DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
11/5/12	1/3/13			SWD 1373	pMWJ1233606868

Final 12/13/12

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

BRIAN COLLINS		SENIOR OPERATIONS ENGINEER	12 Sept 12
Print or Type Name	Signature	Title	Date

bcollins@concho.com
e-mail Address

CONCHO

RECEIVED OCD

2012 NOV -5 P 1:46

November 1, 2012

New Mexico Oil Conservation Division
Attn: William V. Jones
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Application For Authorization To Inject
Lightning 1 State SWD No. 1
Township 21 South, Range 33 East, N.M.P.M.
Section 1: 3480' FSL & 2300' FWL
Lea County, New Mexico

Dear Mr. Jones:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the Lightning 1 State SWD No. 1 well as referenced above. Attached, for your review, is a copy of the C-108 application. Once we receive the newspaper publication and all certified return receipts, I will send you a copy.

Please do not hesitate to contact me at (575) 748-6940 should you have any questions.

Sincerely,

Brian Collins
Senior Operations Engineer

BC/sw
Enclosures

Corporate Address: Fasken Center, Tower II 550 West Texas Avenue, Suite 100 Midland, Texas 79701 PHONE 432.683.7443 FAX 432.683.7441
Local Address: Concho West 2208 West Main Street Artesia, New Mexico 88210 PHONE 575.748.6940 FAX 575.748.6950

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance ___X___ Disposal _____ Storage
Application qualifies for administrative approval? ___X___ Yes _____ No

II. OPERATOR: COG OPERATING LLC

ADDRESS: 2208 W. Main Street, ARTESIA, NM 88210

CONTACT PARTY: BRIAN COLLINS PHONE: 575-748-6940

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes ___X___ No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

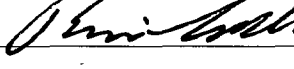
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: BRIAN COLLINS TITLE: Senior Operations Engineer

SIGNATURE:  DATE: 12 Sept 12

E-MAIL ADDRESS: bcollins@concho.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

C-108 Application for Authorization to Inject
LIGHTNING 1 STATE SWD #1
Unit N, Sec 1 T21S R33E
Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 7500' for salt water disposal service into the Delaware Sand from 5550' to 7450'. An APD will be submitted upon approval of this C-108.

V. Map is attached.

VI. No wells within the ½ mile radius area of review penetrate the proposed injection zone.

VII. 1. Proposed average daily injection rate = 7000 BWPD
Proposed maximum daily injection rate = 10000 BWPD

2. Closed system

3. Proposed maximum injection pressure = 1110 psi
(0.2 psi/ft. x 5550' ft.)

4. Source of injected water will be Delaware Sand and Bone Spring Sand produced water. No compatibility problems are expected. Analyses of Delaware and Bone Spring waters from analogous source wells are attached.

VIII. The injection zone is the Delaware Sandstone, a fine-grained sandstone from 5550' to 7450'. Any underground water sources will be shallower than 160' based on well records from fresh water well 2 miles southwest in Sec. 11-T21S-R33E.

IX. The Delaware sand injection interval might be acidized with approximately 20 gal/ft of 7 ½ % HCl acid. If necessary, the injection interval may be fraced with up to 300,000 lbs. of sand.

X. Well logs, if run, will be filed with the Division. A section of the neutron-density porosity log from an analogous well 3000' to the southeast showing the injection interval is attached.

XI. There is one fresh water well within a mile of the proposed SWD well. Water analysis for the nearest fresh water will, located in the NE/4 Section 2-T21S-R33E, is attached.

XII. After examining the available geologic and engineering data, no evidence was found of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Proof of Notice is attached.

III.

WELL DATA

Side 1

INJECTION WELL DATA SHEET

OPERATOR: COG Operating, LLC

WELL NAME & NUMBER: Lightning 1 State SWD 1

WELL LOCATION: 3480' FSL 2300' FWL N 1 21S 33E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

See Attached Schematic

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 1/2" Casing Size: 13 3/8" @ 1800' ±

Cemented with: _____ sx. *or* 2500 ft³

Top of Cement: Surface Method Determined: Design

Intermediate Casing

Hole Size: 12 1/4" Casing Size: 9 5/8" @ 5500' ±

Cemented with: _____ sx. *or* 3500 ft³

Top of Cement: Surface Method Determined: Design

Production Casing

Hole Size: 8 3/4" Casing Size: 7" @ 7500' ±

Cemented with: _____ sx. *or* 1150 ft³

Top of Cement: 2500' Method Determined: Design

Total Depth: 7500'

Injection Interval

5550' feet to 7450'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 3½" or 4½" Lining Material: IPC / Duoline 20

Type of Packer: Nickel plated double grip retreivable

Packer Setting Depth: ± 5500'

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

1. Is this a new well drilled for injection? X Yes _____ No

   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: Delaware Sand

3. Name of Field or Pool (if applicable): –

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

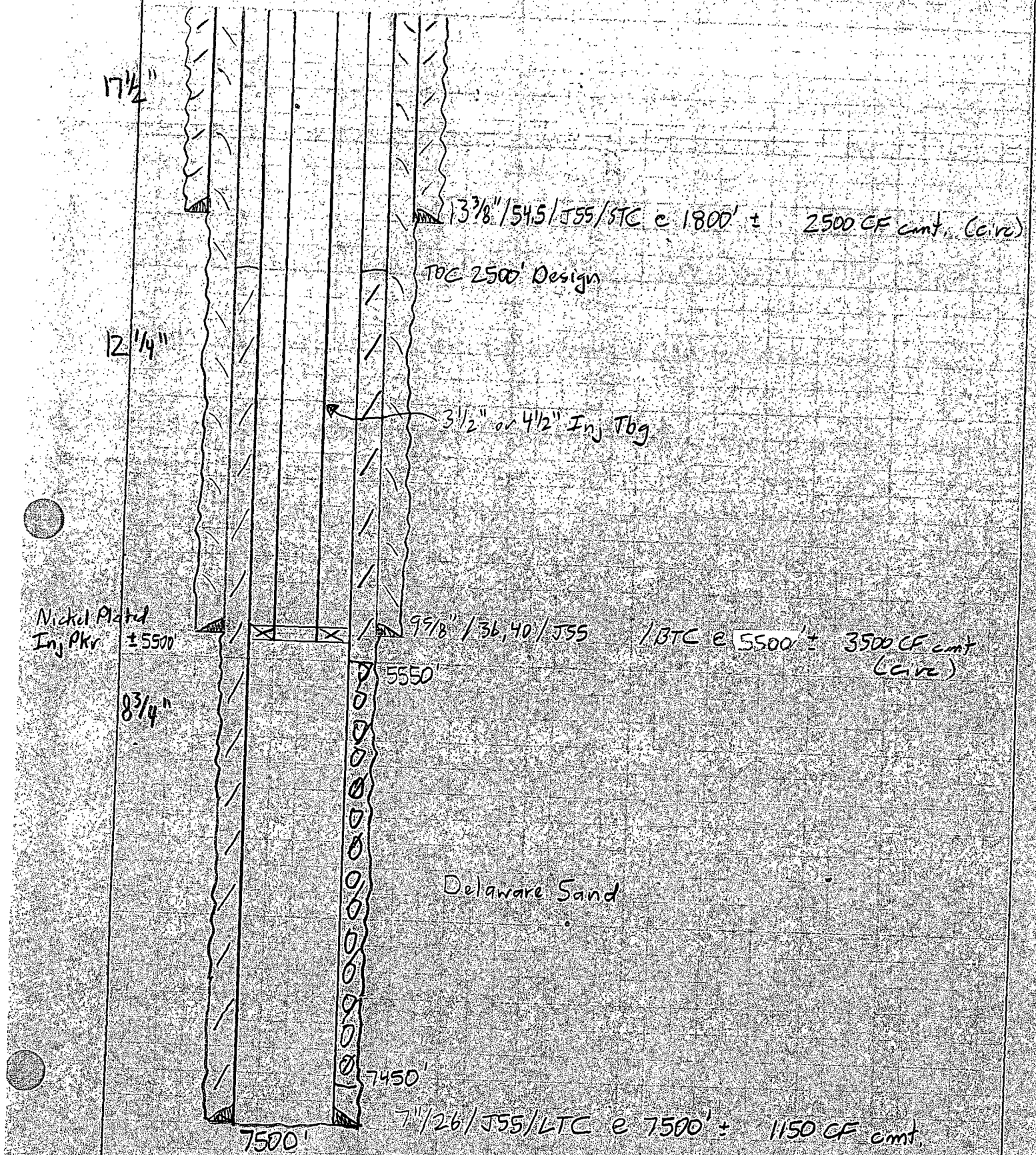
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Overlying: Yates/Seven Rivers 3700-3800'±

