

APPLICATION OF JUDAH OIL, LLC

- **CASE NO: 14123**
- **Administrative Application to NMPM for
Salt Water Disposal, Eddy Co., New
Mexico**
- **Geronimo "27" State Com Well No. 002
(API# 30-015-31716)**
- **Unit M, Section 27, T17S, R28E, NMPM**

Oil Conservation Division

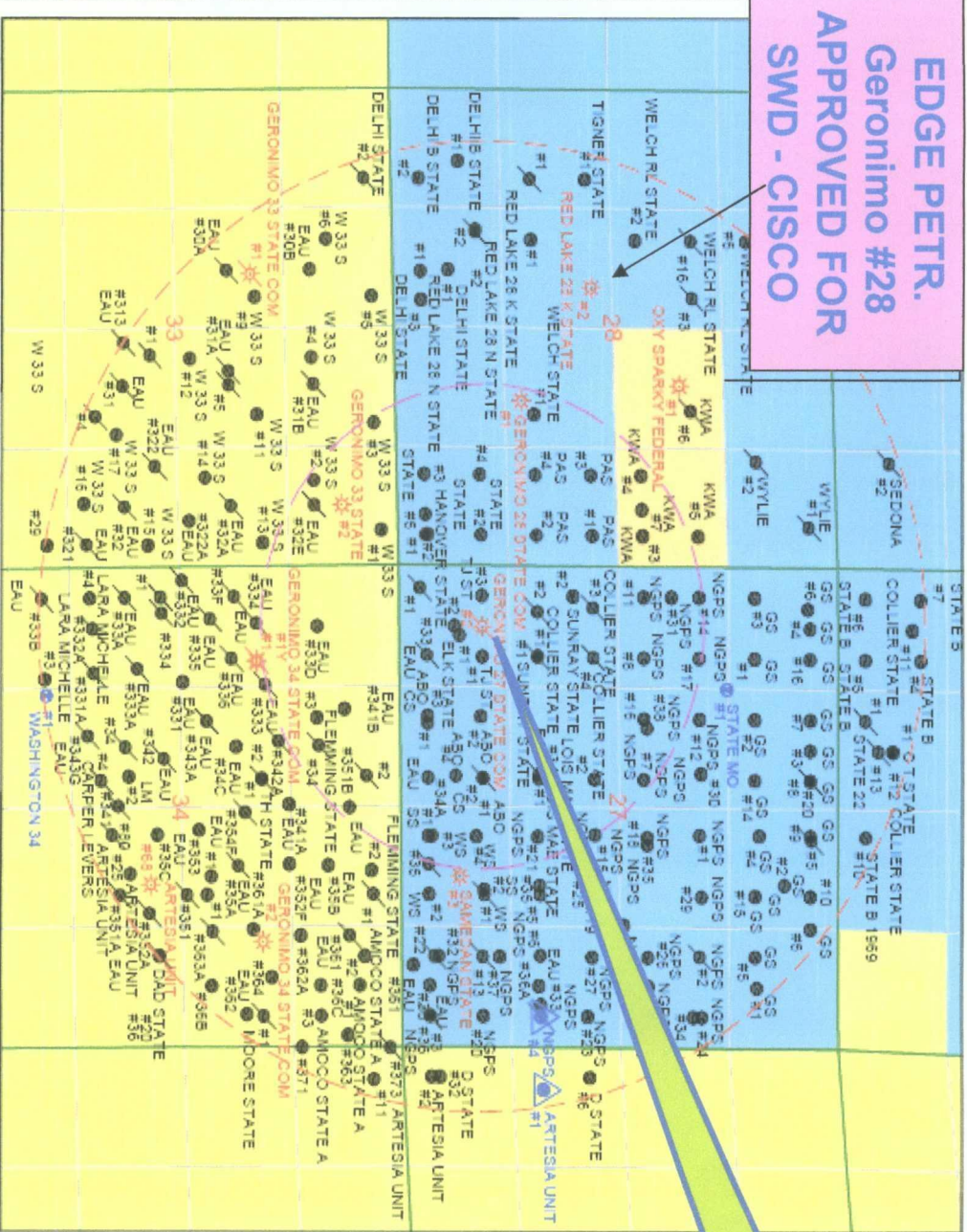
Case No. 7

Exhibit No. 1

JUDAH OIL, LLC

- **PROPOSES GERONIMO 27 SWD,
ARTESIA/RED LAKE FIELDS IN UNIT
M, SECTION 27, T17S, R28E**
- **STATEMENTS OF FACTS**
- **SUPPORTING DOCUMENTS**
- **RECOMMENDATION FOR OCD TO
GRANT GERONIMO 27 SWD
APPLICATION**

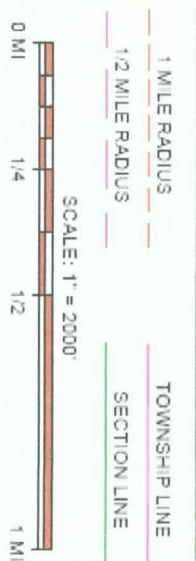
EDGE PETR.
Geronimo #28
APPROVED FOR
SWD - CISCO



JUDAH OIL
PROPOSED SWD
Geronimo #27
Sect. 27 T17S-R28E



- DECLARED GROUND WATER BASINS**
- CAPITAN
 - CARLSBAD
 - FORT SUMNER
 - SALT BASIN
 - LEA COUNTY
 - PENASCO
 - JAL
 - HONDO
 - ROSWELL
 - ARTESIAN



DOMINION OKLAHOMA TEXAS EXPL. & PROD INC
GERONIMO 27 STATE COM #2

API: 3001631718
 SEC: 27
 UNIT: M
 COUNTY: EDDY
 LAT: 32°46.068' N.
 LONG: 104°10.223' W.
 DATE: 12/12/07
 WWW.WELLPROMAPPING.COM

