DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
11/5/12	1/3/13			SWD 1374	pMNJ1235361870

Final 12/13/12
Final NOTICE 12/18/12

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	6 Sept 12
Print or Type Name	Signature	Title	Date

bcollins@concho.com
e-mail Address

CONCHO

RECEIVED OCD

2012 NOV -5 P 1:41

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
Corazon 4 State SWD No. 1
Township 21 South, Range 33 East, N.M.P.M.
Section 4: 3800' FNL & 2500' FEL
Lea County, New Mexico

Dear Mr. Jones:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the Corazon 4 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: 6 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
CORAZON 4 STATE SWD #1
Unit J, Sec 4 T21S R33E
Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 7250' for salt water disposal service into the Delaware Sand from 5550' to 7175'. 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 7175'. Any underground water sources will be shallower than 160' based on well records from nearest fresh water well 2.5 miles southeast 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 4200' to the northwest showing the injection interval is attached.

XI. There are no fresh water wells within a mile of the proposed SWD well.

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: Corazon 4 State SWD 1

WELL LOCATION: 3800' FNL 2500' FEL | J | 4 | 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 CF ft³

Top of Cement: Surface Method Determined: Design

Production Casing

Hole Size: 8 3/4" Casing Size: 7" @ 7250' ±

Cemented with: _____ sx. *or* 1150 ft³

Top of Cement: 2500' Method Determined: Design

Total Depth: 7250'

Injection Interval

5550' feet to 7175'

(Perforated or Open Hole; indicate which)

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:

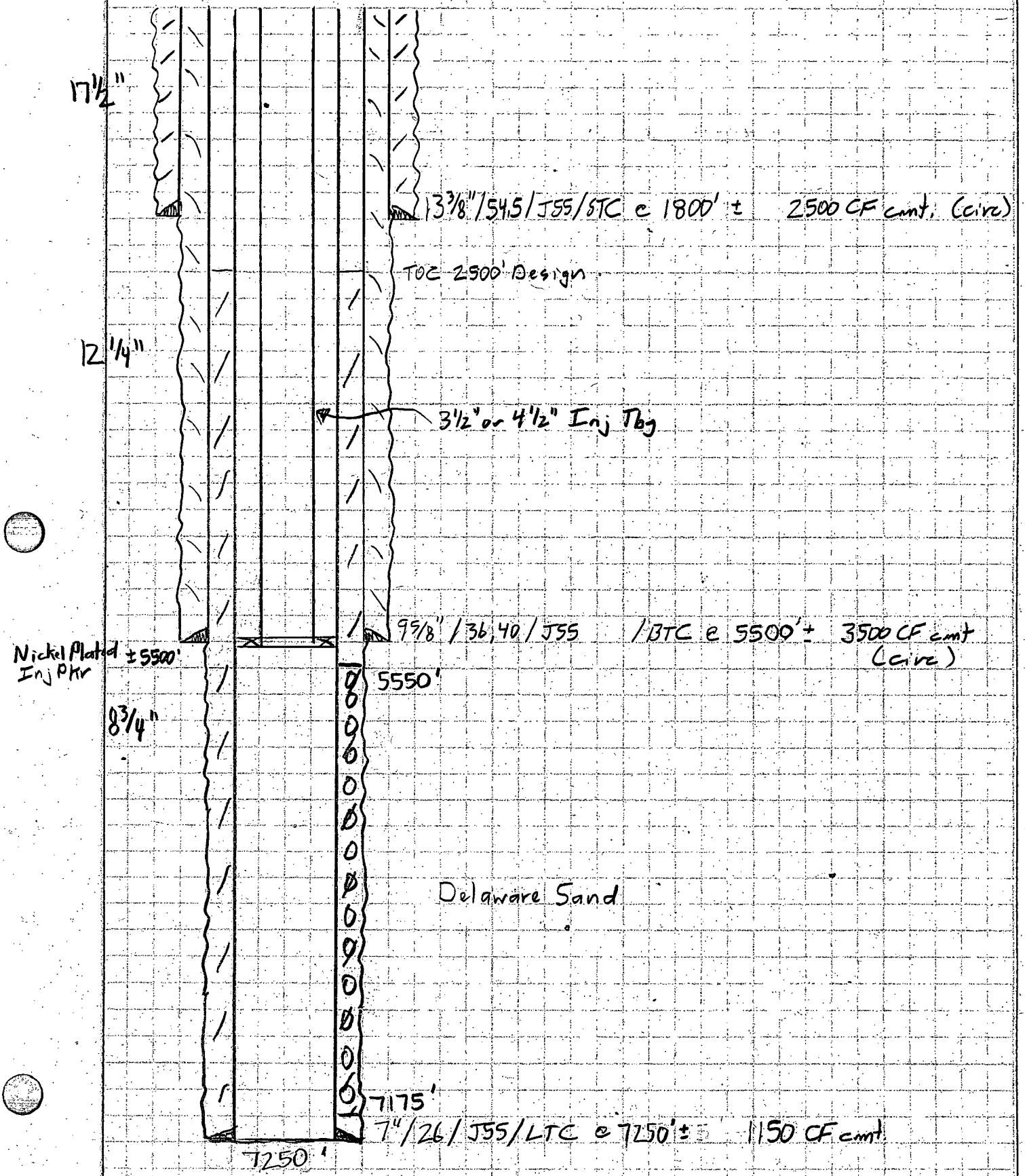
   Overlying: Yates/Seven Rivers 3700 - 3800'±

   Underlying: Bone Spring ±8450'

   Morrow ±13750'

