

DATE IN 03/28/2013	SUSPENSE	ENGINEER RE	LOGGED IN 04/01/2013	TYPE SWD	APP NO. PRG130913/382
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ABOVE THIS LINE FOR DIVISION USE ONLY

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



30-025-34258
Gettysburg 16 State
SWD #1

2013 MAR 28 P 2:24

ADMINISTRATIVE APPLICATION CHECKLIST [Formerly: Gozelle

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]

CoG
operating
LLC

[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
Print or Type Name

Signature

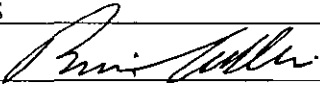
SENIOR OPERATIONS ENGINEER
Title

Date

bcollins@concho.com
e-mail Address

26 Mar 13

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: 26 Mar 13
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: _____

C-108 Application for Authorization to Inject
GETTYSBURG 16 STATE SWD #1
1980' FSL, 1980' FEL
Unit J, Sec 16 T23S R34E
Lea County, NM
API 30-025-34258

COG Operating, LLC, proposes to reenter the captioned well, clean out to approximately 6750', spot an open hole cement plug at 6750', dress plug off to 6550', and put well in SWD service in the Delaware Sand from 5025' to 6550' as an open hole disposal well. We are drilling a well to the Bone Spring in the north portion of this section and it has no mud log shows in the proposed Delaware Sand injection zone. A drilling permit 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. We are drilling the Gettysburg State Com 2H just outside the AOR. We plan to place cement across the Delaware section and overlap into the 9-5/8" intermediate casing on any wells we drill on the Gettysburg lease.
- VII.
 - 1. Proposed average daily injection rate = 5000 BWPD
Proposed maximum daily injection rate = 10000 BWPD
 - 2. Closed system
 - 3. Proposed maximum injection pressure = 1005 psi
(0.2 psi/ft. x 5025' 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 5025' to 6550'. Any underground water sources will be shallower than 1250' (surface casing setting depth for new wells).
- IX. The Delaware sand injection interval might be acidized with approximately 20 gal/ft of 7 ½ % HCl acid.
- X. Well logs are filed with the Division. A section of the neutron-density porosity log showing the injection interval is attached.
- XI. There is one fresh water well within a mile of the proposed SWD well. This well is located in the SW/4 SW/4 SE/4 of Sec 15-23s-34e. A water analysis 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

INJECTION WELL DATA SHEET

OPERATOR: COG Operating, LLC (Operator For COG Production, LLC)WELL NAME & NUMBER: Gettysburg 16 State SWD'1 (Formerly Gazelle 16 State 1)WELL LOCATION: 1980' FSL 1980' FEL J 16 23s 34e
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 17 1/2" Casing Size: 13 3/8" @ 665'Cemented with: 700 sx. or - ft³Top of Cement: Surface Method Determined: CirculatedIntermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. or _____ ft³

Top of Cement: _____ Method Determined: _____

Production CasingHole Size: 12 1/4" Casing Size: 9 5/8" @ 5025'Cemented with: 2275 sx. or - ft³Top of Cement: Surface Method Determined: CirculatedTotal Depth: 8830'Injection Interval5025' feet to 6550'(Perforated or Open Hole, indicate which)

Wellbore Schematics Attached

INJECTION WELL DATA SHEET

Tubing Size: 4 1/2" Lining Material: Dvoline 20/ Glassbore
 Type of Packer: Nickel plated double grip retrievable
 Packer Setting Depth: ±4975'
 Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

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

If no, for what purpose was the well originally drilled? Oil & Gas

2. Name of the Injection Formation: Delaware Sand

3. Name of Field or Pool (if applicable): Bell Lake, Antelope Ridge area

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 -

Drilled & abandoned

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

Overlying: None

Underlying: Delaware ±6750-7850' (See 10, 11, 21, 22), Bone Spring ±8500-10800',

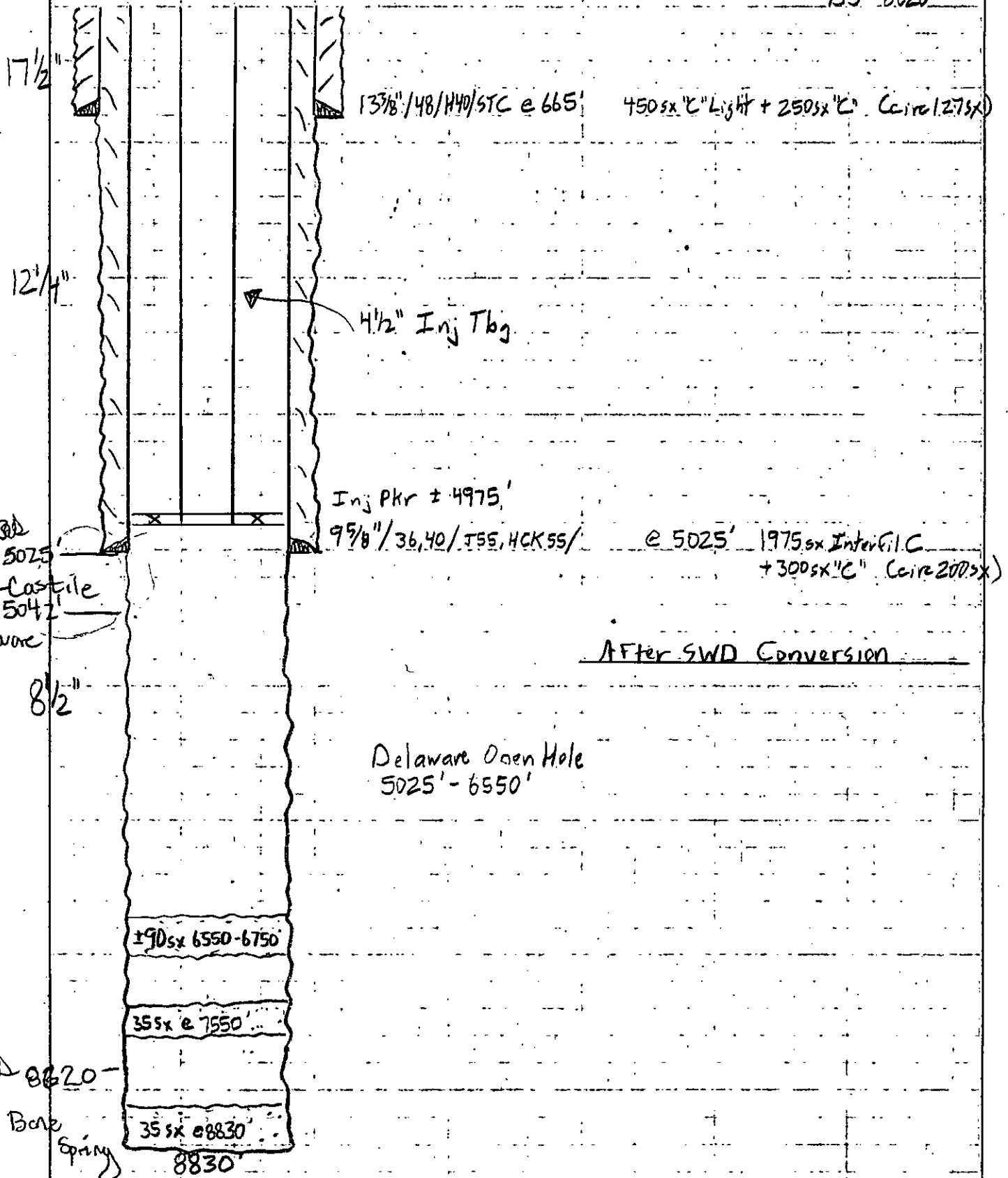
Strawn ±11,950-12,100', Atoka ±12,100-13,050'

Morrow ±13,050-13,550', Devonian ±14,550-14,850'

30-025-34258

Gettysburg 16 State SWD 1
(Formerly Gazelle 16 State 1)
1980' FSL 1980' FEL
J-16-23s-34e
Lea, NM

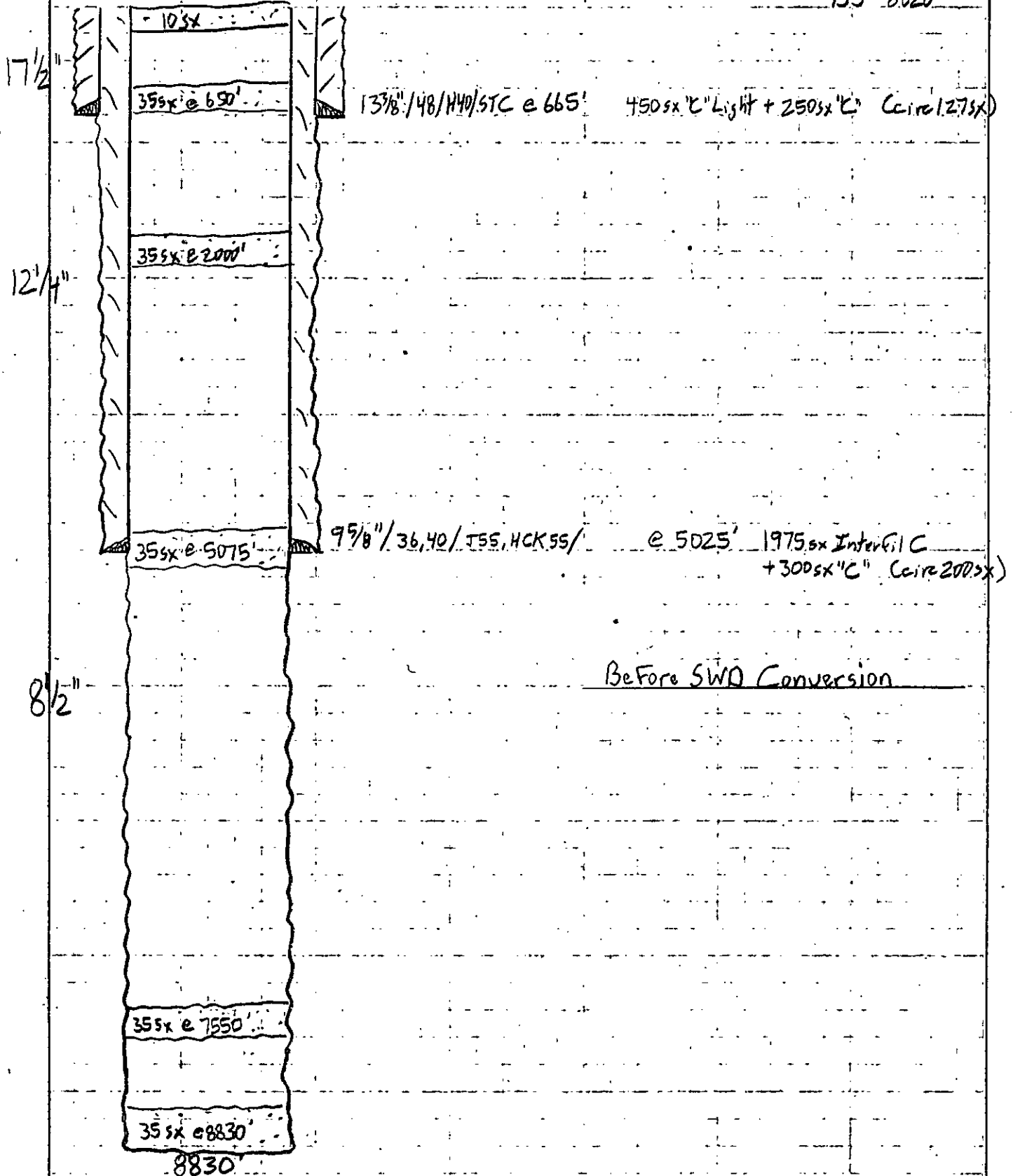
Bell Cnyn 5133'
Cherry Cnyn 5919'
Brushy Cnyn 7276'
35 8620'



