DATE IN 7/25/12	SUSPENSE	ENGINEER W Jones	LOGGED IN 8/6/12	TYPE SWD 1356	APP NO. PUNK1221938095

ABOVE THIS LINE FOR DIVISION USE ONLY

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

COPY

COG Operating

ADMINISTRATIVE APPLICATION CHECKLIST Rocket Federal #1 LLC

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	07/12/12
Print or Type Name	Signature	Title	Date

bcollins@concho.com
e-mail Address

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).

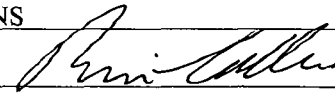
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: 7/12/2012

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
ROCKET FEDERAL #1 SWD
116' FSL, 564' FEL
Unit P, Sec 4 T26S R29E
Eddy County, NM

COG Operating, LLC, proposes to convert the captioned well to salt water disposal service into the Delaware Sand from 3225' to 4775'.

V. Map is attached.

VI. Three wells within the ½ mile radius area of review penetrate the proposed injection zone. Wellbore schematics are attached. The JR's Horz Federal #1 SWD has a before and after schematic because we are concurrently filing a C-108 application for it too.

VII. 1. Proposed average daily injection rate = 5000 BWPD
Proposed maximum daily injection rate = 10000 BWPD

2. Closed system

3. Proposed maximum injection pressure = 645 psi
(0.2 psi/ft. x 3225' 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 3225' to 4775'. Any underground water sources will be shallower than 140'.

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 showing the injection interval is attached.

XI. There are no fresh water wells within a mile of the proposed SWD well. The Pecos River is approximately 6300' west of the proposed SWD. Water analysis from the Pecos River 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: Rocket Federal 1 SWD

WELL LOCATION: 116' FSL 564' FEL | P | 4 | 26s | 29e

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

See Before & After Schematics

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12¼" Casing Size: 9⅝" @ 670'

Cemented with: 400 sx. *or* - ft³

Top of Cement: Surface Method Determined: Circ. Cmt

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 8¾ x 7⅞" Casing Size: 5½" @ 7064' MD

Cemented with: 2125 sx. *or* - ft³

Top of Cement: Surface Method Determined: Circ. Cmt

Total Depth: 7064' MD 5500' TVD

Injection Interval

3225' feet to 4775'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" or 3 1/2" Lining Material: IPC / Duoline 20

Type of Packer: 5K nickel plated double grip retrievable

Packer Setting Depth: ± 3175'

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 Horizontal Lateral has watered out.

2. Name of the Injection Formation: Delaware Sand

3. Name of Field or Pool (if applicable): Corral Canyon South

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. Yes

   Horizontal lateral 5355-7000' MD (5101' TVD)

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

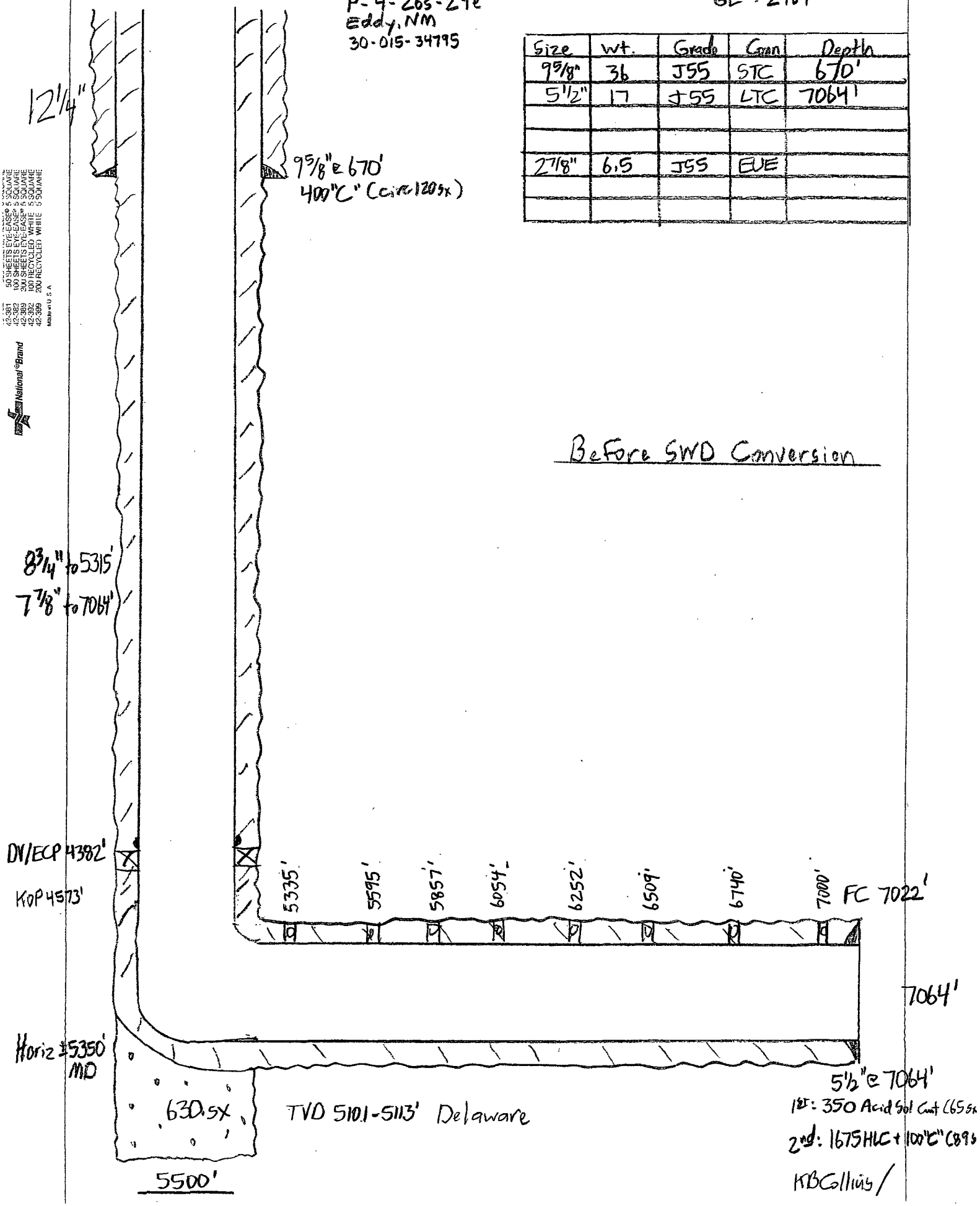
   Overlying: None

   Underlying: Delaware 5062', Bone Spring 7450'

Rocket Fed. 1
116' FSL, 564' FEL (surf)
2277' FSL, 387' FEL (bhl)
P-4-26s-29e
Eddy, NM
30-015-34795

Zero: 17' AGL
KB: 2981'
GL: 2964'

Size	wt.	Grade	Conn	Depth
9 5/8"	36	J55	STC	670'
5 1/2"	17	J55	LTC	7064'
2 7/8"	6.5	J55	EUE	



Before SWD Conversion

KBCollins/

Rocket Fed. 1 SWD

116' FSL, 564' FEL (surf)
2277' FSL, 387' FEL (bhl)
P-4-26s-29e
Eddy, NM
30-015-34795

Zero: 17' AGL
KB: 2981'
GL: 2964'

Size	wt.	Grade	Conn	Depth
9 5/8"	36	J55	STC	670'
5 1/2"	17	J55	LTC	7064'
2 7/8"	6.5	J55	EUE	
3 1/2"	9.3	J55	SpCl	

12 1/4"

9 5/8" @ 670'
400"C" (circ 120sx)

2 7/8" or 3 1/2" Inj Tbg

After SWD Conversion

8 3/4" to 5315'
7 7/8" to 7064'

Inj. Pkr ± 3175'

Delaware Sand
3225' - 4775'

in CURVE

DV/ECP 4382'

KOP 4573'

CIBP +35' cmt
4825'

5335' 5595' 5857' 6054' 6252' 6509' 6740' 7000' FC 7022'

7064'

Horiz ± 5350' MD

630 sx

TVD 5101-5113' Delaware

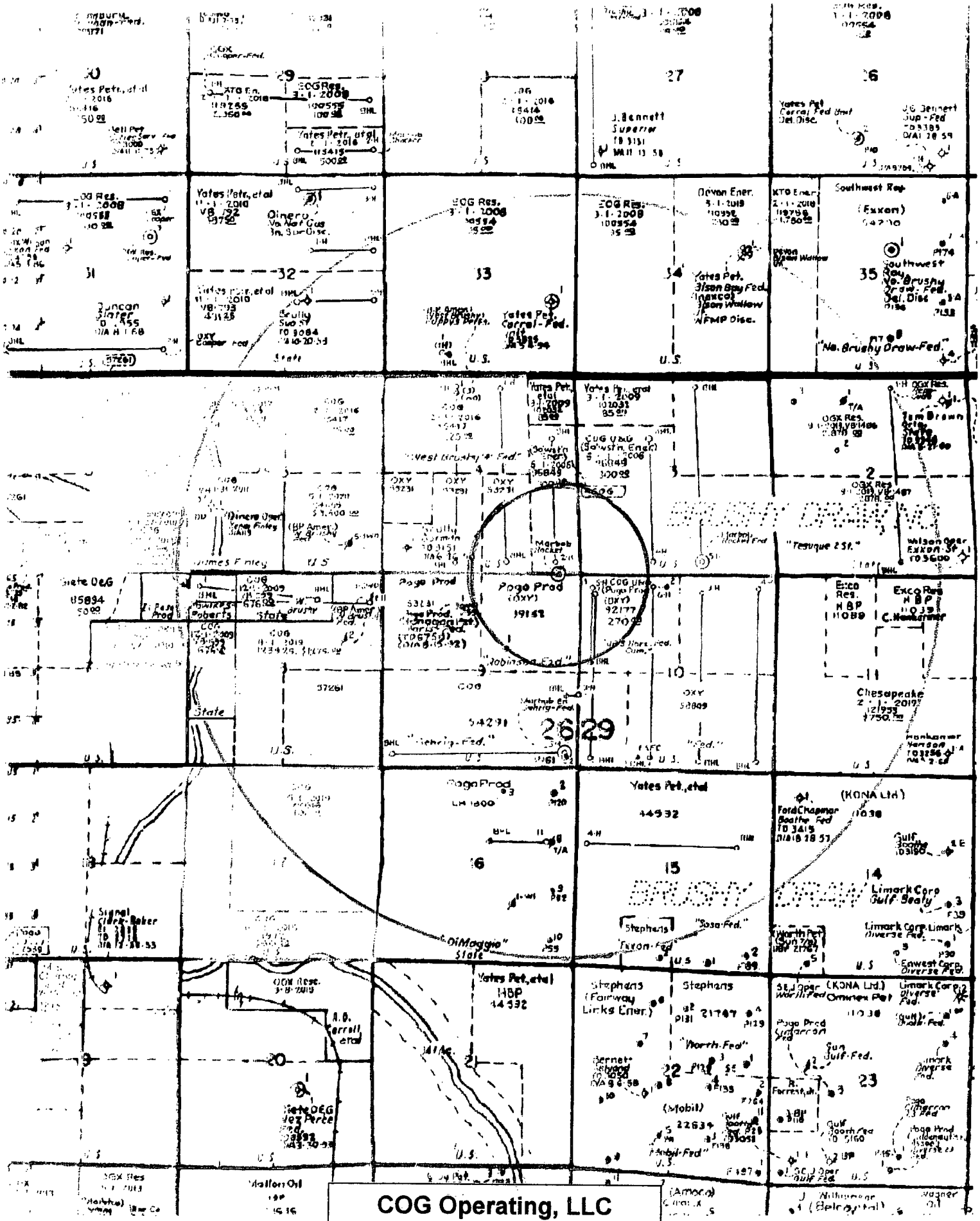
5500'

5 1/2" @ 7064'
1st: 350 Acid Sol Cmt (65 sx
2nd: 1675 HLC + 100"C" (89 s

KBCollins

V.