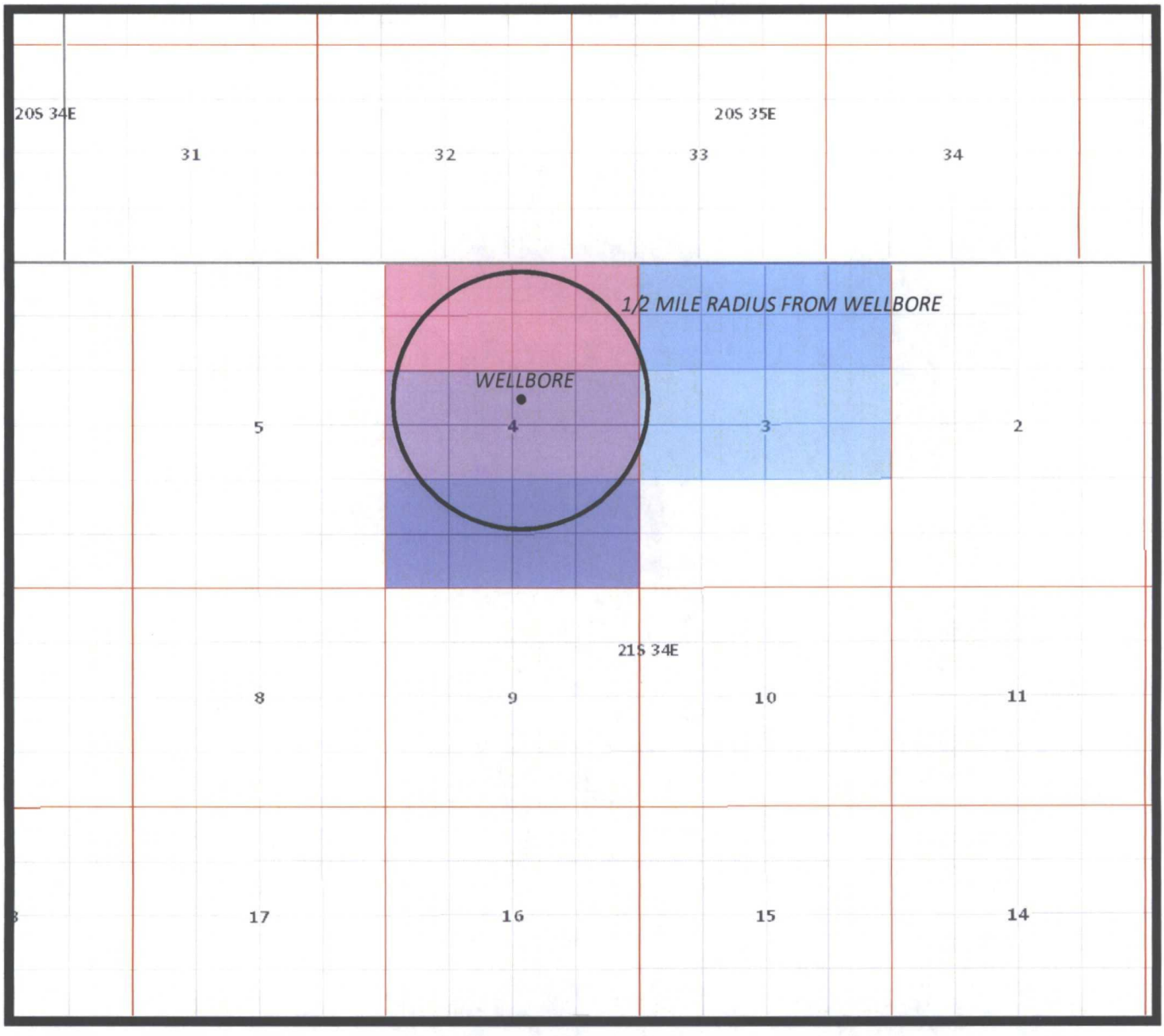
30-025-

Corazon 4 State SWD 1
3800' FNL, 2500' FEL
J-4-21s-33e
Lea, NM



V.

