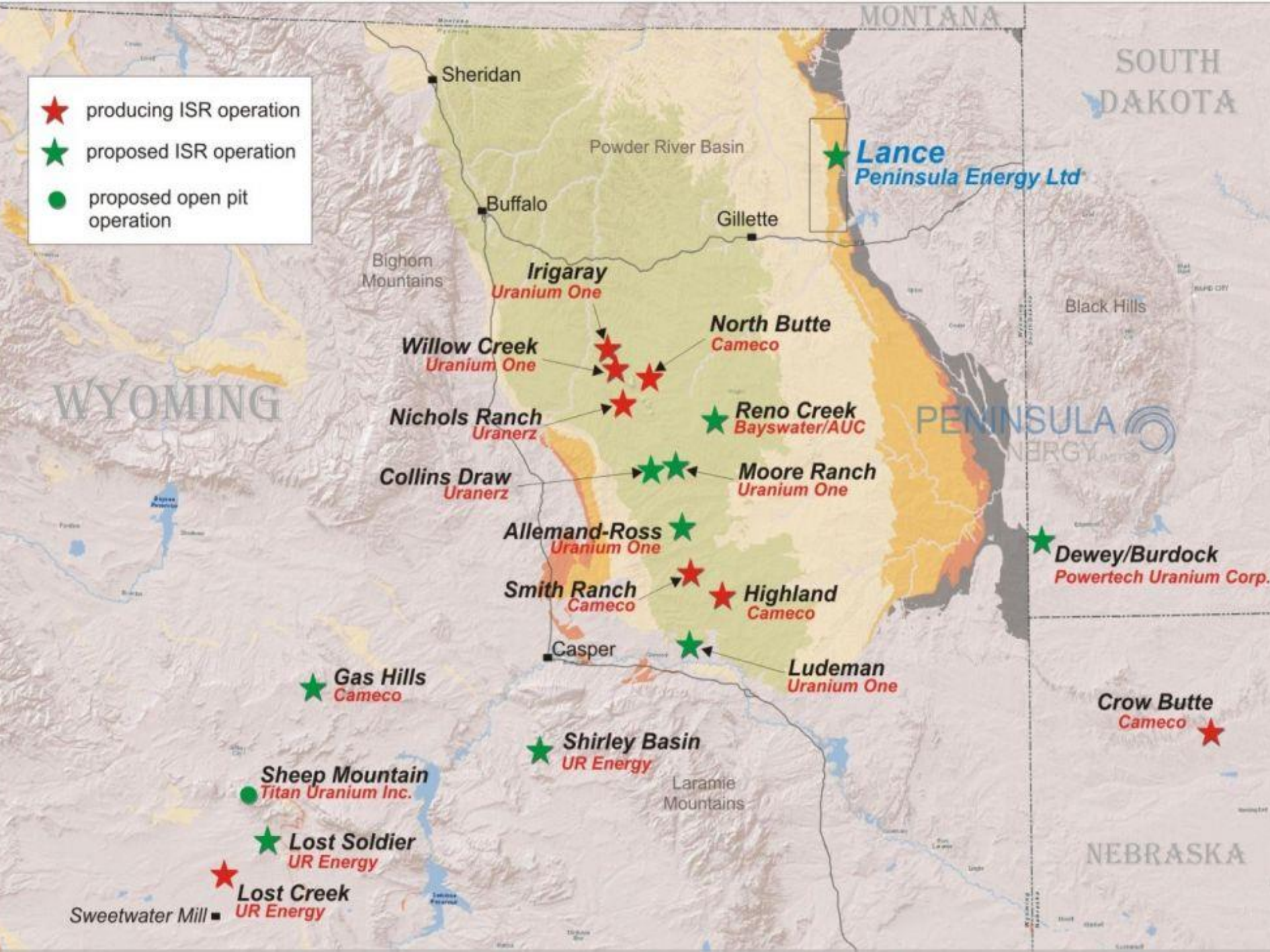





300
200
400
PRESSURE 360
100
0
600
EOA 2

Reverse Osmosis Equipment

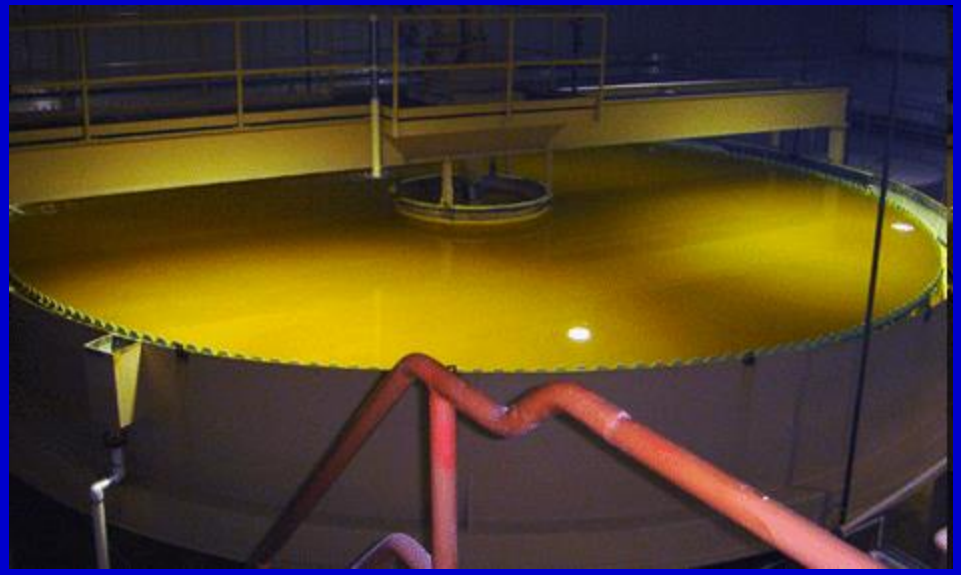
# Liquid Oxygen Storage Tank


producing ISR operation
proposed ISR operation
proposed open pit operation
MONTANA
SOUTH DAKOTA
NEBRASKA
WYOMING
Sheridan
Powder River Basin
Buffalo
Gillette
Bighorn Mountains
Black Hills
Laramie Mountains
Casper
Lance
Peninsula Energy Ltd
Irigaray
Uranium One
North Butte
Cameco
Willow Creek
Uranium One
Nichols Ranch
Uranerz
Reno Creek
Bayswater/AUC
Collins Draw
Uranerz
Moore Ranch
Uranium One
Allemand-Ross
Uranium One
Dewey/Burdock
Powertech Uranium Corp.
Smith Ranch
Cameco
Highland
Cameco
Ludeman
Uranium One
Gas Hills
Cameco
Crow Butte
Cameco
Shirley Basin
UR Energy
Sheep Mountain
Titan Uranium Inc.
Lost Soldier
UR Energy
Lost Creek
UR Energy
Sweetwater Mill

Crow Butte - Well field operations foreman monitors the flows from each of the ISR production wells from the well house.

# Smith Ranch Mine Integrity Test


# Smith Ranch



# Nichols Ranch Wellfield

# Submersible Pumps

# Monitoring Well


SAN ANTONIO
CHEVRON
"Panna Maria"
Producing Mill and
Surface Mines
CHEVRON
"Jack Pump"
Surface Mines
CITIES SERVICE
"Duderstadt"
abandoned
CONQUISTA
"Thomas"
surface mine
TEXURA
"Zunker - Lysey"
abandoned
SOLUTION ENGINEERING
"S W Tailing Ponds"
Remedial Action site
EVEREST
"Hobson"
restoration
CONOCO - PIONEER
"Conquista"
mill and surface mines
TEXACO- "Hobson"
Production Plant and
Engineering
MOBIL
"Neil"
Restoration
WYOMING MINERAL
"Benham"
I.E.C.
"Pawnee"
Restoration
I.E.C.
"Zamzow"
Wyoming Mineral
"Lamprecht"
Restoration
EXXON
"Felder"
USS- NM
"Clay West"
Restoration
ANACONDA
"Rhodes Ranch"
Surface Mines
EVEREST
"Mt Lucas"
Restoration
U.S. STEEL
"Burns"
Restoration
MOBIL
"Piedre Lumbre Brelum"
restoration
Guadalupe River
San Antonio River
Frio River
Nueces River
Nueces River
GULF OF MEXICO
WYOMING MINERAL
"Bruni"
(WESTINGHOUSE)
U.R.I.
"Benavides"
Restoration
CHEVRON
"Palongone"
Restoration
UREX
"Santonino"
pilot test
LAREDO
MOBIL
"Holiday - El Mesquite"
Restoration
U.R.I.
"Kingsville Dome"
TOTAL
"West Cole"
EVEREST
"Las Palmas"
Restoration
MOBIL
"O Hern"
CAITHNESS
"McBryde"
Restoration
CAITHNESS
"Silver Lake"
Restoration
URI
"Bruni"
URI
"Gray"
CONOCO
"Trevino"
Restoration
CONVENTIONAL STRIP MINE
IN-SITU LEACH SITE

# Kingsville Dome – Goliad 600 – 750’ (1988)


The Alta Mesa ISR (2006)


Goliad 420 – 810’