30-025-34258

(Formerly Gazelle 16 stake 1)
1980' FSL, 1980' FEL
J-16-23s-34e
Lea, NM

Del 5042'
135 8620'



District I
 1623 N. French Dr., Hobbs, NM 88340
 Phone: (505) 393-6161 Fax: (505) 393-0720
District II
 811 E. First St., Arroyo, NM 88210
 Phone: (505) 748-1243 Fax: (505) 748-0720
District III
 1000 Rio Bonito Rd., Arroyo, NM 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone: (505) 476-3470 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
 August 1, 2011
 Permit 138688

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address COG OPERATING LLC One Concho Center Midland, TX 79701		2. OORID Number 229137
		3. API Number 30-023-40874
4. Property Code 39564	5. Property Name GETTYSBURG STATE	6. Well No 002H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N S Line	Feet From	E W Line	County
C	16	23S	34E	C	330	N	1980	W	LEA

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N S Line	Feet From	E W Line	County
F	21	23S	34E	F	2310	N	1980	W	Lea

9. Pool Information

ANTELOPE RIDGE, BONE SPRING, WEST	2209
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Additional Well Information

11. Well Type New Well	12. Well Type OIL	13. Casing Rotary	14. Lease Type State	15. Ground Level Elevation 3420
16. Shale Type N	17. Proposed Depth	18. Formation 2nd Bone Spring Sand	19. Connector	20. Spud Date 12-5-2012
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Type	Casing Weight ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1250	875	
Int1	12.25	9.625	36	4930	1570	
Prod	7.875	5.5	17	17355	2290	1650

Casing/Cement Program: Additional Comments

Drill 17-1/2" hole to ~1250' w/ fresh water spud mud. Run 13-3/8" 54.5# J55 STC casing to TD and cement to surface in one stage. Will use 1" tubing and Class C w/ 2% CaCl₂ to cement to surface, if necessary. Drill 12-1/4" hole to ~4930' with saturated brine water. Run 9-5/8" 36# J55 & 40# N80 BTC casing to TD and cement to surface in one stage. Drill 7-7/8" pilot hole to 11550', log and plug back with cement plug @ 9600' - 10500'. Drill curve and lateral to 17355' with cut brine. Run 5-1/2" 17# P110 LTC casing to TD and cement to 4650' (280' overlap) in one stage.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DoubleRam	3000	3000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
 I further certify I have complied with 19.16.14.9 (A) NMAC 19.16.14.9 (B) NMAC 19.16.14.9 (C) NMAC 19.16.14.9 (D) NMAC 19.16.14.9 (E) NMAC 19.16.14.9 (F) NMAC 19.16.14.9 (G) NMAC 19.16.14.9 (H) NMAC 19.16.14.9 (I) NMAC 19.16.14.9 (J) NMAC 19.16.14.9 (K) NMAC 19.16.14.9 (L) NMAC 19.16.14.9 (M) NMAC 19.16.14.9 (N) NMAC 19.16.14.9 (O) NMAC 19.16.14.9 (P) NMAC 19.16.14.9 (Q) NMAC 19.16.14.9 (R) NMAC 19.16.14.9 (S) NMAC 19.16.14.9 (T) NMAC 19.16.14.9 (U) NMAC 19.16.14.9 (V) NMAC 19.16.14.9 (W) NMAC 19.16.14.9 (X) NMAC 19.16.14.9 (Y) NMAC 19.16.14.9 (Z) NMAC 19.16.14.9 (AA) NMAC 19.16.14.9 (AB) NMAC 19.16.14.9 (AC) NMAC 19.16.14.9 (AD) NMAC 19.16.14.9 (AE) NMAC 19.16.14.9 (AF) NMAC 19.16.14.9 (AG) NMAC 19.16.14.9 (AH) NMAC 19.16.14.9 (AI) NMAC 19.16.14.9 (AJ) NMAC 19.16.14.9 (AK) NMAC 19.16.14.9 (AL) NMAC 19.16.14.9 (AM) NMAC 19.16.14.9 (AN) NMAC 19.16.14.9 (AO) NMAC 19.16.14.9 (AP) NMAC 19.16.14.9 (AQ) NMAC 19.16.14.9 (AR) NMAC 19.16.14.9 (AS) NMAC 19.16.14.9 (AT) NMAC 19.16.14.9 (AU) NMAC 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19.16.14.9 (LV) NMAC 19.16.14.9 (LW) NMAC 19.16.14.9 (LX) NMAC 19.16.14.9 (LY) NMAC 19.16.14.9 (LZ) NMAC 19.16.14.9 (MA) NMAC 19.16.14.9 (MB) NMAC 19.16.14.9 (MC) NMAC 19.16.14.9 (MD) NMAC 19.16.14.9 (ME) NMAC 19.16.14.9 (MF) NMAC 19.16.14.9 (MG) NMAC 19.16.14.9 (MH) NMAC 19.16.14.9 (MI) NMAC 19.16.14.9 (MJ) NMAC 19.16.14.9 (MK) NMAC 19.16.14.9 (ML) NMAC 19.16.14.9 (MN) NMAC 19.16.14.9 (MO) NMAC 19.16.14.9 (MP) NMAC 19.16.14.9 (MQ) NMAC 19.16.14.9 (MR) NMAC 19.16.14.9 (MS) NMAC 19.16.14.9 (MT) NMAC 19.16.14.9 (MU) NMAC 19.16.14.9 (MV) NMAC 19.16.14.9 (MW) NMAC 19.16.14.9 (MX) NMAC 19.16.14.9 (MY) NMAC 19.16.14.9 (MZ) NMAC 19.16.14.9 (NA) NMAC 19.16.14.9 (NB) NMAC 19.16.14.9 (NC) NMAC 19.16.14.9 (ND) NMAC 19.16.14.9 (NE) NMAC 19.16.14.9 (NF) NMAC 19.16.14.9 (NG) NMAC 19.16.14.9 (NH) NMAC 19.16.14.9 (NI) NMAC 19.16.14.9 (NJ) NMAC 19.16.14.9 (NK) NMAC 19.16.14.9 (NL) NMAC 19.16.14.9 (NM) NMAC 19.16.14.9 (NN) NMAC 19.16.14.9 (NO) NMAC 19.16.14.9 (NP) NMAC 19.16.14.9 (NQ) NMAC 19.16.14.9 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District I
1615 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0730
District II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-0730
District III
1000 Rio Rancho Rd., Aztec, NM 87410
Phone: (505) 334-4178 Fax: (505) 334-4170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3470 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011
Permit 160418

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address COG OPERATING LLC One Concho Center Midland, TX 79701		2. OGRID Number 229137
		3. API Number 30-025-40916
4. Property Code 39622	5. Property Name GETTYSBURG STATE COM	6. Well No. 003H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Loc	Feet From	N-S Line	Feet From	E-W Line	County
B	16	23S	34E	B	160	N	2040	E	LEA

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Loc	Feet From	N-S Line	Feet From	E-W Line	County
G	21	23S	34E	G	2310	N	1980	E	Lea

9. Pool Information

ANTELOPE RIDGE, BONE SPRING, WEST	2209
--	-------------

Additional Well Information

11. Well Type New Well	12. Well Type OIL	13. Casing Entry	14. Lease Type State	15. Ground Level Elevation 3415
16. Multiple N	17. Proposed Depth 17526	18. Formation 2nd Bone Spring Sand	19. Contractor	20. Spud Date 1/20/2013
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Type	Casing Weight/lb	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.25	13.375	54.5	1250	875	
Int1	12.25	9.625	36	4950	1575	
Prod	7.875	5.5	17	17526	2315	4630

Casing/Cement Program: Additional Comments

Drill 17-1/2" hole to ~1250' w/ fresh water spud mud. Run 13-3/8" 54.5# J55 STC casing to TD and cement to surface in one stage. Will use 1" tubing and Class C w/ 2% CaCl2 to cement to surface, if necessary. Drill 12-1/4" hole to ~4940' with saturated brine water. Run 9-5/8" 36# J55 & 40# N80 BTC casing to TD and cement to surface in one stage. Drill 7-7/8" vertical hole, curve, and lateral to 17526' with cut brine. Run 5-1/2" 17# P110 LTC casing to TD and cement to 4650' (290' overlap) in one stage.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DoubleRam	3000	3000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.18.14.9 (A) NMAC and/or 19.18.14.9 (B) NMAC, if applicable. Signature: _____ Printed Name: Electronically filed by Diane Kuykendall Title: Production Reporting Mgr Email Address: dkuykendall@conchoresources.com Date: 1/10/2013 Phone: 432-683-7443	OIL CONSERVATION DIVISION	
	Approved By: Paul Kuntz	
	Title: Geologist	
	Approved Date: 1/14/2013	Expiration Date: 1/14/2015
	Conditions of Approval Attached	

On-Lease Well, outside 1/2 Mile Radius ADR

V.