SIGNIFICANT COMMITMENT BY JUDAH OIL, LLC

CHRONOGRAM OF ACTIONS

- 07/07 Judah Oil tried to purchase Geronimo #28 from Edge Petroleum
- 11/07 Four month exhaustive search for acceptable SWD and location
 - ❖ Technical evaluation of potential injection zone (Wolfcamp-Cisco)
 - ❖ Market search of local commercial disposal potential
- 12/07 to Present SWD Application on Geronimo #27
 - ❖ Complete regulatory requirements and notifications for SWD application
 - ❖ Acquired Right-of-Way Easement No. RW-30935
 - ❖ Acquired Business Lease from NM State Land Office
 - ❖ Design load and off-load SWD facilities
- 01/02/08 Submit 1st application on Geronimo 27 SWD (7100'-8300')
 - ❖ Reconcile objections by RKI and Lobo
- 02/04/08 Submit 2nd revised application on Geronimo 27 SWD (7460'-8300')
 - ❖ Reconcile additional objections by RKI
- 03/08/08 Submit 3rd application on Geronimo 27 SWD (7782'-8300')
 - ❖ Complete reconciliation with RKI (ref STIPULATION CASE NO. 14123)
 - ❖ Attempted reconciliation to objections by Marbob and Pitch
 - ❖ Perform technical studies to address objections by Marbob - Pitch
- 06/26/08 Current OCD Hearing Presentation and Recommendation

Technical Experience VS Welch II, P.E. Registered Professional Engineer State of Texas (Reg.

No. 66291)

- **1968 Graduate from NMSU with BS in Mechanical Engineering**
- **Feb 1968 Joined Pan American (Amoco) as a production engineer**
 - **Over 40 Years Reservoir Engineering Experience – Key Areas**
 - **Reservoir Engineering/Simulation Studies; US, Mexico, S.A., M.E., Russia, Africa and North Sea.**
 - **Acquisition Evaluations; US, GOM, Algeria, Egypt, Argentina, Russia, Brasil, Bolivia, Columbia, China Sea, Indonesia and Venezuela**
 - **Offshore Projects; Brasil, North Sea, Equatorial Guinea, Gulf-of-Mexico**
 - **Evaluation of Exploration Prospects; US, Algeria, Brasil, Colombia, Cameroon and Venezuela.**
 - **Litigation, Deposition, Expert Witness Testimony, Texas RRC and MMS Experience**
 - **Management of Integrated Field Studies and Evaluations Involving all Professional Disciplines.**
 - **Resident Manger for PennzEnergy “Start-Up” Company in Brasil.**
 - **Enhanced Conventional and Unconventional Recovery Processes**
- **Currently Consult to Shell Oil on their “Confidential” Unconventional Oil Recovery Processes which include**
 - **1-yr on Insitu Conversion (Cracking) of Kerogen (Colorado Oil Shale)**
 - **1-yr on Insitu Upgrade (Cracking) of Bitumen (Canadian Heavy Oil Sands)**
- **Owner of VSW2 E&P, LLC and Partner with Judah Oil, LLC in the Geronimo #27 SWD**

LEGEND FOR LOCAL AREA PRODUCTION 1/2 MILE RADIUS GERONIMO #27

PRODUCED INTERVALS		
APPROX. DEPTH TOPS RELEVANT TO GERONIMO 27		
	DEPTH	PRODUCTION ZONE
	500'	EMPIRE; YATES-SEVEN RIVERS
	1300'	RED LAKE; QUEEN-GRAYBURG-SA
	1300'	ARTESIA; QUEEN-GRAYBURG-SAN ANDRES
	3400'	ARTESIA; GLORIETA-YESO (O)
	5550'	EMPIRE; ABO
	6900'	EMPIRE; WOLFCAMP
	10,100'	EMPIRE; PENN (GAS)