Ion exchange columns at a Texas ISR operation

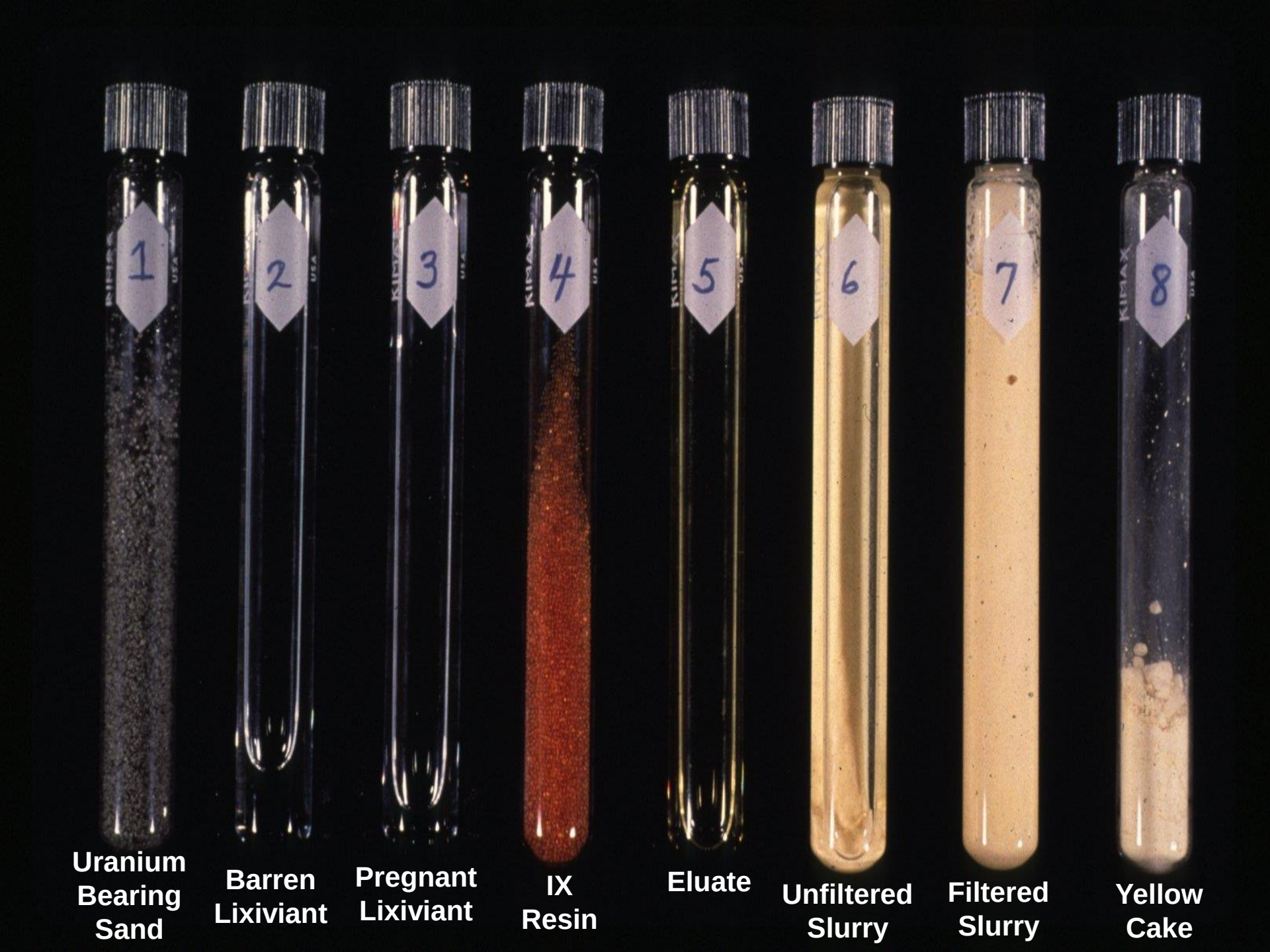
Ion exchange resin beads used in the ISR process

Precipitation of uranium

# Filter Press

Employee removing uranium from a filter press

# Zero-emission Rotary Vacuum Dryer

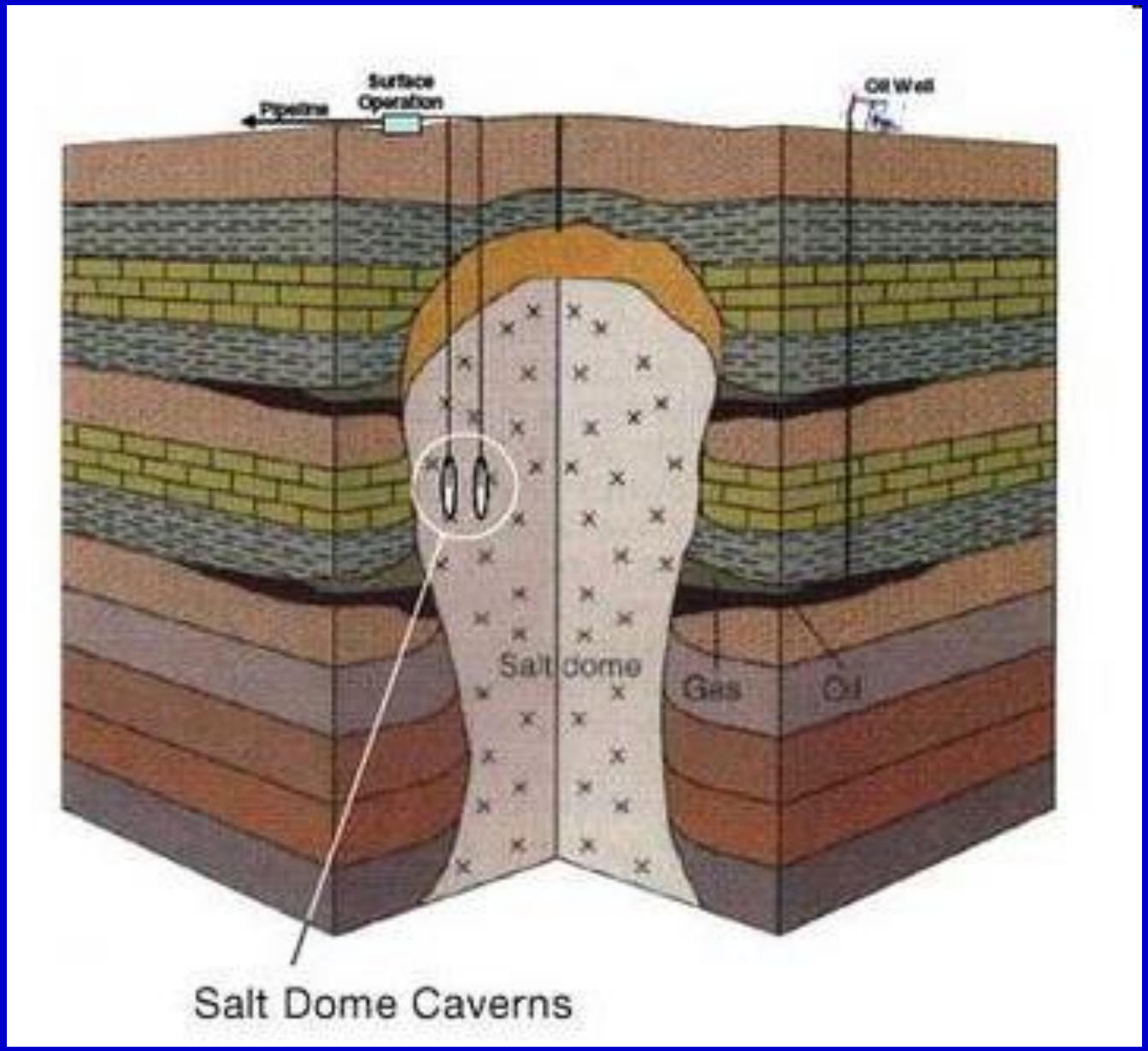

1
2
3
4
5
6
7
8
Uranium Bearing Sand
Barren Lixiviant
Pregnant Lixiviant
IX Resin
Eluate
Unfiltered Slurry
Filtered Slurry
Yellow Cake