MAP



Rubicon Oil and Gas

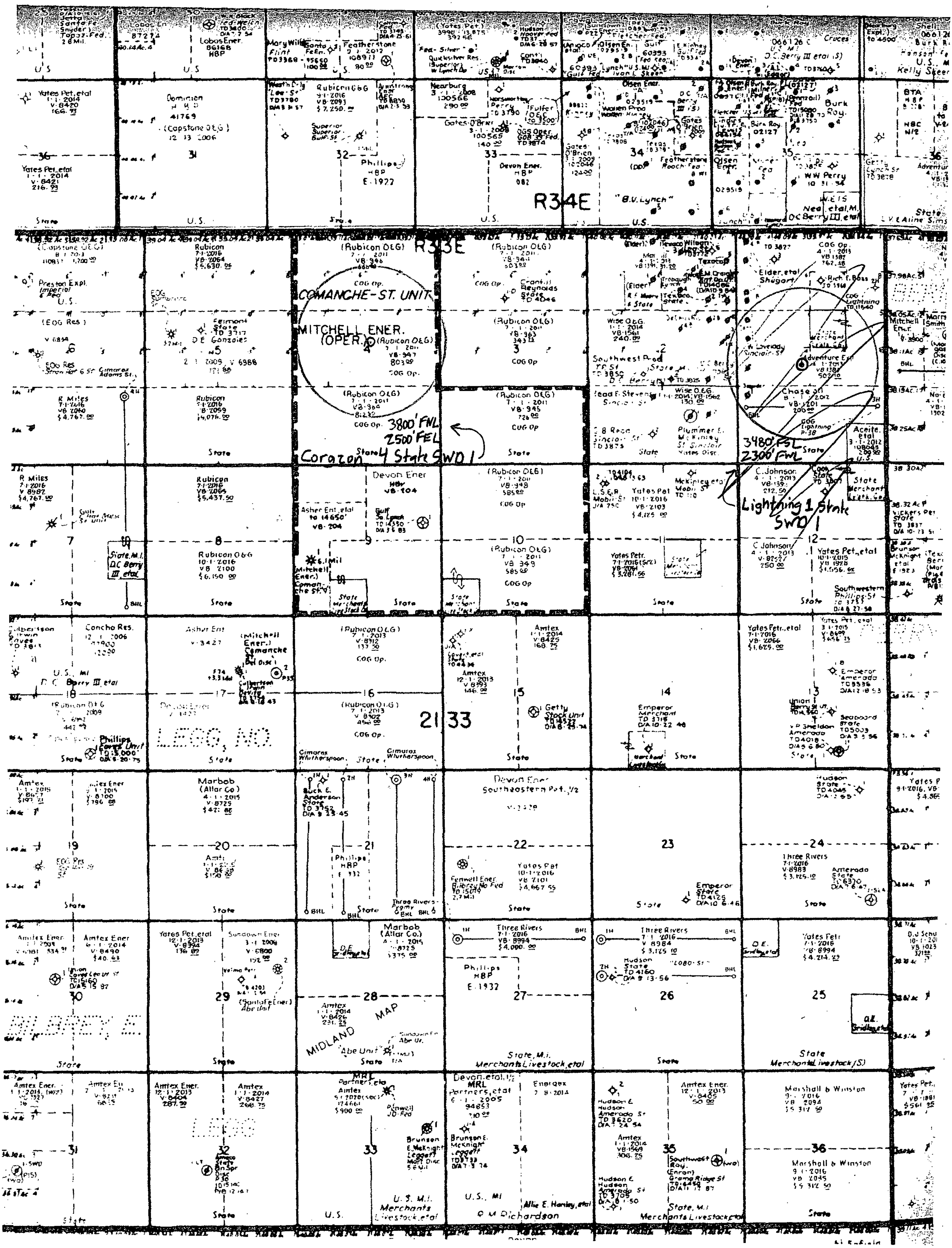
Rubicon Oil and Gas

Rubicon Oil and Gas

Rubicon Oil and Gas

Rubicon Oil and Gas

Corazon 4 State SWD No. 1
3800' FNL & 2500' FEL
Township21s - Range33e
Lea County, New Mexico


R34E
R33E
"B.V. Lynch"
COMANCHE-ST. UNIT
MITCHELL ENER. (OPER.)
(Rubicon O&G)
COG Op.
3800' FNL
2500' FEL
Corazon 4 State SWD 1
3480' FSL
2300' FWL
Lightning 1 State SWD 1
Elder, etal Shugart
Adventure Exp.
Chase Oil
Devon Ener.
Yates Pet.
Rubicon
Amtex
Three Rivers
Marbob (Atlar Co.)
Phillips HBP
Hudson State
Emperor
Marshall & Winston
21 33
MIDLAND MAP
Abe Unit
State
U.S.
Merchants Livestock, etal
P.M. Richardson

CMD :
OG5SEC2

ONGARD
VIEW LAND BY ULSTR

12/18/12 08:44:58
OGOWVJ -TQHR
PAGE NO: 1

Sec : 4 Twp : 21S Rng : 33E Cnty1 : Lea
Cnty2 : Cnty3 :

U L	Lot/ Trct	Qtr Qtr	ACREAGE	SRF OWNER	SUB	ACTIVE LEASE #		Bene	REMARKS (may show restrictions codes)
A	1		39.21	ST	ST	G0	2360 0000	CS	POT
						R3	2765 0000		
						VB	0946 0000		
A	8		40.00	ST	ST	G0	2360 0000	CS	POT
						VB	0946 0000		
A	9		40.00	ST	ST	G0	2360 0000	CS	POT
						R3	2788 0000		
						VB	0947 0000		
B	10		40.00	ST	ST	G0	2360 0000	CS	POT
						R3	2788 0000		
						VB	0947 0000		

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

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

12/18/12 08:44:58
OGOWVJ -TQHR
PAGE NO: 1

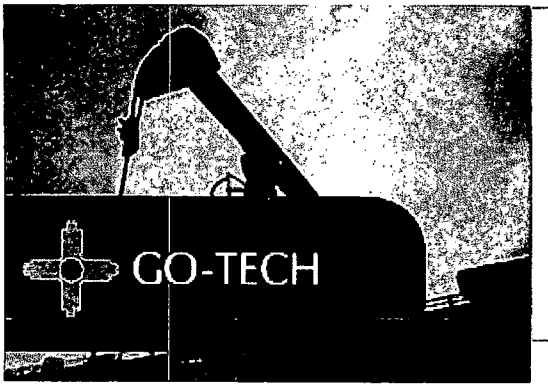
Sec : 04 Twp : 21S Rng : 33E Section Type : LONG

12 4 5 40.00 39.07 40.00 CS CS CS MULTI U U R A	11 3 6 40.00 39.11 40.00 CS CS CS MULTI U U R	10 2 7 40.00 39.17 40.00 CS CS CS MULTI U U R	1 8 9 39.21 40.00 40.00 CS CS CS MULTI U U R
13 40.00 CS VB0947 0000 RUBICON OIL AND G U R 07/01/11	14 40.00 CS VB0947 0000 RUBICON OIL AND G U R 07/01/11	15 40.00 CS VB0947 0000 RUBICON OIL AND G U R 07/01/11	16 40.00 CS VB0947 0000 RUBICON OIL AND G U R 07/01/11

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

VII.