MAP

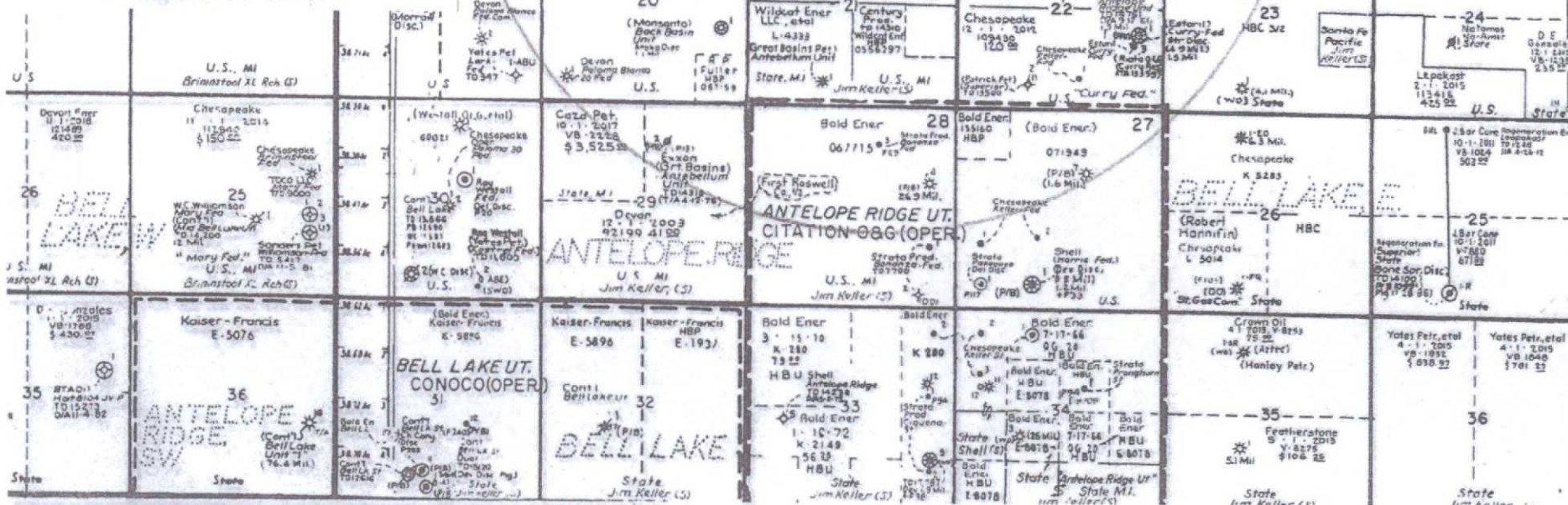
COG Operating

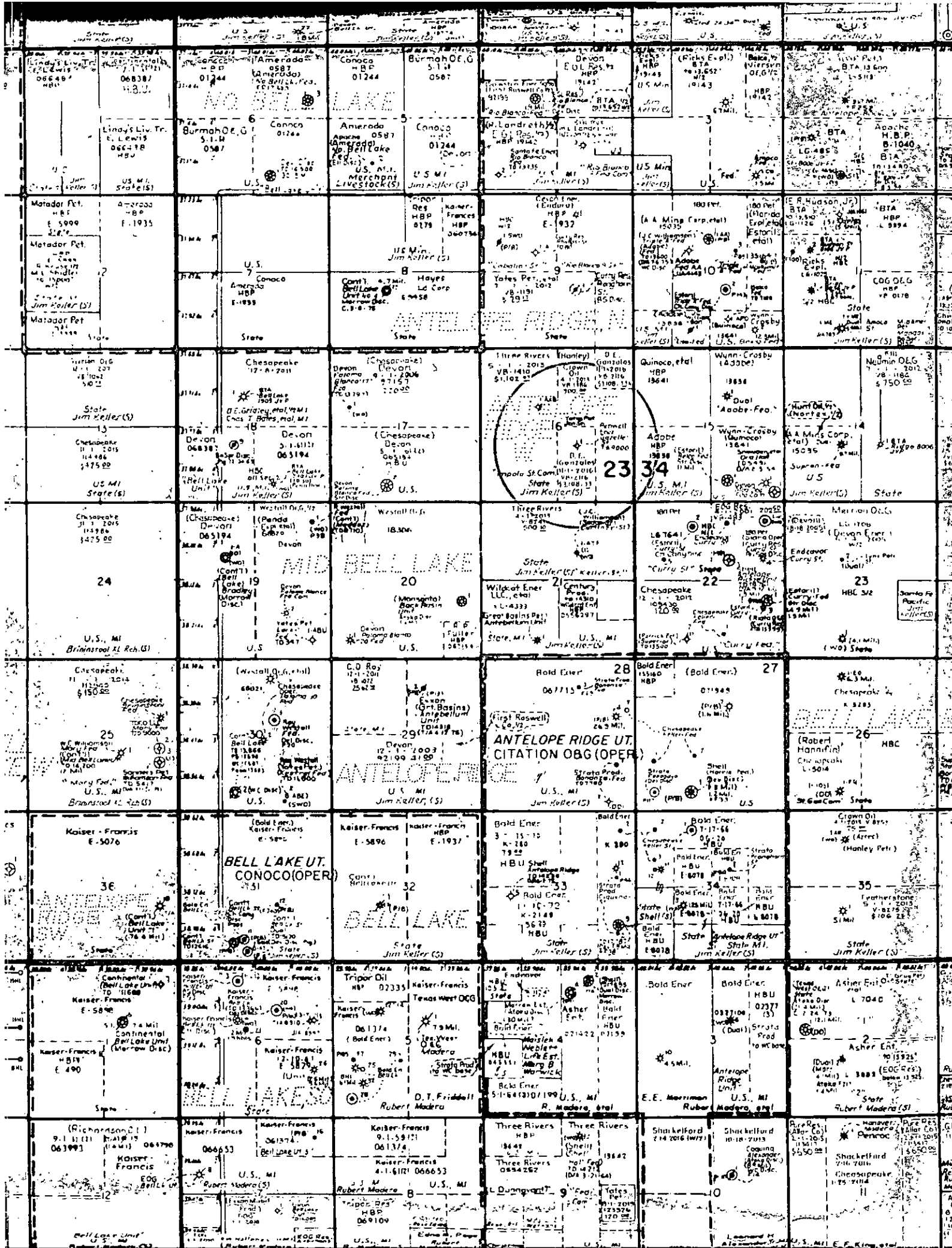
The Allar Company
735 Elm St.
Graham, TX 76450

Petrohawk Operating Company
4305 N. Garfield St.
Midland, TX 79705

Devon Energy
10200 Younger Rd.
Midland, TX 79706

Surface Owner:
Limestone Livestock LLC
76 Angell Rd.
Lovington, NM 88260





VII.

Water Analysis Produced and Receiving Formation Water

Bone Spring Produced Water Sample

Analytical Laboratory Report for:

MARBOB ENERGY CORPORATION



Chemical Services

Account Representative:

Polk, Bill

Production Water Analysis

Listed below please find water analysis report from: LPC 31 FED, 1

Lab Test No: 2006151411

Sample Date:

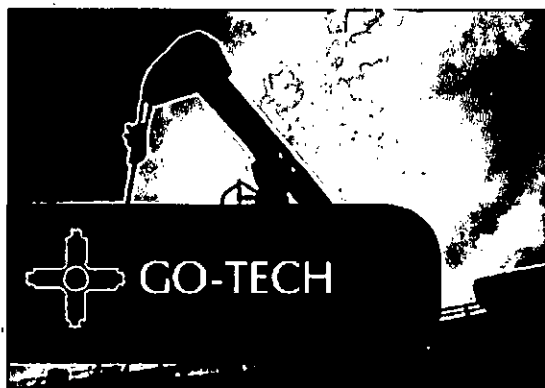
12/13/2006

Specific Gravity: 1.135

TDS: 206426

pH: 6.49

Cations:	mg/L	as:
Calcium	11067	(Ca ⁺⁺)
Magnesium	1751	(Mg ⁺⁺)
Sodium	64721	(Na ⁺)
Iron	58.20	(Fe ⁺⁺)
Potassium	1164.0	(K ⁺)
Barium	0.83	(Ba ⁺⁺)
Strontium	407.00	(Sr ⁺⁺)
Manganese	1.35	(Mn ⁺⁺)
Anions:	mg/L	as:
Bicarbonate	220	(HCO ₃ ⁻)
Sulfate	1400	(SO ₄ ⁻)
Chloride	126800	(Cl ⁻)
Gases:		
Carbon Dioxide	170	(CO ₂)
Hydrogen Sulfide	17	(H ₂ S)



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

North American Oil and Gas News

IEA claims global warming may lead to 'Miami Beach in Boston' situation unless urgent action is taken

Enbridge reports second quarter adjusted earnings of \$277 million

Imperial Resources; SWDF full disposal test to commence

Drako Capital announces update on Stolberg well

Source: Oil Voice

NYMEX LS Crude 88.73

Navajo WTXI 0

Henry Hub 3.01

Updated : 8/1/2012

State Land Office Data Access

OCD well/log image files

PRRC NM-TECH NM-BGMR

*Delaware Sample
Representative of
Produced and Receiving
Formations*

⊖ NM WAIDS

- ⊖ Data
 - Produced Water
 - Ground Water
 - Conversion Tools
- ⊖ Scale
 - Scale details
 - Stiff
 - Odor
 - Probable Mineral Composition mix
- ⊖ Corrosion
 - ⊖ Theory
 - Uniform
 - Galvanic
 - Crevice
 - Hydrogen Damage
 - EIC
 - Erosion
- ⊖ Equipment

General Information About: Sample 4412			
HANAGAN B FEDERAL			
API	3002508151	Sample Number	
Unit/Section/Township/Range	O / 15 / 24S / 32E	Field	DOUBLE X
County	Lea	Formation	DEL
State	NM	Depth	
Lat/Long	32.21178 , - 103.66422	Sample Source	UNKNOWN
TDS (mg/L)	229709	Water Type	
Sample Date (MM/DD/YYYY)		Analysis Date (MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)		Sulfate (SO)	491
Sodium (Na)		Chloride (Cl)	142100

- Artificial
- Casing and Tubing
- Surface
- Enhanced
- ☐ Gases
 - O2
 - CO2
 - H2S
 - Microbes
- Prevention
- References
- ☐ Maps
 - ☐ Trend Maps
 - GW
 - PW
 - Geology
 - PLSS
 - Help
 - Online Map

Calcium (Ca)		Carbonate (CO ₃)	
Magnesium (Mg)		Bicarbonate (HCO ₃)	168
Barium (Ba)		Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)		Carbon Dioxide (CO ₂)	
Iron (Fe)		Oxygen (O)	

PETROLEUM RECOVERY RESEARCH CENTER, SOCORRO, NM-87801

X.