MAP

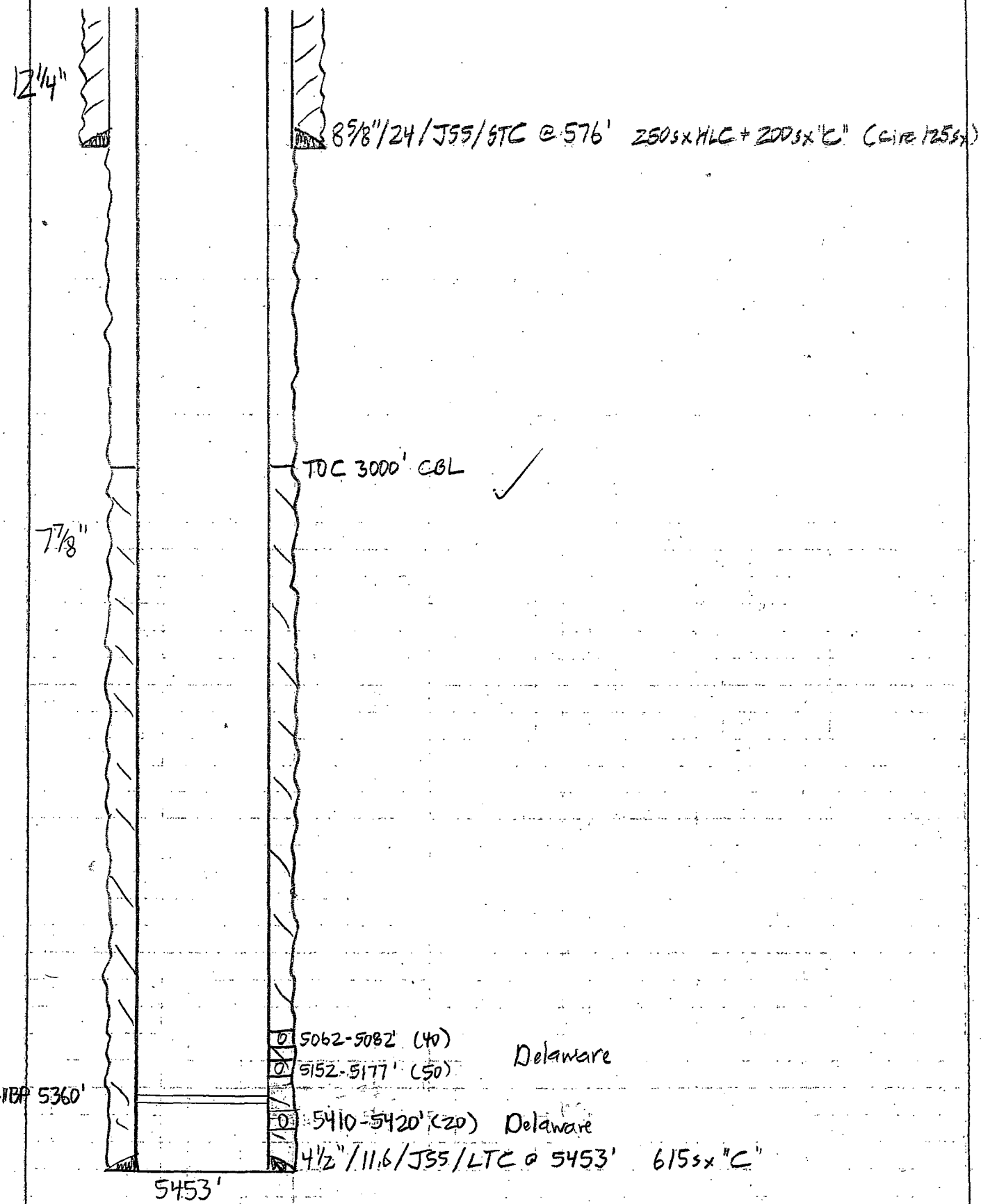

COG Operating, LLC
Rocker Federal #1 SWD
Unit P, Sec 4-T26S-R29E
Eddy County, NM

VI.

Wells Penetrating Proposed Disposal Interval Within Half Mile Area of Review

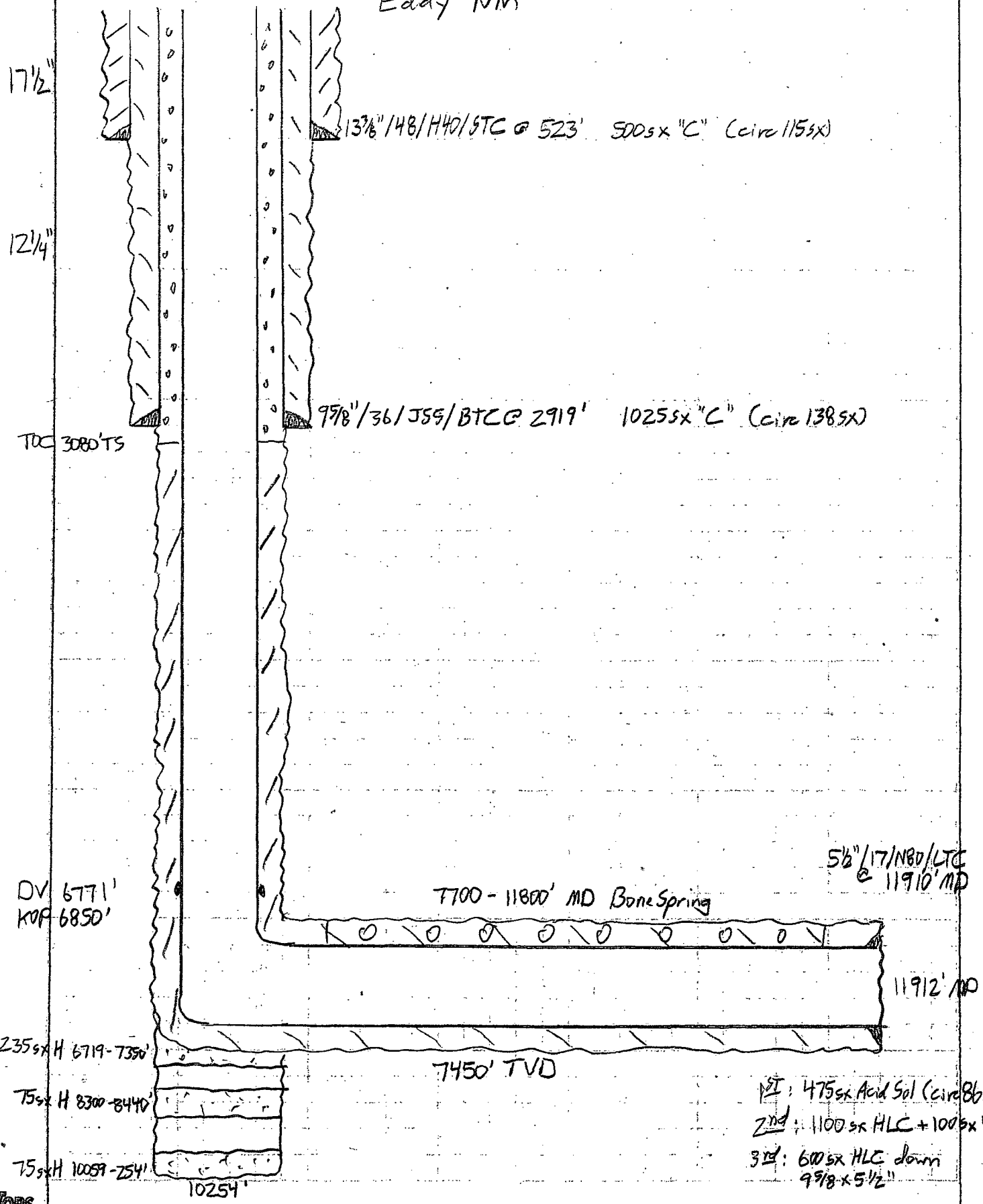
30-015-29826

Robinson 9 Federal No. 1
1980' FNL, 1980' FEL
G-9-26s-29e
Eddy NM



30-015-37904

JR's Horz Fed Com 6H
Surf: 330' FNL, 1980' FWL, Unit C
EOL: 332' FSL, 1914' FWL, Unit N
10-26s-29e
Eddy NM



1st: 475sx Acid Sol (circ 86sx)
2nd: 1100sx HLC + 100sx "C"
3rd: 600sx HLC down 9⅝ x 5½"

JR's Horz Fed. Com. 1

380'N, 330'W Surface
2301'N, 441'W BHL
10-26s-29e
Eddy NM

Zero: 10' AGL
KB: 3003'
GL: 2993'

Size	wt.	Grade	Coon	Depth
9 5/8	36	J55	STC	552'
5 1/2	17	J55	LTC	4181'
	17	J55	FL-4S	6801'
2 7/8"	6.5	J55	EUE	4

12 1/4"

9 5/8" @ 552'
375 "C" (Circ 100 sx)

TOC Above 1860' CBL

Before SWD Conversion

8 3/4"
to 5441' MD

7 7/8"
5441' MD
to
6812' MD

DV/ECP 4170'

5495'(3) 5566'(3) 5672'(3) 5750'(3) 5812'(3) 5917'(3) 6000'(3) 6086'(3) 6159'(3) 6250'(3) 6359'(3) 6434'(3) 6500'(3) 6570'(3) 6675'(3) 6750'(3)

Poor Cmt Coverage
4170-4710' CBL

KOP 4550'

Horizontal
@ ±540' MD

330' "C"
+
330' "C"

5300'

TVD 5124-5140' Delaware

5 1/2" @ 6812' MD
1st: 400 "C" 2% Zonseal
2nd: 1200 HLC + 100 "C"
(Didn't circ. either stage)
KB Collins

JR's Horz Fed 1 SWD

380' N, 330' W Surface
2301' N, 441' W BHL
10-26s-29e
Eddy NM

Zero = 10' AGL
KB = 3003'
GL = 2993'

Size	wt.	Grade	Conn	Depth
9 5/8	36	J55	STC	552'
5 1/2	17	J55	LTC	4181'
	17	J55	FL-4S	6801'
2 7/8"	6.5	J55	EUE	
3 1/2"	9.3	J55	Spcl	

12 1/4"

9 5/8" @ 552'
375 "C" (Circ 100 sx)

2 7/8" or 3 1/2" Inj Tbg

TOC Above 1860' CBL

8 3/4"
to 5441' MD

Inj Pkr ± 3160'

7 7/8"
5441' MD
to
6812' MD

Delaware Sand
3210 - 4800'

DV/ECP 4170'

5495'(3) 5566'(3) 5672'(3) 5750'(3) 5812'(3) 5917'(3) 6000'(3) 6086'(3) 6159'(3) 6250'(3) 6359'(3) 6434'(3) 6500'(3) 6570'(3) 6675'(3) 6750'(3)

CIBP + 35' Cmt
4850'

Poor Cmt Coverage
4170 - 4710' CBL

KOP 4550'

Horizontal
@ ± 5400' MD

330' "C"
+
330' "C"

5300'

TVD 5124 - 5140' Delaware

5 1/2" @ 6812' MD
1st: 400 "C" 2% Zonseal
2nd: 1200 HLC + 100 "C"
(Didn't circ. either stage)
KB Collins

After SWD Conversion

VII.