   Underlying: Bone Spring ±8450'

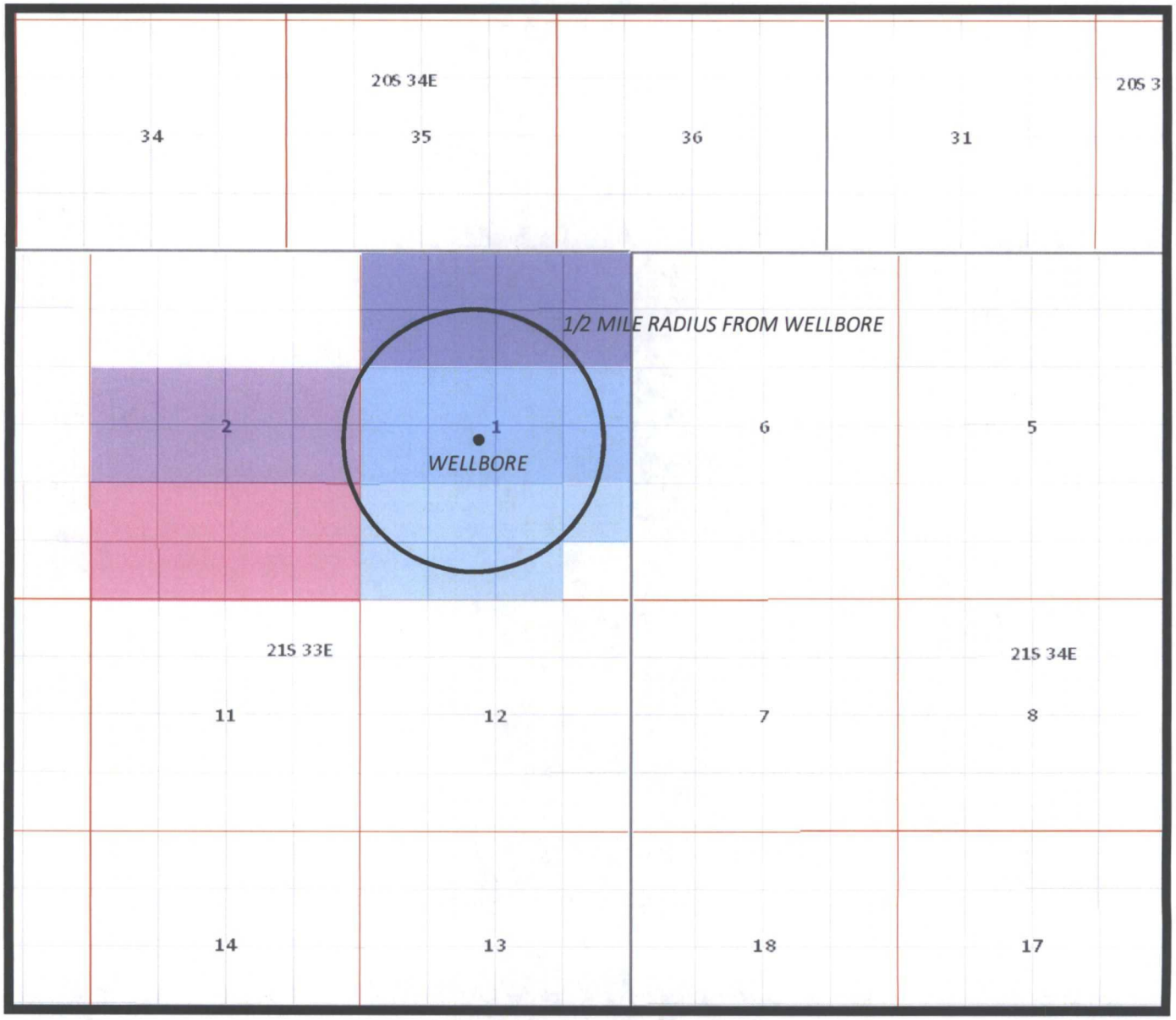
30-025-

Lightning 1 State SWD 1
3480' FSL, 2300' FWL
N-1-21s-33e
Lea, NM



V.

MAP



Concho Oil and Gas LLC

COG Operating LLC

COG Operating LLC

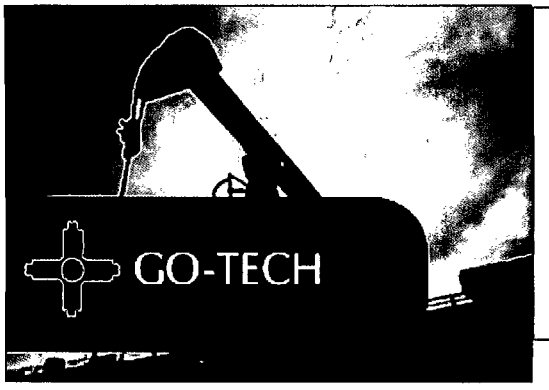
COG Operating LLC

Chase Oil Corporation

Lighting 1 State SWD No. 1
3480' FSL & 2300' FWL
Township21s - Range33e
Lea County, New Mexico

VII.

Water Analysis Produced and Receiving Formation Water



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~ Production Data
~ Well Data
~ NM Pricesheet
~ Water Data
~ Projects
~ Software
~ Archive
~ Other Links
~ Help

North American Oil and Gas News

Eagleford Energy announces positive results from well drilled on its Murphy Lease

Solimar Energy Limited: Rig onsite for Kreyenhagen field oil production testing

PEMEX executes go ahead for three wells to use CHMR system designed to safely replace hydraulic fracturing

Ridgeline reports first quarter fiscal year 2013 financial results

Source: Oil Voice

NYMEX LS Crude	**96.68**
Navajo WTXI	**0**
Henry Hub	**2.702**
Updated :	8/24/2012

State Land Office Data Access

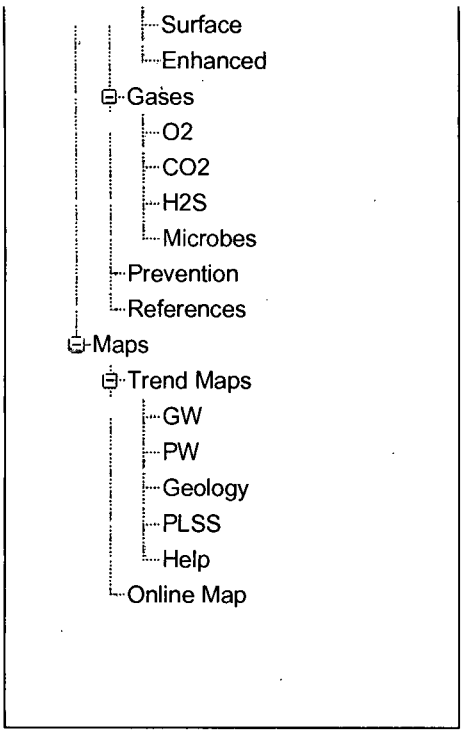
OCD well/log image files

PRRC NM-TECH NM-BGMR

Water Sample Representative of Delaware Produced & Receiving Formation Water

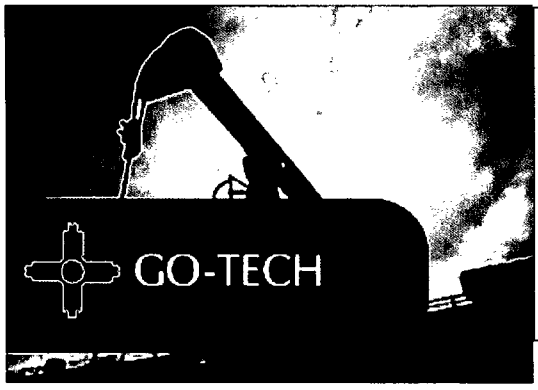
- NM WAIDS
  - Data
    - Produced Water
    - Ground Water
    - Conversion Tools
  - Scale
    - Scale details
    - Stiff
    - Oddo
    - Probable Mineral Composition
    - mix
  - Corrosion
    - Theory
      - Uniform
      - Galvanic
      - Crevice
      - Hydrogen Damage
      - EIC
      - Erosion
    - Equipment
      - Artificial
      - Casing and Tubing