Water Analysis Produced and Receiving Formation Water



~ Home
~ 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

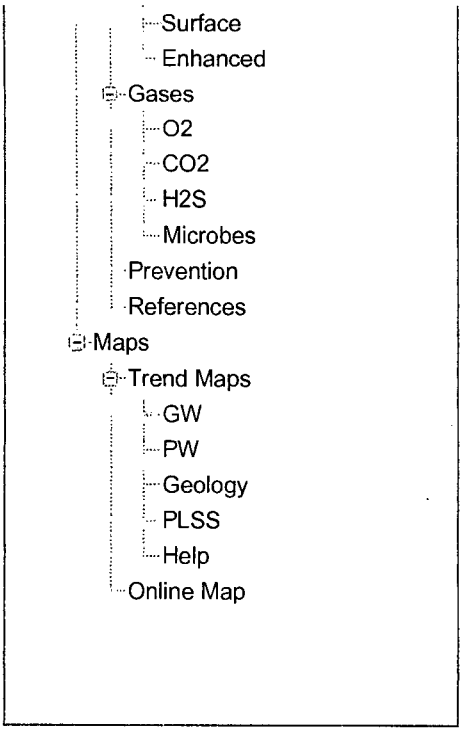
OCD well/log image files

PRRC NM-TECH NM-BGMR

Water Sample Representative of Delaware Produced & Receiving Formation Water

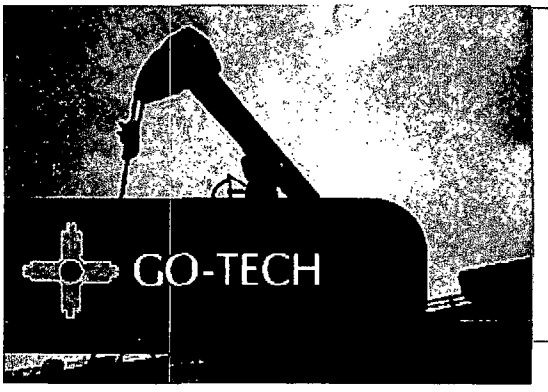
- NM WAIDS
  - Data
    - Produced Water
    - Ground Water
    - Conversion Tools
  - Scale
    - Scale details
    - Stiff
    - Oddo
    - Probable Mineral Composition
    - mix
  - Corrosion
    - Theory
      - Uniform
      - Galvanic
      - Crevice
      - Hydrogen Damage
      - EIC
      -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



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

Water Sample Representative of Bone Spring Produced Water

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

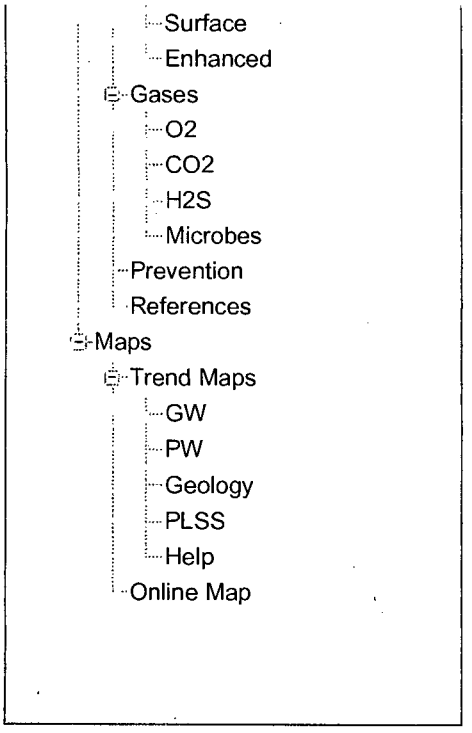
State Land Office Data Access

OCD well/log image files

PRRC NM-TECH NM-BGMR

- 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 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

X.

Log Across Proposed Delaware Sand Injection Interval

HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY

COMPANY	COG OPERATING, LLC
WELL	CORAZON STATE UNIT 4 No. 4H
FIELD	WILDCAT; BONE SPRING
COUNTY	LEA
STATE	NEW MEXICO

COMPANY **COG OPERATING, LLC**
WELL **CORAZON STATE UNIT 4 No. 4H**
FIELD **WILDCAT; BONE SPRING**
COUNTY **LEA** STATE **NEW MEXICO**

API No. 30-025-40130
Location 330' FNL AND 330' FWL

Other Services:
DLLT/MGRD
RSCT
XRMI

Sect. 4 Twp. 21S Rge. 33E

Permanent Datum	GL	Elev. 3755.0 ft	Elev. K.B.	3776.5 ft
Log measured from	KB	21.5 ft above perm. Datum	D.F.	3775.5 ft
Drilling measured from	KB		G.L.	3755.0 ft

Date	12-Jul-11		
Run No.	ONE		
Depth - Driller	11715.00 ft		
Depth - Logger	11712.0 ft		
Bottom - Logged Interval	11654.0 ft		
Top - Logged Interval	200.0 ft		
Casing - Driller	9.625 in @ 5500.0 ft	@	@
Casing - Logger	5493.0 ft		
Bit Size	8.750 in	@	@
Type Fluid in Hole	BRINE		
Density / Viscosity	9.7 ppg / 28.00 s/qt		
PH / Fluid Loss	7.00 pH / 0.0 cptm		
Source of Sample	FLOW LINE		
Rm @ Meas. Temperature	0.060 ohmm @ 75.00 degF	@	@
Rmf @ Meas. Temperature	0.04 ohmm @ 75.00 degF	@	@
Rmc @ Meas. Temperature	0.075 ohmm @ 75.00 degF	@	@
Source Rmf / Rmc	MEAS / MEAS		
Rm @ BHT	0.03 ohmm @ 156.0 degF	@	@
Time Since Circulation	6.0 hr		
Time on Bottom	12-Jul-11 04:42		
Max. Rec. Temperature	156.0 degF @ 11712.0 ft	@	@
Equipment / Location	10793700 / HOBBS, NM		
Recorded By	YASIN ABULAIHA	DANIEL HEITZ	
Witnessed By	KEATON WATERS		

Fold here

Service Ticket No.: 8305229 API Serial No.: 30-025-40130 PGM Version: WL INSITE R3.2.3 (Build 5)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