Water Analysis Produced and Receiving Formation Water

WATER SAMPLES REPRESENTATIVE OF WATER BEING INJECTED INTO AND NATIVE TO THE PROPOSED SWD WELL

Lab Test #	Lease	Location	Salesman	Date Out	Sample Date	Specific Gravity	Ionic Strength	TDS	pH	conductivity	Ca (mg/L)	Mg (mg/L)
Bone Spr												
2011128836	Jr's Horz Federal Com	6H	William D Polk	9/30/2011	9/21/2011	1.13	3.30	195560.75	7.00		5293.00	1025.00
Delaware												
2012103128	Gehrig	Fed #2	William D Polk	2/15/2012	1/10/2012	1.16	4.00	251245.24	6.47		25915.00	3525.76

Representative of Bone Spring Produced Water

Representative of Delaware Produced and Receiving Formation Water

TH (CaCO3)	Na (mg/L)	K (mg/L)	Zn (mg/L)	Fe (mg/L)	Ba (mg/L)	Sr (mg/L)	Mn (mg/L)	Resistivity	HCO3 (mg/L)	CO3 (mg/L)	OH (mg/L)	SO4 (mg/L)	Cl (mg/L)	CO2 (mg/L)	H2S (mg/L)
18091.94	75830.00	1296.00		2.00	2.00	557.00	0.75		1830.00	0.00		325.00	109400.00	570.00	0.00
81017.80	66969.32	1342.77	64.22	35.40	4.51	1492.00	24.27		122.00	0.00		450.00	151300.00	250.00	0.00

X.

Log Across Proposed Delaware Sand Injection Interval

HALLIBURTON

DUAL-SPACED NEUTRON
SPECTRAL DENSITY

COMPANY MARBOB ENERGY CORPORATION
WELL ROCKET FEDERAL No. 1
FIELD BRUSHY DRAW, NORTH
COUNTY EDDY STATE NM

COMPANY MARBOB ENERGY CORPORATION

WELL ROCKET FEDERAL No. 1

FIELD BRUSHY DRAW, NORTH

COUNTY EDDY STATE NM

API No. 30-015-34795
Location 116' FSL & 564' FEL

Other Services
DLL/MGRD

Sect 4 Twp 26S Rge 29E

Permanent Datum GROUND LEVEL Elev 2964
Log measured from K.B. , 17 above perm. datum
Drilling measured from KELLY BUSHING

Elev.: K.B. 2981
D.F. 2980
G.L. 2964

Date	28-MAY-06			
Run No.	ONE			
Depth – Driller	5502			
Depth – Logger	5498			
Bottom – Logged Interval	5443			
Top – Logged Interval	200			
Casing – Driller	9.625 @ 670	@	@	@
Casing – Logger	669			
Bit Size	8.75			
Type Fluid in Hole	BRINE			
Dens. | Visc.	10.25 | 32	|	|	|
Ph | Fluid Loss	11 | N/C	|	|	|
Source of Sample	FLOW LINE			
Rm @ Meas. Temp.	.050 @ 82 F	@	@	@
Rmf @ Meas. Temp.	.050 @ 82 F	@	@	@
Rmc @ Meas. Temp.	N/A @ N/A	@	@	@
Source Rmf | Rmc	MEAS | N/A	|	|	|
Rm @ BHT	0.038 @ 111 F	@	@	@
Time Since Circ.	0600 05/28			
Time on Bottom	1335 05/28			
Max. Rec. Temp.	111 F @ 5498	@	@	@
Equip. | Location	582 | HOBBS	|	|	|
Recorded By	J. MOUNT			
Witnessed By	M. JOYCE			

Fold Here

Service Ticket No.: 4410755 API Serial No.: 30-015-34795 PGM Version:

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLES

RESISTIVITY SCALE CHANGES

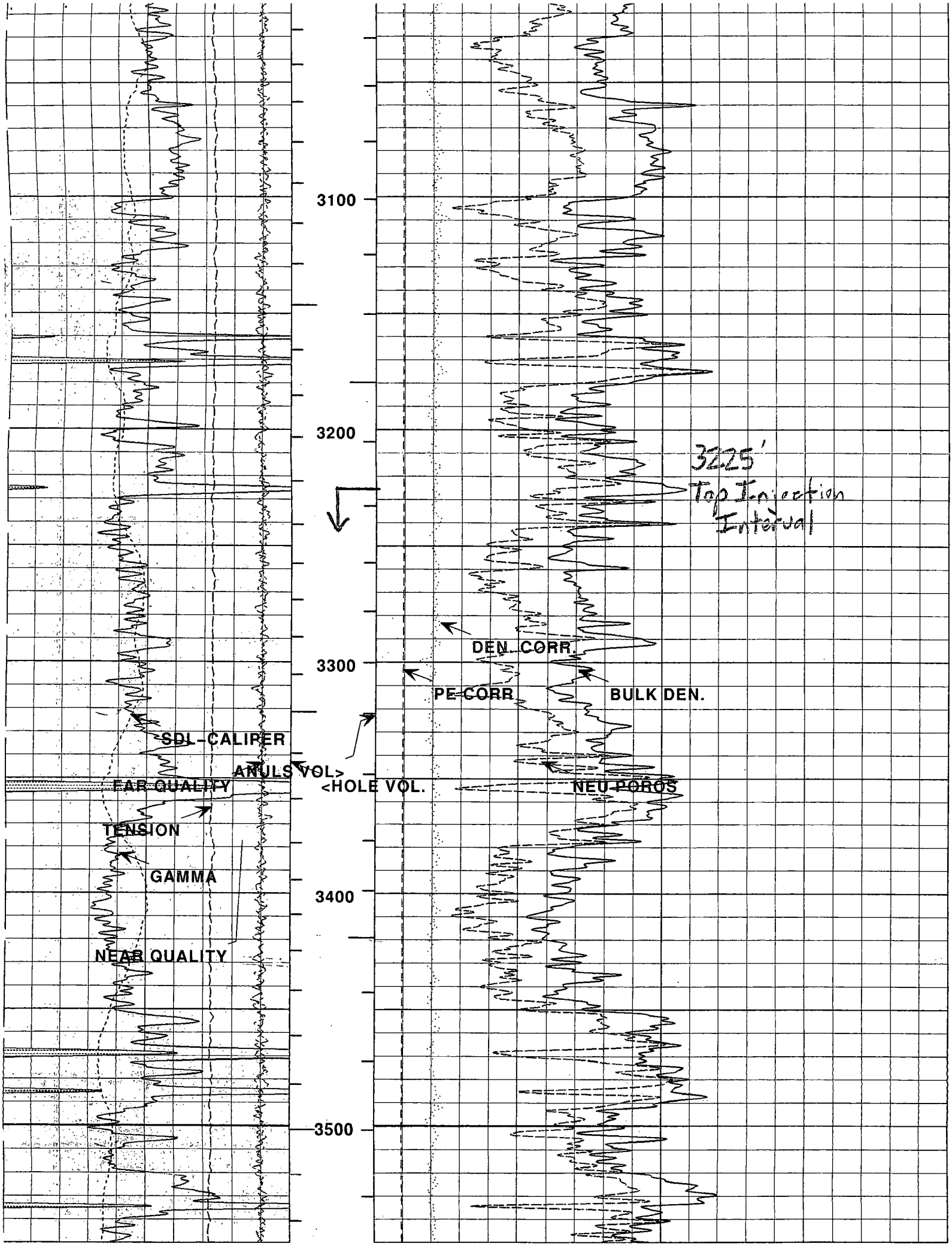
Date | Sample No.	|	|	|	Type Log	Depth	Scale Up Hole	Scale Down Hole
Depth – Driller							
Type Fluid							
in Hole							
Dens. | Visc.	|	|	|				
Ph | Fluid Loss	|	|	|				