General Information About: Sample 6007			
MEDANO VA STATE			
API	3001526591	Sample Number	
Unit/Section/ Township/Range	F / 16 / 23S / 31E	Field	LOS MEDANOS
County	Eddy	Formation	DEL
State	NM	Depth	
Lat/Long	32.30541 , -103.78522	Sample Source	
TDS (mg/L)		Water Type	
Sample Date (MM/DD/YYYY)	6/15/2000 12:00:00 AM	Analysis Date (MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		**Anion Information (mg/L)**	
Potassium (K)		Sulfate (SO)	125
Sodium (Na)		Chloride (Cl)	109108
Calcium (Ca)	10960	Carbonate (CO_3)	



Magnesium (Mg)	833.1	Bicarbonate (HCO_3)	537
Barium (Ba)	0	Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H_2S)	0
Strontium (Sr)		Carbon Dioxide (CO_2)	
Iron (Fe)	2.5	Oxygen (O)	

PETROLEUM RECOVERY RESEARCH CENTER, SOCORRO, NM-87801



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Water Sample Representative of Bone Spring Produced Water

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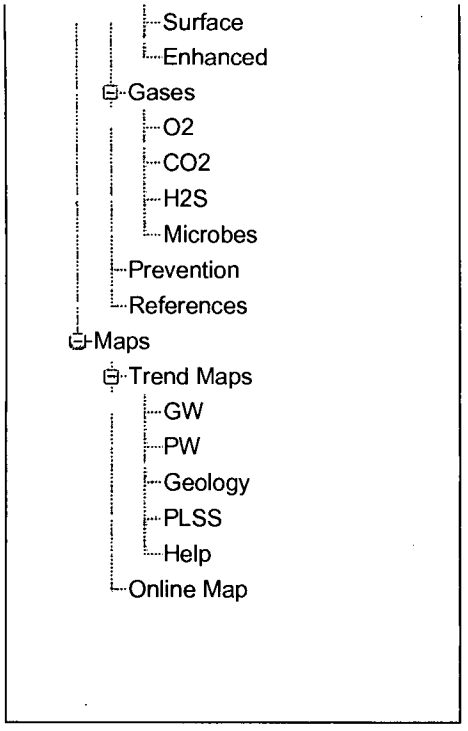
      - Uniform
      - Galvanic
      - Crevice
      - Hydrogen Damage
      - EIC
      - Erosion
    - Equipment
      - Artificial
      - Casing and Tubing

General Information About: Sample 6681			
THYME APY FEDERAL			
API	3002533529	Sample Number	
Unit/Section/ Township/Range	G / 01 / 23S / 32E	Field	RED TANK
County	Lea	Formation	B SPG
State	NM	Depth	
Lat/Long	32.33657 , -103.62470	Sample Source	
TDS (mg/L)	172896	Water Type	
Sample Date (MM/DD/YYYY)	11/27/2001 12:00:00 AM	Analysis Date (MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		**Anion Information (mg/L)**	
Potassium (K)		Sulfate (SO)	1150
Sodium (Na)		Chloride (Cl)	104976
Calcium (Ca)	0	Carbonate (CO_3)	



Magnesium (Mg)	2025	Bicarbonate (HCO_3)	781
Barium (Ba)	0	Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H_2S)	0
Strontium (Sr)		Carbon Dioxide (CO_2)	
Iron (Fe)	0	Oxygen (O)	

PETROLEUM RECOVERY RESEARCH CENTER, SOCORRO, NM-87801

WELL LOGS

Kz

API number:	30-025-40302		
OGRID:		Operator:	COG OPERATING LLC
		Property:	LIGHTNING P-38 STATE # 2H

surface	ULSTR:	H	01	T	21S	R	33E	
			1980	FNL	330	FEL		
BH Loc	ULSTR:	E	01	T	21S	R	33E	
			2071	FNL	366	FWL		

Ground Level:	3790	DF:	3809	KB:	3810		
Datum:	KB			MD:	16008	TVD:	11498

Completion Date: (1)	5/4/2012
Date Logs Received:	5/21/2012
Date C105 Received:	5/21/2012
Date Logs/C105 Due in: (2)	5/24/2012

Land: STATE

Confidential:	NO			Date out:		

Confidential period: 90 Days for State & Fee, 1 Year for federal

Date Due In: (1) is equal to Completion Date (1) + 20 days

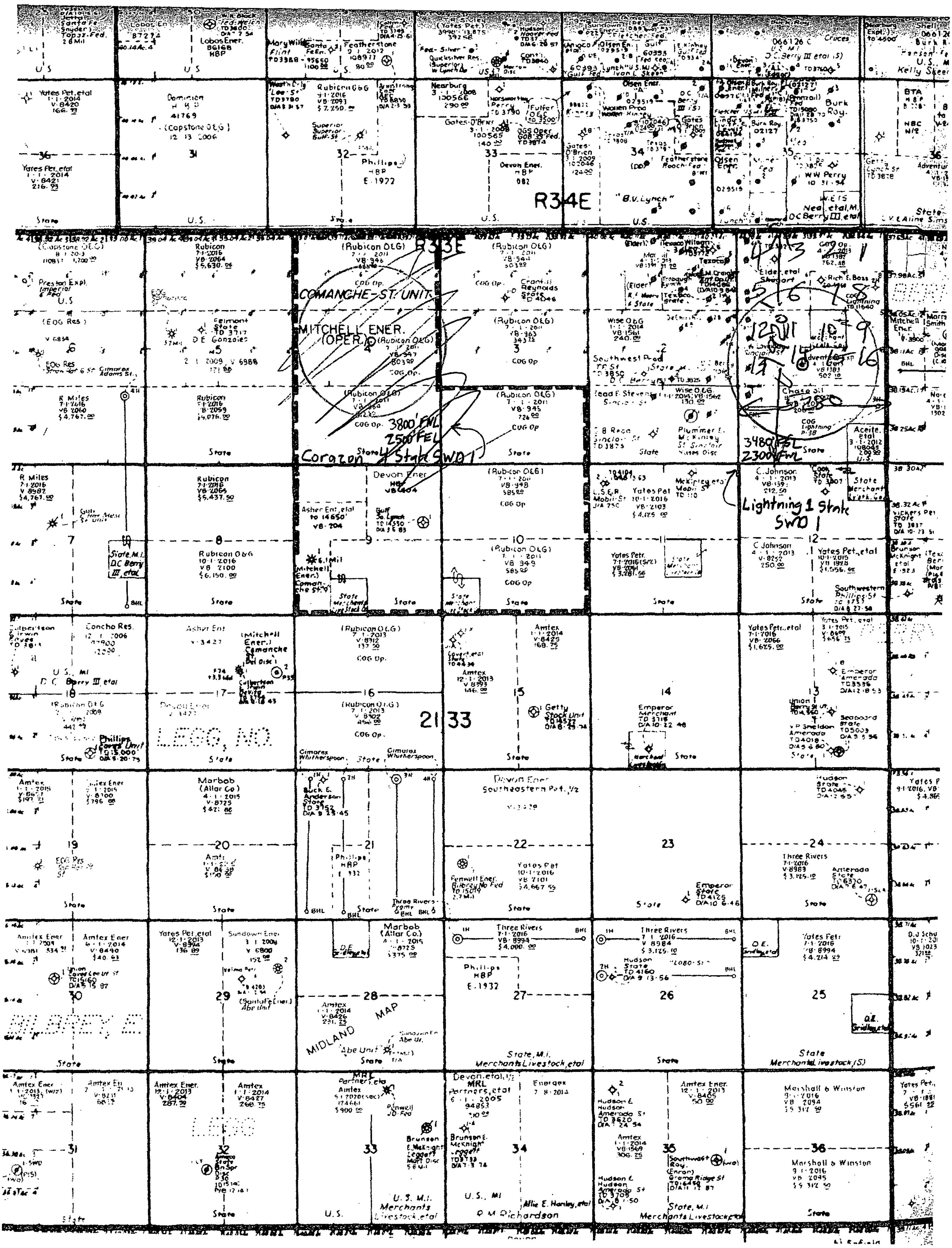
Logs	Depth interval		
DSN/SDL	**200**	**11554**	Spectral Density Dual Spaced Neutron
DLL/MGRD	**5522**	**11602**	Dual Laterolog Micro Guard Log
	5522	**11602**	Triple Combo Composite Log