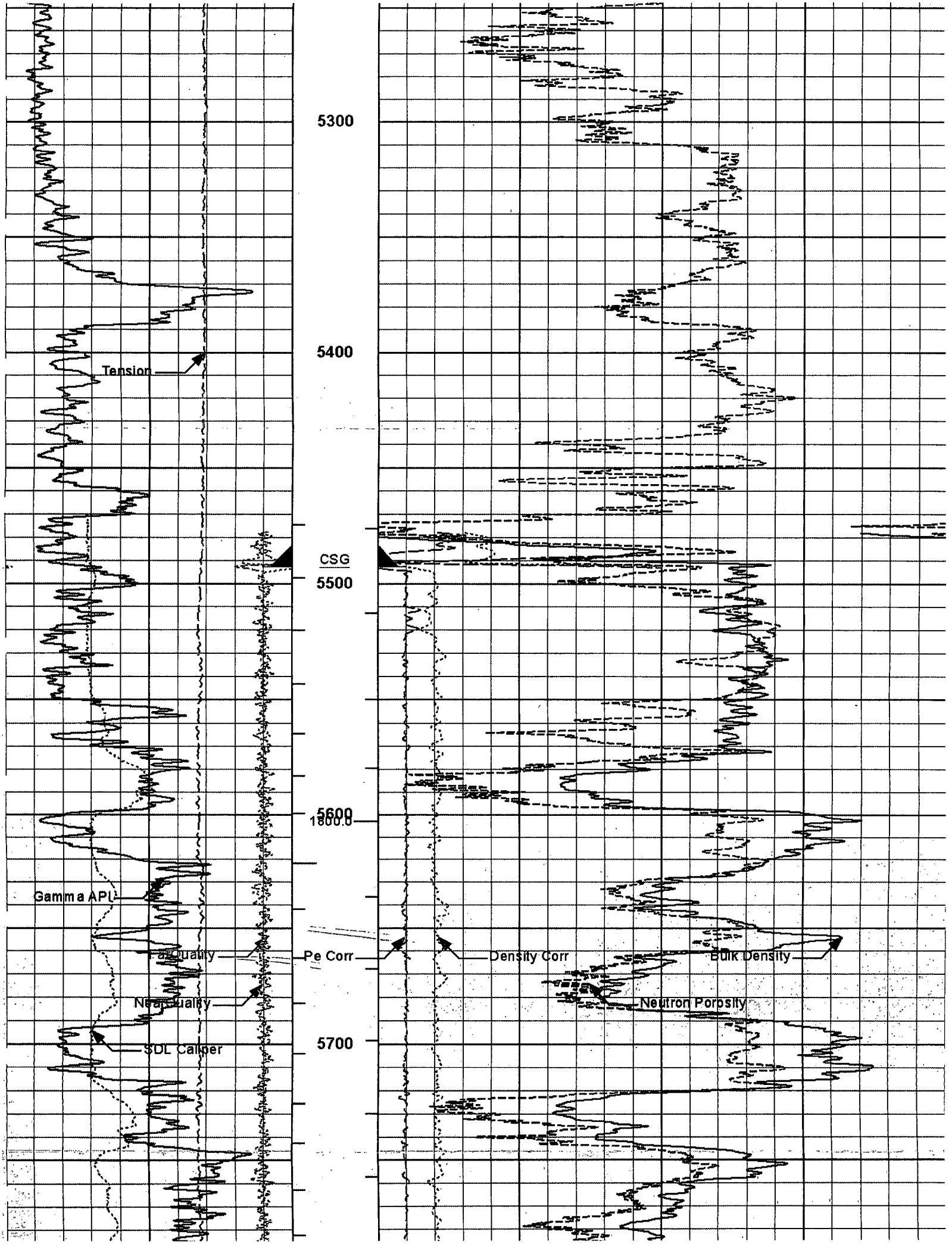
RESISTIVITY EQUIPMENT DATA

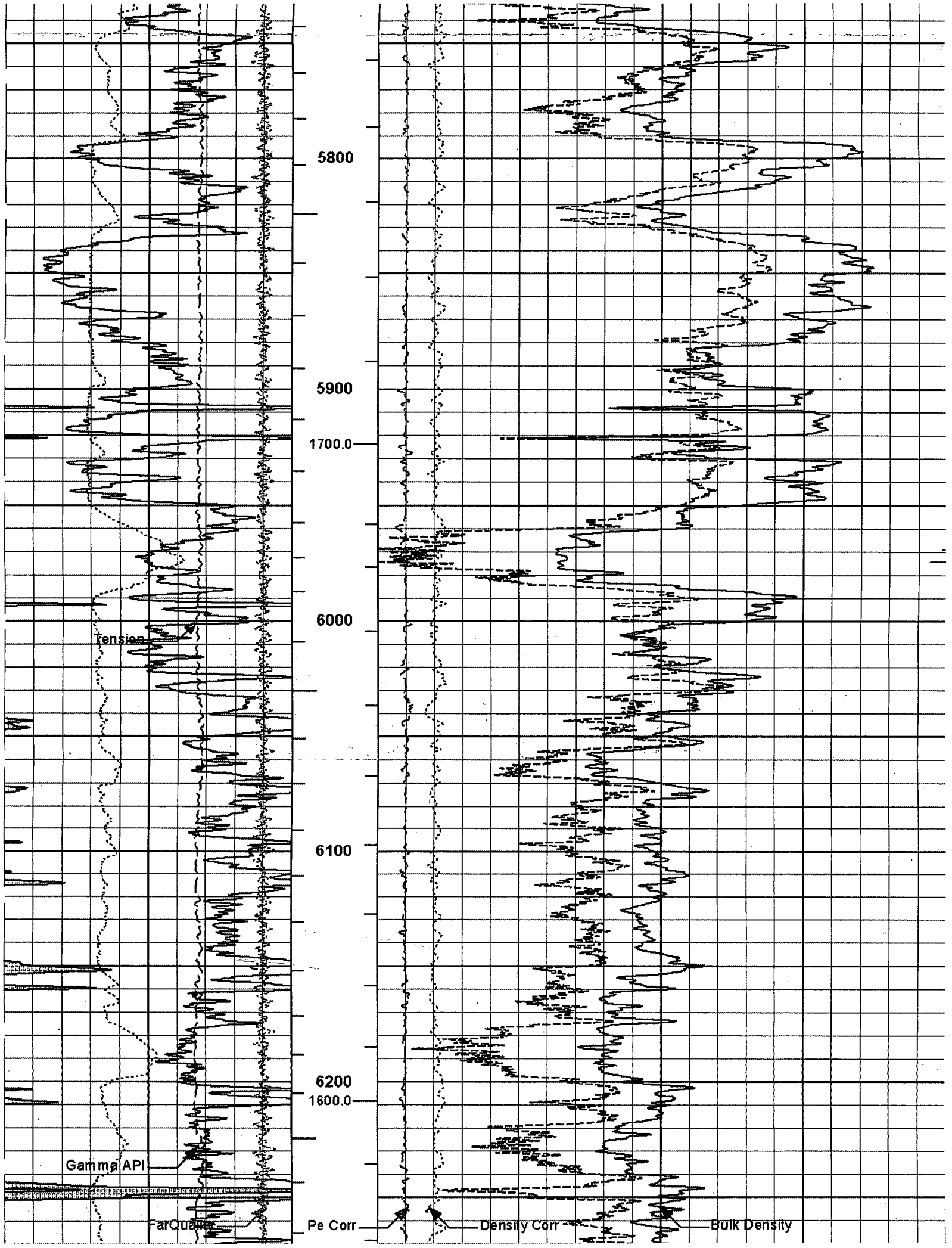
Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other