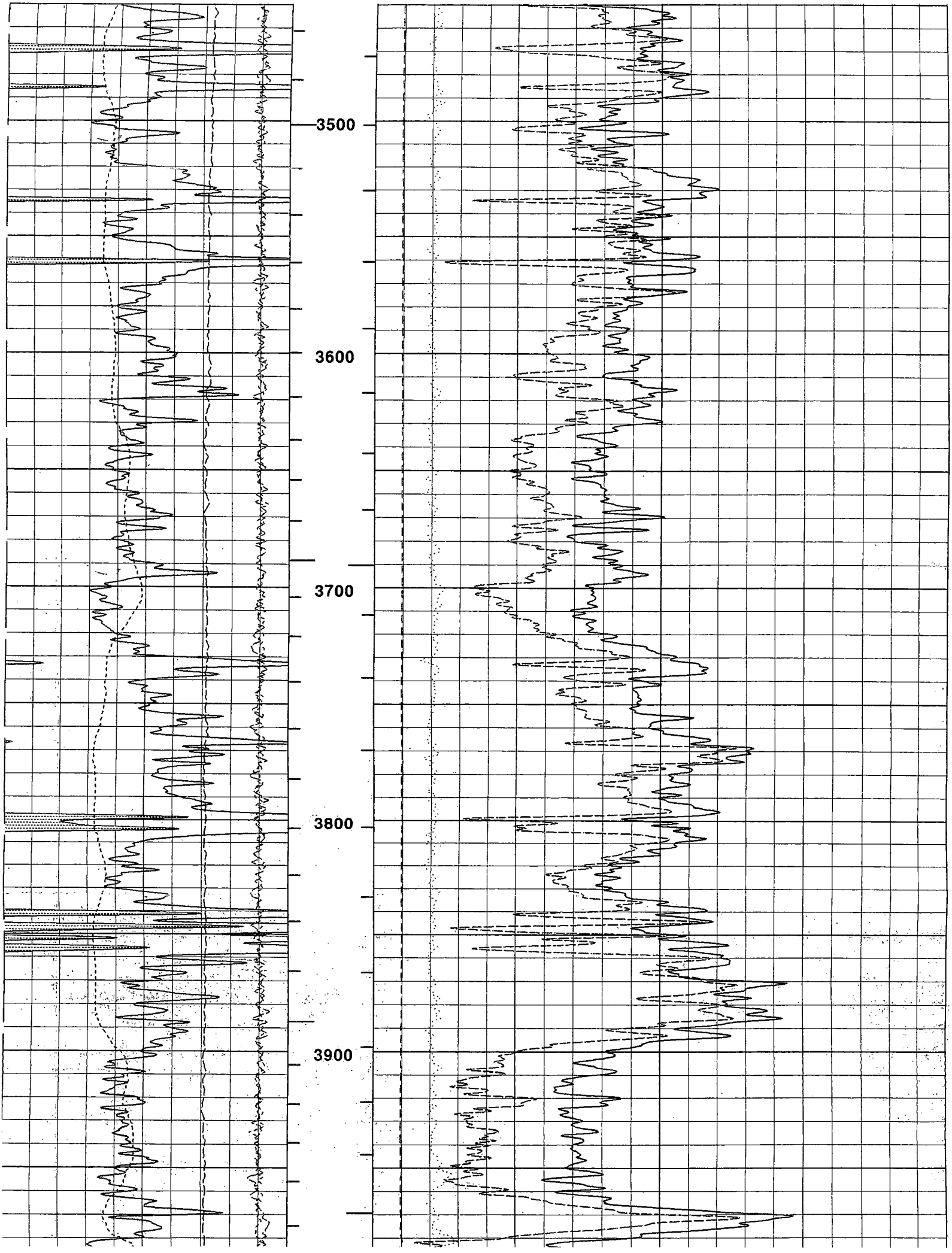
RESISTIVITY EQUIPMENT DATA

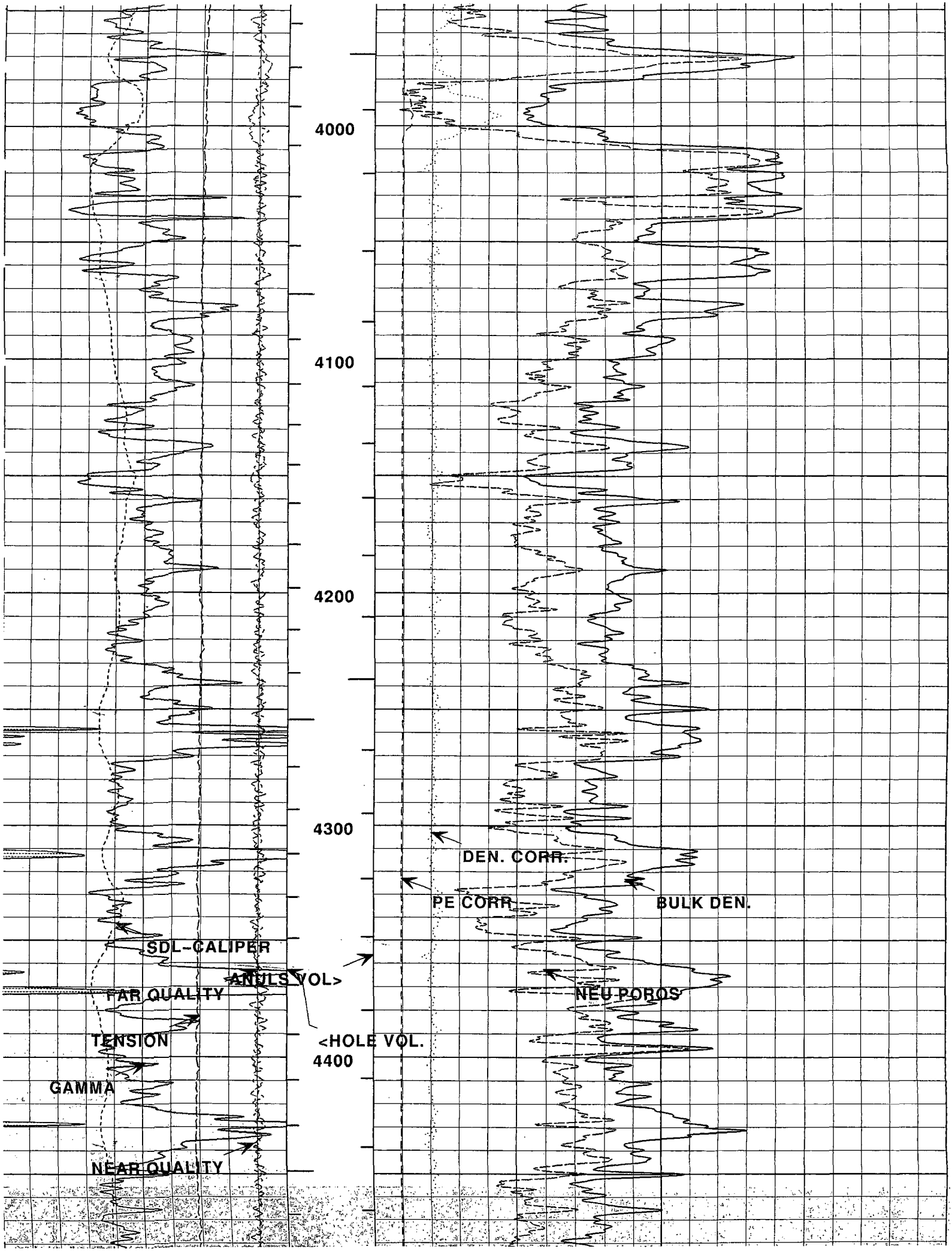
	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Source of Sample					
Rm @ Meas. Temp.	@	@			
Rmf @ Meas. Temp.	@	@			
Rmc @ Meas. Temp.	@	@			
Source Rmf | Rmc	|	|			
Rm @ BHT	@	@			
Rmf @ BHT	@	@			
Rmc @ BHT	@	@			

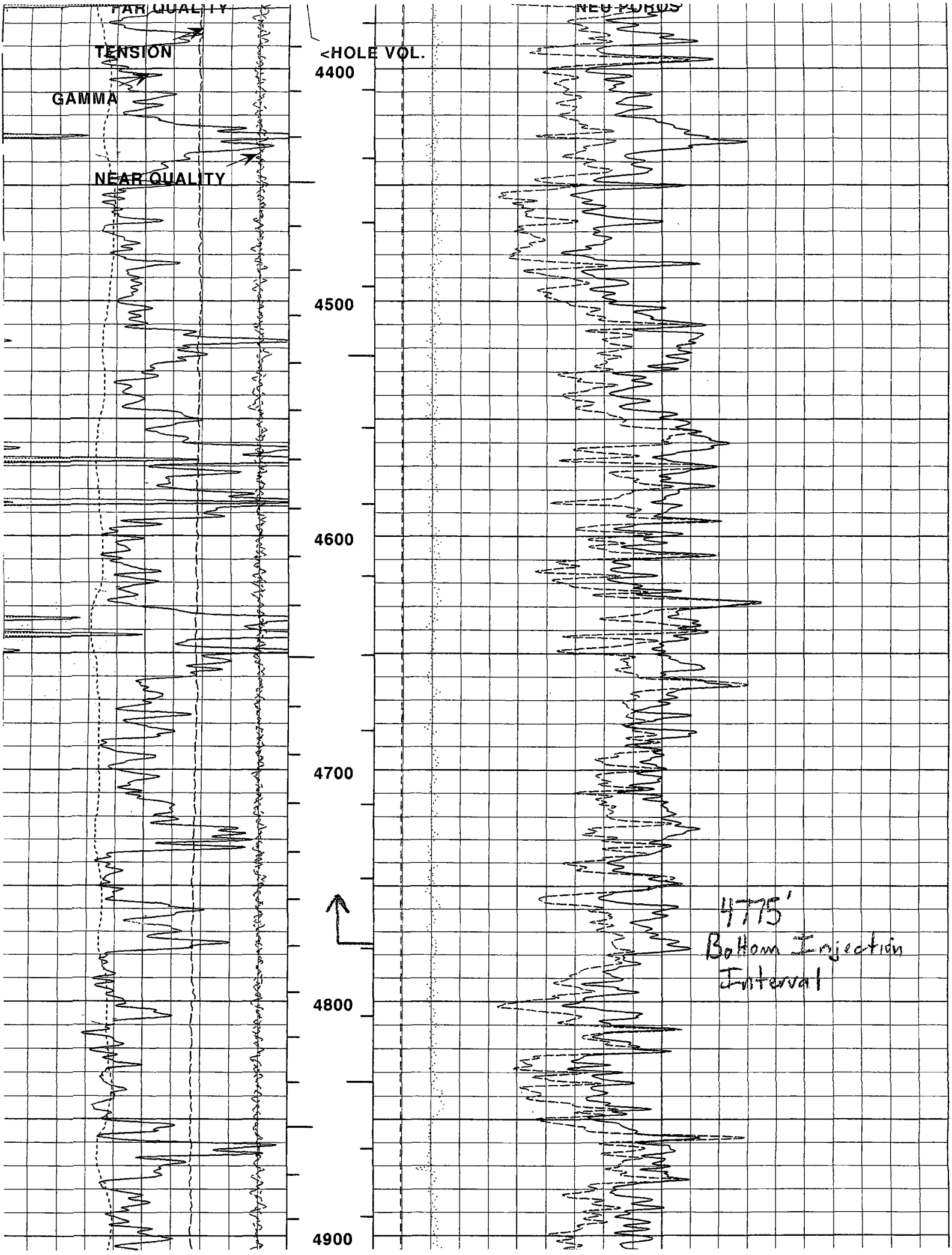
EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	114424GR	Serial No.		Serial No.	AD48_49	Serial No.	A041WH
Model No.	NGRT	Model No.		Model No.	SDL_DA	Model No.	DSNT-A
Diameter	3.625"	No. of Cent.		Diameter	4.50"	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	4"	LSA [Y / N]		Serial No.	2549GW	Serial No.	DSN-90
Distance to Source	16'	FWDA [Y / N]		Strength	1.5Ci	Strength	1.5Ci


3100
3200
3300
3400
3500
3225'
Top Injection
Interval
DEN. CORR.
PE-CORR
BULK DEN.
SDL-CALIPER
ANULS VOL>
<HOLE VOL.
NEU-POROS
FAR QUALITY
TENSION
GAMMA
NEAR QUALITY


3500
3600
3700
3800
3900


4000
4100
4200
4300
4400
DEN. CORR.
PE CORR
BULK DEN.
SDL-CALIPER
ANULS VOL>
FAR QUALITY
NEU POROS
TENSION
<HOLE VOL.
GAMMA
NEAR QUALITY


FAR QUALITY
TENSION
GAMMA
NEAR QUALITY
<HOLE VOL.
NEU POROS
4400
4500
4600
4700
4800
4900
4775'
Bottom Injection
Interval

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): 32-35 **Township:** 25S **Range:** 29E

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 6416	q 4	q	Sec	Tws	Rng	X	Y	
C 03507	C	STK	3	M. BRAD BENNETT	ED	C 03507 POD1			Shallow	1	3	3	05	26S	29E	593063	3548313	NW SW SW
C 03508	C	STK	3	M. BRAD BENNETT	ED	C 03508 POD1			Shallow	1	3	3	05	26S	29E	593063	3548361	"
SP 03254		COM	6418	RED BLUFF WATER CONTROL DIST.	ED	SP 03254 (Pecos River)					3	1	05	26S	29E	593172	3549004*	

All outside 1 mile radius AOR

Record Count: 3

PLSS Search:

Section(s): 2-5 **Township:** 26S **Range:** 29E

Sorted by: File Number

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

New Mexico Office of the State Engineer
Point of Diversion Summary

POD Number	Q64	Q16	Q4	Sec	Twp	Rng	X	Y
C 03507 POD1	1	3	3	05	26S	29E	593064	3548313

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

Driller License: KEY DRILLING & PUMP SERVICE
Driller Name: KEY, CLINTON

Drill Start Date:	08/26/2011	**Drill Finish Date:**	08/26/2011	**Plug Date:**	
Log File Date:	09/12/2011	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**		**Estimated Yield:**	35
Casing Size:	6.00	**Depth Well:**	140 feet	**Depth Water:**	78 feet

Water Bearing Stratifications:	Top	Bottom	Description
	78	79	Shale/Mudstone/Siltstone
	105	106	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	75	112

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**	**Twws**	**Rng**	**X**	**Y**
C	03508 POD1	1	3	3	05	26S	29E	593063	3548361

Driller License: KEY DRILLING & PUMP SERVICE
Driller Name: KEY, CLINTON

Drill Start Date:	08/24/2011	**Drill Finish Date:**	08/24/2011	**Plug Date:**	
Log File Date:	09/12/2011	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**		**Estimated Yield:**	40
Casing Size:	6.00	**Depth Well:**	140 feet	**Depth Water:**	75 feet

Water Bearing Stratifications:	**Top**	**Bottom**	**Description**
	75	76	Shale/Mudstone/Siltstone

Casing Perforations:	**Top**	**Bottom**
	65	105

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
SP 03254	3	1	05	26S	29E		593172	3549004*

River Name: **Source:** Surface

Ditch Name:

Start Date: **Finish Date:**

Pecos River
Approx. 6400' to the West

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

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

PLSS Search:

Section(s): 8-11 **Township:** 26S **Range:** 29E

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

PLSS Search:

Section(s): 14-17 **Township:** 26S **Range:** 29E

Analytical Laboratory Report for:

MARBOB ENERGY CORPORATION

BJ Chemical Services

Account Representative:
William D Polk

Production Water Analysis

Listed below please find water analysis report from: ., Pecos River

Lab Test No:	**2008151012**	**Sample Date:**	**12/04/2008**
Specific Gravity:	**1.005**		
TDS:	**6402**		
pH:	**7.19**		

Cations:	mg/L	as:
Calcium	672	(Ca^{++})
Magnesium	207	(Mg^{++})
Sodium	1340	(Na^{+})
Iron	0.08	(Fe^{++})
Potassium	53.0	(K^{+})
Barium	0.08	(Ba^{++})
Strontium	7.88	(Sr^{++})
Manganese	0.04	(Mn^{++})
Anions:	**mg/L**	**as:**
Bicarbonate	222	(HCO_3^{-})
Sulfate	1400	($SO_4^{=}$)
Chloride	2500	(Cl^{-})
Gases:		
Carbon Dioxide		(CO_2)
Hydrogen Sulfide		(H_2S)

Lab Comments:

Lab measured pH
Lab measured alkalinity

CONCHO

RECEIVED OCD

2012 JUL 25 P 12:54

July 20, 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
Rocket Federal #1 SWD
Township 26 South, Range 29 East, N.M.P.M.
Section 4: 116 FSL & 564 FEL
Eddy County, New Mexico

Dear Mr. Jones:

COG Operating LLC respectfully requests administrative approval for authorization to inject the Rocket Federal #1 SWD well as referenced above. Enclosed, for your review, please find one complete 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

CONCHO

July 20, 2012

Artesia Daily Press
P. O. Box 190
Artesia, NM 88211-0190

Re: Legal Notice
Salt Water Disposal Well
Rocket Federal #1 SWD

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

ARTESIA DAILY PRESS
LEGAL NOTICES

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 Rocket Federal No. 1 SWD is located 116' FSL & 564' FEL, Section 4, Township 26 South, Range 29 East, Eddy 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 3225' to 4775' at a maximum surface pressure of 645 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 15 miles southeast of the village of Loving. 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 Artesia Daily Press, Artesia, New Mexico
_____, 2012.