Queen-Grayburg-SA
And
Glorieta-Yeso
May Be Commingled

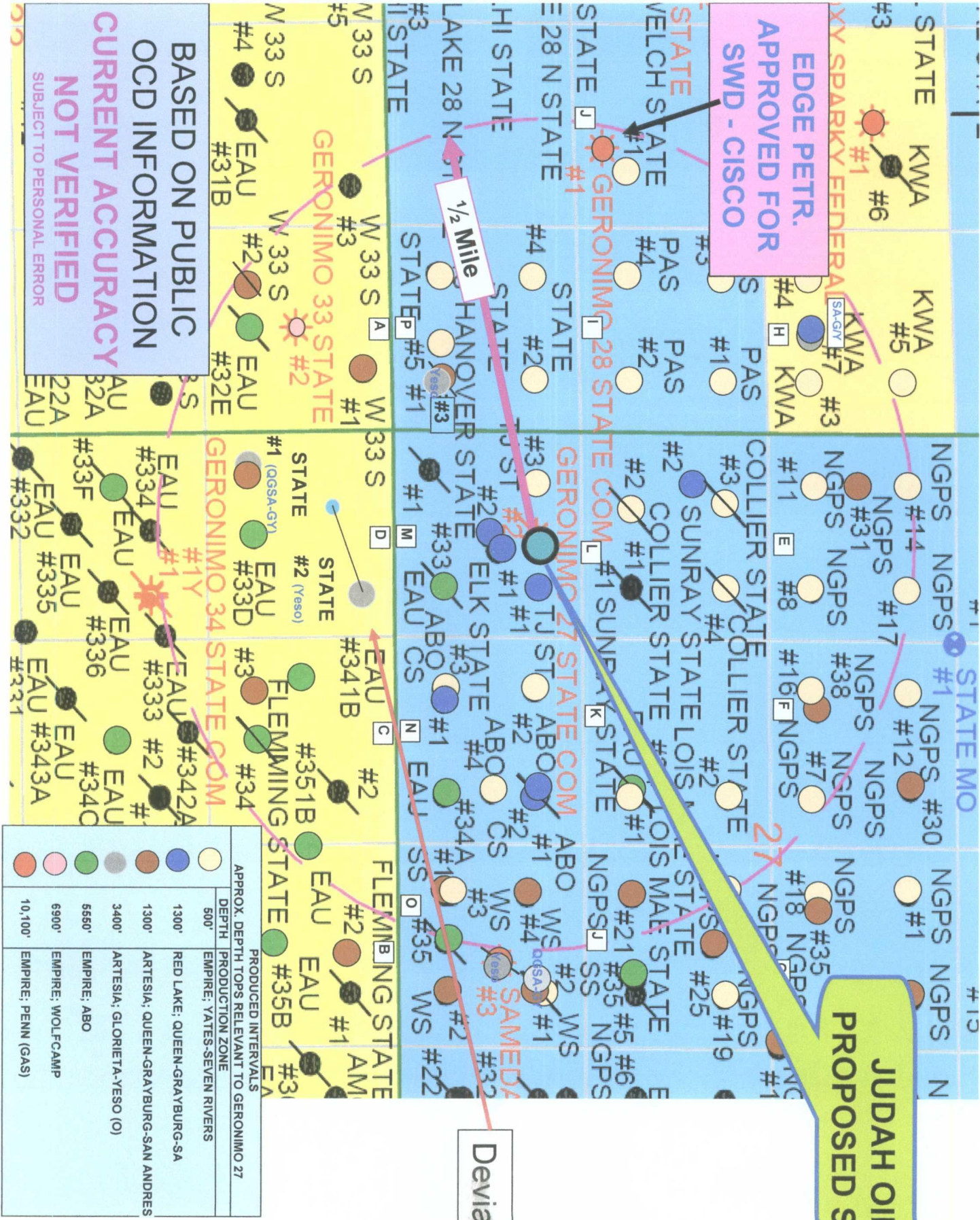
EDGE PETR.
APPROVED FOR
SWD - CISCO

JUDAH OIL
PROPOSED SWD

Deviated

1/2 Mile

BASED ON PUBLIC
OCD INFORMATION
CURRENT ACCURACY
NOT VERIFIED
SUBJECT TO PERSONAL ERROR



LOCAL AREA WATER DISPOSAL AND INJECTION PROJECTS

- **CURRENT AREA SWD WELLS (+7300')**
 - MARBOB STATE MO #1 (WOLFCAMP)
 - ARCO PERMIAN WASHINGTON #34 (WOLFCAMP-CISCO)
 - Edge Petroleum Geronimo #28 Approved (CISCO)