out of APD

NE of Well

Kz **OCD TOPS**

Rustler	1759	Bone Spring	8314		
Tansill	3762	1st Sd	9831		
Yates	3936	2nd Carb	10080		
7 rvrs	4210	2nd Sd	10434		
		3rd Carb	10865		
		3rd Sd	11405		
Queen		Wolfcamp			
Penrose					
Grayburg		Strawn			
San Andres		Atoka			
Glorieta		Morrow			
Yeso					
Abo					
		Barnett Sh			
Capitan Reef	4250	Miss Lime			
Getaway Bank					
Delaware Sd	5646				



R34E
R33E
"B.V. Lynch"
COMANCHE-ST. UNIT
MITCHELL ENER. (OPER.)
3800' FNL
2500' FEL
Corazon 4 State SWD 1
3480' FSL
2300' FWL
Lightning 1 State SWD 1
21 33
MIDLAND MAP
Rubicon O&G
Devon Ener.
Yates Pet. etal
Amtex
Marbob (Allar Co.)
Three Rivers
Phillips HBP E-1932
State
U.S.
State, M.I. Merchants Livestock, etal
Marshall & Winston

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

12/15/12 17:54:16
OGOWVJ -TQ7J
PAGE NO: 1

Sec : 01 Twp : 21S Rng : 33E Section Type : LONG

12 4 5 40.00 40.20 40.00 CS CS CS MULTI R A A A A A A	11 3 6 40.00 40.09 40.00 CS CS CS MULTI R A	10 2 7 40.00 39.97 40.00 CS CS CS MULTI R A	1 8 9 39.86 40.00 40.00 CS CS CS MULTI A A
13 40.00 CS VB1383 0001 COG OPERATING LLC R 04/01/13 A	14 40.00 CS VB1383 0001 COG OPERATING LLC R 04/01/13	15 40.00 CS VB1383 0001 COG OPERATING LLC 04/01/13	16 40.00 CS VB1383 0001 COG OPERATING LLC 04/01/13
L 40.00 CS VB1201 0001 CHASE OIL CORPORA R 08/01/12 A	K 40.00 CS VB1201 0001 CHASE OIL CORPORA R 08/01/12	J 40.00 CS VB1201 0001 CHASE OIL CORPORA 08/01/12	I 40.00 CS VB1201 0001 CHASE OIL CORPORA 08/01/12 A
M 40.00 CS VB1201 0001 CHASE OIL CORPORA R 08/01/12	N 40.00 CS VB1201 0001 CHASE OIL CORPORA 08/01/12	O 40.00 CS VB1201 0001 CHASE OIL CORPORA 08/01/12	P 40.00 CS OPEN R A

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06
PF07 BKWD PF08 FWD PF09 PRINT PF10 SDIV PF11 PF12

No Deep wells in AOR

Bunch of Shallow 3,700 (or so) wells

X.

Log Across Proposed Delaware Sand Injection Interval

HALLIBURTON

SPECTRAL GAMMA
DUAL SPACED NEUTRON
SPECTRAL DENSITY

COMPANY COG OPERATING, LLC
WELL LIGHTNING P-38 STATE No. 3H
FIELD WILDCAT; BONE SPRING
COUNTY LEA
STATE NEW MEXICO

COMPANY **COG OPERATING, LLC**

WELL **LIGHTNING P-38 STATE No. 3H**

FIELD **WILDCAT; BONE SPRING**

COUNTY **LEA** STATE **NEW MEXICO**

API No. 30-025-40375

Location 1980' FSL AND 330' FEL

Sect. 1 Twp. 21S Rge. 33E

COG OPERATING LLC
RECEIVED
MAR 21 2012
ARTESIA WEST

Other Services:
DSLT

Permanent Datum	GL	Elev. 3752.0 ft	Elev.: K.B. 3773.0 ft
Log measured from	KB	21.0 ft above perm. Datum	D.F. 3772.0 ft
Drilling measured from	KB		G.L. 3752.0 ft

Date		19-Mar-12					
Run No.		ONE					
Depth - Driller		11780.00 ft					
Depth - Logger		11776.0 ft					
Bottom - Logged Interval		11720.0 ft					
Top - Logged Interval		200.0 ft					
Casing - Driller		9.625 in	@ 4650.0 ft	@		@	
Casing - Logger		4642.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		BRINE					
Density	Viscosity	8.9 ppg	28.00 s/qt				
PH	Fluid Loss	10.00 pH					
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		0.110 ohmm	@ 75.00 degF	@		@	
Rmf @ Meas. Temperature		0.08 ohmm	@ 75.00 degF	@		@	
Rmc @ Meas. Temperature		0.129 ohmm	@ 75.00 degF	@		@	
Source Rmf	Rmc	MEAS	MEAS				
Rm @ BHT		0.05 ohmm	@ 162.0 degF	@		@	
Time Since Circulation		10.0 hr					
Time on Bottom		19-Mar-12 17:40					
Max. Rec. Temperature		162.0 degF	@ 11776.0 ft	@		@	
Equipment	Location	700	HOBBS, NM				
Recorded By		R. RIOS					
Witnessed By		KEATON WATERS					

Service Ticket No.: 9340369 API Serial No.: 30-025-40375 PGM Version: WL INSITE/R3.4.0 (Build 4)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

Date	Sample No.			Type Log	
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
PH	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@	@	Run No.	
Rmf @ Meas. Temp.		@	@	Tool Type & No.	
Rmc @ Meas. Temp.		@	@	Pad Type	
Source Rmf	Rmc			Tool Pos.	
Rm @ BHT		@	@	Other	
Rmf @ BHT		@	@		
Rmc @ BHT		@	@		