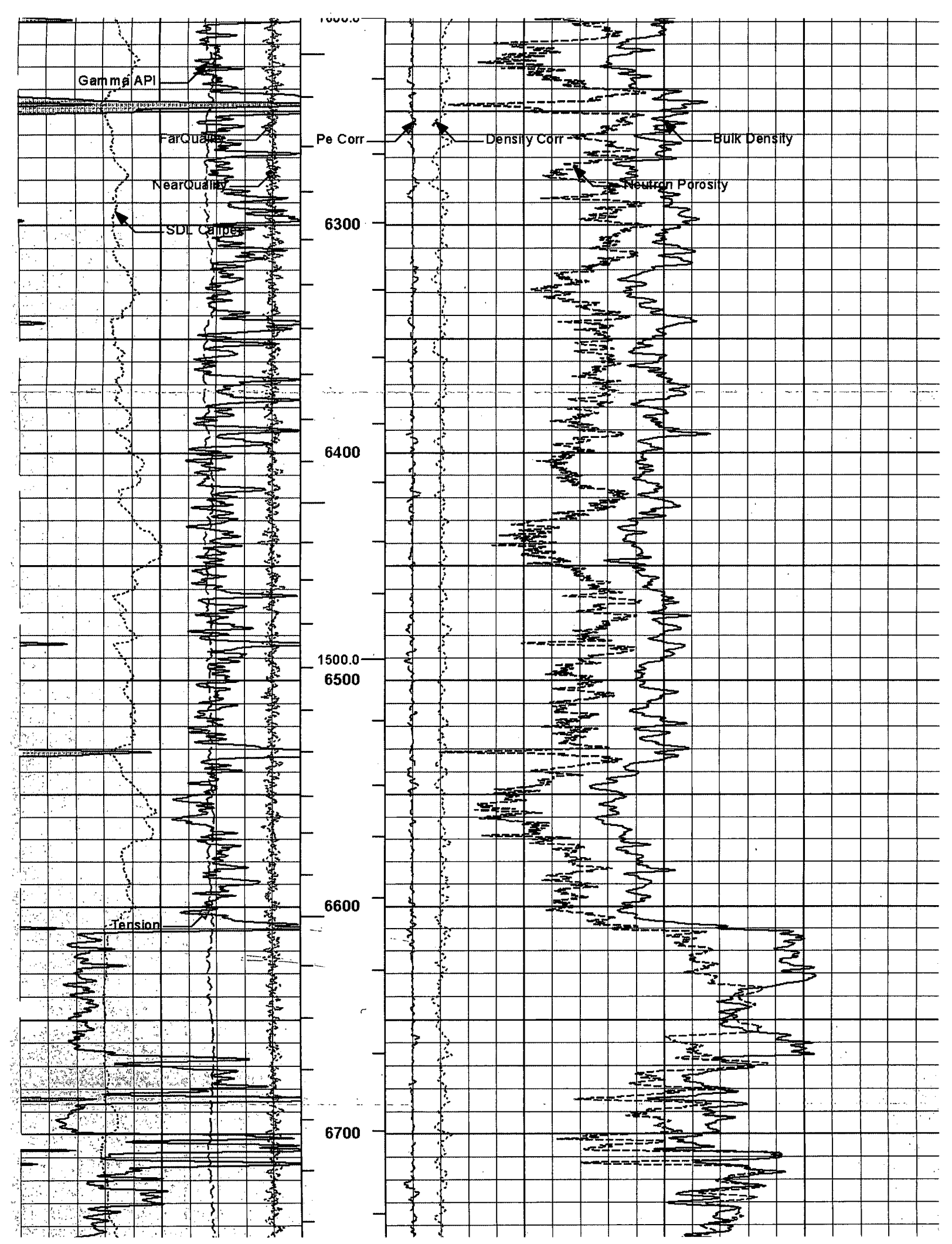
EQUIPMENT DATA

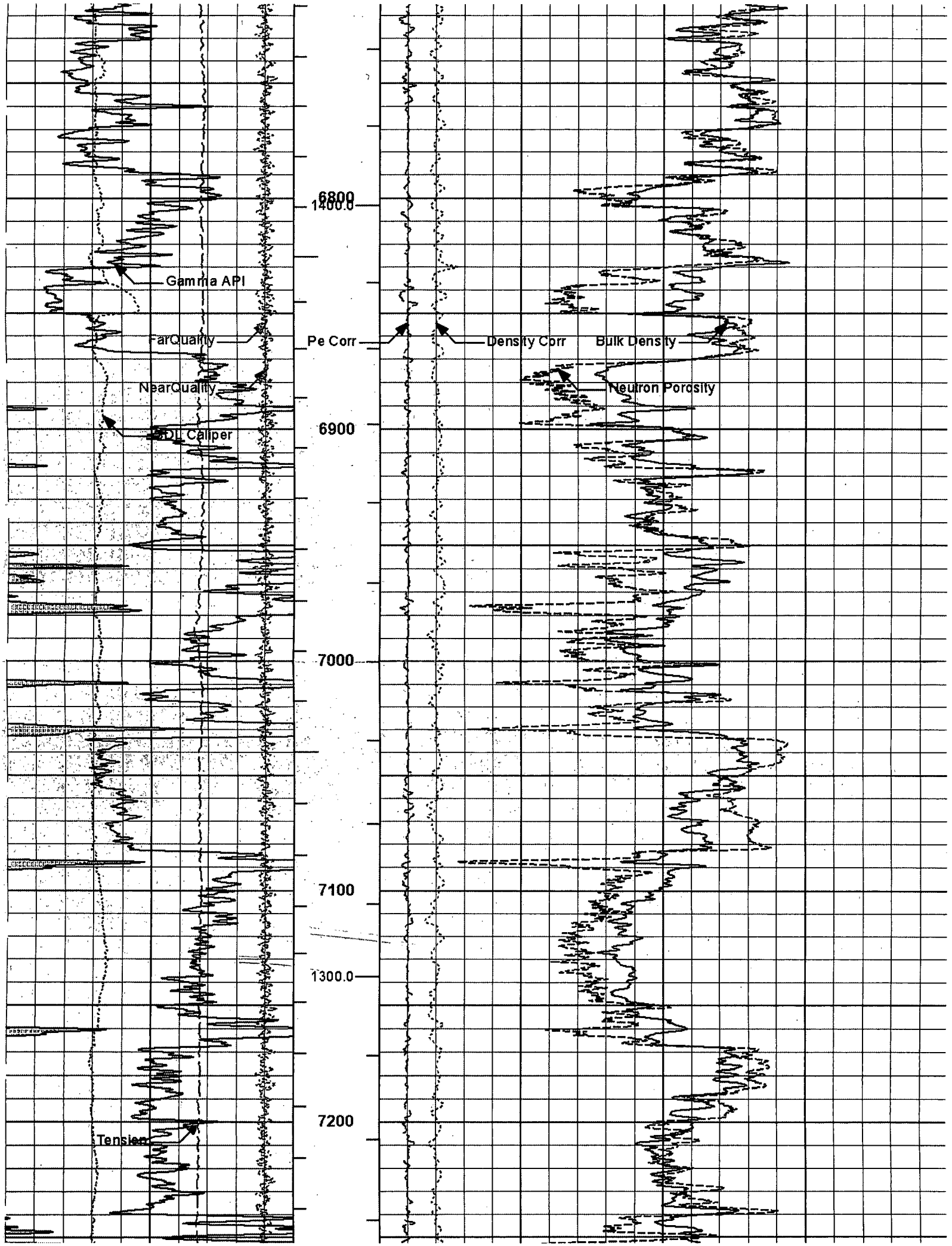
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	10778013WH	Serial No.		Serial No.	90078467OR	Serial No.	90078467OR
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	T-102A	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	Cs 137	Source Type	Am241Be
Length	12"	LSA [Y/N]		Serial No.	5069GW	Serial No.	DSN-363
Distance to Source	15'	FWDA [Y/N]		Strength	1.5 Ci	Strength	15 Ci

LOGGING DATA


5300
5400
Tension
CSG
5500
5600
1800.0
Gamma API
Far Quality
Pe Corr
Density Corr
Bulk Density
Near Quality
Neutron Porosity
SDL Caliper
5700


5800
5900
1700.0
6000
Tension
6100
6200
1600.0
Gamma API
FarQuality
Pe Corr
Density Corr
Bulk Density


Gamma API
FarQuality
NearQuality
SDL Caliper
Tension
Pe Corr
Density Corr
Bulk Density
Neutron Porosity
6300
6400
1500.0
6500
6600
6700


6800
1400.0
Gamma API
FarQuality
Pe Corr
Density Corr
Bulk Density
NearQuality
Neutron Porosity
6900
CDL Caliper
7000
7100
1300.0
7200
Tension

XI.

Fresh Water Sample Analyses

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)

No PODs found.

PLSS Search:

Section(s): 3-5 **Township:** 21S **Range:** 33E

CONCHO

November 1, 2012

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

Re: **Legal Notice**
Salt Water Disposal Well
Corazon 4 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 Corazon 4 State SWD No. 1 is located 3800' FNL and 2500' FEL, Sec. 4, 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 7175' at a maximum surface pressure of 1110 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 25 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 1:35

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
Corazon 4 State SWD No. 1
Township 21 South, Range 33 East, N.M.P.M.
Section 4: 3800' FNL & 2500' FEL
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

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

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 Corazon 4 State SWD No. 1 is located 3800' FNL and 2500' FEL, Sec. 4, 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 7175' at a maximum surface pressure of 1110 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 25 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.
#27700

02107967 00103912

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 Mills C. Date of Delivery 11/5/12