- **ARTESIA (QUEEN – GRAYBURG – SAN ANDRES) WATERFLOOD (±1270')**
- **EMPIRE ABO UNIT (±5800')**

OPERATOR	KEY
EMPIRE ABO	EAU
WASHINGTON 33 STATE	W33S
GILLESPIE STATE	GS
N G PHILLIPS STATE	NGPS
PAN AM STATE	PAS
KERSEY WILLIAMS A FEDERAL	KWA
COCKATOO STATE	CS
SAMEDAN STATE	SS
WALKER STATE	WS

CROSS-SECTION THROUGH JUDAH OIL PROPOSED SWD WELL

**MARBOB SWD
STATE MO #1
WOLFCAMP**

**ARTESIA
UNIT WELLS**

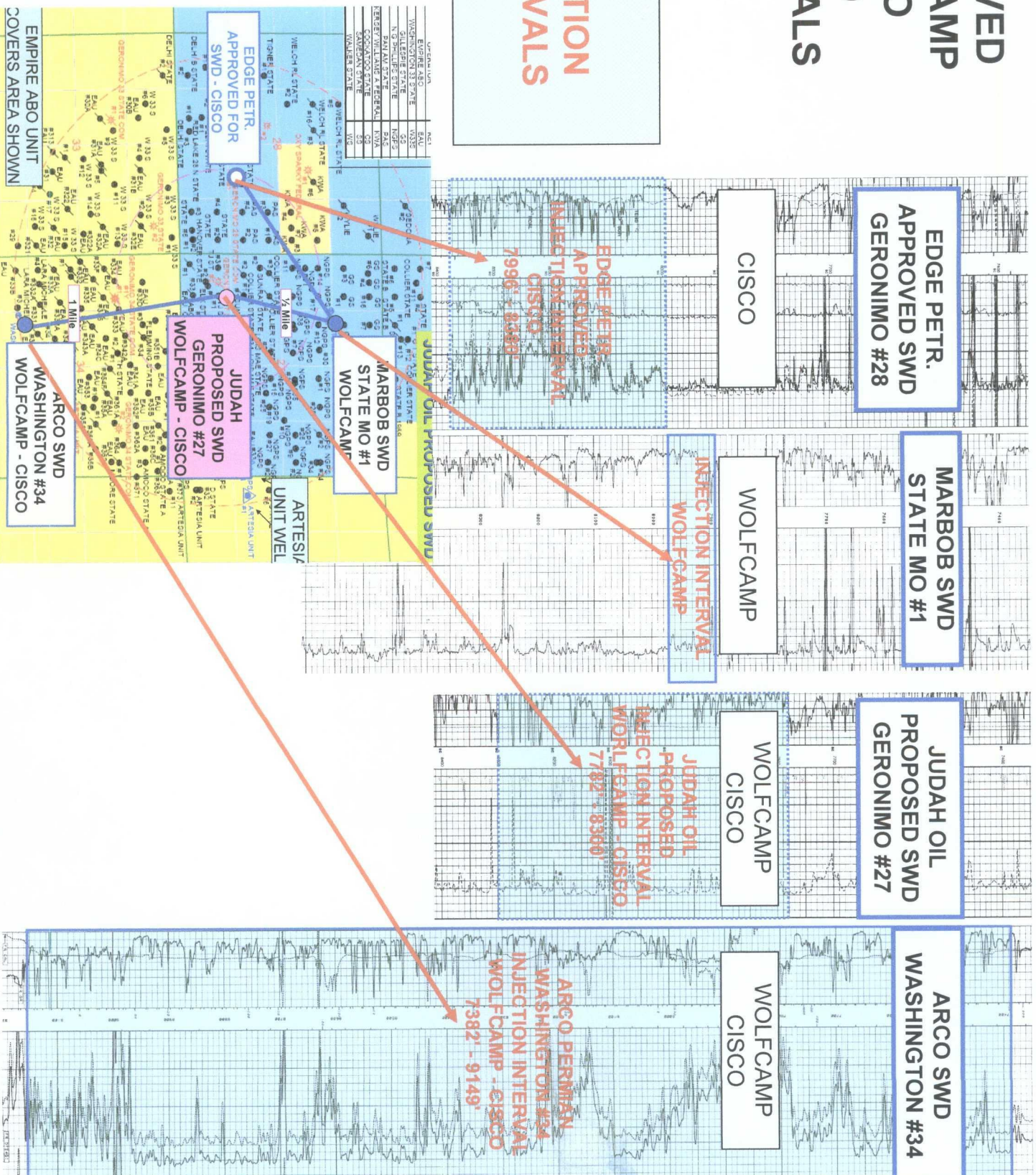
**JUDAH
PROPOSED SWD
GERONIMO #27
WOLFCAMP - CISCO**