RESISTIVITY SCALE CHANGES

Type Log	Scale Up Hole	Scale Down Hole
Depth		

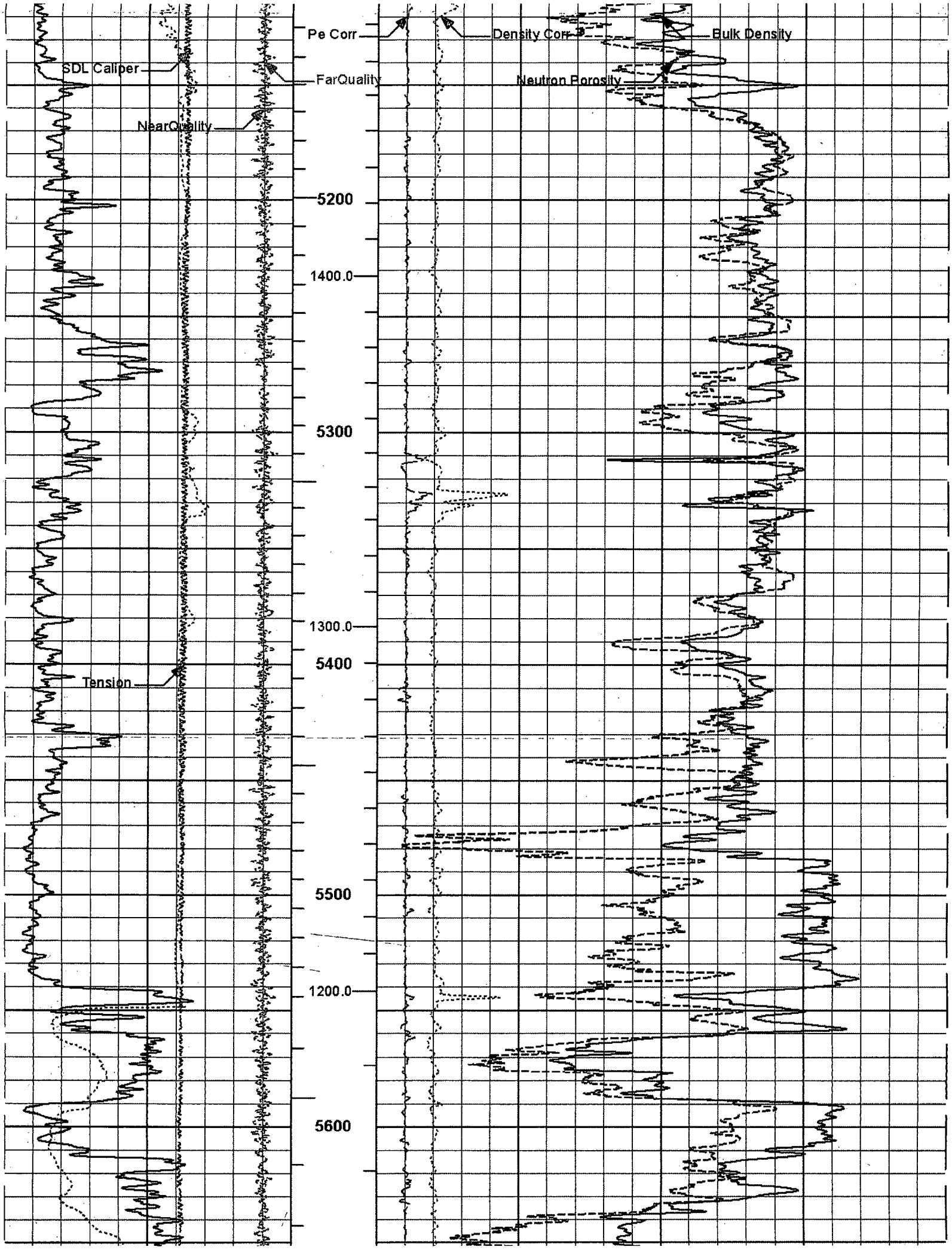
RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type & No.	Pad Type	Tool Pos.
Rm @ Meas. Temp			
Rmf @ Meas. Temp.			
Rmc @ Meas. Temp.			
Source Rmf	Rmc		
Rm @ BHT			
Rmf @ BHT			
Rmc @ BHT			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	10765653GD_700	Serial No.		Serial No.	900784670R	Serial No.	900784670R
Model No.	CSNG	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	T102-A	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	Cs137	Source Type	Am241Be
Length	12"	LSA [Y/N]		Serial No.	5088GW	Serial No.	DSN-383
Distance to Source	8'	FWDA [Y/N]		Strength	1.5 Ci	Strength	15 Ci