**Log Across Proposed
Delaware Sand
Injection Interval**

Gazelle "16" State No. 1

Location: 1980' FSL & 1980' FEL
Well: Gazelle "16" State No. 1
Company: Penwell Energy, Inc.

LOCATION

PLATFORM EXPRESS

Schlumberger

Compensated Neutron Log Three Detector Density / GR

1980' FSL & 1980' FEL
Section 16, Township 23S, Range 34E

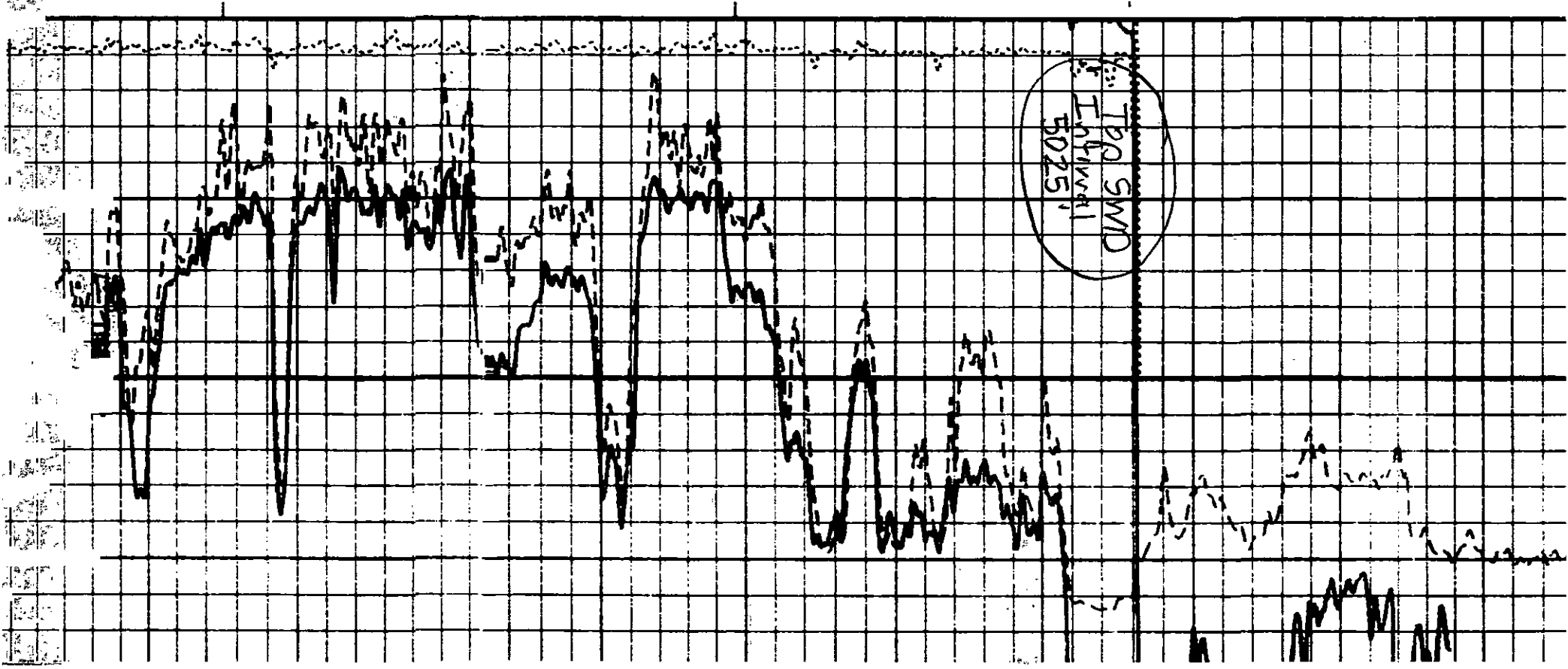
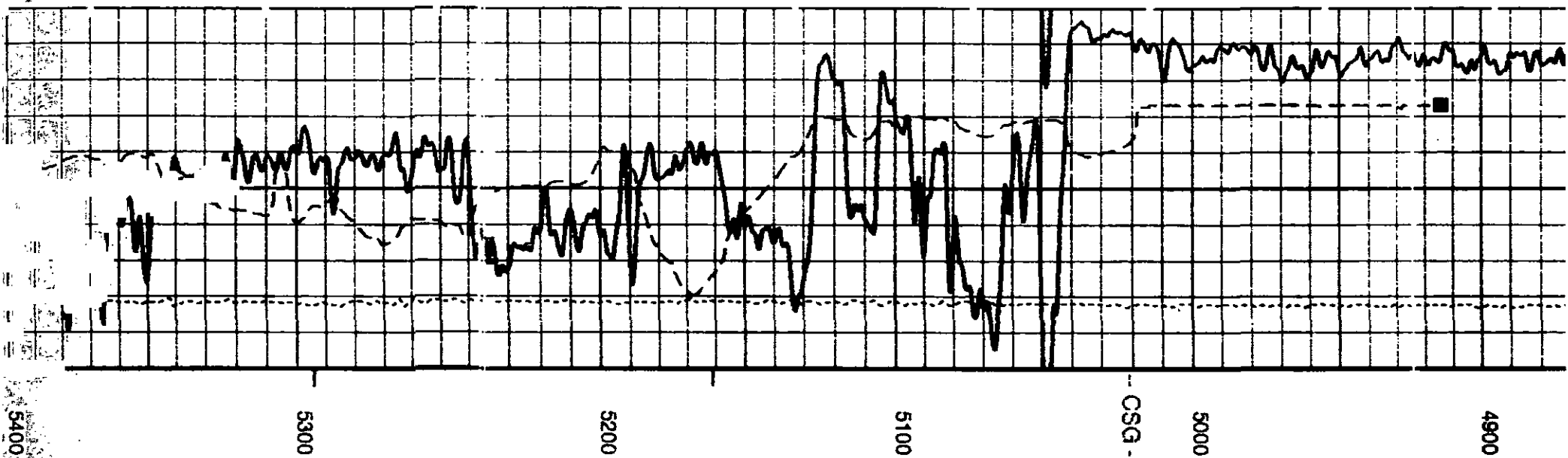
Elev.: K.B. 3440.7 F
G.L. 3425 F
D.F. 3439.7 F

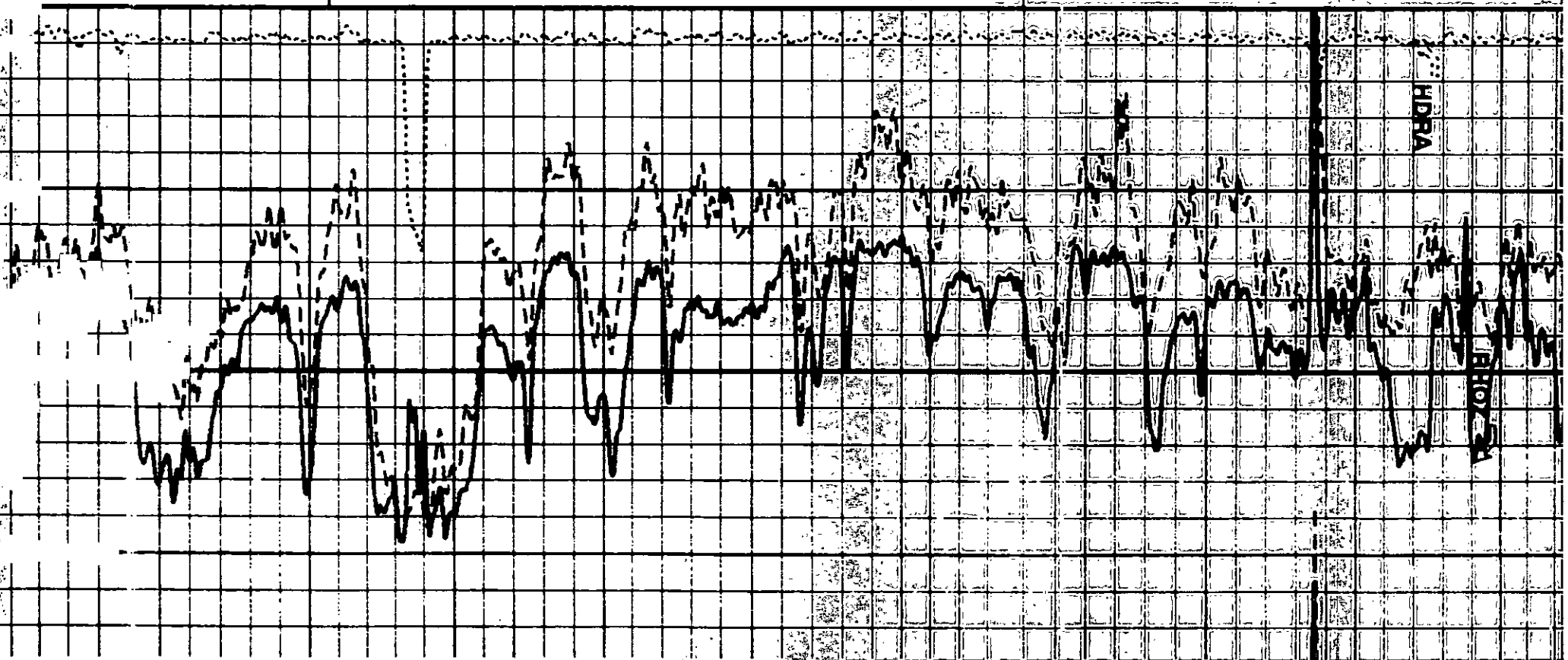
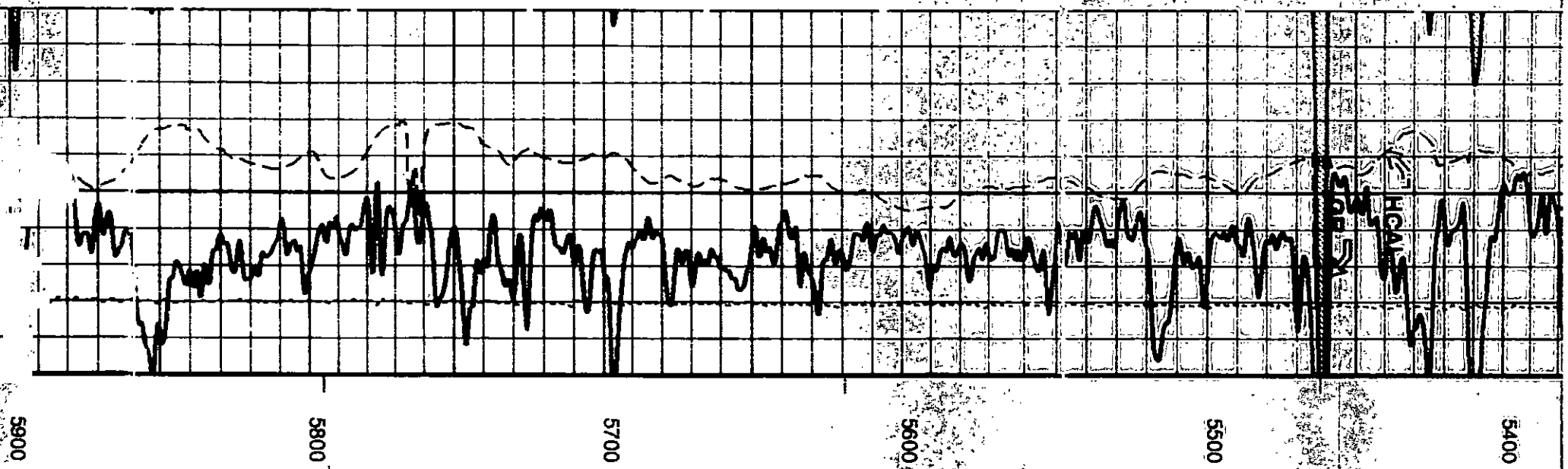
Permanent Datum: Ground Level Elev.: 3425 F
Log Measured From: Kelly Bushing 15.7 F above Perm. Datum
Drilling Measured From: Kelly Bushing