**EDGE PETR.
GERONIMO #28.
APPROVED FOR
SWD - CISCO**

**EMPIRE ABO UNIT
COVERS AREA SHOWN**

**ARCO SWD
WASHINGTON #34
WOLFCAMP - CISCO**

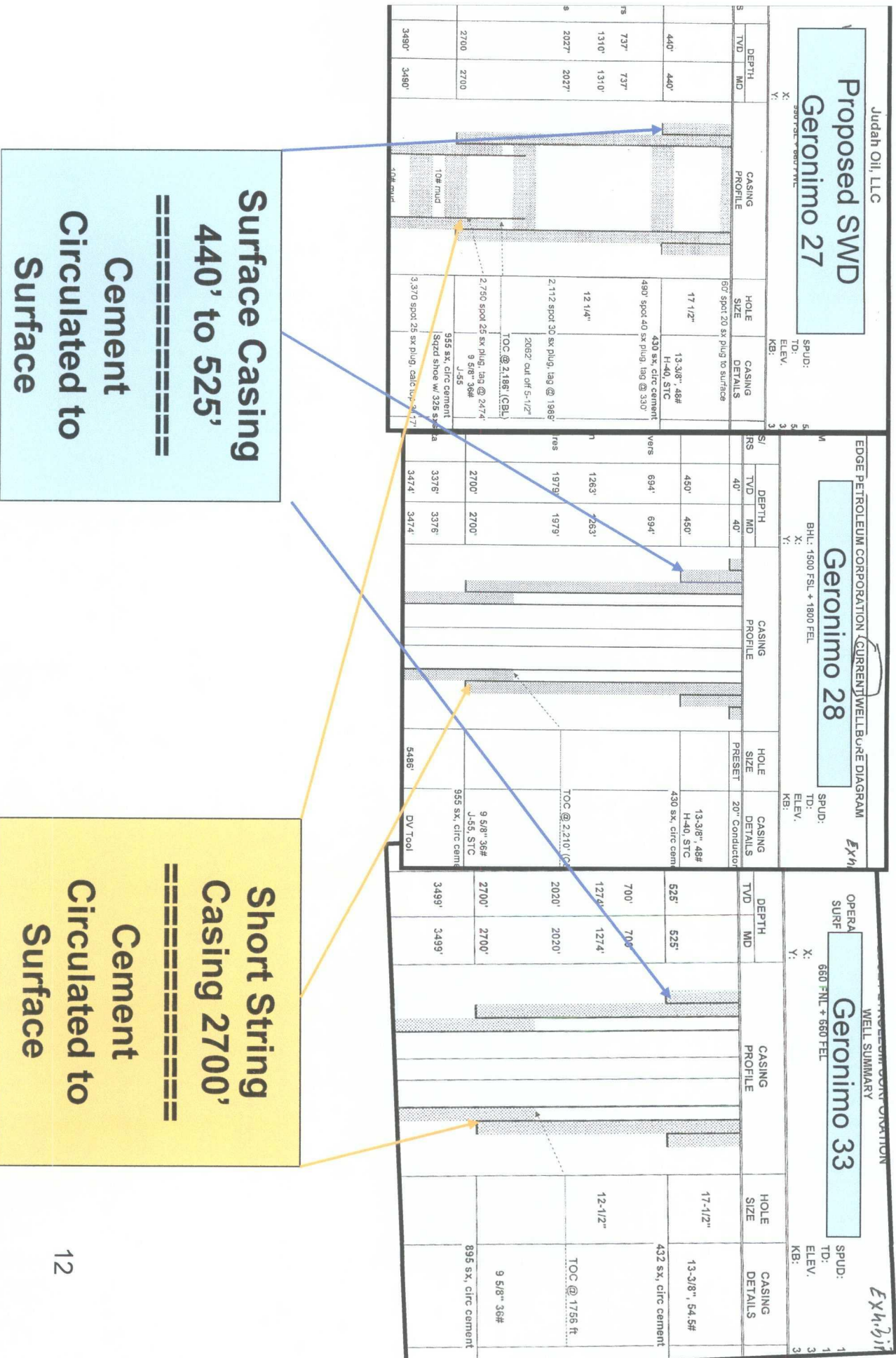
INJECTION INTERVALS



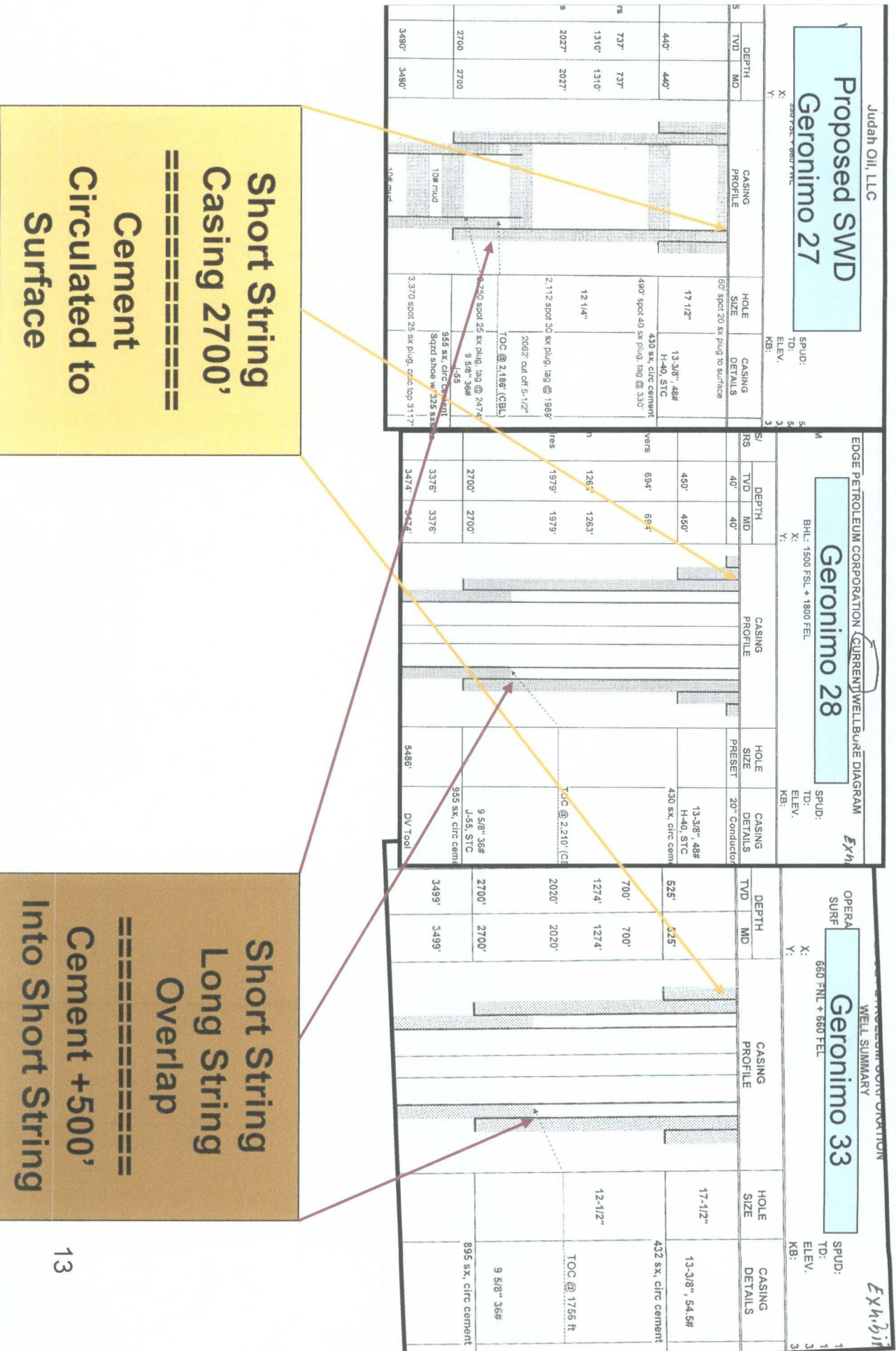
Surface Water – Adaptation from Past Approved SWD Applications

- **In the area of review, fresh water occurs down to a depth of approximately 150 ft. No known fresh water sources are underlying the injection intervals permitted.**
- **Available geological and engineering data have been examined and no evidence of open faults or hydrological connection between the disposal zone and any underground sources of drinking water has been found.**