LOGGING DATA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Density Corr
Bulk Density
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Neutron Porosity
NearQuality
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1300.0
5400
Tension
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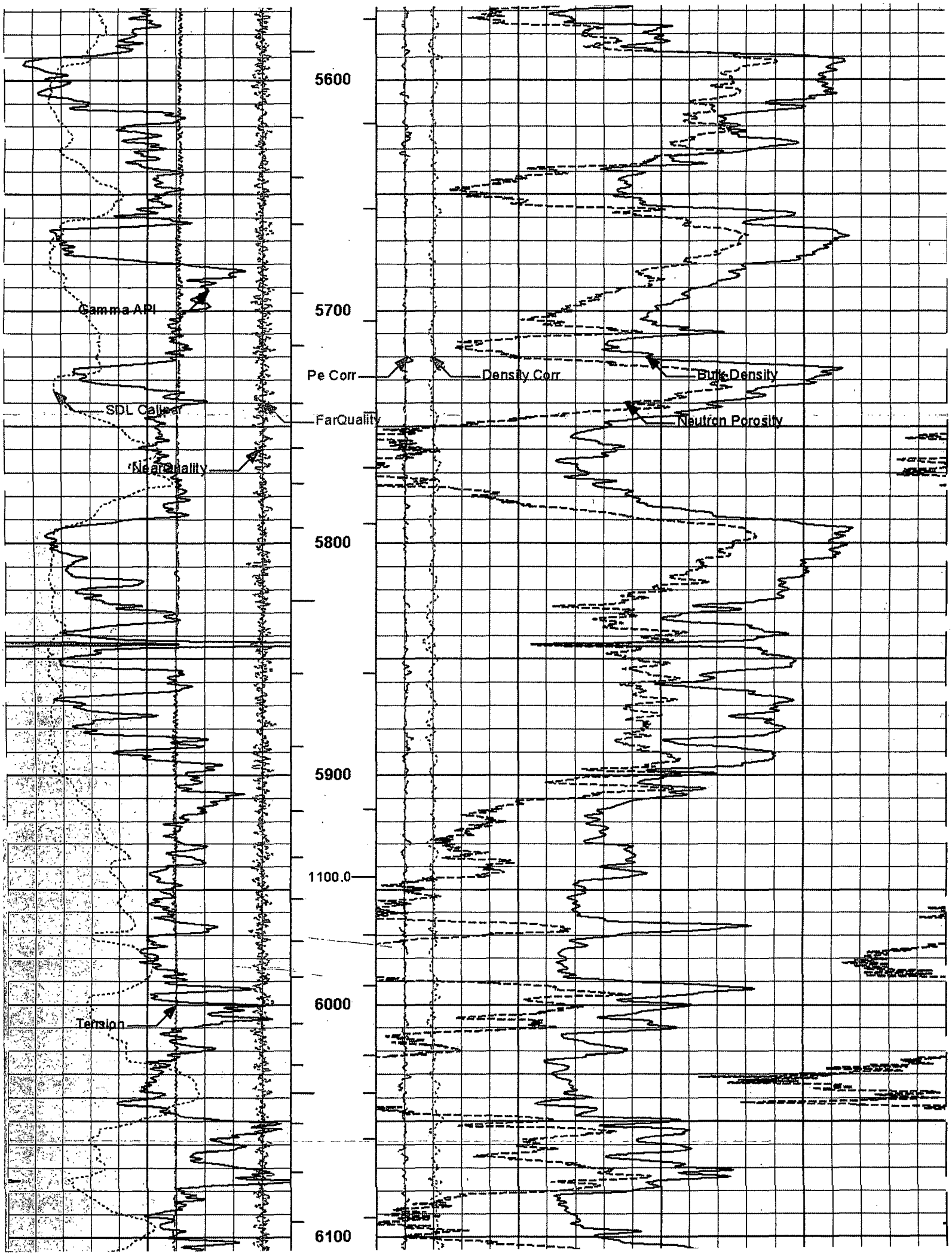
1200.0
5600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Bulk Density
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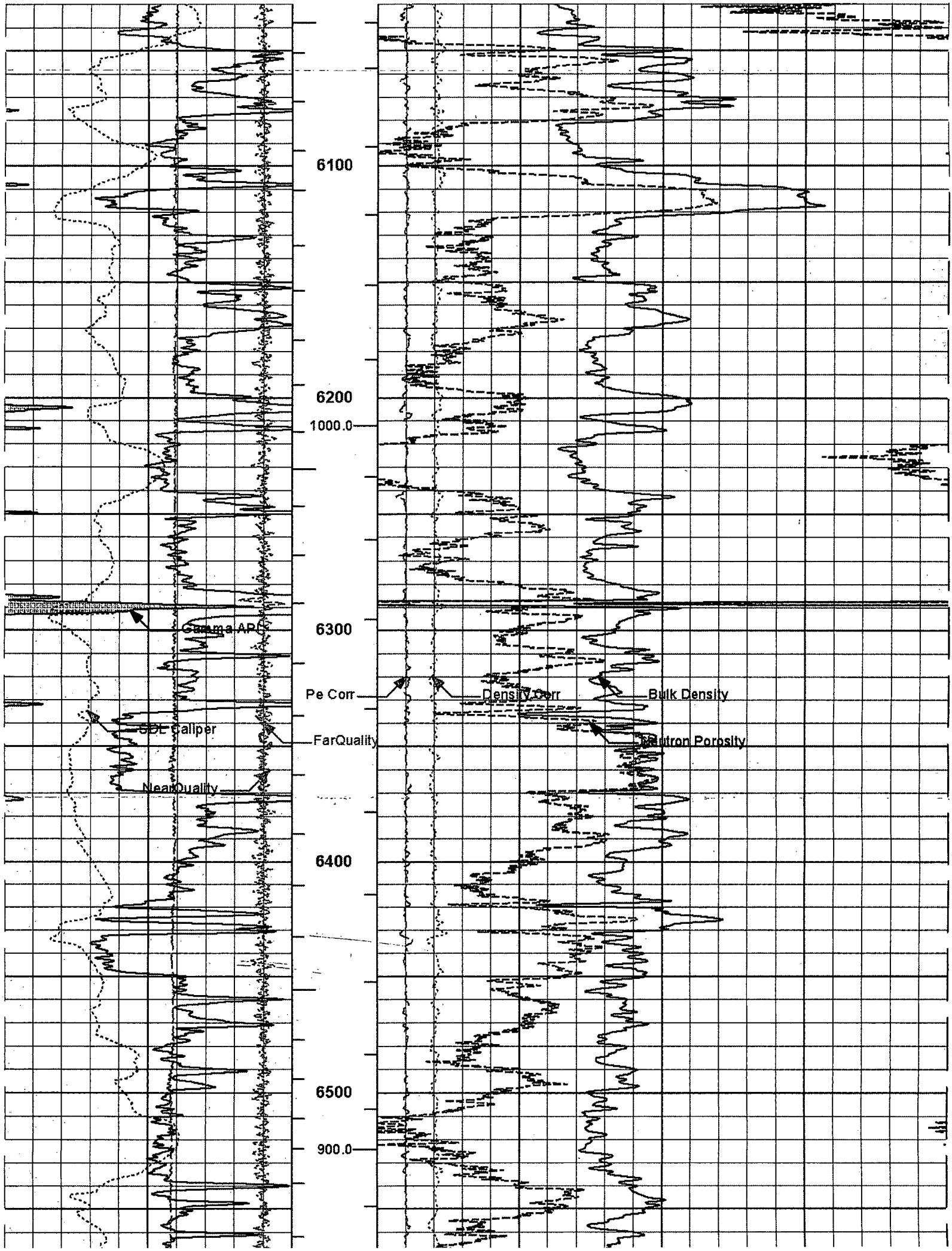
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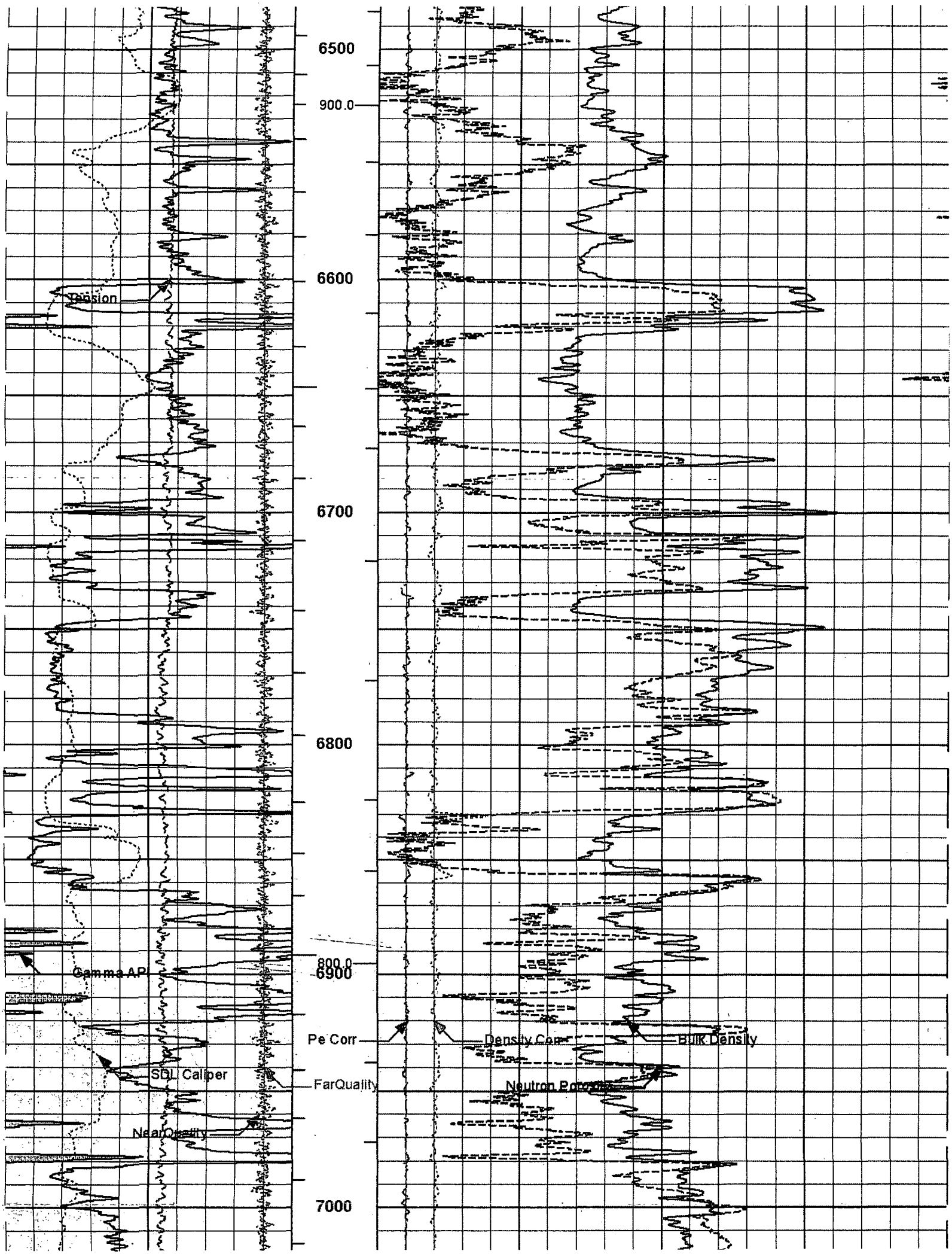
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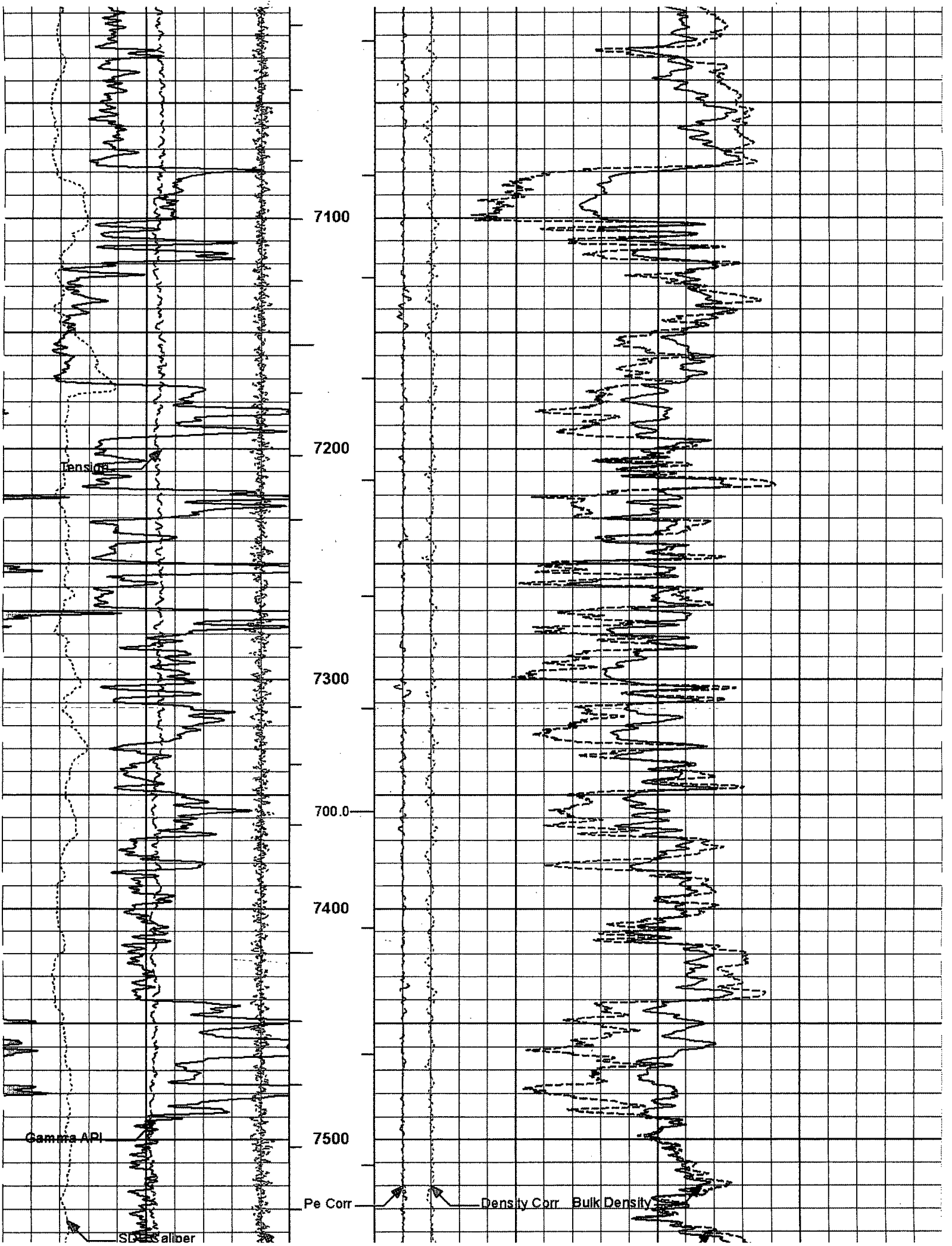
FarQuality
Neutron Porosity
NearQuality
7000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Tension
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Density Corr
Bulk Density
SDL Caliber