# Yellowcake Uranium in Barrel for Shipping
# One Barrel weighs about 1,000 pounds

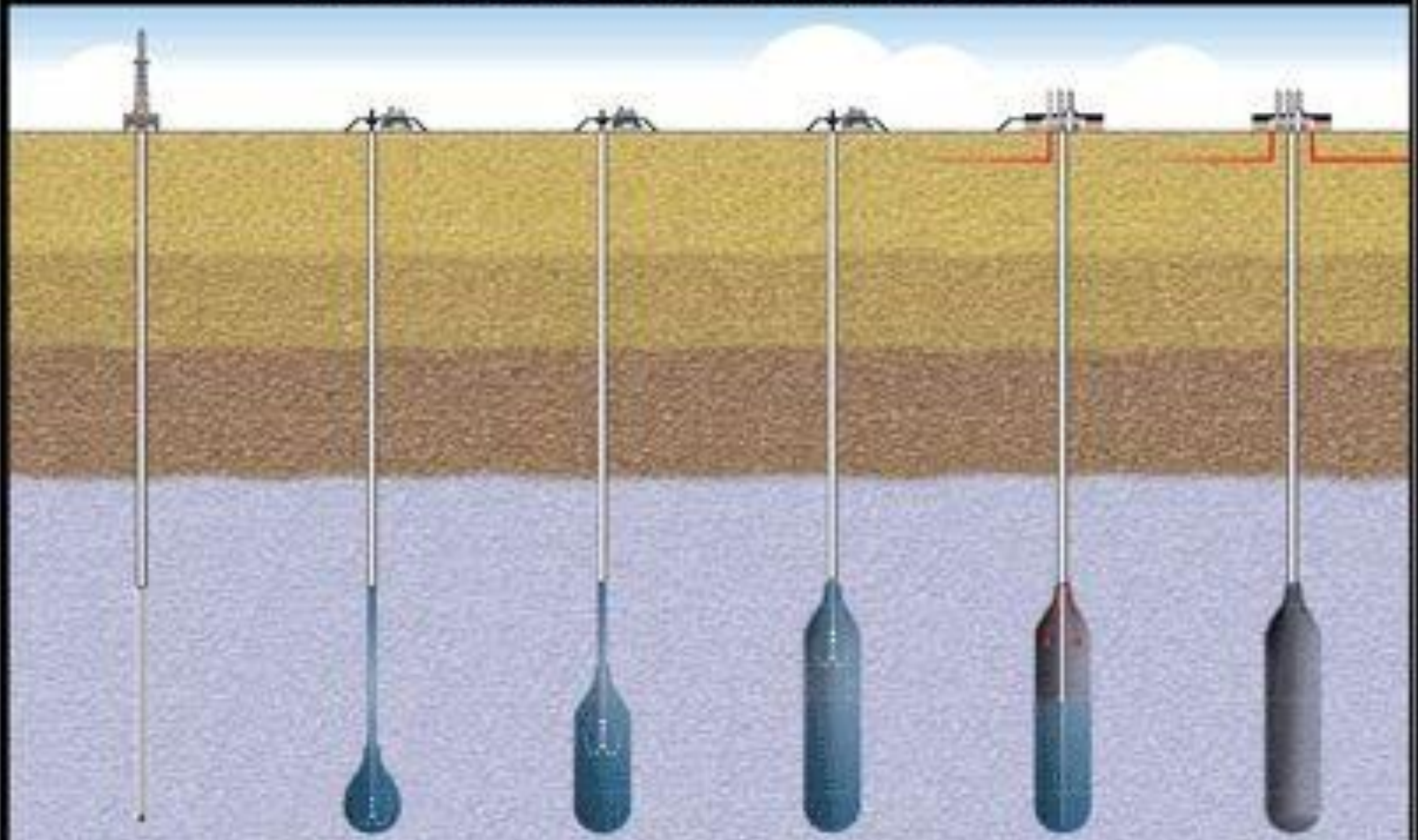
Class I Nonhazardous Disposal Well

# Brine Mining

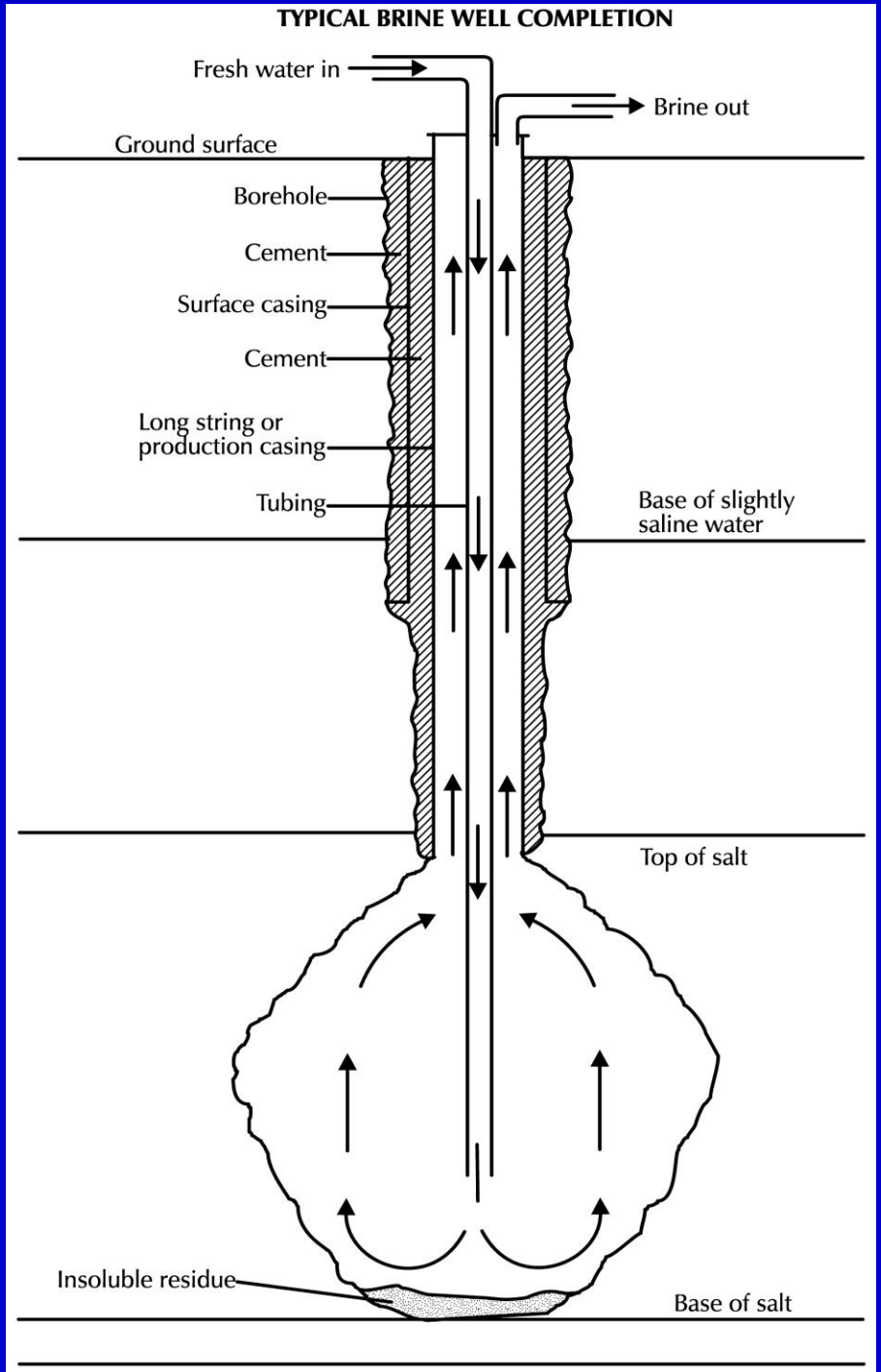
# Solution Brine Mining



# The Solution Mining Process



# Brine Mining Well



# Brine Mine Wellhead

TYPICAL SCHEMATIC OF A CONTEMPORARY MANISTEE FRACTURED SALT GALLERY

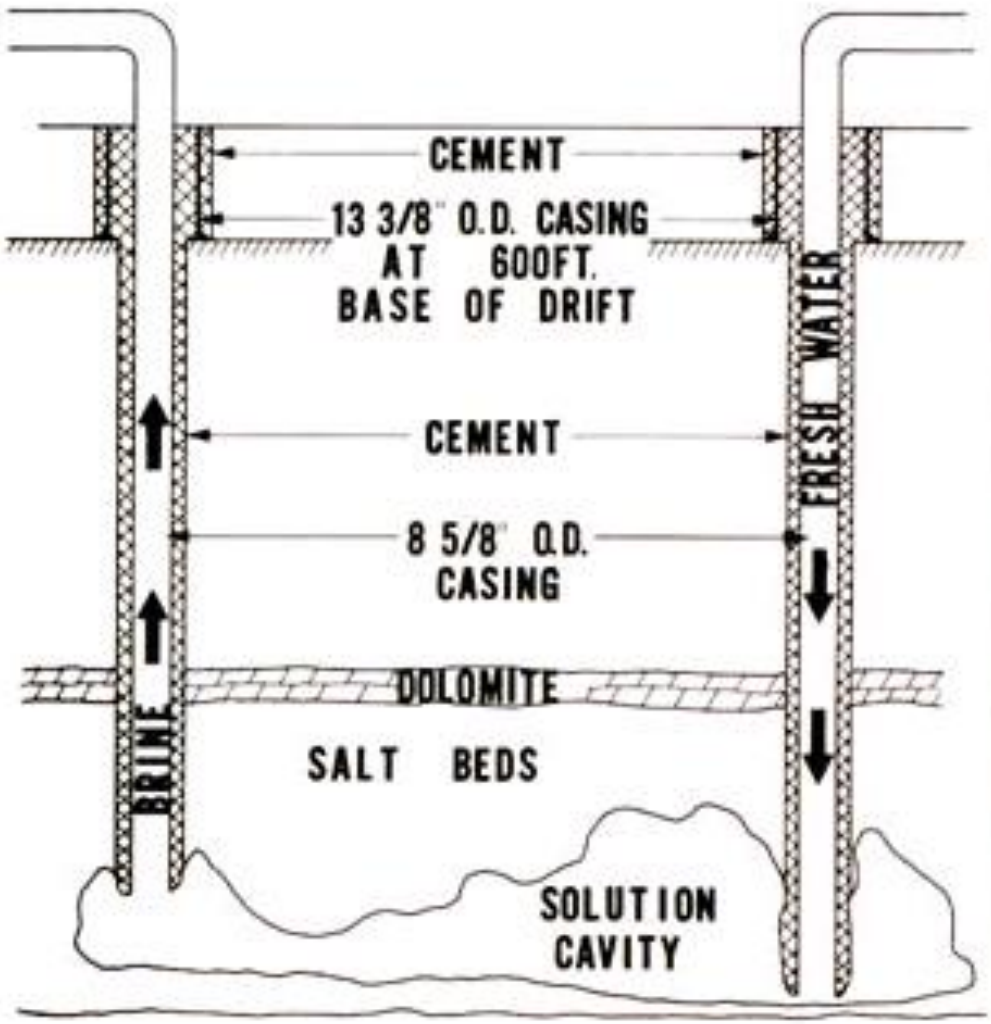
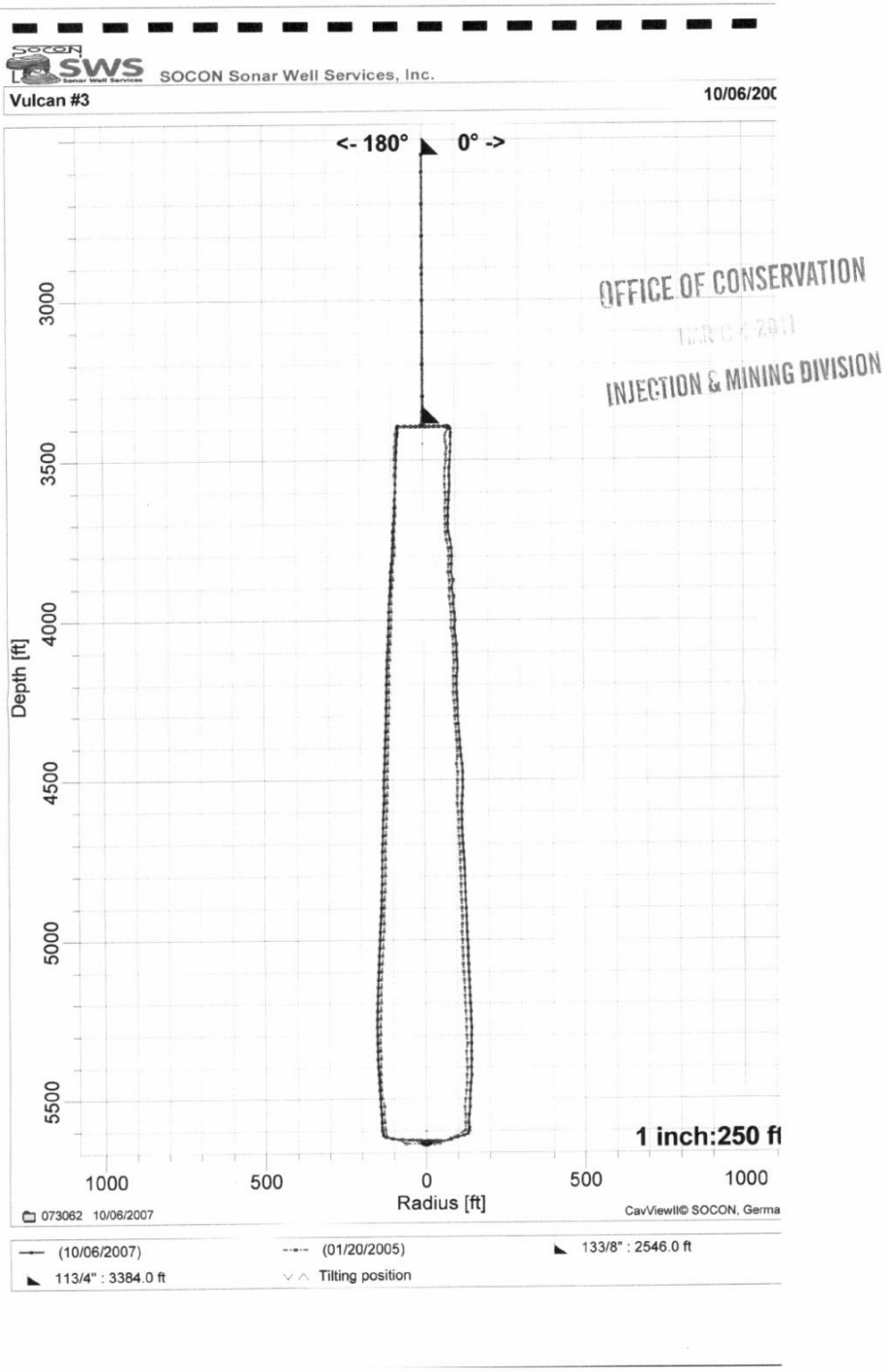