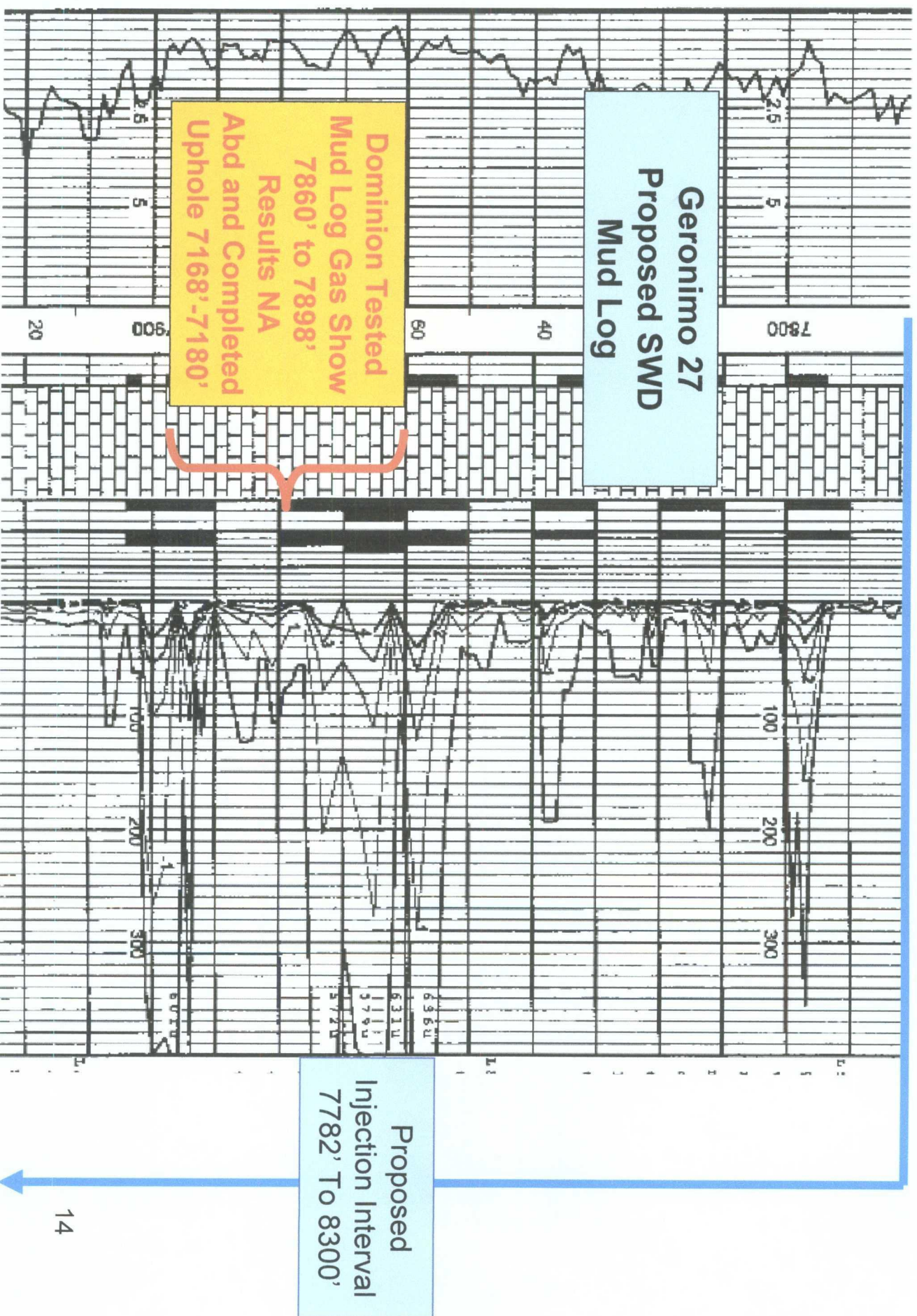
TYPICAL PROTECTION FRESH WATER



TYPICAL SHALLOW HYDROCARBON PROTECTION



Potential Productive Intervals Have Been Tested



Potential Productive Intervals Have Been Tested

Dominion Tested
Perf 7860'-7898'
Not Completed

Geronimo 27
Proposed SWD
GR - Dual Laterlog

Tested

Proposed
Injection
Interval

MARBOB ACREAGE MAP AND WELLS

- **CORRELATIVE RIGHTS**

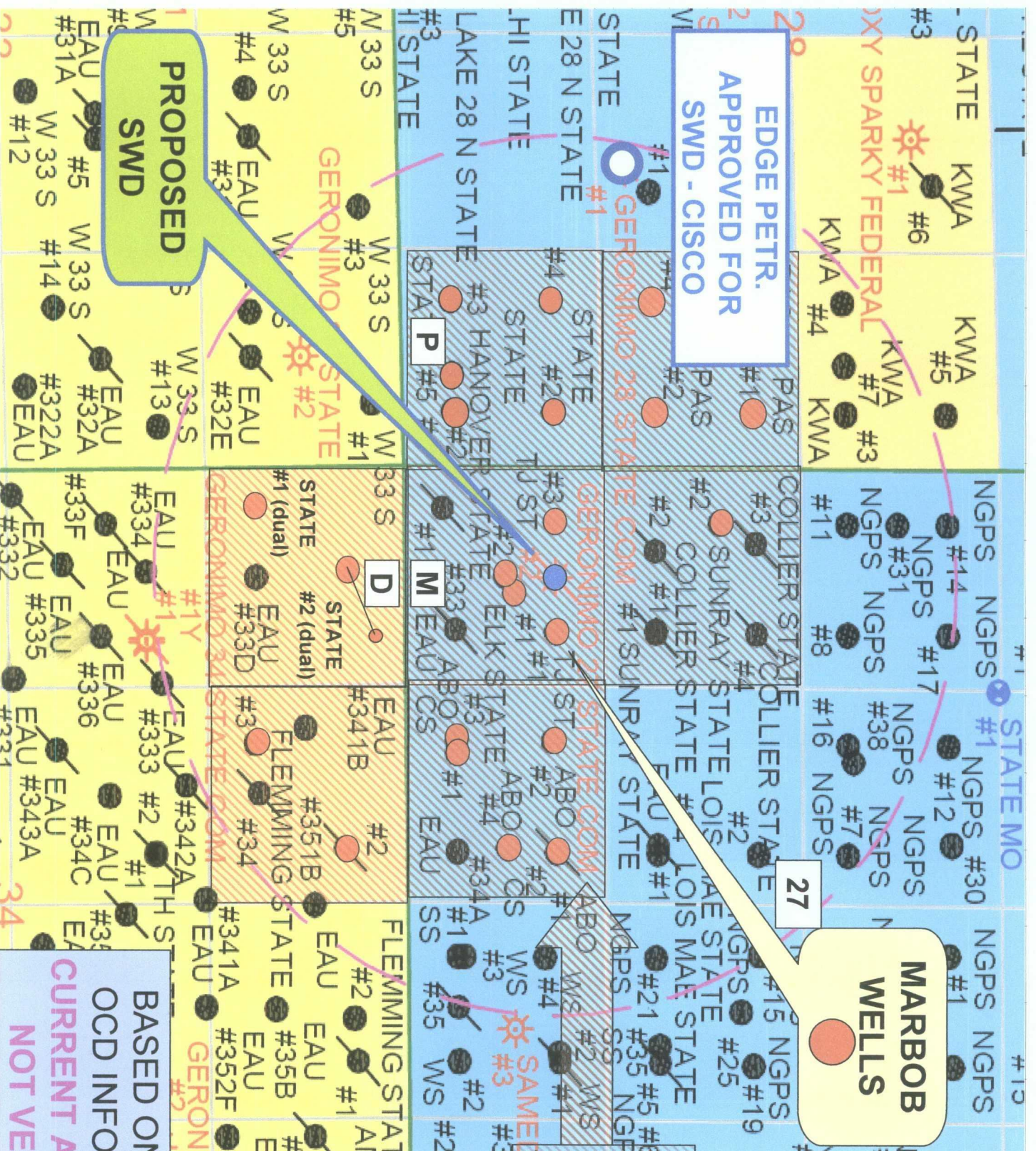
- NO APPARENT ISSUES IN M-27-17S-28E THAT WOULD REQUIRE GERONIMO 27 TO BE COMPLETED SHALLOW
- LOCATION M-27-17S-28E MAY HAVE GLORIETA-YESO OFF-SET PRODUCTION CORRELATIVE RIGHT ISSUES ALONG THE WEST LINE AND SOUTH LINE.
- GERONIMO 27 **IS NOT** A TECHNICAL SOLUTION TO GLORIETA-YESO CORRELATIVE RIGHTS DUE TO DISTANCE FROM OFF-SET DRAINAGE WELLS AT LEASE LINE
- LEASE M-27-17S-28E REQUIRES WELLS AT 330 FEET FSL TO PROTECT DRAINAGE FROM OFF-SET MARBOB WELL "A" STATE NO. 2 (D-34-17S-28E) AND 330 FEET FWL DRAINAGE FROM MARBOB HANOVER NO. 3 (P-28-17S-28E)