CONCHO

July 20, 2012

Bureau of Land Management
620 East Greene Street
Carlsbad, NM 88220-6292

Re: Application to Inject
Rocket Federal #1 SWD
Township 26 South, Range 29 East, N.M.P.M.
Section 4: 116 FSL & 564 FEL
Eddy County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's application to convert the referenced well to salt water disposal. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner. 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,

Brian Collins
Senior Operations Engineer

BC/sw
Enclosures

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – *Other instructions on page 2.*

5. Lease Serial No.
NMNM96849

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other

8. Well Name and No.
Rocket Federal #1 SWD

2. Name of Operator
COG OPERATING, LLC

9. API Well No.
30-015-34795

3a. Address
2208 W. Main Street, Artesia, NM 88210

3b. Phone No. *(include area code)*
575-748-6940

10. Field and Pool or Exploratory Area
Brushy Draw, Delaware

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
Sec 4 T26S R29E
116' FSL, 564' FEL

11. Country or Parish, State
Eddy County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Convert to SWD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

SUBMITTED FORM C-108 - COPY ATTACHED

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*
Brian Collins — Title **Senior Operations Engineer**

Signature — Date **7/13/12**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by — Title — Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. — Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

CONCHO

July 20, 2012

OXY USA Inc.
P.O. Box 4294
Houston, TX 77210-4294

Re: Application to Inject
Rocket Federal #1 SWD
Township 26 South, Range 29 East, N.M.P.M.
Section 4: 116 FSL & 564 FEL
Eddy County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's application to convert the referenced well to salt water disposal. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner. 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,

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

7011 1570 0000 7781 2076

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Bureau of Land Management
Street, Apt. No.; or PO Box No.: 620 East Greene Street
City, State, ZIP+4: Carlsbad, NM 88220-6292

Rocket Federal #1 SWD/Notification

PS Form 3800, August 2006 See Reverse for Instructions

7011 1570 0000 7781 2083

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: OXY USA Inc.
Street, Apt. No.; or PO Box No.: P.O. Box 4294
City, State, ZIP+4: Houston, TX 77210-4294

Rocket Federal #1 SWD/Notification

PS Form 3800, August 2006 See Reverse for Instructions

CONCHO

RECEIVED OCD
2012 AUG 10 P 12:40

August 9, 2012

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

RE: **Affidavit of Publication/Certified Return Receipts**
Rocket Federal #1 SWD
Township 26 South, Range 29 East, N.M.P.M.
Section 4: 116 FSL & 564 FEL
Eddy County, New Mexico

Dear Mr. Jones:

COG Operating LLC submitted an application for authorization to inject the Rocket Federal #1 SWD on July 20, 2012. Enclosed, for your review, please find one copy of the affidavit of publication and one copy of the certified return receipts from each party that was notified.

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

Affidavit of Publication

NO. 22240

STATE OF NEW MEXICO

County of Eddy:

Danny Scott Danny Scott

being duly sworn, says that he is the **Publisher**

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/days on the same day as follows:

First Publication July 26, 2012

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

26th day of July 2012

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2015

Latisha Romine

Latisha Romine
Notary Public, Eddy County, New Mexico

Copy of Publication:

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 Rocket Federal No. 1 SWD is located 116' FSL & 564' FEL, Section 4, Township 26 South, Range 29 East, Eddy 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 3225' to 4775' at a maximum surface pressure of 645 psi and a maximum rate of 10,000 BWPD. The proposed SWD well is located approximately 15 miles southeast of the village of Loving. 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 Artesia Daily Press, Artesia, N.M., July 26, 2012. Legal No 22240.

Rocket Federal #1 SWD

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:

Bureau of Land Management
620 East Greene Street
Carlsbad, NM 88220-6292
Rocket Federal #1 SWD/Notification

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Jessica Tramel ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 7/25/12

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 2076

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:

OXY USA Inc.
P.O. Box 4294
Houston, TX 77210-4294
Rocket Federal #1 SWD/Notification

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery JUL 30 2012

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 2083

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

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Friday, August 17, 2012 11:34 AM
To: 'Brian Collins'
Cc: Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD
Subject: Disposal application from Concho: Rocket Federal #1 30-015-34795 Delaware from 3225 to 4775 feet

Hello Brian,
Just looked this one over. It seems very close to the JR's Horz disposal proposal, just a couple questions,

(1) I looked around this area for Delaware gas pools and the only ones I see are miles to the east – straight east. However, there is lots of Density-Neutron cross-over on the logs over the proposed disposal interval and some of it has depressed neutron effect - looks like possible gas. I know logs are a bit unreliable in the Delaware, but Marbob drilled this well and you probably know. Was there a mudlog run on this well? What do you think about the gas production potential here in the upper Delaware? Has it been tested?

(2) Do you have any geologic tops from the Bell Canyon, Cherry Canyon, Brushy Canyon, and Bone Spring?

(3) As with the other applications, would you let me know where the separately owned tracts of land exist within the ½ mile AOR and the owner(s) of each tract?

Thanks Much,

William V. Jones, P.E.
505-476-3448W 505-476-3462F
Engineering Bureau, Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Jones, William V., EMNRD

From: Brian Collins <BCollins@concho.com>
Sent: Monday, August 20, 2012 7:31 AM
To: Jones, William V., EMNRD
Cc: Dean Chumbley; Savannah Wilkinson
Subject: RE: Disposal application from Concho: Rocket Federal #1 30-015-34795 Delaware from 3225 to 4775 feet
Attachments: rocket fed 1 swd mudlog image.pdf

Will:

We haven't tested the upper Delaware out here. I've attached the mudlog for the proposed injection interval. There is some fairly consistent background gas but no cut or fluorescence, something I would expect to see even in a gas-prone Delaware sand. I don't think anything in the proposed injection interval is going to be productive of hydrocarbons. The proposed injection interval does not include the upper Bell Canyon (Ramsey and Olds sands).

The geologic tops are: Bell Canyon 2978', Cherry Canyon 3895', Brushy Canyon 5020'. We didn't drill deep enough to reach the Bone Spring.

We'll follow up with a plat/lease map showing the offset operator leasehold. Let me know if you need anything else. Thanks.

Brian

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Friday, August 17, 2012 12:34 PM
To: Brian Collins
Cc: Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD
Subject: Disposal application from Concho: Rocket Federal #1 30-015-34795 Delaware from 3225 to 4775 feet

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(2) Do you have any geologic tops from the Bell Canyon, Cherry Canyon, Brushy Canyon, and Bone Spring?

(3) As with the other applications, would you let me know where the separately owned tracts of land exist within the ½ mile AOR and the owner(s) of each tract?

Thanks Much,

William V. Jones, P.E.
505-476-3448W 505-476-3462F
Engineering Bureau, Oil Conservation Division

JUN 1 9 2006

KENNETH L. JOHNSON

MUDLOGGING / SAMPLE EVALUATION

P. O. Box 13131
ODESSA, TEXAS 79768
(432) 528-4228

COMPANY: MARBOB ENERGY CORPORATION WELL: Rocket Federal #1 (Horizontal)

FIELD: North Brushy Draw COUNTY: Eddy STATE: N.M.

LOCATION: SEC. 4-T26S-R29E
116' FSL & 564' FEL

Interval Logged: 2120' To: 7064' G.L.: 2964' K.B: 2980'

Date Logged: 5/23/'06 To: 6/07/'06 Spud Date: 5/20/'06

Rig: Patterson #507

Csg Record: 9&5/8" @670'

Api No.: 30 015 34795

Filename: rocketfed1-H.mlw

Geologist: Martin Joyce Engineer: Sheryl Baker

Abbreviations:

NB...New Bit	DST...Drill Stem Test
CO...Circ Out	DS...Directional Survey
NR...No Returns	CG...Connection gas
TG.. Trip Gas	LAT...Logged After Trip
WOB...Wt on Bit	PP...Pump Pressure
RPM...Rev/Min	SPM...Strokes/Min
SG...Survey Gas	DTG...Down Time Gas

Mud Data

WT..Weight	V..Viscosity
PH..Acidity	F..Filtrate
CHL..Chlorides	SC..Solids Content

Lithology Symbols:

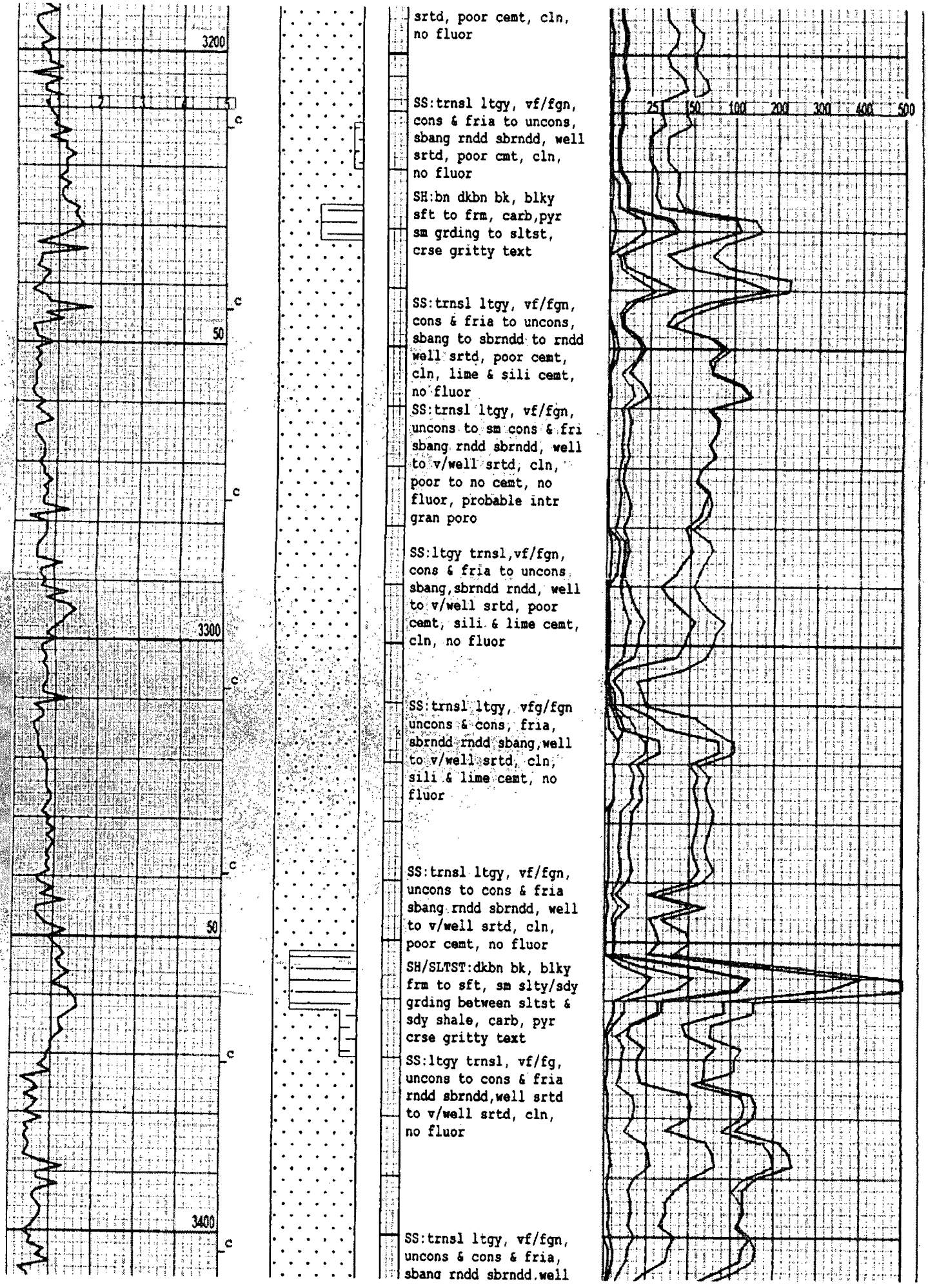
Anhydrite, Salt, Granite, Siltstone, Chert, Sandstone, Dolomite, Conglomerate, Limestone, Coal, Shale, Bentonite, Carb Shale, Granite Wash, Quartz Wash