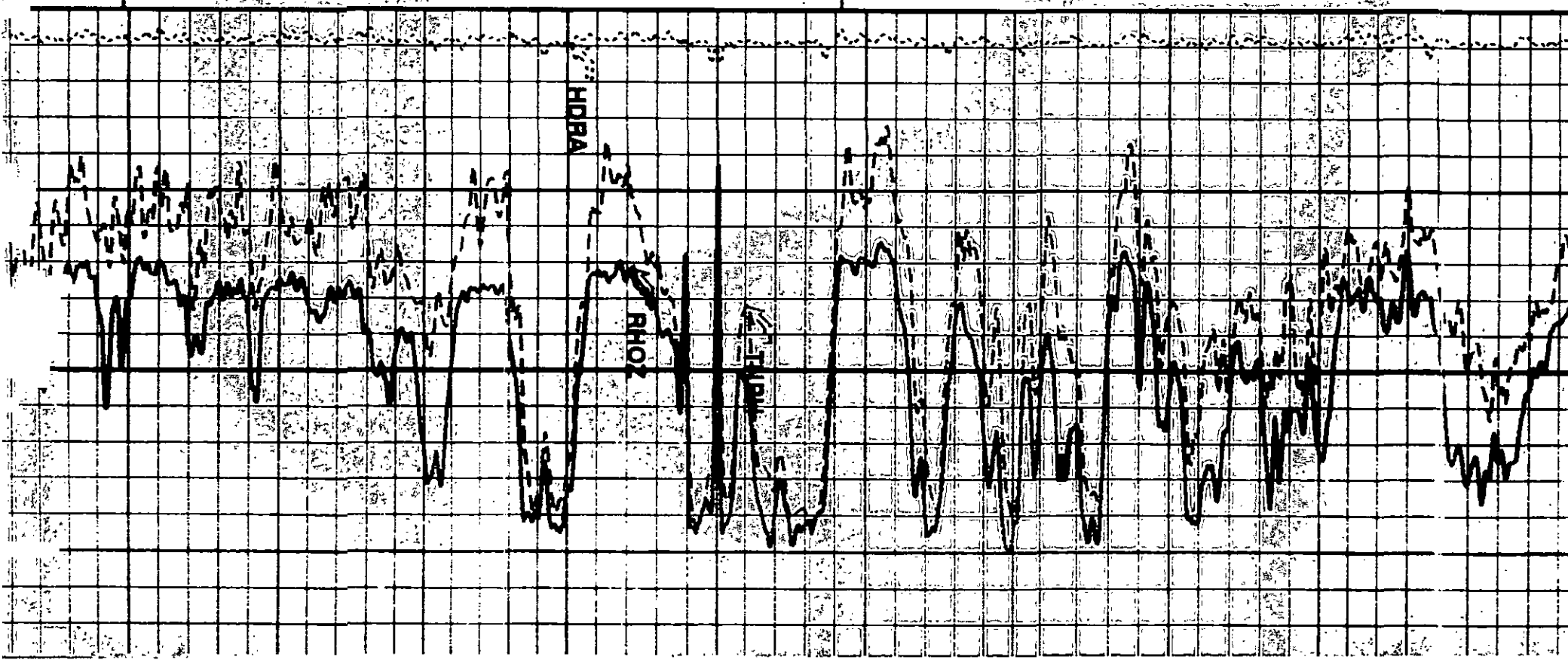
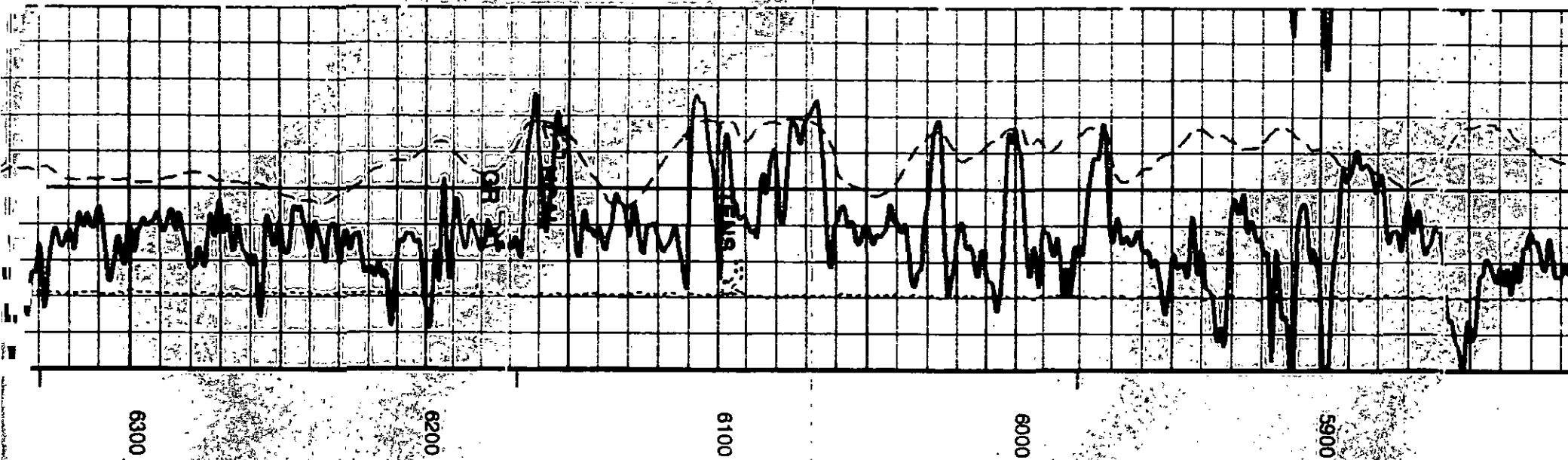
API Serial No. 30-025-34258
SECTION 16 TOWNSHIP 23S RANGE 34E