**EDGE PETR.
APPROVED FOR
SMD - CISCO**

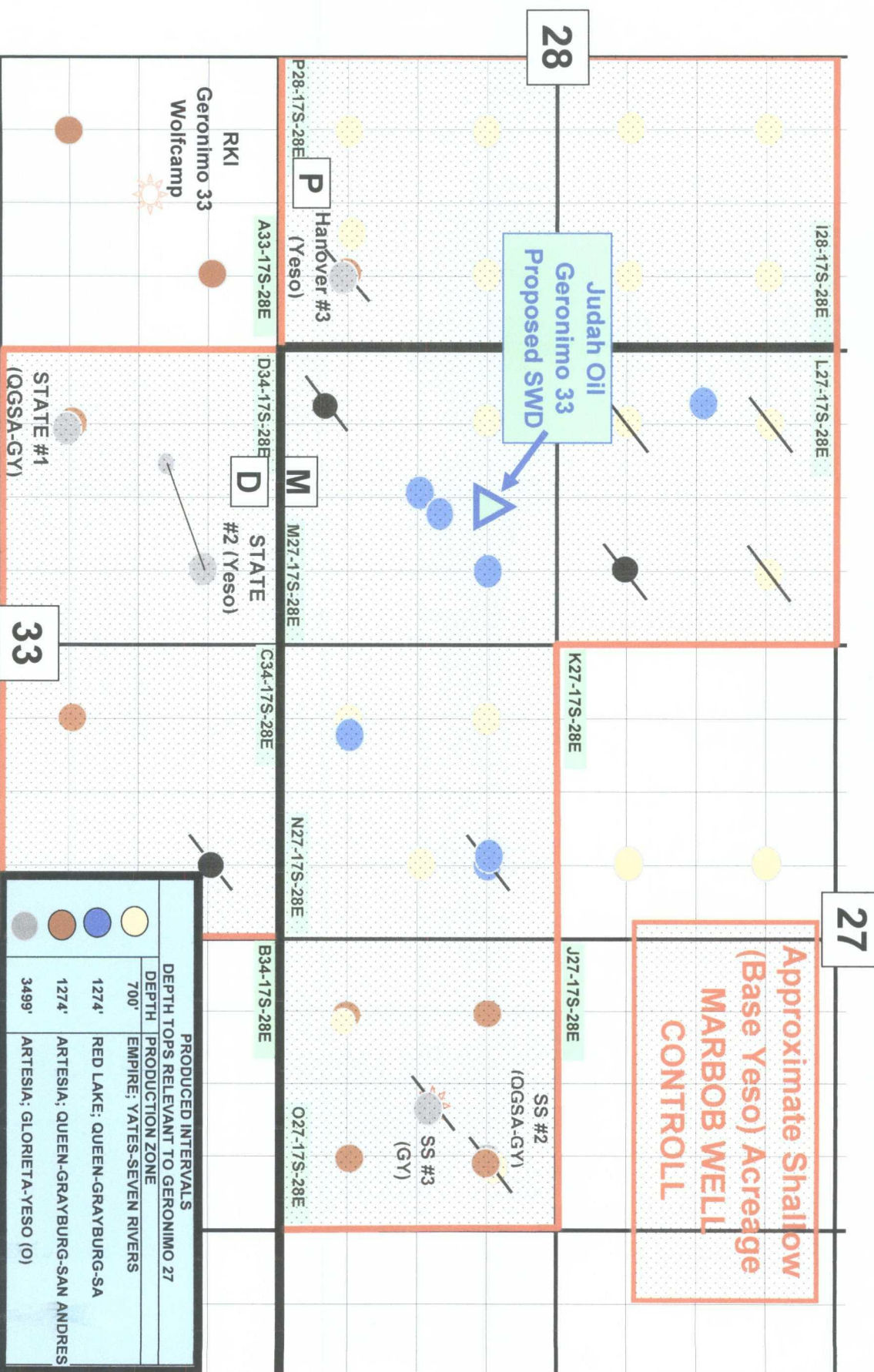
**MARBOB
WELLS**

**Marbob
Productive
Shallow
Acreage**

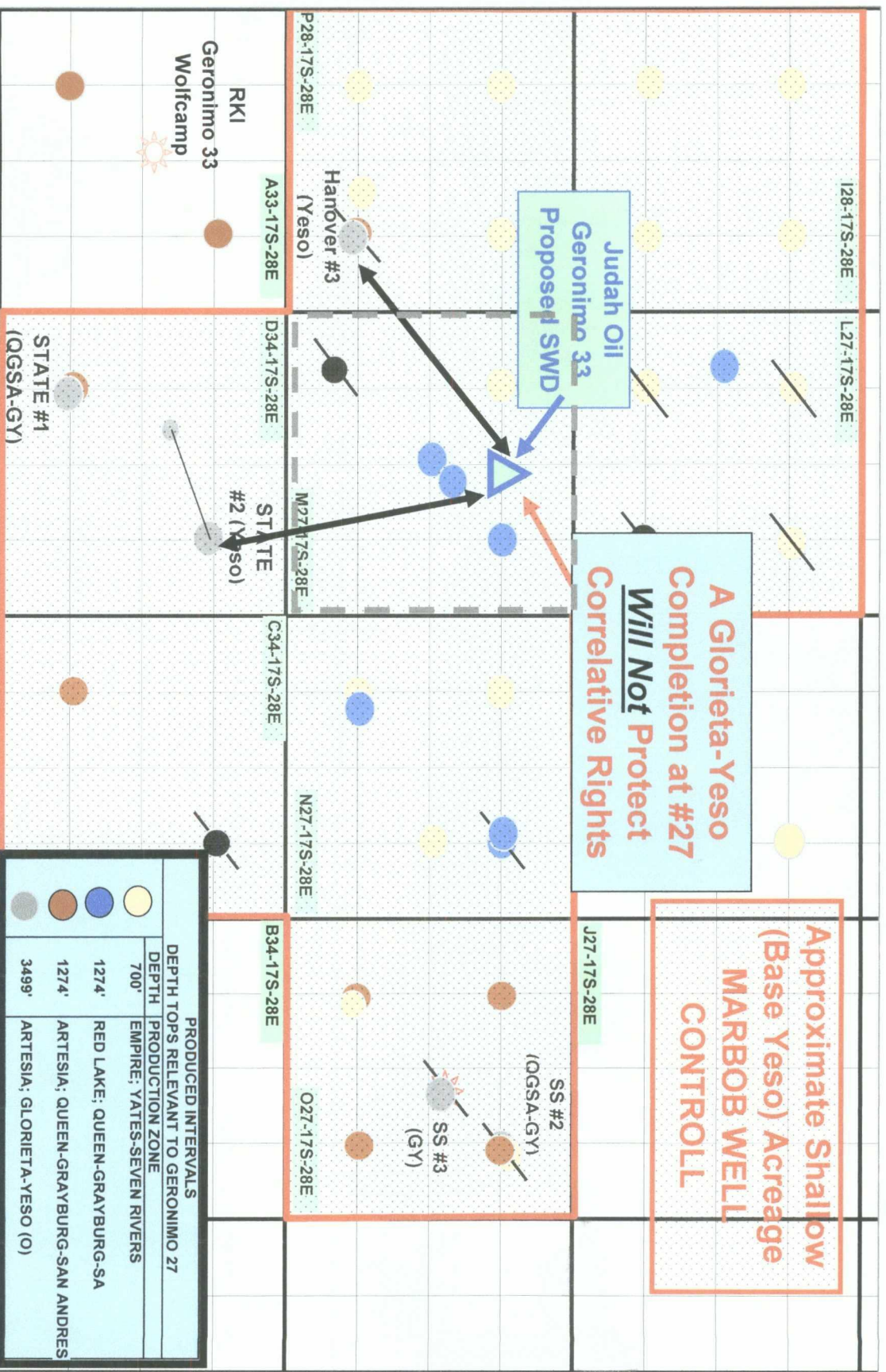
BASED ON PUBLIC
OCD INFORMATION
CURRENT ACCURACY
NOT VERIFIED



Glorieta-Yeso Production



Glorieta-Yeso Correlative Rights



Judah Oil Geronimo 33 Proposed SWD

To Protect Glorieta- Yeso Correlative Rights Requires Locations at 330' From Lease Line

Approximate Shallow (Base Yeso) Acreage MARBOB WELL CONTROL

330' FSL

STATE #2 (Yeso)

STATE #1 (QGSA-GY)

Handover #3 (Yeso)

SS #2 (QGSA-GY)

SS #3 (GY)

O27-17S-28E

B34-17S-28E

C34-17S-28E

D34-17S-28E

A33-17S-28E

P28-17S-28E

128-17S-28E

L27-17S-28E

RKI

Geronimo 33

Wolfcamp

PRODUCED INTERVALS

DEPTH	PRODUCTION ZONE
700'	EMPIRE; YATES-SEVEN RIVERS
1274'	RED LAKE; QUEEN-GRAYBURG-SA
1274'	ARTESIA; QUEEN-GRAYBURG-SAN ANDRES
3499'	ARTESIA; GLORIETA-YESO (O)

PRODUCED INTERVALS	
DEPTH TOPS RELEVANT TO GERONIMO 27	
DEPTH	PRODUCTION ZONE
700'	EMPIRE; YATES-SEVEN RIVERS