XI.

Fresh Water Sample Analyses

HALLIBURTON

PERMAIN BASIN OPERATIONS LABORATORY
WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

COMPANY: Cog
LEASE: Berry Ranch
NE/4 Sec 2-21s-33e, Lea Co.
FW collected at water station at Berry Ranch

REPORT W12-200
DATE September 11, 2012
DISTRICT Hobbs

SUBMITTED BY Brian Collins

TANK SAMPLE					
Sample Temp.	70 °F	°F	°F	°F	°F
RESISTIVITY	0.6				
SPECIFIC GR.	1.007				
pH	8.24				
CALCIUM	250 mpl	mpl	mpl	mpl	mpl
MAGNESIUM	130 mpl	mpl	mpl	mpl	mpl
CHLORIDE	6582 mpl	mpl	mpl	mpl	mpl
SULFATES	<400 mpl	mpl	mpl	mpl	mpl
BICARBONATES	335 mpl	mpl	mpl	mpl	mpl
SOLUBLE IRON	0 mpl	mpl	mpl	mpl	mpl
KCL					
Sodium	mpl	mpl	mpl	mpl	mpl
TDS	mpl	mpl	mpl	mpl	mpl
OIL GRAVITY	@ 60 °F	@ 60 °F	@ 60 °F	@ 60 °F	@ 60 °F

REMARKS

MPL = Milligrams per litter
Resitivity measured in: Ohm/m2/m

ANALYST: SB

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

PLSS Search:

Section(s): 31-36 **Township:** 20S **Range:** 34E

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced and no longer serves this file, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE)

(acre ft per annum) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 64 16 4	Sec	Tws	Rng	X	Y
CP 00579		DOL	3	BERRY RANCH	LE	CP 00579			Shallow	2 2	02	21S	33E	637438	3598269*

Record Count: 1

PLSS Search:

Section(s): 1-2 **Township:** 21S **Range:** 33E

Sorted by: File Number

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
CP 00579	2	2		02	21S	33E	637438	3598269*

Driller License: VAN NOY, W.L.
Driller Name: VAN NOY, W.L.

Drill Start Date:	11/21/1979	**Drill Finish Date:**	11/22/1979	**Plug Date:**	
Log File Date:	04/02/1980	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	6.00	**Depth Well:**	125 feet	**Depth Water:**	100 feet

Water Bearing Stratifications:	Top	Bottom	Description
	100	102	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	105	120

***UTM location was derived from PLSS - see Help**

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

SANTA FE
L 7455

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address Berry Ranch Box 67..
City and State Eunice, New Mexico 88231

Well was drilled under Permit No. CP-579 and is located in the:

a. ____ ¼ ____ ¼ NW ¼ NE ¼ of Section 2 Township 21-S Range 37-E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor W. L. Van Hoy License No. WD-208

Address P. O. Box 7 Oil Center, New Mex. 88266

Drilling Began Nov. 21, 1979 Completed Nov. 22, 1979 Tools Spudder Size of hole 8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 125 ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well 100 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
100	102	2	water sand.	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6"	welded		0	125	125	none	105	120

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received April 2, 1980

Quad _____ FWL _____ FSL _____

File No. CP-579 Use DOM & STK Location No. 21.33.2.22000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	top soil
2	25	23	~~&Xa~~ caliche
~~25~~	~~90~~	~~65~~	~~firm sandy shale~~
90	100	10	hard rock
100	102	2	water sand (weak)
~~102~~	~~125~~	~~23~~	~~red clay.~~

'80 APR 2 AM 8 06

STATE ENGINEER OFFICE
ROSWELL, N.M.

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

W. L. Van Hoy
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, e[redacted] Section 5, shall be answered as completely [redacted] accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 6416	4	Sec	Tws	Rng	X	Y
CP 00611		PRO	0	DALE CROCKETT	LE	CP 00611	Outside 1 mile radius AOR		Shallow	2	1	06	21S	34E	639838	3598306*
CP 00791		SAN	3	ENRON GAS PROCESSING CO.	LE	CP 00791	Outside 1 mile radius AOR		Shallow	4 2	4	06	21S	34E	640754	3597413*

Record Count: 2

PLSS Search:

Section(s): 6 **Township:** 21S **Range:** 34E

Sorted by: File Number

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 6416	4	Sec	Tws	Rng	X	Y
CP 00578		STK	3	MERCHANT LIVESTOCK COMPANY	LE	CP 00578	Outside 1 mile radius AOR		Shallow		4 3	11	21S	33E	636674	3595445*

Record Count: 1

PLSS Search:

Section(s): 8-12 **Township:** 21S **Range:** 33E

Sorted by: File Number

***UTM location was derived from PLSS - see Help**

CONCHO

November 1, 2012

Hobbs News-Sun
P.O. Box 850
Hobbs, NM 88240

Re: **Legal Notice**
Salt Water Disposal Well
Lightning 1 State SWD No. 1

To Whom It May Concern:

Enclosed is a legal notice regarding New Mexico Oil Conservation Division C-108 Application for Authorization to Inject for a salt water disposal well.