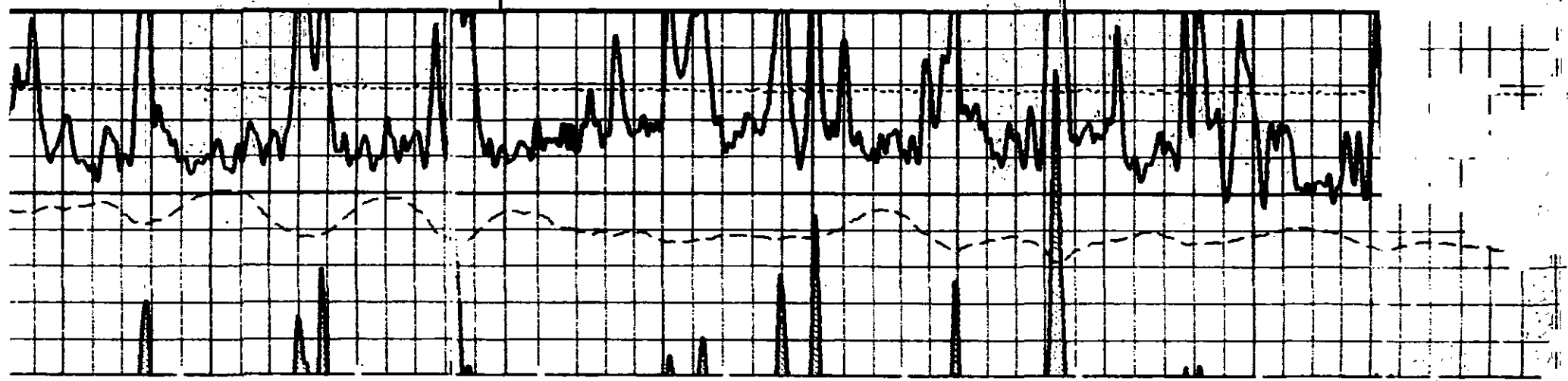
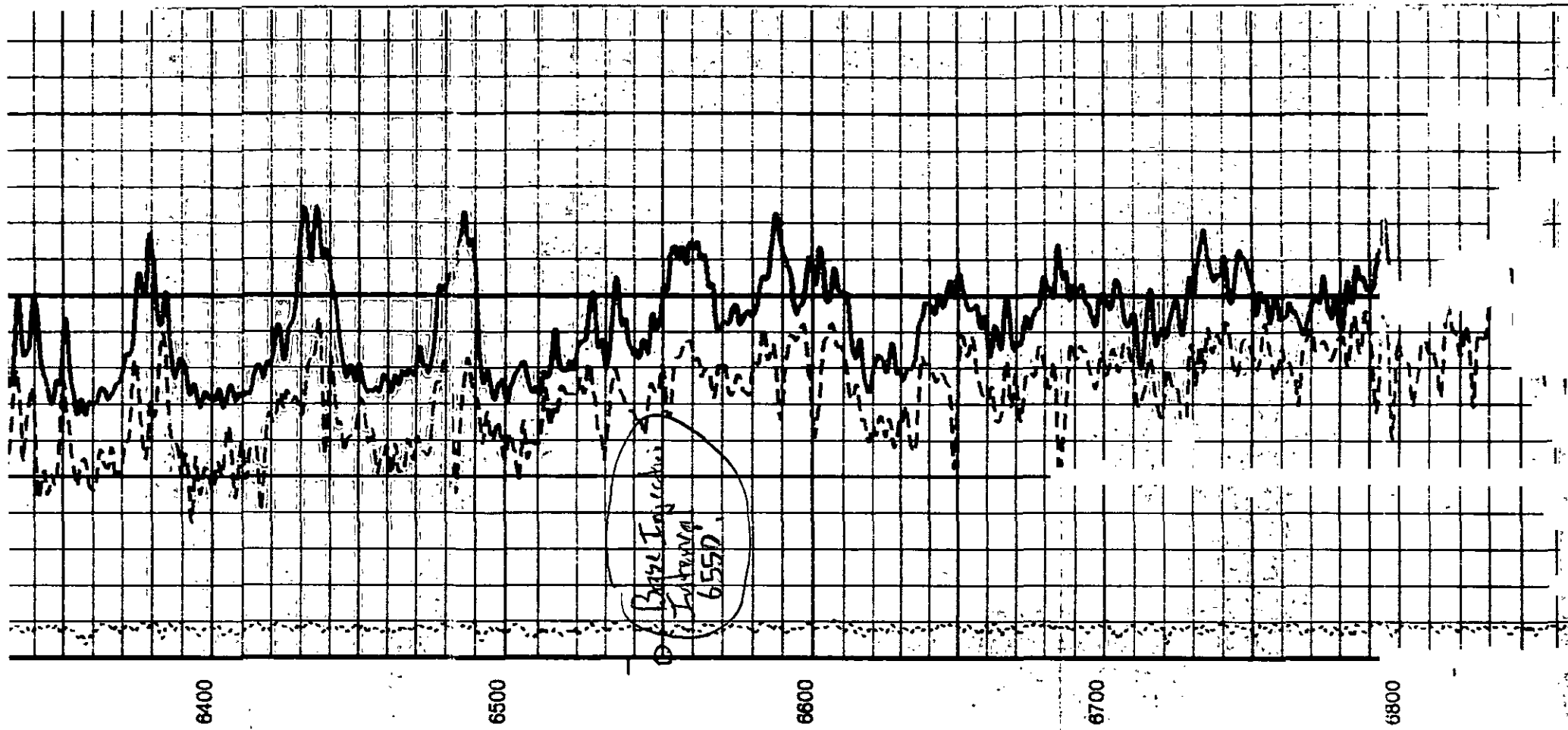
Logging Date 21-MAY-1998
Run Number One
Depth Driller 8830 F
Schlumberger Depth 8830 F
Bottom Log Interval 8812 F
Top Log Interval 5019 F
Casing Driller Size @ Depth 9.625 IN @ 5034 F
Casing Schlumberger 5019 F
Bit Size 8.750 IN
Type Fluid In Hole Cut Brine
Density Viscosity 8.9 LB/G 29 S
Fluid Loss PH 7 C3 10
Source Of Sample Circulation Pit
RM @ Measured Temperature 0.162 OHMM @ 83 DEGE
RMF @ Measured Temperature 0.162 OHMM @ 83 DEGE
RMC @ Measured Temperature @
Source RMF RMC
RM @ MRT RMF @ MRT 0.114 @ 121 0.114 @ 121
Maximum Recorded Temperatures 121 DE 121
Circulation Stopped Time 21-MAY-1998 11:15
Logger On Bottom Time 21-MAY-1998 11:26
Unit Number Location 3043 H-1005
Recorded By Jason Mullins
Witnessed By Corky Stewart

Logging Date
Run Number
Depth Driller
Schlumberger Depth
Bottom Log Interval
Top Log Interval
Casing Driller Size @ Depth @
Casing Schlumberger
Bit Size
Type Fluid In Hole
Density Viscosity
Fluid Loss PH
Source Of Sample
RM @ Measured Temperature @
RMF @ Measured Temperature @
RMC @ Measured Temperature @
Source RMF RMC
RM @ MRT RMF @ MRT @ @
Maximum Recorded Temperatures
Circulation Stopped Time
Logger On Bottom Time
Unit Number Location
Recorded By
Witnessed By









XI.

**Fresh Water Sample
Analyses**

HALLIBURTON

PERMAIN BASIN OPERATIONS LABORATORY WATER ANALYSIS REPORT HOBBS, NEW MEXICO

COMPANY: Cog
LEASE: Angel Well 15 23S 34E SW/4 SW/4 SE/4

REPORT W13-010
DATE February 22, 2013
DISTRICT Hobbs

SUBMITTED BY Bret Barrett CP 00637

TANK SAMPLE

Sample Temp.	<u>70</u> °F	_____ °F	_____ °F	_____ °F	_____ °F
RESISTIVITY	_____	_____	_____	_____	_____
SPECIFIC GR.	<u>1.001</u>	_____	_____	_____	_____
pH	<u>7.7</u>	_____	_____	_____	_____
CALCIUM	<u>850</u> mpl	_____ mpl	_____ mpl	_____ mpl	_____ mpl
MAGNESIUM	<u>420</u> mpl	_____ mpl	_____ mpl	_____ mpl	_____ mpl
CHLORIDE	<u>277</u> mpl	_____ mpl	_____ mpl	_____ mpl	_____ mpl
SULFATES	<u>>1600</u> mpl	_____ mpl	_____ mpl	_____ mpl	_____ mpl
BICARBONATES	<u>146</u> mpl	_____ mpl	_____ mpl	_____ mpl	_____ mpl
SOLUBLE IRON	<u>0</u> mpl	_____ mpl	_____ mpl	_____ mpl	_____ mpl
KCL	<u>negative</u>	_____	_____	_____	_____
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 liter
Resitivity measured in: Ohm/m2/m

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management: it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Co.

ANALYST: SB



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, (quarters are 1=NW 2=NE 3=SW 4=SE)
C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub	basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	6416 4	Sec	Tws	Rng	X	Y
CP 00323			PRO	0	SHELL OIL COMPANY	LE	CP 00323		Outside 1 mile radius.		3	2	22	23S	34E	645406 3573837*
CP 00556			PRO	0	J.C. MILLS	LE	CP 00556		Outside 1 mile radius.	Shallow	4	4	3	08	23S	34E 641762 3576206
CP 00618			PRO	0	ESTORIL PRODUCING CO.	LE	CP 00618		Outside 1 mile radius.	Shallow	1	2	4	22	23S	34E 645713 3573539*
CP 00629			PRO	0	J.C. MILLS	LE	CP 00629		Outside 1 mile radius.		4	4	3	08	23S	34E 641846 3576102*
CP 00637			PRO	3	KELLER RV, LLC	LE	CP 00637		Just within 1 mile radius.	Shallow	3	3	4	15	23S	34E 645293 3574541*
CP 00649			PRO	0	MID AMERICAN PETROLEUM COMPANY	LE	CP 00649		Outside 1 mile radius.		3	4	1	10	23S	34E 644855 3576950*
CP 00872			EXP	0	JIM KELLER RV, LLC	LE	CP 00872		Outside 1 mile radius	Shallow	1	1	1	08	23S	34E 641225 3577504*
CP 00876			COM	0	LIMESTONE LIVESTOCK, LLC	LE	CP 00872		" " "	Shallow	1	1	1	08	23S	34E 641225 3577504*
CP 00878			PRO		PENWELL ENERGY	LE	CP 00872		" " "	Shallow	1	1	1	08	23S	34E 641225 3577504*
CP 01070			PRO	0	TONYA'S PERMIT SERVICE	LE	CP 00556		" " "	Shallow	4	4	3	08	23S	34E 641762 3576206
CP 01071			PRO	0	TD WATER SERVICES	LE	CP 00556		" " "	Shallow	4	4	3	08	23S	34E 641762 3576206
CP 01072			PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 00556		" " "	Shallow	4	4	3	08	23S	34E 641762 3576206
CP 01075			DOL	3	ATKINS ENGR ASSOC INC	LE	CP 01075 POD1		Outside 1 mile radius		1	1	1	08	23S	34E 641277 3577525

Record Count: 13

PLSS Search:

Section(s): 8-10, 15-17, 20- Township: 23S Range: 34E
22

Sorted by: File Number

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Transaction Summary

72121 All Applications Under Statute 72-12-1

Transaction Number: 475312

Transaction Desc: CP 00637

File Date: 10/28/1981

Primary Status: PMT Permit

Secondary Status: APR Approved

Person Assigned: *****

Applicant: ESTORIL PRODUCING CORPORATION

Events

Date	Type	Description	Comment	Processed By
10/28/1981	APP	Application Received	*	*****
10/29/1981	FIN	Final Action on application		*****
10/29/1981	WAP	General Approval Letter		*****
10/29/1981	CN5	Meter Installation Request		*****
06/13/2011	ARV	Rec & Arch - file location	CP 00637 Box: 503	*****

Change To:

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
CP 00637		3		PRO 72-12-1 PROSPECTING OR DEVELOPMENT OF NATURAL RESOURCE
**Point of Diversion				
CP 00637		645293	3574541*	

An () after northing value Indicates UTM location was derived from PLSS - see Help

Remarks

ADDITIONAL APPROPRIATION OF UNDERGROUND WATER IS REQUESTED TO DRILL ESTORIL PRODUCING CORPORATION TRIPLE "A" FEDERAL WELL #1, NW 1/4 OF NW 1/4 OF SE 1/4 (1980' FSL, 1980' FEL) SEC. 10-T23S-R34E, LEA COUNTY, N.M. ESTIMATED STARTING DATE NOV. 15, 1981.

ADDRESS/LOCATION: 760' FSL, 2380' FEL, SEC. 15, T23S-R34E, NMPM, LEA CO. N.M.

ABSTRACTORS NOTE: PERMIT STATES WELL RECORD WAS FILED ON 07/16/1981. NO WELL RECORD DUE DATE GIVEN ON PERMIT.

Conditions

- 3 Appropriation and use of water under this permit shall not exceed a period of one year from the date of approval.
- 5A A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water; pumping records shall be submitted to the District Supervisor for each calendar month on or before the 10th day of the following month.