FIGURE NO. 2

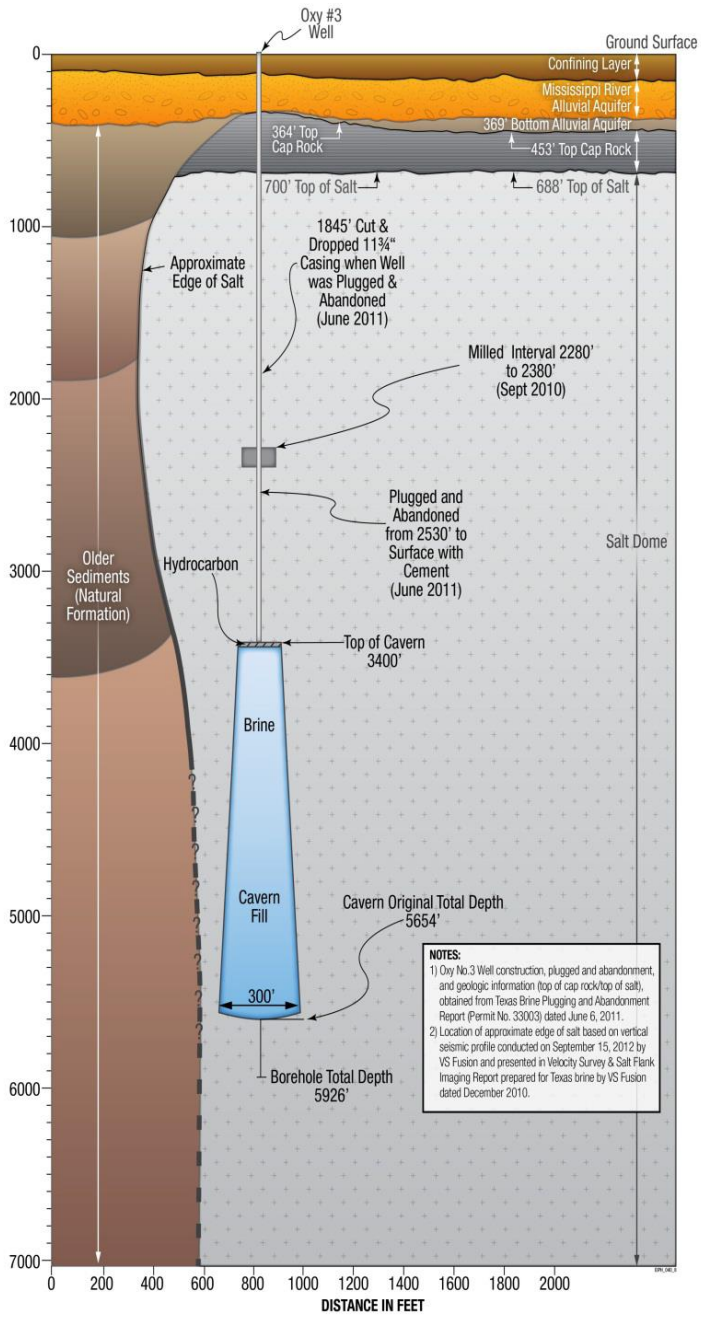
# Sonar Survey Of a Brine Mining Cavern



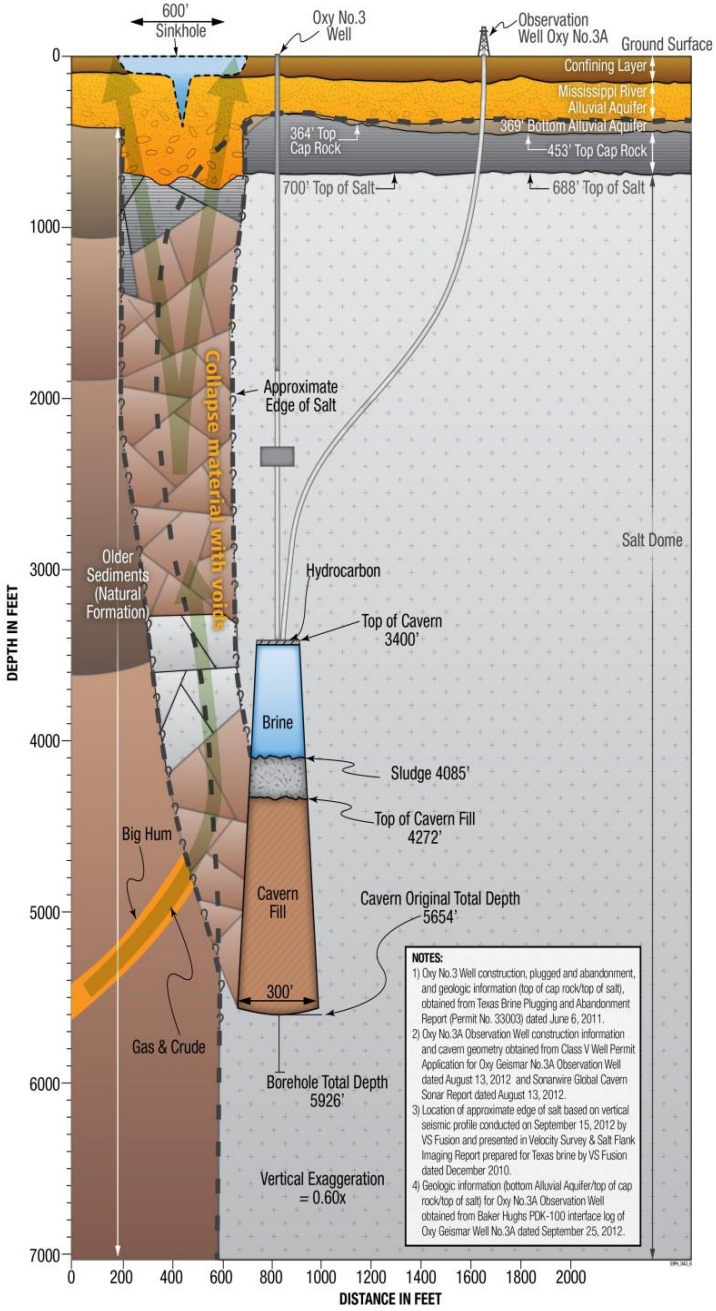
# Bayou Corne - Louisiana

8/3/12

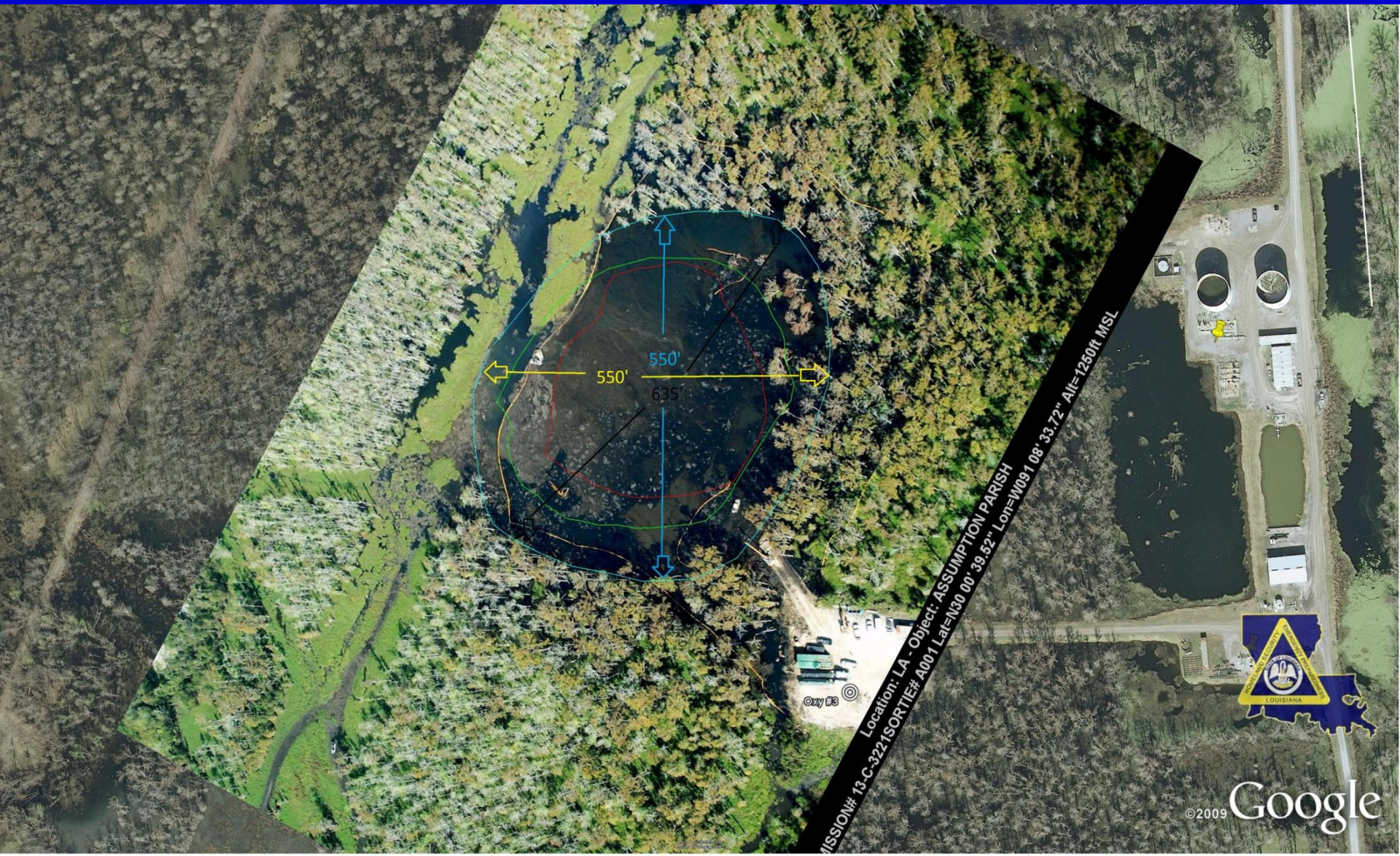
## CONCEPTUAL MODEL PRIOR TO 08/02/2012




## CONCEPTUAL MODEL OF CURRENT SITUATION

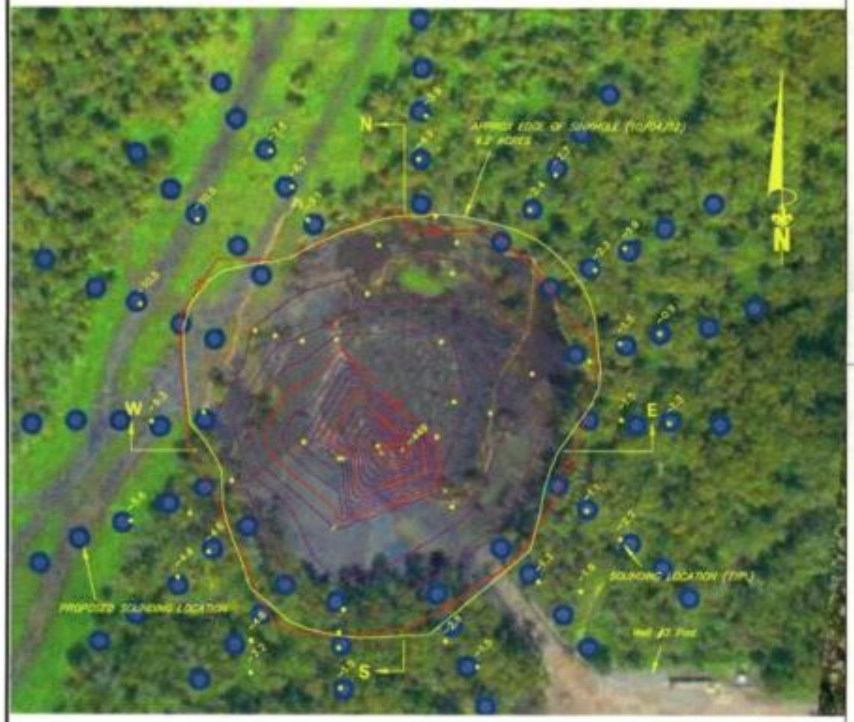



Assumption Parish OHSEP, 08/21/2012



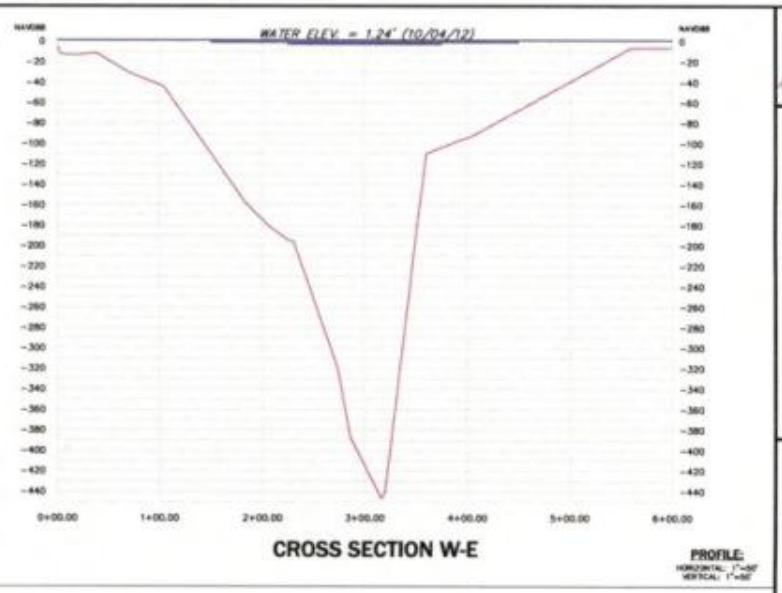

# Sinkhole Dimensions 10-12-12

Oct



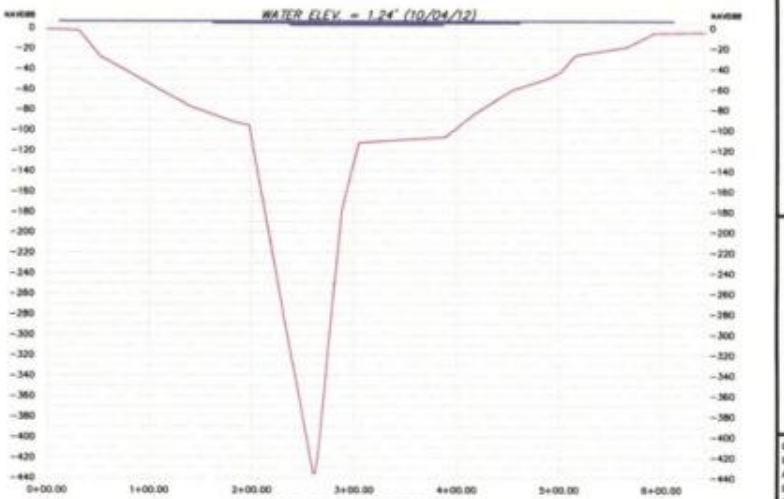

PLAN:

VOLUME CALCULATION:
USING THE APPROXIMATE EDGE OF THE SINKHOLE AS SHOWN AND THE UPPER ELEVATION LIMIT OF 0.00', THE INTERNAL VOLUME MEASURES APPROXIMATELY 500,000 CU. YDS.




CROSS SECTION W-E

PROFILE:




CROSS SECTION S-N

PROFILE:

Miller Engineers & Associates, Inc.
Consulting Engineers & Land Surveyors
601 Main Street P.O. Box 223
Franklin, La. 70538

TEXAS BRINE
BAYOU CORNE/GRAND BAYOU SINKHOLE
PLAN AND PROFILE

PLAN & PROFILE

Drawn: M. J. Fore, PLS
Designed:
Approved:
Date: 10/04/2012
Project No: 13012
Scale: As Shown
Revised: N/A
Sheet 1 of 1