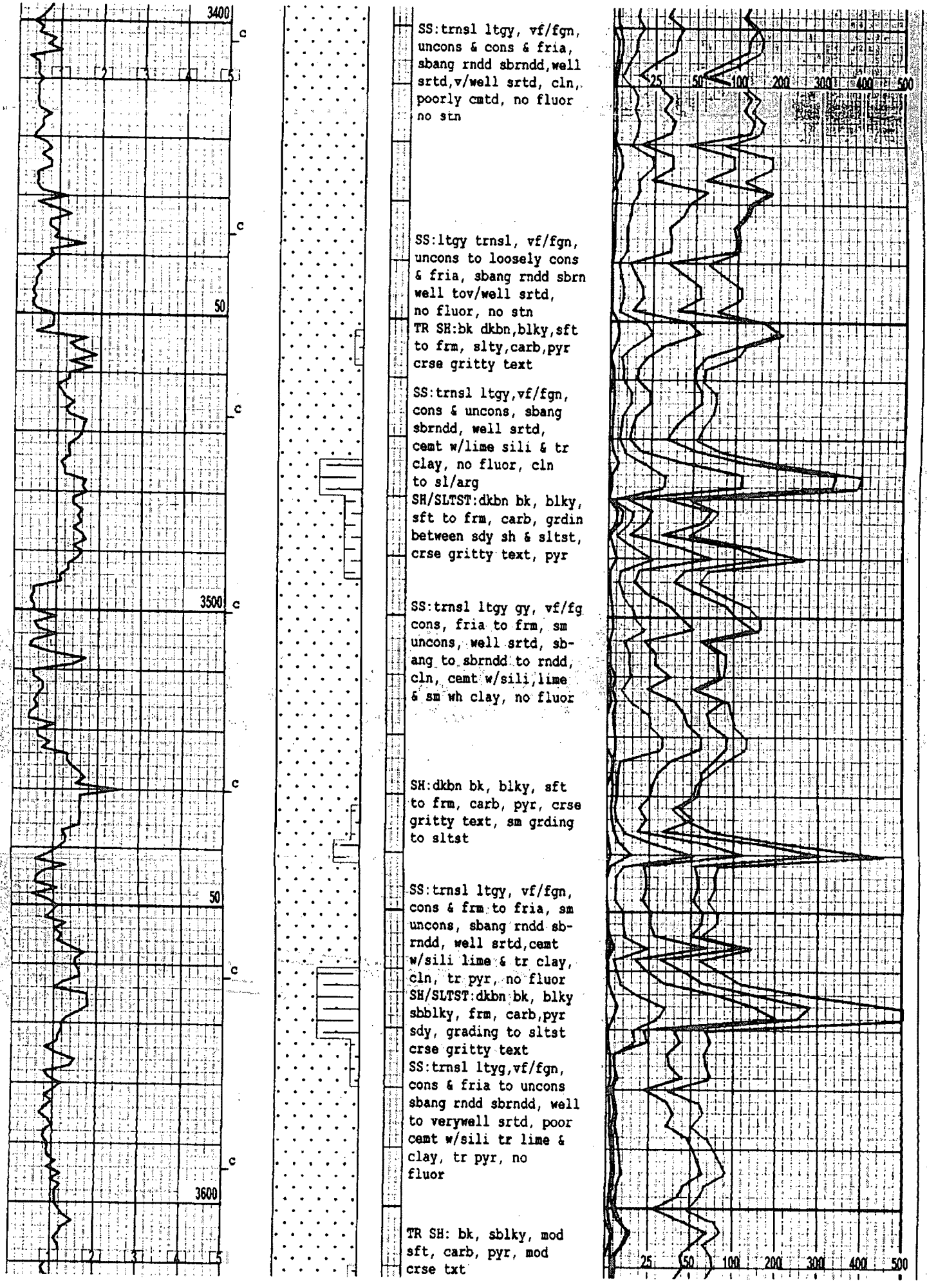
Accessories: Glauconite, Pyrite, Fossils, Oolites, Fractures

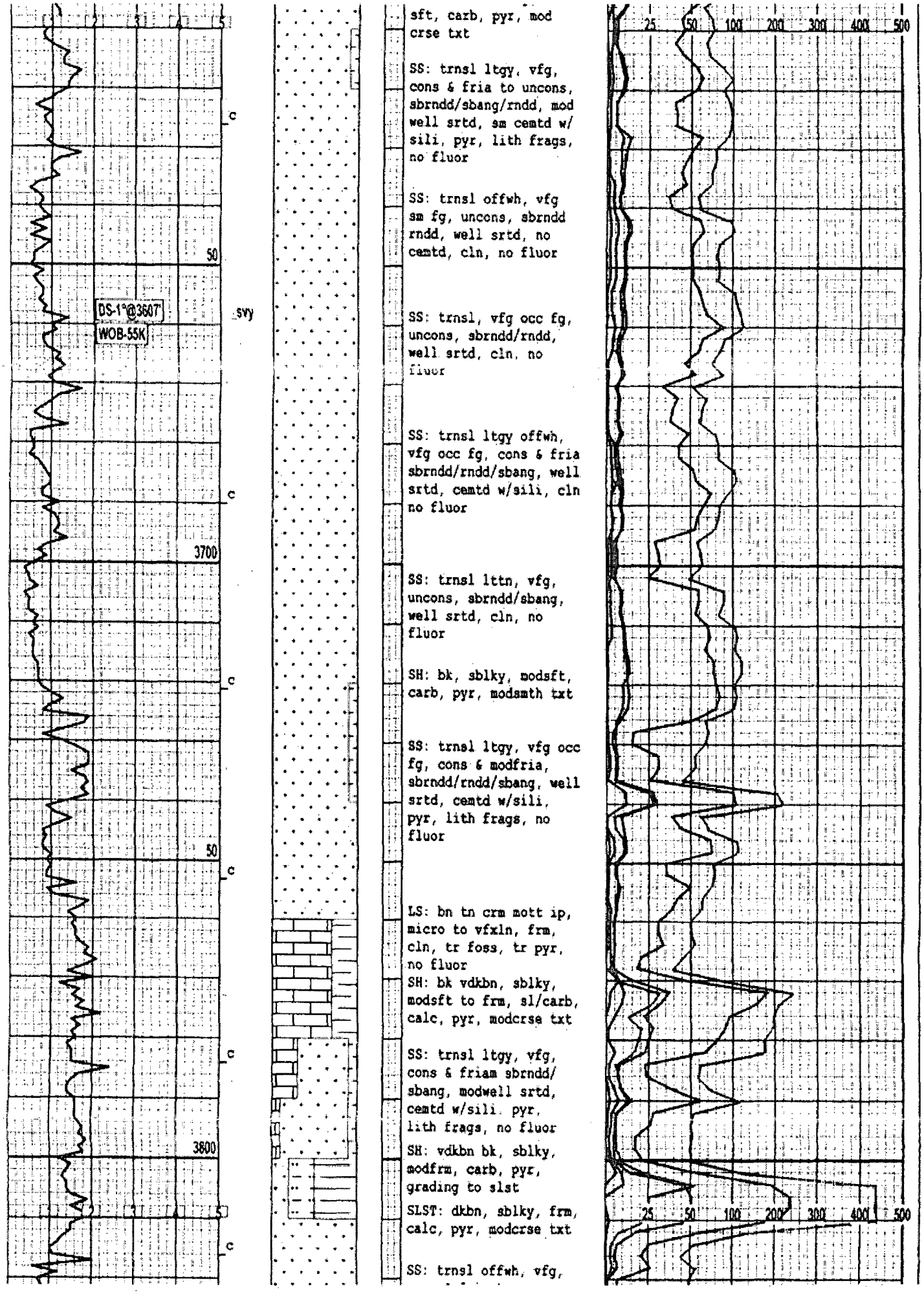
Gas Chromatograph Analysis:

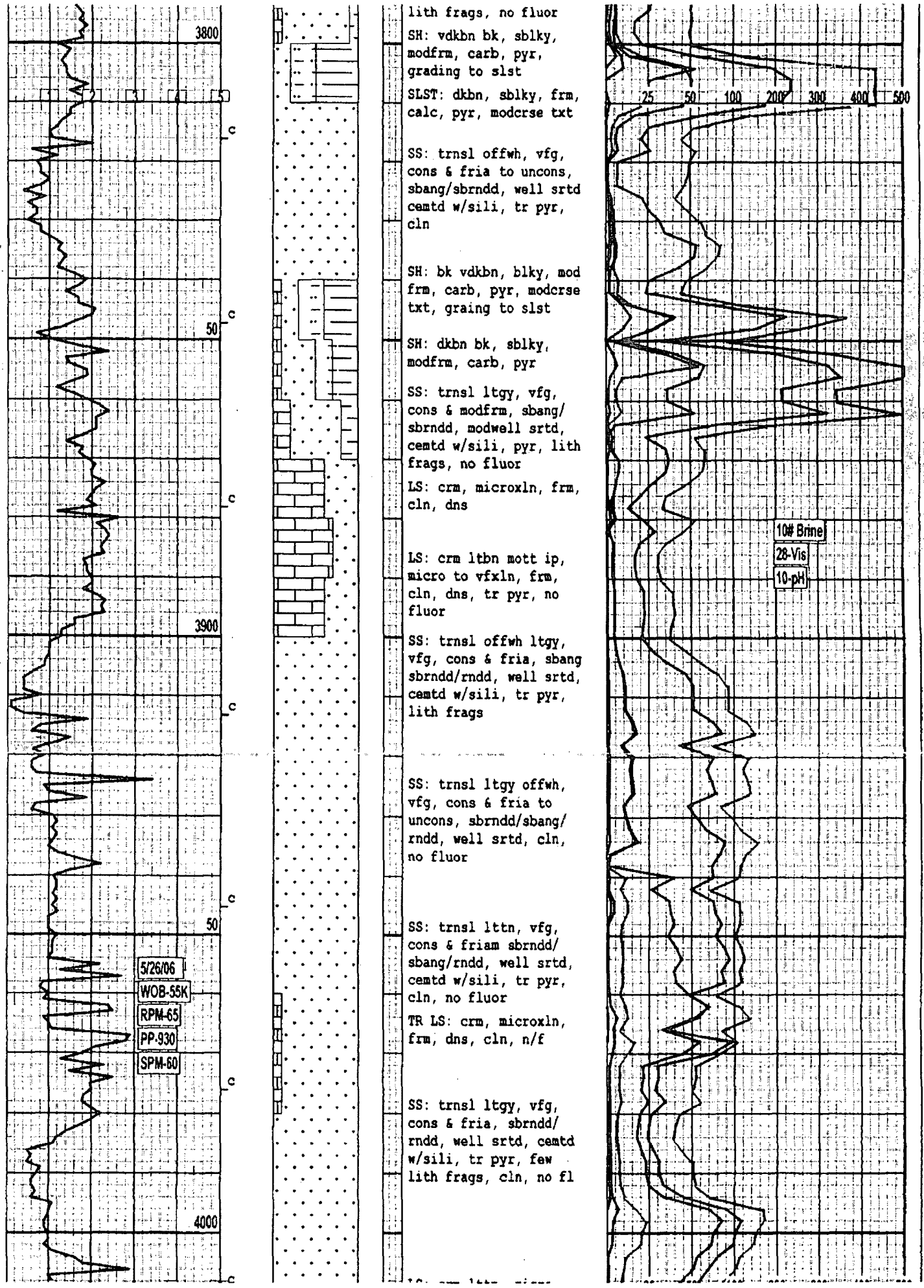
H.W., C1, C2, C3, IC4, NC4

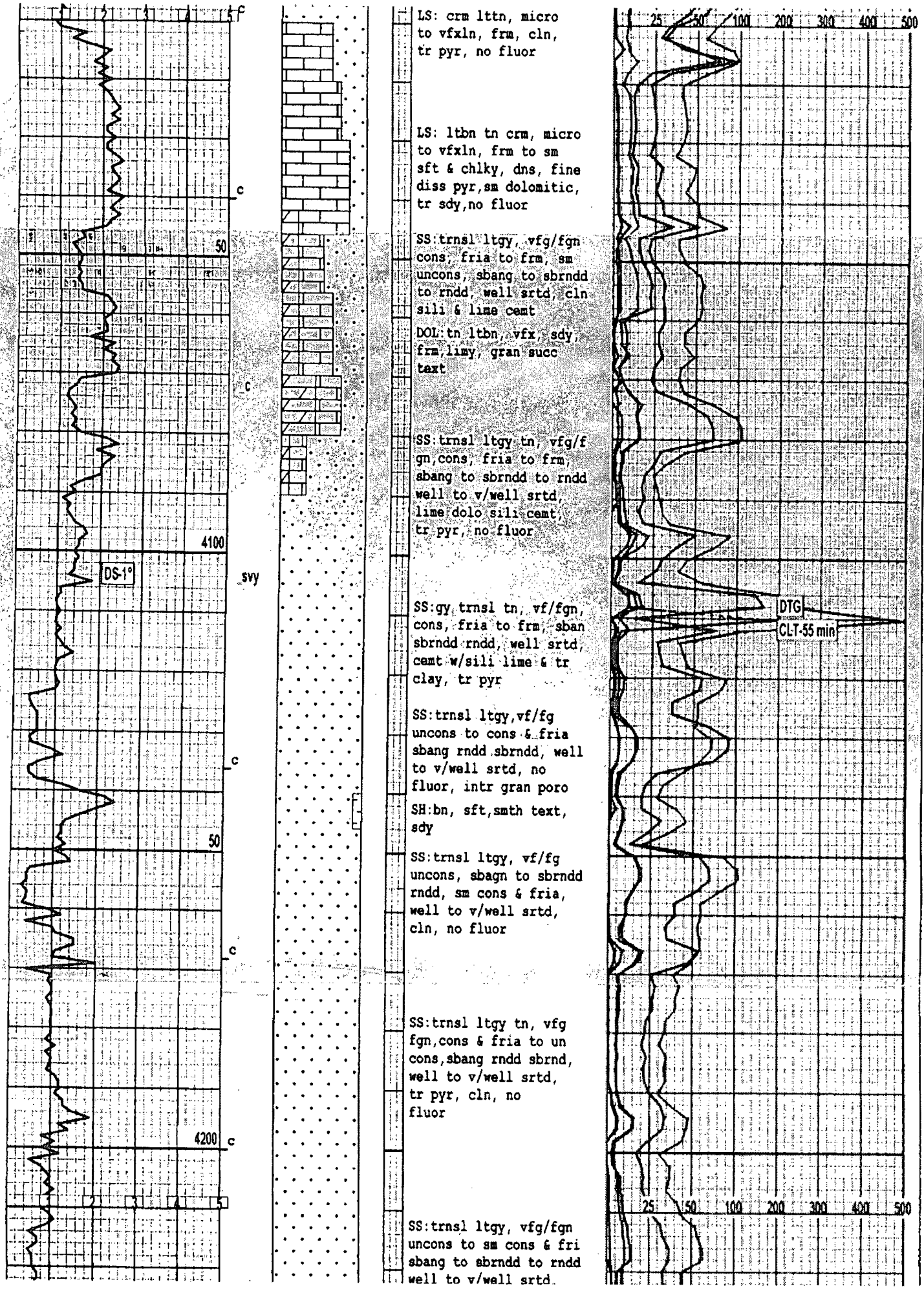
Drilling Rate	Vis Por Tr /	Lithology	% Oil Flu Tr /	Cut Tr /	Descriptions/Remarks	Total Gas/Chromatograph
MIN/10 FT	p f g		p f g	pfg		
2100					********** DrillOut 9&5/8"CSG 670' w/NB#2, 8&3/4", HTC, GX38C, jets 2x14xblank, Drilling w/Brine Water through Reserve Pit, Begin 2-Man Logging **********	25 50 100 200 300 400 500 10# Cut Brine 28-Vis

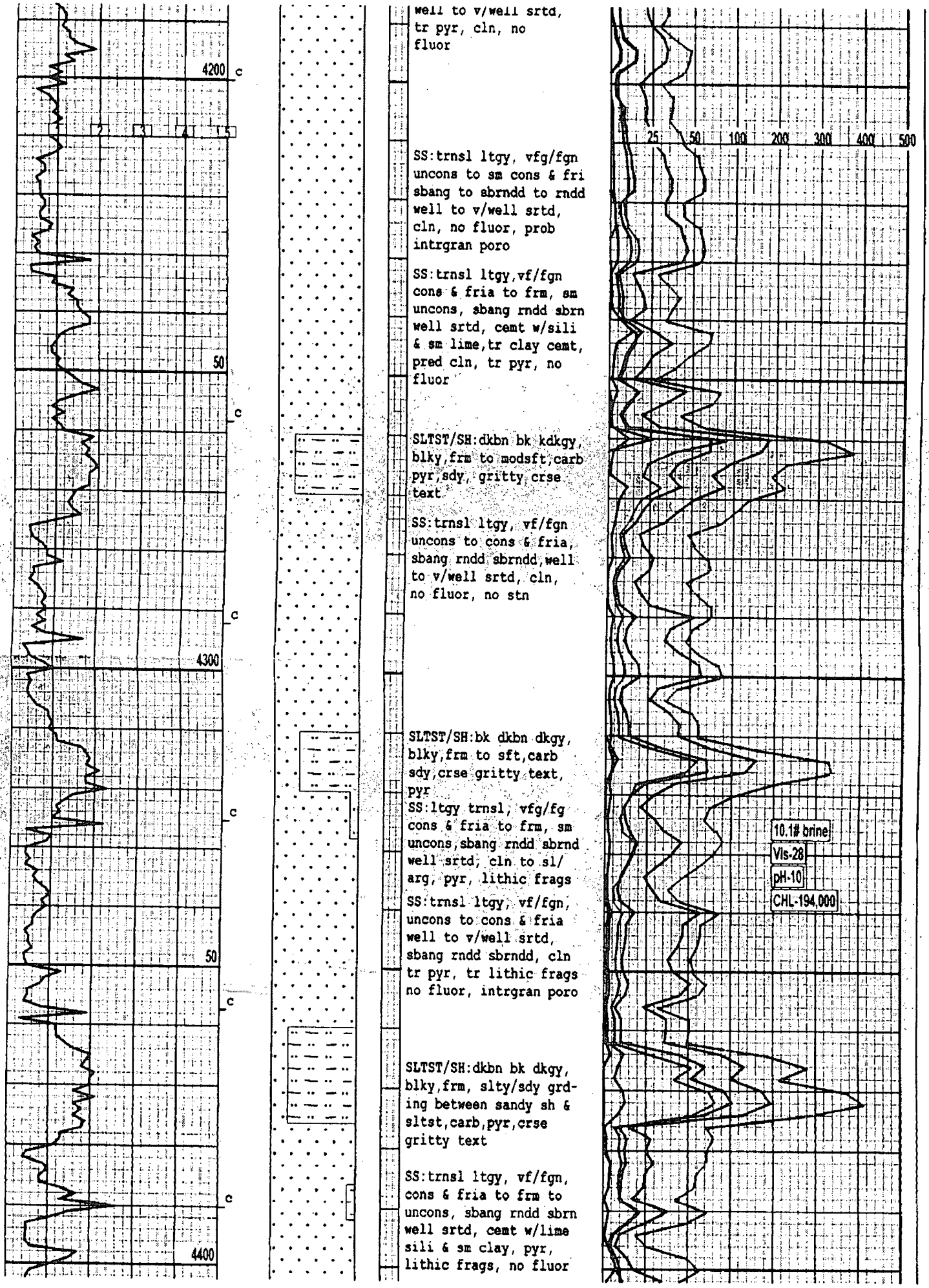

3200
3300
3400
50
50
srtd, poor cemt, cln, no fluor
SS:trnsl ltgy, vf/fgn, cons & fria to uncons, sbang rndd sbrndd, well srtd, poor cmt, cln, no fluor
SH:bn dkbn bk, blky sft to frm, carb,pyr sm grding to sltst, crse gritty text
SS:trnsl ltgy, vf/fgn, cons & fria to uncons, sbang to sbrndd to rndd well srtd, poor cemt, cln, lime & sili cemt, no fluor
SS:trnsl ltgy, vf/fgn, uncons to sm cons & fri sbang rndd sbrndd, well to v/well srtd, cln, poor to no cemt, no fluor, probable intr gran poro
SS:ltgy trnsl,vf/fgn, cons & fria to uncons sbang,sbrndd rndd, well to v/well srtd, poor cemt, sili & lime cemt, cln, no fluor
SS:trnsl ltgy, vfg/fgn uncons & cons, fria, sbrndd rndd sbang,well to v/well srtd, cln, sili & lime cemt, no fluor
SS:trnsl ltgy, vf/fgn, uncons to cons & fria sbang rndd sbrndd, well to v/well srtd, cln, poor cemt, no fluor
SH/SLTST:dkbn bk, blky frm to sft, sm slty/sdy grding between sltst & sdy shale, carb, pyr crse gritty text
SS:ltgy trnsl, vf/fg, uncons to cons & fria rndd sbrndd,well srtd to v/well srtd, cln, no fluor
SS:trnsl ltgy, vf/fgn, uncons & cons & fria, sbang rndd sbrndd,well
25
50
100
200
300
400
500