Action of the State Engineer

Action of the State Engineer

Approval Code: A - Approved

Action Date: 10/29/1981

State Engineer: John R. D Antonio,

**STATE ENGINEER OFFICE
WELL RECORD**

SANTA FE

Section 1. GENERAL INFORMATION

(A) Owner of well Estoril Producing Corporation Owner's Well No. CP637
 Street or Post Office Address 11 th Floor Vaughn Building
 City and State Midland, Texas 79701

Well was drilled under Permit No. _____ and is located in the:

a. SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15 Township 23-s Range 34-E N.M.P.M.
 b. Tract No. _____ of Map No. _____ of the _____
 c. Lot No. _____ of Block No. _____ of the _____
 Subdivision, recorded in Lea County.
 d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
 the _____ Grant.

(B) Drilling Contractor Raymond Wheeler Drilling Co. License No. 109-729

Address 2419 West 14 th Odessa, Texas 79760

Drilling Began 7-6-81 Completed 7-9-81 Type tools Rotary Size of hole 8.75 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 430 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 430 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
400	425		water bearing sand	100

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
7"	2		0	430'	430'	na	400'	430'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				
					cemented top 10 ft.

Section 5. PLUGGING RECORD

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

State Engineer Representative

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

FOR USE OF STATE ENGINEER ONLY

Date Received July 16, 1981

Quad _____ FWL _____ FSL _____

File No. CP-637 Use DIC Location No. 23.34.15.433112

[illegible]

Section 7. REMARKS AND ADDITIONAL INFORMATION

Jul 16 8 36 AM
STATE ENGINEER
ROSWELL, NM

Donald R. Wheeler
Driller

INSTRUCTIONS: This form should be completed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and 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.

HOBBS NEWS SUN
LEGAL NOTICE

COG Operating LLC, 2208 W. Main Street, Artesia, NM 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 Gettysburg 16 State SWD No. 1 is located 1980' FSL & 1980' FEL, Section 16, Township 23 South, Range 34 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 5025' to 6550' at a maximum surface pressure of 1005 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 20 miles west of Jal. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 S. St. Francis Drive, 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, NM 88210, or call 575-748-6940.

Published in the Hobbs News Sun, Hobbs, New Mexico
_____, 2013.



March 26, 2013

Oil Conservation Division
Attn: Paul Kautz
1625 North French Dr.
Hobbs, NM 88240

RE: Application For Authorization To Inject
Gettysburg 16 State SWD #1
Township 23 South, Range 34 East, N.M.P.M.
Section 16: 1980' FSL & 1980' FEL
Lea County, New Mexico

Dear Mr. Kautz:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the referenced well. 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,

A handwritten signature in cursive script, appearing to read "Brian Collins".

Brian Collins
Senior Operations Engineer

BC/sw
Enclosures



March 26, 2013

Devon Energy
P O Box 1678
Oklahoma City, OK 73101-1678

RE: Application For Authorization To Inject
Gettysburg 16 State SWD #1
Township 23 South, Range 34 East, N.M.P.M.
Section 16: 1980' FSL & 1980' FEL
Lea County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to reenter this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as the surface owner, an operator or a lessee within a half mile radius area of review. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Collins".

Brian Collins
Senior Operations Engineer

BC/bg
Enclosures



March 26, 2013

Petrohawk Operating Company
4305 N. Garfield Street
Midland, TX 79705

RE: Application For Authorization To Inject
Gettysburg 16 State SWD #1
Township 23 South, Range 34 East, N.M.P.M.
Section 16: 1980' FSL & 1980' FEL
Lea County, New Mexico

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Sincerely,

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Brian Collins
Senior Operations Engineer

BC/bg
Enclosures



March 26, 2013

The Allar Company
735 Elm Street
Graham, TX 76450

RE: Application For Authorization To Inject
Gettysburg 16 State SWD #1
Township 23 South, Range 34 East, N.M.P.M.
Section 16: 1980' FSL & 1980' FEL
Lea County, New Mexico

To Whom It May Concern:

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Sincerely,

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Brian Collins
Senior Operations Engineer

BC/bg
Enclosures



March 26, 2013

Limestone Livestock LLC
76 Angell Road
Lovington, NM 88260

RE: Application For Authorization To Inject
Gettysburg 16 State SWD #1
Township 23 South, Range 34 East, N.M.P.M.
Section 16: 1980' FSL & 1980' FEL
Lea County, New Mexico

To Whom It May Concern:

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Sincerely,

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Brian Collins
Senior Operations Engineer

BC/bg
Enclosures



March 26, 2013

New Mexico Oil Conservation Division
Attn: Richard Ezeanyim
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Application For Authorization To Inject
Gettysburg 16 State SWD #1
Township 23 South, Range 34 East, N.M.P.M.
Section 16: 1980' FSL & 1980' FEL
Lea County, New Mexico

Dear Mr. Jones:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the referenced well. 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,

A handwritten signature in black ink, appearing to read "Brian Collins".

Brian Collins
Senior Operations Engineer

BC/bg
Enclosures

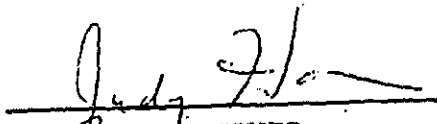
RECEIVED OCCD
2013 MAR 28 P 2:24


Affidavit of Publication

State of New Mexico,
County of Lea.

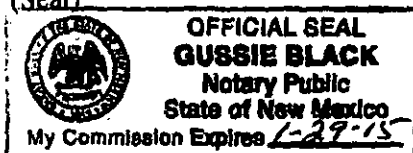
I, JUDY HANNA
PUBLISHER
of the Hobbs News-Sun, a
newspaper published at Hobbs, New
Mexico, do solemnly swear that the
clipping attached hereto was
published in the regular and entire
issue of said newspaper, and not a
supplement thereof for a period

of 1 issue(s).
Beginning with the issue dated
February 26, 2013
and ending with the issue dated
February 26, 2013


PUBLISHER
Sworn and subscribed to before me
this 26th day of
February, 2013


Notary Public

My commission expires
January 29, 2015
(Seal)



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

LEGAL NOTICE FEBRUARY 26, 2012

COG Operating LLC, 2208 W. Main Street, Artesia, NM 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 Gettysburg 16 State SWD No. 1 is located 1980' FSL & 1980' FEL, Section 16, Township 23 South, Range 34 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 5025' to 6550' at a maximum surface pressure of 1005 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 20 miles west of Jal. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 S. St. Francis Drive, 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, NM 88210, or call 575-748-6940.

Published in the Hobbs News Sun, Hobbs, New Mexico
February 26, 2013.
#27954

02107967

00109876

COG OPERATING LLC
600 W. ILLINOIS AVENUE
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:

NM Oil Conservation Division
Attn: Richard Ezeanyim
1220 South St. Francis Drive
Santa Fe, NM 87505

2. Article Number

(Transfer from service label)

7012 2210 0001 7109 1510

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]*☐ Agent☐ Addressee

B. Received by (Printed Name)

[Signature]

C. Date of Delivery

3/28/13

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

MAR 28 2013

3. Service Type

☒ Certified Mail ☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

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:

The Allar Company
735 Elm Street
Graham, TX 76450

2. Article Number

(Transfer from service label)

7012 2210 0001 7109 1497

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Melanie Barrett*☒ Agent☐ Addressee

B. Received by (Printed Name)

Melanie Barrett

C. Date of Delivery

4-13

D. Is delivery address different from item 1? ☐ YesIf 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

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:

Devon Energy
P O Box 1678
Oklahoma City, OK 73101-1678

2. Article Number

(Transfer from service label)

7012 2210 0001 7109 1503

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]*☐ Agent☐ Addressee

B. Received by (Printed Name)

IC

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf 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

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:

**Limestone Livestock, LLC
76 Angell Road
Lovington, NM 88260**

2. Article Number
(Transfer from service label)

7012 2210 0001 7109 1473

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

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



7012 2210 0001 7109 1480



PITNEY BOWES

\$ 007.57

02 1P

0003184434

MAR 27 2013

MAILED FROM ZIP CODE 88210

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:

Petrohawk Operating Company
4305 N. Garfield Street
Midland, TX 79705

2. Article Number

(Transfer from service label)

7012 2210 0001 7109 1480

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

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



2208 West Main Street
Artisia, New Mexico 88210

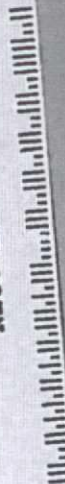
Petrohawk Operating Company
4305 N. Garfield Street
Midland, TX 79705

NIXIE

797052007-1N

04/01/13

RETURN TO SENDER
UNABLE TO FORWARD
UNABLE TO FORWARD
RETURN TO SENDER



Ezeanyim, Richard, EMNRD

From: Bobbie Goodloe <BGoodloe@concho.com>
Sent: Thursday, April 25, 2013 9:51 AM
To: Ezeanyim, Richard, EMNRD
Subject: Gettysburg 16 St SWD #1 Proof of Notice and Affidavit
Attachments: Proof of Notice and Affidavit .pdf

Mr. Ezeanyim,

Attached you will find the Proof of Notice receipts as well as the Affidavit for our C-108 application on the Gettysburg 16 St SWD #1. Please let me know if you need anything else.

Thank you,
Bobbie Goodloe

Bobbie Goodloe

Administrative Assistant/Completions - NM Basin
COG OPERATING LLC
2208 W Main St
Artesia, New Mexico 88210-3720
575.748.6954



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Injection Permit Checklist: Received 04/01/13 First Email Date: — Final Reply Date: 05/09/13 Final Notice Date: —

Issued Permit: Type: WFX / PMX / SWD Number: 1416 Permit Date: 05/09/13 Legacy Permits or Orders: NA

Well No. 1 Well Name(s): Gettysburg 16 State SWD [formerly Gazelle 16 State #1]

API: 30-0 25-34258 Spud Date: 3/29/98 New/Old: N (UIC CI II Primacy March 7, 1982)

Footages 1980 FSL & 1980 FEL Lot — Unit 5 Sec 16 Tsp 23S Rge 34E County Lea

General Location: San Simon Swale - NW of Jal Pool: SWD: Delaware Sand (Bell Lake) Pool No.: —

Operator: COG Operating LLC OGRID: 229137 Contact: Brian Collins

COMPLIANCE RULE 5.9: Inactive Wells: 10 Total Wells: 3471 Fincl Assur: Yes Compl. Order? No IS 5.9 OK? Yes

Well File Reviewed: ✓ Current Status: P&A

Planned Rehab Work to Well: Drill out plugs at surface / 650' / 2000' & 5075' (4 total); install

Well Diagrams: Proposed — Before Conversion ✓ After Conversion ✓ Are Elogs in Imaging?: Yes Packer & tubing