# 6/11/14 Flyover


Approximately 31 acres

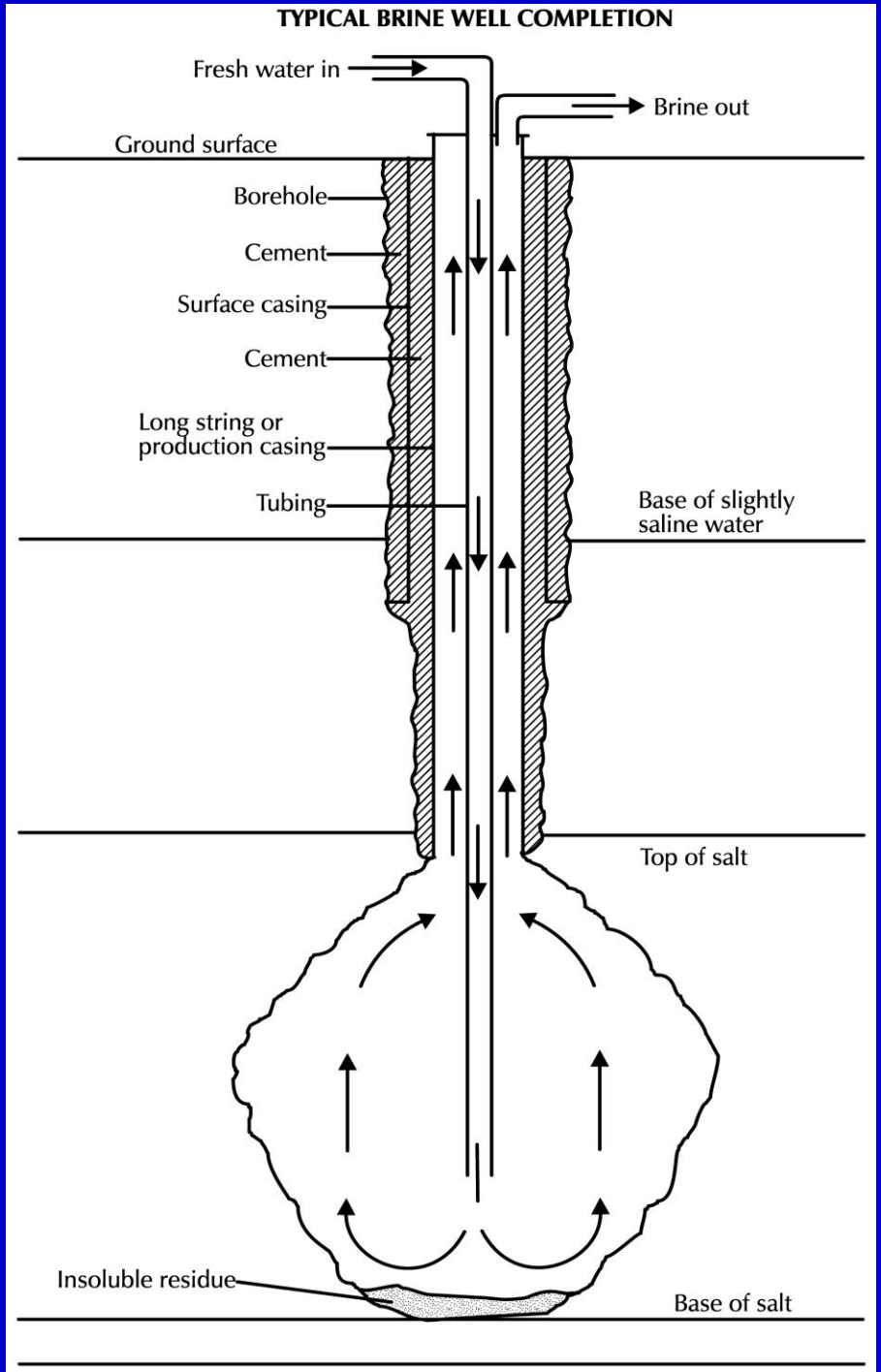
**Jim's Water Service**
**New Mexico**
**July 2008**



Loco Hills New Mexico
November 2008

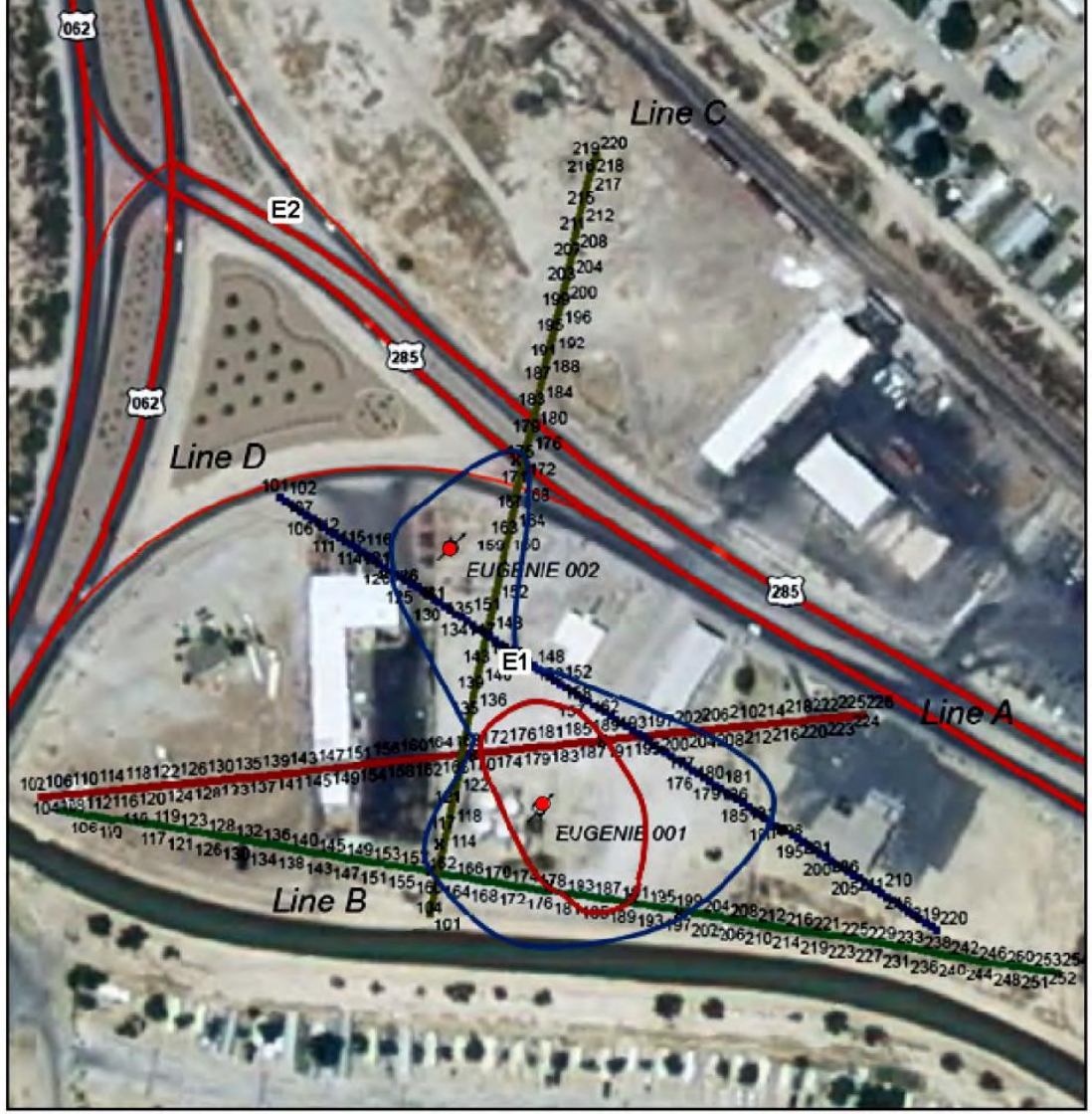

Denver City, Texas
07/28/2009

# Brine Mining Well



# Carlsbad NM Brine Mine






0 70 140 210 280 Feet

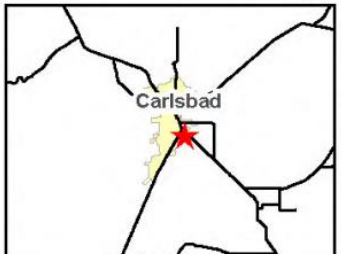
N

**Legend**

- I&W Wells

**Cavern Shape**

- Seismic Signature of Cavern Effects
- Area of Greatest Seismic Disruption




**Interpreted Cavern Shape**

New Mexico - OCD

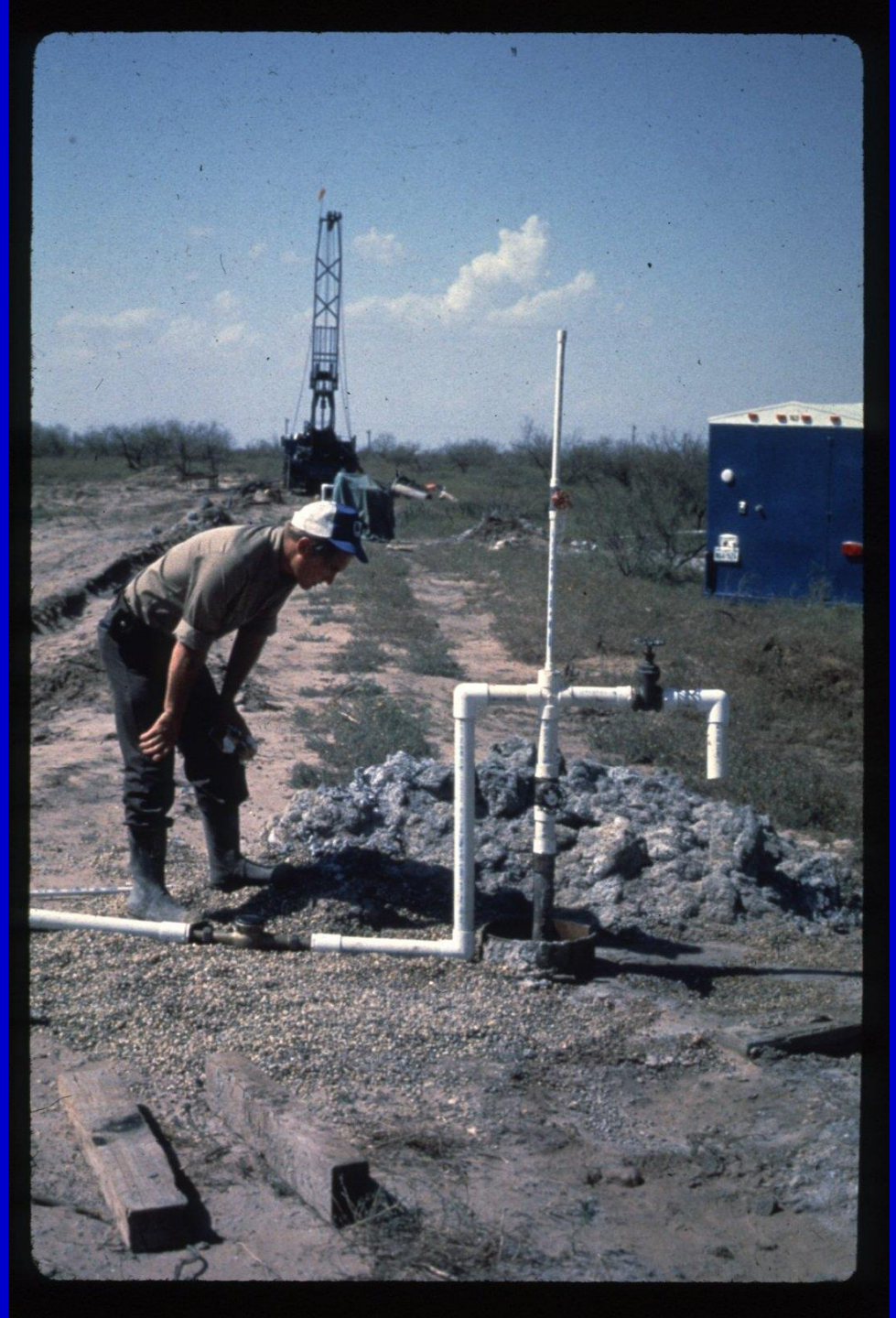
NAD 1983 New Mexico East

| | |
|---|---|
| DRAWN BY | C. Hocking, RESPEC |
| DATE | 19 - Nov - 2009 |
| FILENAME | |