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

NOV - 5 2012
USPS
SANTA FE, NM 87505

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 3189

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:
Rubicon Oil & Gas II, LP
508 W. Wall, Ste 500
Midland, TX 79701

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery 11/8/12

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

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 3219

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

Jones, William V., EMNRD

From:	Jones, William V., EMNRD
Sent:	Tuesday, December 18, 2012 9:24 AM
To:	'Brian Collins'
Cc:	Kautz, Paul, EMNRD; Warnell, Terry G. (twarnell@slo.state.nm.us)
Subject:	Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Hello Brian,

This well is just west of the Lightning – could I assume the same Delaware formation tops? (Delaware/Cherry C. at approx. 5580 and Brushy C. at 6740 feet.)
These wells penetrate the Potash and the Reef, I know there is a protective string, but would you also ask your Geo if the Castille is present and if so, at what depths?

Also, as before please send proof of notice (Copy of the C-108) to;
The State Land Office as the surface owner and
The nearest Potash Lessee or certify that there is no Lessee within 1 mile or so.

Thank You Sir

Will Jones

Jones, William V., EMNRD

From: Brian Collins <BCollins@concho.com>
Sent: Tuesday, December 18, 2012 11:16 AM
To: Jones, William V., EMNRD
Subject: FW: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Will:

There are no potash leases near the Corazon 4 St SWD 1. The letter to the SLO will be mailed today. I'll let you know on the geological questions. Thanks. --Brian

---

From: Rand French
Sent: Tuesday, December 18, 2012 12:02 PM
To: Brian Collins
Subject: Re: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Brian. There is not any potash leased within the Corazon Unit

---

From: Brian Collins
Sent: Tuesday, December 18, 2012 11:21 AM
To: Pat Welch; Bobbie Goodloe; Rand French
Subject: FW: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Pat: Would you guys check on the Delaware tops and Castille (if present) per Will Jones' request shown below?

Bobbie: Would you prepare SLO notification letter?

Rand: Is the Corazon close to any leased potash? If so, do you know who we would need to notify?