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned <u>—</u> or Existing <u>Cond</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <u>—</u> or Existing <u>✓ Surface</u>	<u>17 1/2 / 13 3/8</u>	<u>0-665'</u>	<u>—</u>	<u>450 head / 250 / fair / 127</u>	<u>Circ to surf.</u>
Planned <u>—</u> or Existing <u>✓ Interm</u>	<u>12 1/4 / 9 5/8</u>	<u>0-5025'</u>	<u>—</u>	<u>1975 / 300 / 200</u>	<u>Circ to surf</u>
Planned <u>—</u> or Existing <u>LongSt</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <u>—</u> or Existing <u>Liner</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <u>—</u> or Existing <u>✓ (OH) PERF</u>	<u>8 1/2 9 5/8 5025 to TD</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Injection Formation(s):	Depths (ft)	Formation	Tops?
Above Top of Inject Formation	<u>—</u>	<u>Purstar</u>	<u>1073</u>
Above Top of Inject Formation	<u>—</u>	<u>Castile / Loma</u>	<u>—</u>
Proposed Interval TOP:	<u>5025 / 6500</u>	<u>Delaware Sand</u>	<u>5042'</u>
Proposed Interval BOTTOM:	<u>6500</u>	<u>—</u>	<u>7850</u>
Below Bottom of Inject Formation	<u>—</u>	<u>—</u>	<u>—</u>
Below Bottom of Inject Formation	<u>8620</u>	<u>Bone Spring</u>	<u>8620</u>

Completion/Ops Details:
Drilled TD <u>8830'</u> PBDT <u>—</u>
Open Hole <u>X</u> or Perfs <u>—</u>
Tubing Size <u>4.5</u> Inter Coated? <u>—</u>
Proposed Packer Depth <u>4975</u>
Max Packer Depth <u>4925</u> (100-ft limit)
Proposed Max. Surface Press <u>1005</u>
Calc. Injt Press <u>1005</u> (0.2 psi per ft)
Calc. FPP <u>—</u> (0.65 psi per ft)

AOR: Hydrologic and Geologic Information

CAPITAN REEF: in No thru No POTASH No Noticed? No WIPR No Noticed? No SALADO Top — Bot — CLIFF HOUSE —

Fresh Water: Max Depth 25 FW Formation — Wells? 1 Analysis? Yes Hydrologic Affirm Statement Yes

Disposal Fluid: Formation Source(s) Bone Spring & Delaware Producers On Lease — Only from Operator X or Commercial —

Disposal Interval: Protectable Waters? No H/C Potential: Log — / Mudlog — / DST — / Tested — / Depleted — Other —

AOR Wells: 1/2-M Radius Map? — Well List? — Producing in Interval? No Formerly Produced in Interval? Morrow

Penetrating Wells: No. Active Wells 0 Num Repairs? NA on which well(s)? — Diagrams? —

Penetrating Wells: No. P&A Wells 0 Num Repairs? NA on which well(s)? — Diagrams? —

NOTICE: Newspaper Date 02/26/13 Mineral Owner COG/Private Surface Owner Limestone Livestock N. Date 03/28/13

RULE 26.7(A): Identified Tracts? — Affected Persons: Allor Company / Devon N. Date 4/1/13

Permit Conditions:

Issues: Bottom of casing 5025 - top of Castile at base of casing

Issues: *Modified permit applicator

Goetze, Phillip, EMNRD

From: Brian Collins <BCollins@concho.com>
Sent: Wednesday, May 08, 2013 10:31 AM
To: Goetze, Phillip, EMNRD
Cc: Bobbie Goodloe
Subject: COG Gettysburg 16 State SWD 1 C-108 Application

Phillip:

Per our phone conversation yesterday, we are proposing to dispose of water into the lower 20' of the Castille anhydrite in addition to the Delaware formation in the captioned well. The intermediate casing string was set about 20' above the Lamar Lime leaving 20' of Castille anhydrite exposed beneath the casing shoe when this well was originally drilled. Our intent is to dispose into the open hole below the intermediate casing shoe and this short section of Castille will be included in the injection interval. The Lamar Lime is typically considered part of the Delaware formation.

Per your request, we'll be sending you the public notice affidavits for the captioned well and the East Owl 8 Fed SWD No. 1. Please call or email if you have any questions. Thank you.

Brian Collins

Senior Operations Engineer
NM Basin Team

COG OPERATING LLC
2208 W. Main Street
Artesia, New Mexico 88210-3720
Phone # 575.748.6924
Email: bcollins@concho.com



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Gazelle 16

- Integra Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Gamma Ray (GR)
(GAPI) 0 100

Tension (TENS)
(LBF) 10000 0

Caliper (HCAL)
(IN) 6 16

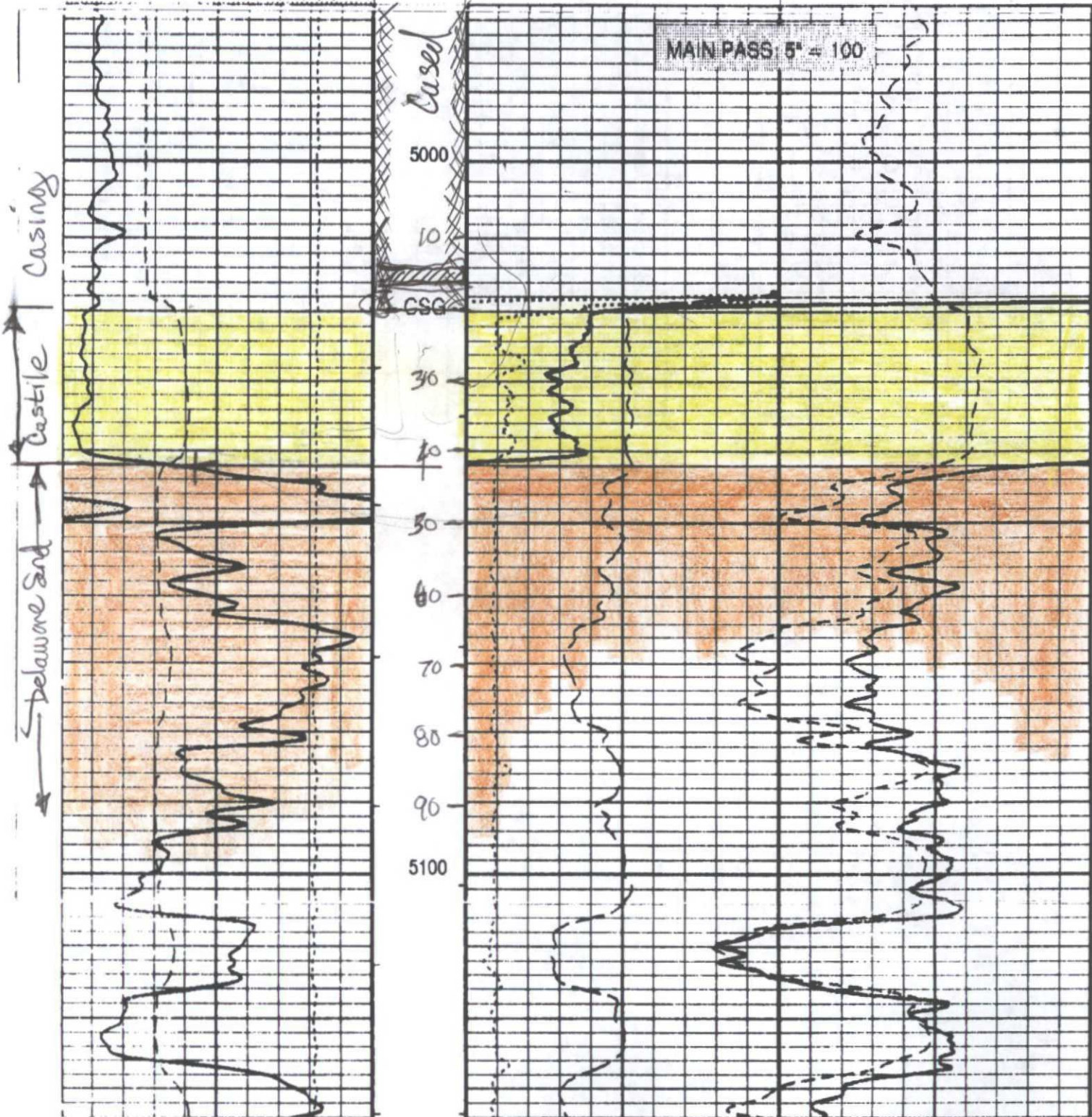
Gamma Ray Backup

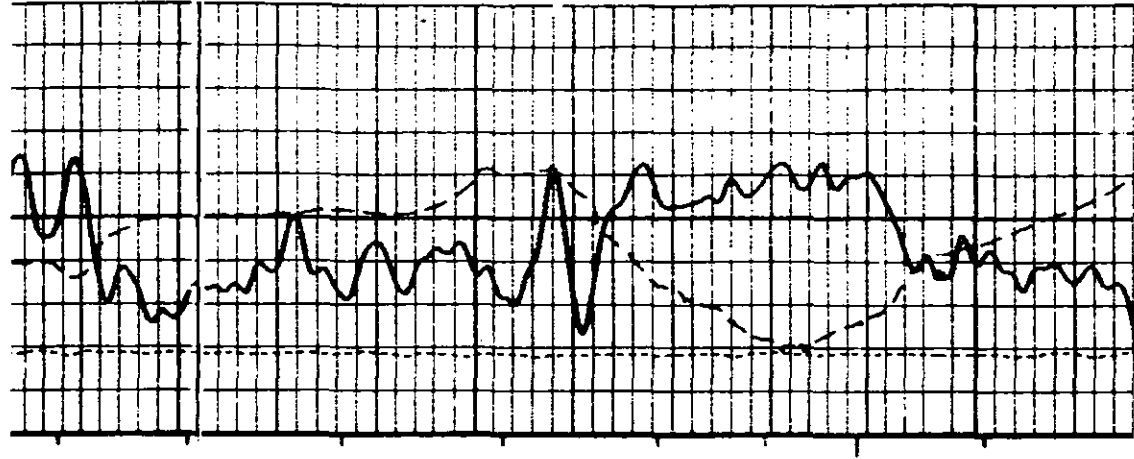
Env. Corr. Thermal Neutron Porosity (TNPH)
(V/V) 0.3 -0.1

Std. Res. Formation Pe (PEFZ)
(----) 0 10

Std. Res. Density Porosity (DPH2)
(V/V) 0.3 -0.1

Density Correction (HDRA)
(G/C3) -0.05 0.45





5200