RESPEC
WATER & NATURAL RESOURCES

# Sodium Sulfate Well

**Sodium Sulfate is used in detergents and paper pulping**

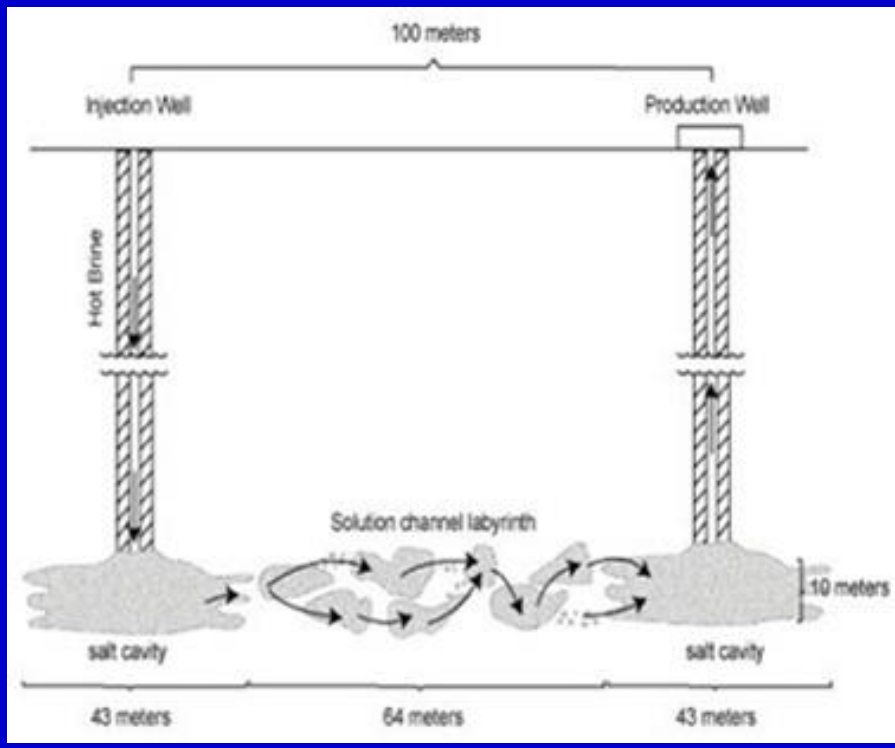


# Sodium Sulphate Reservoir and Plant

# Nahcolite ($NaHCO_3$) (Sodium Bicarbonate) Mineralization

# Nahcolite Solution Mining Wellhead

# Potash Solution Mining




**Potash refers to potassium compounds with the most common being potassium chloride (KCl). Potash is also used in fertilizers.**

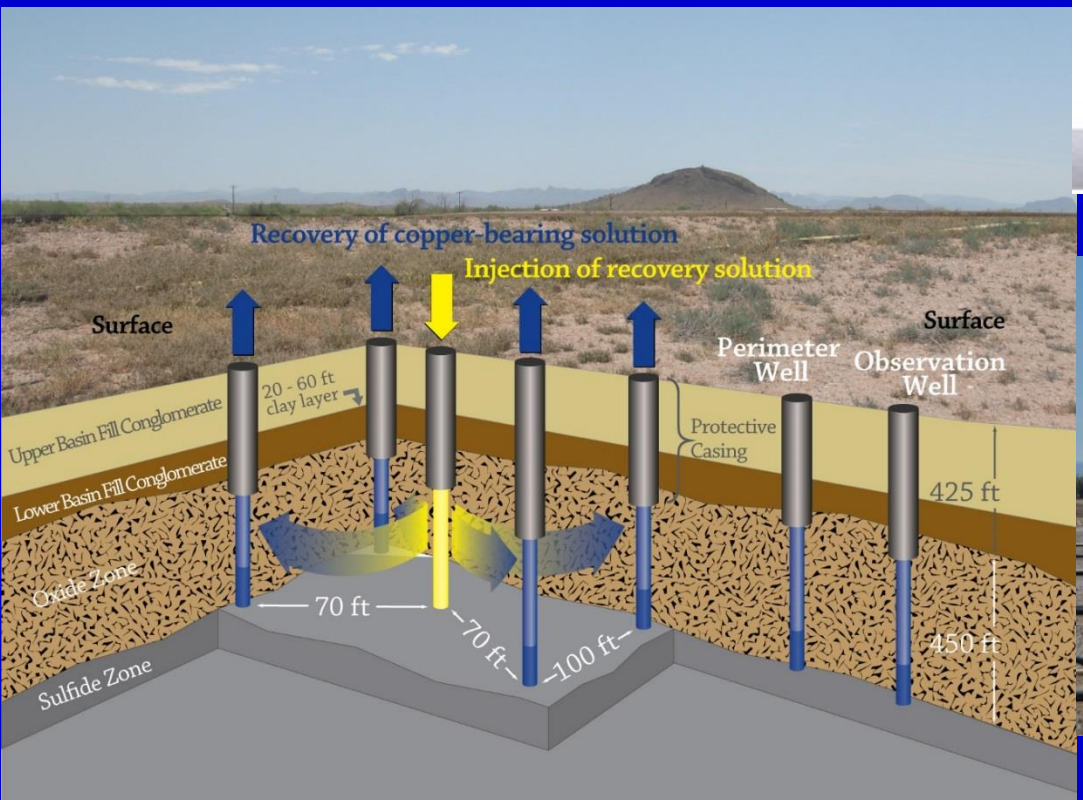
# Potash Core Holbrook , AZ

# Potash Core Holbrook , AZ

# Copper Solution Mining

**The proposed Florence Arizona Copper Project could produce as much as half of the 2.8 billion pounds of copper reserves at the 300 foot deep deposit.**

**Dilute sulfuric acidic solutions are introduced to the copper-bearing ores, causing dissolution of soluble copper minerals**



1575 W. Hunt Hwy
FLORENCE
COPPER PROJECT
HDICURIS


Arizona


630E


6416
930E
KOMATSU
6416

# Class III Construction

- Cased and cemented to prevent fluid migration into or between USDWs
- Casing and cement designed for life expectancy of the well
- Information required for naturally water-bearing injection zone formations
  - Fluid pressure
  - Fracture pressure of the formation
  - Physical and chemical characteristics of the formation fluid

# Class III Operation

- Can’t inject between outermost casing protecting USDWs and the wellbore
- Maximum injection pressure must be below fracture pressure
- Pump test uranium mines

# Class III Monitoring

- Mechanical integrity testing
  - Brine mining after initial test every 5 years
  - Uranium, sulfur – after an initial test, since theoretical well life < 5 years, no MIT required by regulation
- Monitoring injection zone
  - Fluid levels – semi-monthly
  - Ground water parameters – semi-monthly
- Monitoring wells monitored quarterly

# Class III Inspection

- Look over general condition of wellfield
  - Transmission lines
  - Tanks
  - Wellheads
  - Ponds
  - Grass cut?
- Injection pressure (wellhead gauge) complies with permit (must be below fracture pressure)
- Monitor injection fluids frequently enough to determine characteristics
- Injection rate and volume comply with permit limits

# Class III Inspection

- Evaporation and holding ponds
  - Adequate freeboard
  - Leak detection system
- Monitoring wells (if any)
  - Fluid levels and ground water parameters (excursions)

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)**
**Critical Infrastructure Division**
**Underground Injection Control (UIC) Class III Permits Investigation Checklist**

Permittee's Name and Mailing Address_____

Telephone information_____ Fax Information_____

Permittee's representative/ Title_____

Purpose and Scope of Inspection_____

_____

_____

Inspection Location(s)_____ Inspection Date (s)_____

Inspection Type ___Routine ___Pre-Permit ___Initial __Special ____Announced __Unannounced

Type of Permit _____ Permit No. _____

Date Issued/Amended_____ Type of Project_____

TCEQ Region_____ TCEQ Inspector(s)/Office_____

Inspector/Date/Results of Previous Inspection_____

Comments: _____

_____

Results of this Inspection ___In Compliance ___Violation(s) ___Enforcement Action Needed

___Recommendation(s)

Comments _____ :

_____

Areas of Concern from previous inspector_____

_____

Areas to receive special attention at the next inspection_____

_____

**Note:** All information stated on this inspection checklist resulted from records inspection, the inspector's observations, and/or statements and representations made by the employees present at the time of inspection.

Inspector_____ Reviewed by_____

Date of Report_____ Date Reviewed_____

**GENERAL INFORMATION**

Site Security and Operating hours_____

_____

Type of Processing and Description_____

_____

_____

No. of Production Area Authorization (PAA) / Average Depth of PAA _____

_____

Average Depth of Injection/production Wells / Type of Casing_____

_____

Average Depth of Monitor / Baseline Wells / Type of Casing_____

Current Status of Operations_____

_____

_____

Method of Wastewater Storage prior to Injection

_____Surface Impoundment (Ponds) _____Wastewater Storage Tank

No. of ponds _____No. of wastewater Storage tanks

Method of liquid Waste disposal Class I WDW Irrigation Surface Discharge

Disposal Permit No. _____

Comments:_____

_____

Method of solid waste disposal ___on site ___off site

On site solid waste pit(s)? ___NA ___Yes ___No

Comments:_____

_____

Does the permittee have a valid radioactive material license from TCEQ for covering the handling processing, and disposa of radioactive materials?

___NA ___Yes No

Comments: _____

_____

**RECORDS**

Are the current copies of the UIC rules, Class II Permit(s), and notices concerning previous inspection on file?