Please run this notice and return the proof of notice to the undersigned at:

COG Operating LLC, 2208 W. Main St., Artesia, NM 88210

Sincerely,

Brian Collins
Senior Operations Engineer

BC/sw
Enclosures

Corporate Address: Fasken Center, Tower II 550 West Texas Avenue, Suite 100 Midland, Texas 79701 PHONE 432.683.7443 FAX 432.683.7441
Local Address: Concho West 2208 West Main Street Artesia, New Mexico 88210 PHONE 575.748.6940 FAX 575.748.6950

HOBBS NEWS-SUN
LEGAL NOTICES

COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico, 88210, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Lightning 1 State SWD No. 1 is located 3480' FSL and 2300' FWL, Sec. 1, Township 21 South, Range 33 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware and Bone Spring formations. The disposal water will be injected into the Delaware formation at a depth of 5550' to 7450' at a maximum surface pressure of 1110 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 22 miles west of Eunice. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico 88210, or call 575-748-6940.

Published in the Hobbs News-Sun Hobbs, New Mexico
_____, 2012.

CONCHO

RECEIVED OCD

2012 DEC 13 P 1:3

December 7, 2012

New Mexico Oil Conservation Division
Attn: William V. Jones
1220 South St. Frances Drive
Santa Fe, NM 87505

Re: Affidavit of Publication/Certified Return Receipts
Lightning 1 State SWD No. 1
Township 21 South, Range 33 East, N.M.P.M.
Section 1: 3480' FSL & 2300' FWL
Lea County, New Mexico

Dear Mr. Jones:

Enclosed, per your request, please find one copy of the affidavit of publication and on copy of the certified return receipts from each party that was notified. Please note the Certified Mailers were sent out on November 1, 2012.

Please do not hesitate to contact us at 575-748-6940 should you have any questions.

Sincerely,

Brian Collins
Senior Operations Engineer

BC/bg
Enclosures

Corporate Address: Fasken Center, Tower II 550 West Texas Avenue, Suite 100 Midland, Texas 79701 PHONE 432.683.7443 FAX 432.683.7441
Local Address: Concho West 2208 West Main Street Artesia, New Mexico 88210 PHONE 575.748.6940 FAX 575.748.6950

Affidavit of Publication

State of New Mexico,
County of Lea.

I, JUDY HANNA
PUBLISHER
of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period

of 1 issue(s).
Beginning with the issue dated
November 10, 2012
and ending with the issue dated
November 10, 2012

PUBLISHER
Sworn and subscribed to before me
this 12th day of
November, 2012

Notary Public

My commission expires
January 29, 2015
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-15

This newspaper is duly qualified to publish legal notices or advertisments within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said publication has been made.

LEGAL LEGAL

LEGAL NOTICES
November 10, 2012

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#27702

02107967 00103921

COG OPERATING LLC
FASKEN CENTER, TOWER II
550 W. TEXAS AVE., STE 1300
MIDLAND, TX 79701

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

ATTN WILLIAM V JONES
NM OIL CONSERVATION DIVISION
1220 S ST FRANCIS DR
SANTA FE NM 87505

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Heather Mah | C. Date of Delivery 11/5/12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

RECEIVED SANTA FE NM NOV - 5 2012 USPS

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7011 1570 0000 7781 3196

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Chase Oil Corporation
P.O. Box 960
Artesia, NM 8821[illegible]

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by (Printed Name) K. Beauregard | C. Date of Delivery 11-8-12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

RECEIVED ARTESIA NM NOV - 8 2012 USPS 88210

3. Service Type
☐ Certified Mail ☑ Express Mail
☑ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7011 1570 0000 7781 3202

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Saturday, December 15, 2012 7:02 PM
To: Brian Collins
Cc: Kautz, Paul, EMNRD; Ezeanyim, Richard, EMNRD
Subject: Disposal application from COG Operating LLC: Lightning 1 State SWD #1 30-025-NA Delaware Perforations

Hello Brian,

Hope all is well?

Just looked over your application,

It seems this is 2 or more miles from any other Delaware production and maybe that was lower in the formation?
Is there any distinction in this area between Bell/Cherry/Brushy members? If so, what would the geologist pick as tops?

Please send proof of notice (Copy of the C-108) to;

i. The State Land Office as the surface owner and
ii. The nearest Potash Lessee (for any application for disposal with the R-111-P Potash area within the well's AOR).

Otherwise all looks fine,

Thank You

Will Jones

Jones, William V., EMNRD

From: Brian Collins <BCollins@concho.com>
Sent: Monday, December 17, 2012 6:58 AM
To: Jones, William V., EMNRD
Subject: RE: Disposal application from COG Operating LLC: Lightning 1 State SWD #1 30-025-NA Delaware Perforations

Will: 12/18

I'm doing well, thank you. I'll email you the Bell, Cherry and Brushy Canyon picks this week and Bobbie will notify the SLO and Potash. Hope things are going well for you too. Take care. --Brian

---

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Saturday, December 15, 2012 8:02 PM
To: Brian Collins
Cc: Kautz, Paul, EMNRD; Ezeanyim, Richard, EMNRD
Subject: Disposal application from COG Operating LLC: Lightning 1 State SWD #1 30-025-NA Delaware Perforations

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ii. The nearest Potash Lessee (for any application for disposal with the R-111-P Potash area within the well's AOR).

Otherwise all looks fine,

Thank You

Will Jones

LOT 14 Irregular 1/3/13

Injection Permit Checklist (11/15/2010)

WFX______ PMX______ SWD 1373 Permit Date ~~12/7/12~~ UIC Qtr (O/N/D)

Wells 1 Well Name(s): LIGHTNING 1 State SWD #1

API Num: 30-025- NA Spud Date: Not Yet New/Old: N (UIC primacy March 7, 1982)

Footages 3480' FSL / 2300 FWL Unit ~~K~~ Sec 1 Tsp 21S Rge 33E County LEA

General Location:

Operator: COG OPERATING, LLC Contact BRIAN COLLINS

OGRID: 229137 RULE 5.9 Compliance (Wells) 0/3755 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed ✓ Current Status: NO Permit/File

Planned Work to Well: Drill/Eqp

Diagrams: Before Conversion — After Conversion ✓ Elogs in Imaging File: New well

Well Details:	Sizes Hole.......Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
New ✓ Existing __ Surface	17½ 13⅜	1800	—	2500 CF	CIRC
New ✓ Existing __ Interm	12¼ 9⅝	5500'	—	3500 CF	CIRC
New ✓ Existing __ LongSt	8¾ - 7"	7500' TD	—	1150 CF	2500' [illegible]
New__Existing __ Liner					
New__Existing __ OpenHole					

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	4210 — 4250 — 5646'	7 RVRS — Reef — Del Sd	✓ ✓ ✓
Injection TOP:	5550	Cherry Cyn	Max. PSI 1110 ~~OpenHole~~ Perfs ✓
Injection BOTTOM:	7450	Brushy Cyn	Tubing Size 3½ or 4½ Packer Depth ±5500'
Formation(s) Below	8314	B.Sr.	✓

Capitan Reef? yes (Potash? yes Noticed? No Leases) [WIPP? Noticed?] Salado Top/Bot ______ Cliff House?

Fresh Water: Depths: <125' Formation ✓ Wells? yes Analysis? ✓ Affirmative Statement ✓

Disposal Fluid Analysis? ✓ Sources: Del/BS

Disposal Interval: Analysis? ✓ Production Potential/Testing: Send Notice?

Notice: Newspaper Date 11/10/12 Surface Owner SLO. Mineral Owner(s) SLO.

RULE 26.7(A) Affected Persons: Cfere

AOR: Maps? ✓ Well List? ✓ Producing in Interval? NO Wellbore Diagrams? —

.......Active Wells 0 Repairs? — WhichWells? —

.........P&A Wells 0 Repairs? — Which Wells? —

Issues: LOT well, Avoid Pot, Prod areas Request Sent ______ Reply: ______