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1274'	ARTESIA; QUEEN-GRAYBURG-SAN ANDRES
3499'	ARTESIA; GLORIETA-YESO (O)

JUDAH OIL RESPECTFULLY REQUEST THE OCD TO GRANT THE GERONIMO #27 SWD APPLICATION

- **THE PROPOSED JUDAH OIL SWD WELL**

- PROTECTS SURFACE FRESH WATER
- PROTECTS ANY POTENTIAL SHALLOW HYDROCARBON ZONES WITH CEMENTED CASING
- HAS NO APPARENT COMMERCIAL OIL OR GAS RESERVES IN THE PROPOSED INJECTION INTERVAL (POTENTIAL INTERVALS OF INTEREST WERE TESTED AND/OR PRODUCED BY DOMINION PRIOR TO ABANDONMENT)
- DOES NOT INTERFERE WITH ANY CURRENT CORRELATIVE RIGHTS PRODUCTION ISSUES
- HAS THE SAME INJECTION INTERVAL AS OTHER SWD WELLS IN THE AREA
- WILL PROVIDED A DESIRED SERVICE TO LOCAL OIL&GAS OPERATORS AND SERVICE COMPANIES

- **STATE INCOME**

- THE STATE OF NM WILL GAIN INCOME FROM SWD INTO THE PROPOSED SWD WELL (EST. 4,000 TO 8,000 BWPD)
- CONVERSION TO SWD WILL NOT IMPEDE MARBOB FROM DEVELOPMENT OF ITS MINERAL RIGHTS OR IMPEDE INCOME TO THE STATE OF NM