Thank you all. --Brian

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Tuesday, December 18, 2012 10:24 AM
To: Brian Collins
Cc: Kautz, Paul, EMNRD; Warnell, Terry G.
Subject: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Hello Brian,

This well is just west of the Lightning – could I assume the same Delaware formation tops? (Delaware/Cherry C. at approx. 5580 and Brushy C. at 6740 feet.)
These wells penetrate the Potash and the Reef, I know there is a protective string, but would you also ask your Geo if the Castille is present and if so, at what depths?

Also, as before please send proof of notice (Copy of the C-108) to;
The State Land Office as the surface owner and

From: Brian Collins [mailto:BCollins@concho.com]
Sent: Tuesday, December 18, 2012 1:45 PM
To: Jones, William V., EMNRD
Subject: FW: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Will:

The geological information is shown below. Let me know if you need anything else. Thanks. --Brian

---

From: David DaGian
Sent: Tuesday, December 18, 2012 2:25 PM
To: Brian Collins
Cc: Pat Welch
Subject: FW: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Brian,

We do not pick the Castile formation in this area. We are within the Reef and the Castile anhydrite section sits out in front of the reef which is further SW into the Basin.

The shallow tops for this location are:

Rustler: 1713'
Top of Salt: 1824'
Base of Salt: 3562'
Yates: 3722'
Seven Rivers: 3866'
Capitan (Reef): 4011'
Delaware(Cherry Canyon): 5556'
Brushy Canyon: 6660'

Thanks,

David DaGian
Geologist – New Mexico Basin Team
COG OPERATING LLC
One Concho Center
600 W. Illinois Avenue
Midland, TX 79701
Office: 432-221-0415
Cell: 432-488-9133
ddagian@concho.com

CONCHO

From: Pat Welch
Sent: Tuesday, December 18, 2012 11:27 AM
To: David DaGian
Subject: FW: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Tuesday, December 18, 2012 3:51 PM
To: 'Brian Collins'
Subject: RE: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Brian
Thanks for the detail.
That's all I need – Thank You!

From: Brian Collins [mailto:BCollins@concho.com]
Sent: Tuesday, December 18, 2012 2:24 PM
To: Jones, William V., EMNRD
Subject: RE: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Will:

It looks like the main reef porosity is from 4011' to 5033'. There appears to be low porosity (tight) rock from 5033-5160', good porosity stringer 5160-5200', low porosity 5200-5225', moderate porosity 5225-5310', low porosity 5310-5435', three moderate to good porosity stingers 5435-5483' and low porosity 5483-5576' (Delaware). The Delaware 5576-5960' is composed of good porosity sands interbedded in low porosity dolomites. The massive Delaware Sand really starts at 5960'.

I'm not planning to frac the well unless necessary for injectivity. If we do have to frac, I feel like there will be adequate frac barriers due to the many low porosity intervals from the top of the Delaware to the base of the high porosity portion of the reef. Having said that, I have no problem with running an injection profile and I have no problem with moving the uppermost perforated zone further down hole, say the top perf at 5720', to gain more distance from the reef.

Let me know if you need more info or want me to scan the small-scale cased-hole porosity log across this interval to you. Thanks.

Brian

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Tuesday, December 18, 2012 2:55 PM
To: Brian Collins
Subject: RE: Disposal application from COG Operating LLC: Corazon 4 State SWD #1 30-025-NA Delaware Perforations

Brian,
Since the Reef is on top of the Delaware in this area, is there any chance the disposal waters would break up into the reef?
Will there be any stress barriers to stop that?
... especially if you frac these wells.

Do we need to run a one-time injection survey to make sure?

Injection Permit Checklist (11/15/2010) FRREECAR

WFX____ PMX____ SWD 1374 Permit Date ~~12/4/12~~ 1/3/13 UIC Qtr (O/N/D)

Wells 1 Well Name(s): CORAZON 4 State SWD #1

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

Footages 3800 FNL/2500 FEL Unit B (LOT 10) Sec 4 Tsp 21S Rge 33E County LEA

General Location: 25 mi E. of EUNICE

Operator: COG OPERATING, LLC Contact BRIAN COLLINS

OGRID: 229137 RULE 5.9 Compliance (Wells) 0/2755 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed None Current Status: NOT DRILLED

Planned Work to Well: DRILL/EQUIP/DISPOSE

Diagrams: Before Conversion — After Conversion ✓ Elogs in Imaging File: NOT Yet DRILLED

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	Surf
New ✓ Existing __ Interm	12¼ - 9⅝	5500	—	3500 CF	Surf.
New ✓ Existing __ LongSt	8¾ - 7"	7250 TD		1150 CF	2500'
New__Existing __ Liner					
New__Existing __ OpenHole					

PLAN

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	5580	Top of Del = Top of Chery C.	✓
Injection TOP:	5550	Chery C.	Max. PSI 1110 ~~OpenHole~~ Perfs ✓
Injection BOTTOM:	7175	Brushy C.	Tubing Size 3½ or 4½ Packer Depth 5500±
Formation(s) Below	6740	Brushy C.	✓

Capitan Reef? yes (Potash? yes ~~Noticed?~~ ~~WIPP?~~ ~~Noticed?~~) Salado Top/Bot 1818 / ~~2140~~ ~~3850~~ 3460' ~~Cliff House?~~

Fresh Water: Depths: <160' Formation ____ Wells? NONE Analysis? — Affirmative Statement ✓

Disposal Fluid Analysis? Sources: Del / B.S.

Disposal Interval: Analysis? ✓ Del Production Potential/Testing:

Notice: Newspaper Date 11/10/12 Surface Owner 11/8/12 SLO. 12/19/12 Mineral Owner(s) SLO.

RULE 26.7(A) Affected Persons: 11/5/12 RUBICON OIL & Gas —

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

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

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

Issues: ≈ 1 mi NE of Loggy DEL, N. Pool but only 2 wells & They are abandoned. Request Sent ____ Reply: ____

Margin notes: RO Carson? ≈4500 / 4400? ; Castile? ; NOTICE ; 3868 EL 3590 T.D.