___NA ___Yes ___No

Comments: _____

_____

**CONSTRUCTION REQUIREMENTS**

New Class III wells since the last investigation? ___NA ___Yes ___No

Is the permittee in compliance with construction requirements (Casing and Cementing, Alterations to Construction Plans, Logs and Tests, Deviation Checks, Mechanical Integrity Tests, Additional Logs and Tests, Construction and Testing Supervision)? 30 TAC §331.82

___NA ___Yes ___No

Comments: _____

_____

_____

**OPERATING REQUIREMENTS**

Describe method(s) used by the permittee for confining of mining solution in a production zone_____

_____

Injection pressure at the wellhead in accordance with permit requirement? 30 TAC §331.82

___NA ___Yes ___No

Maximum allowable injection pressure (0.4 psi/foot of well depth) marked on each injection well or on injection manifold? (This is a permit requirement)

___NA ___Yes ___No

Comments: _____

_____

Maximum allowable injection pressure at the wellhead in compliance with permit requirements?

___NA ___Yes ___No

Comments: _____

_____

Has the permittee injected between the outermost casing protecting USDWs and the wellbore?
30 TAC §331.83(b)

___NA ___Yes ___No

Comments: _____

_____

**MONITORING REQUIREMENTS**

Paremeter Chosen to measure water quality (Control Parameter) 30 TAC §331.84(c)

___Uranium ___Sulfate ____Conductivity ____Chloride ____Alkalinity ____Other

Are the monitor wells completed in the injection zone monitored for fluid levels and chosen parameters twice a month at two weeks interval?

___NA ___Yes ___No

Comments: _____

_____

Is the permittee required to comply with the monitoring requirements specified in 30 TAC §331.82(h) (Construction Requirements) 30 TAC §331.84(f)

___NA ___Yes ___No

Comments: _____

_____

Are all monitor wells for permit/production areas sampled by the permittee at least twice a month at two weeks intervals? 30 TAC §331.84@

___NA ___Yes ___No

Comments: _____

_____

Are the water samples analyzed for control parameters by the second working day and reported as required in §331.85(a)?

___NA ___Yes ___No

Comments: _____

_____

Are the samples analyzed off site by a third party laboratory or on site by the permittee?

___NA ___Off site _____On site

Name of the laboratory and location _____

Comments: _____

_____

Are there any water wells within 1/4 mile of the injection site? 30 TAC §331.84(d)

___NA ___Yes ___No

Is the permittee monitoring the specified wells within 1/4 mile of the injection site every three months? 30 TAC §331.84(d)

___NA ___Yes ___No

Comments: _____

_____

Injection fluid analyzed for physical and chemical characteristics with sufficient frequency? 30 TAC §331.84(a)

___NA ___Yes ___No

Comments: _____

_____

Are the injection pressure, injection volumes, and production volume recorded? 30 TAC §331.84(b)

___NA ___Yes ___No

Comments: _____

_____

Are pressure gauges on each injection well or on injection manifold? 30 TAC §331.84(c)

___NA _____On each injection well _____on injection manifold

Comments: _____

_____

**Ponds/Waste Storage Tanks**

Monitoring frequency:

Pond Liner_____ Leak Detection System _____ Freeboard _____

Transmission lines _____

Tank condition _____ Level_____

Is permittee in compliance with the inspection requirements ___Yes ___No

Comments: _____

_____

**MONITOR WELL EXCURSION**

Are there any excursions since the last investigation?

___NA ___Yes ___No

(Monthly Remedial Action Report (30 TAC §331.65(f), Groundwater Analysis Report (30 TAC §331.65(g) & 30 TAC §331.106(2) ), Verifying Analysis (30 TAC §331.105(3)), Sampling Frequency when Mining Solutions present (30 TAC §331.105(4)), Remedial Action for Excursion (30 TAC §331.106), Notification (30 TAC §331.106(1)), Clean-Up (30 TAC §331.106 (A) and (B))

Is the permittee in compliance with the above requirements?

___NA ___Yes ___No

Comments: _____

_____

**GROUNDRESTORATION**

Are the PAAs for each mine area contain a restoration table?
30 TAC §331.107(a)

___NA ___Yes ___No

Comments: _____

_____

Has the permittee notified the Commission when the mining of a production area was completed?

30 TAC §331.107(b)

___NA ___Yes ___No

Comments: _____

_____

Has the aquifer/groundwater restoration conducted by the permittee after mining completion? 30 TAC §331.107(b)

___NA ___Yes ___No

Comments: _____

_____

Is the aquifer/groundwater restoration for each mine area accomplished in accordance with the timetable specified in currently approved mine plan? 30 TAC §331.107(c)

___NA ___Yes ___No

Comments: _____

_____

Are the semi-annual restoration progress reports submitted by the permittee to the commission?
30 TAC §331.107(d)

___NA ___Yes ___No

Comments: _____

_____

Is the stability sampling performed by the permittee during restoration as required
30 TAC §331.107(e)

___NA ___Yes

Comments: _____

_____

Are the restoration values listed in the restoration table for a production area achieved by the permittee?
30 TAC §331.107(f)

___NA ___Yes ___No

Comments: _____

_____

Has the permittee submitted a restoration table amendment to the Commission?

___NA ___Yes ___No

Comments: _____

_____

**CLOSURE STANDARDS / PLUGGING AND ABANDONMENT**

Has the permittee plugged and abandoned any well since the last investigation?

___NA ___Yes ___No

Is the permittee in compliance with the plugging and abandonment requirements?

(30 TAC §331.46(d), 30 TAC §331.46(i), 30 TAC §331.144(Approval of Plugging and Abandonment / Certification from the Owner or Operator and an Independent Registered Professional Engineer for Plugging and Abandonment)

___NA ___Yes ___No

Comments: _____

_____

**SPILLS / INCIDENTS**

Have there been any spill / incidents since the last investigation?

___NA ___Yes ___No

Comments: _____

_____

Is the permittee in compliance with spill / incidents reporting requirements to the Commission?
___NA ___Yes

Comments: _____

**Alarm System**

Describe Permittee s Alarm System for the process ng p ant/production Areas _____

_____

Frequency of Alarm Test by the Permittee _____

Date of recent Alarm Test and the results _____

_____

**REPORTING REQUIREMENTS**

Is an updated map for all newly constructed or newly discovered wells submitted by the permittee annually to the Executive Director?
30 TAC §331.35(a) ___NA ___Yes

Comments: _____

Are results of required monitoring maintained on site?
30 TAC §331.85(b)

___NA ___Yes

Comments: _____

Are results of mechanical integrity test and any other periodic test reported to the executive director?
30 TAC §331.85(c)

___NA ___Yes

Comments: _____

Is monitoring reported on a project or field basis?
30 TAC §331.85(d)

___NA ___Yes

Comments: _____

Are the monitoring data for monitor wells completed in the injection zone reported quarterly to the Executive Director no later than 10th day following report period?
30 TAC §331.85(e)

___NA ___Yes

Comments: _____

**REPORTS TO THE COMMISSION**

Is the permittee in compliance with the reporting requirements to the Commission?

___NA ___Yes ___No

Comments: _____

**FINANCIAL ASSURANCE FOR CLASS III WELLS**

Is the permittee in compliance with the financial assurance requirements?

30 TAC §331.15 (Financial Assurance for Class III Wells), 30 TAC §37.7301-7051 (Financial Assurance for UIC Wells), 30 TAC §331.142(Financial Assurance for Plugging and Abandonment), 30 TAC §331.143 (Cost Estimate for Plugging and Abandonment)

___NA ___Yes ___No

Comments:_____

_____

**OBSERVATIONS DURING SITE AREA INSPECTION**

Date and Company Representative ( ncluding Title) present during site inspection_____

_____

Automatic Shutoff Systems for the processing plant/production areas ___NA ___Yes ___No

If yes, describe the system_____

**PRODUCTION AREA S (PAs)/ WELL FIELDS**

**Condition of PAs:**
Overgrown Vegetation (safety hazard), Well access ble for inspection/sampling, unwanted debris in the PAs, any activities (well construction exp oration activities, plugging activities, sampling etc.) in progress, while inspect ng a PA, **request the permittee to demonstrate how the permittee confines the mining solution for a specific PA; include** any other observations, including safety hazards.

**PRODUCTION / INJECTION / MONITOR WELLS/BASELINE Wells**

Condition of wells:

Wells capped (include type of cap), cemented to the surface, labeled integrity of the well (i.e, aboveground casing intact, wiggle to determine if the wel is broker below the surface)

Comments:_____

_____

Pressure gauges on each injection well or on injection manifold?_____
Maximum allowable injection pressure marked on each injection well or on injection manifold?

___NA ___Yes ___No

Comments:_____

_____

Max mum a lowable injection pressure n compliance with rule/permit requirements?

___NA ___Yes ___No

Comments:_____

_____

**TRANSMISSION LINES**

Are transmission lines buried or above ground?_____

Type_____

Method of Monitoring: ___Visual inspection ___Other

Condition of transmission lines during the investigation? ___Leaks ___Broken ___Other

Comments:_____

_____

**Wastewater Storage Method**

_____Pond _____Tanks

_____No. of Ponds _____No. of Tanks

**Pond:**

Depth in FT_____ Dimensions in FT_____

No. of Leak Detection System (LDS)_____ Type of LDS_____

Fluid detected Yes No **(Permittee should check the LDS in presence of the investigator)**

_____Single Liner _____Double Liner

Condition of the Liner_____

Pond Freeboard marked on the liner or on a stick located in the middle of the pond (describe)

_____

Pond Freeboard in compliance with permit requirement _____Yes _____No

Comments:_____

_____

**Wastewater Storage Tank**

Capacity in Gallons_____ Length in FT_____ Diameter in FT_____

Type _____

Tank Equipped with Level Indicator? _____Yes _____No

Alarm goes off when tank reaches certain level? _____Yes _____No

Tank level monitored from a control room? _____Yes No _____

Frequency of monitoring_____

Condition of tank(s) _____

Comments: _____

_____

**Groundwater Sampling**

Samples collected during the investigation?

___NA ___Yes ___No

Sample Type_____ No. of samples_____

Sample Location

Comments: _____

_____

**Photos**

Photos taken during the investigation?

___NA ___Yes ___No

Comments: _____

_____