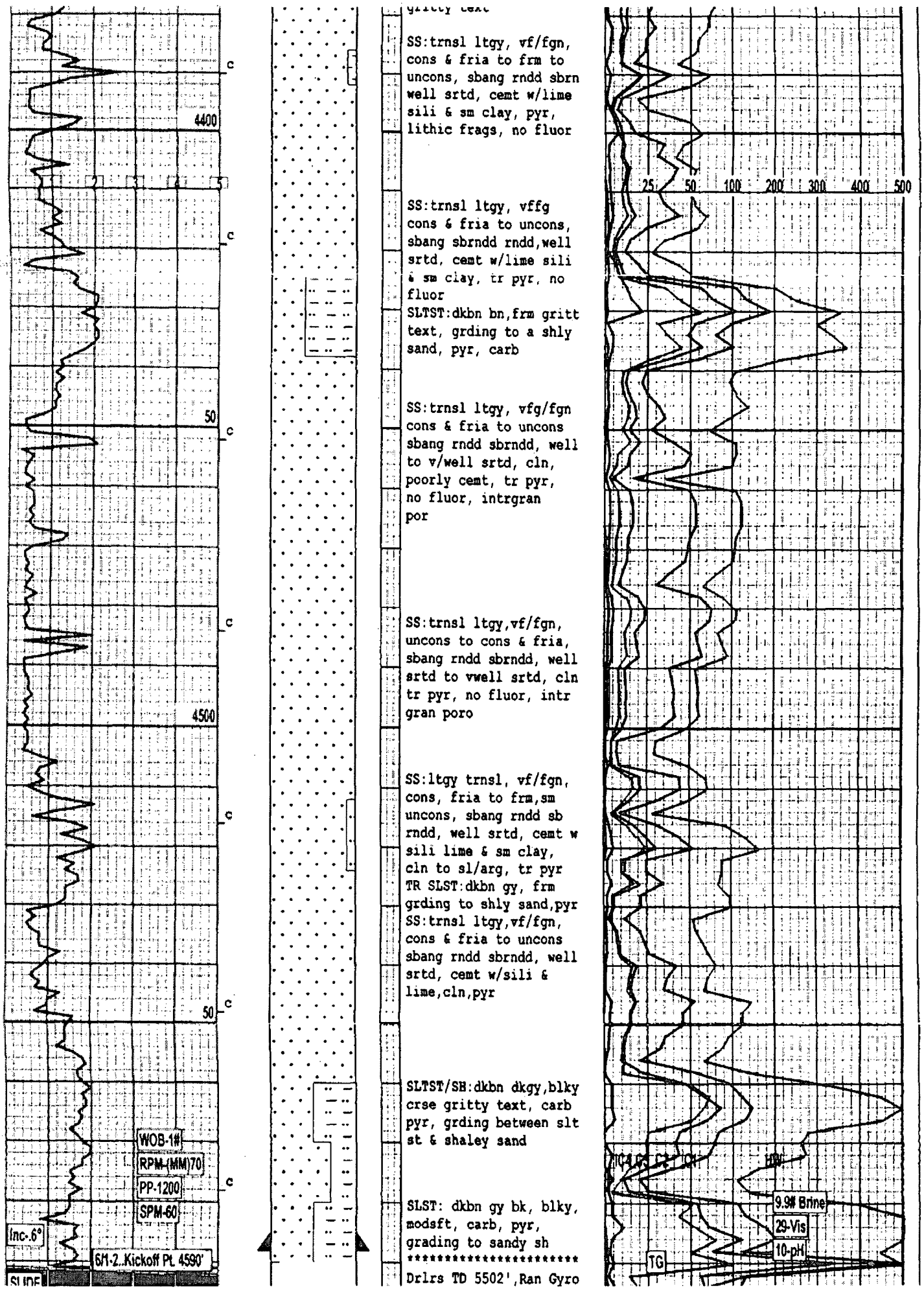

3400
3500
3600
50
50
SS:trnsl ltgy, vf/fgn, uncons & cons & fria, sbang rndd sbrndd,well srtd,v/well srtd, cln, poorly cmtd, no fluor no stn
SS:ltgy trnsl, vf/fgn, uncons to loosely cons & fria, sbang rndd sbrn well tov/well srtd, no fluor, no stn
TR SH:bk dkbn,blky,sft to frm, slty,carb,pyr crse gritty text
SS:trnsl ltgy,vf/fgn, cons & uncons, sbang sbrndd, well srtd, cemt w/lime sili & tr clay, no fluor, cln to sl/arg
SH/SLTST:dkbn bk, blky, sft to frm, carb, grdin between sdy sh & sltst, crse gritty text, pyr
SS:trnsl ltgy gy, vf/fg cons, fria to frm, sm uncons, well srtd, sb-ang to sbrndd to rndd, cln, cemt w/sili,lime & sm wh clay, no fluor
SH:dkbn bk, blky, sft to frm, carb, pyr, crse gritty text, sm grding to sltst
SS:trnsl ltgy, vf/fgn, cons & frm to fria, sm uncons, sbang rndd sb-rndd, well srtd,cemt w/sili lime & tr clay, cln, tr pyr, no fluor
SH/SLTST:dkbn bk, blky sbblky, frm, carb,pyr sdy, grading to sltst crse gritty text
SS:trnsl ltyg,vf/fgn, cons & fria to uncons sbang rndd sbrndd, well to verywell srtd, poor cemt w/sili tr lime & clay, tr pyr, no fluor
TR SH: bk, sblky, mod sft, carb, pyr, mod crse txt
25
50
100
200
300
400
500

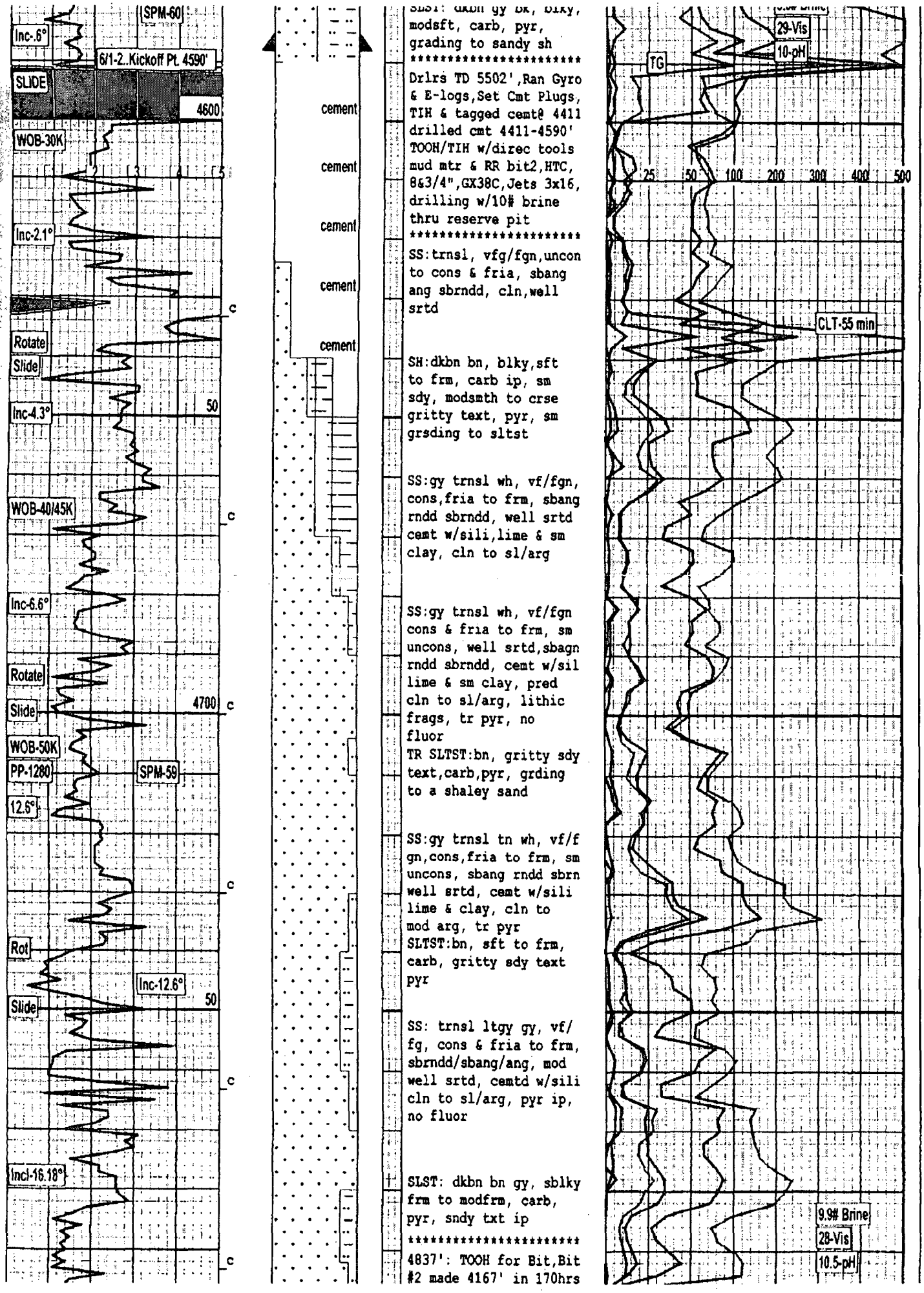

1
2
3
4
5
50
DS-1°@3607'
WOB-55K
SVY
3700
50
3600
sft, carb, pyr, mod crse txt
SS: trnsl ltgy, vfg, cons & fria to uncons, sbrndd/sbang/rndd, mod well srtd, sm cemtd w/ sili, pyr, lith frags, no fluor
SS: trnsl offwh, vfg sm fg, uncons, sbrndd rndd, well srtd, no cemtd, cln, no fluor
SS: trnsl, vfg occ fg, uncons, sbrndd/rndd, well srtd, cln, no fluor
SS: trnsl ltgy offwh, vfg occ fg, cons & fria sbrndd/rndd/sbang, well srtd, cemtd w/sili, cln no fluor
SS: trnsl lttn, vfg, uncons, sbrndd/sbang, well srtd, cln, no fluor
SH: bk, sblky, modsft, carb, pyr, modsmth txt
SS: trnsl ltgy, vfg occ fg, cons & modfria, sbrndd/rndd/sbang, well srtd, cemtd w/sili, pyr, lith frags, no fluor
LS: bn tn crm mott ip, micro to vfxln, frm, cln, tr foss, tr pyr, no fluor
SH: bk vdkbn, sblky, modsft to frm, sl/carb, calc, pyr, modcrse txt
SS: trnsl ltgy, vfg, cons & friam sbrndd/ sbang, modwell srtd, cemtd w/sili. pyr, lith frags, no fluor
SH: vdkbn bk, sblky, modfrm, carb, pyr, grading to slst
SLST: dkbn, sblky, frm, calc, pyr, modcrse txt
SS: trnsl offwh, vfg,
25
50
100
200
300
400
500


3800
3900
4000
50
50
5/26/06
WOB-55K
RPM-65
PP-930
SPM-60
lith frags, no fluor
SH: vdkbn bk, sblky, modfrm, carb, pyr, grading to slst
SLST: dkbn, sblky, frm, calc, pyr, modcrse txt
SS: trnsl offwh, vfg, cons & fria to uncons, sbang/sbrndd, well srtd cemtd w/sili, tr pyr, cln
SH: bk vdkbn, blky, mod frm, carb, pyr, modcrse txt, graing to slst
SH: dkbn bk, sblky, modfrm, carb, pyr
SS: trnsl ltgy, vfg, cons & modfrm, sbang/ sbrndd, modwell srtd, cemtd w/sili, pyr, lith frags, no fluor
LS: crm, microxln, frm, cln, dns
LS: crm ltbn mott ip, micro to vfxln, frm, cln, dns, tr pyr, no fluor
SS: trnsl offwh ltgy, vfg, cons & fria, sbang sbrndd/rndd, well srtd, cemtd w/sili, tr pyr, lith frags
SS: trnsl ltgy offwh, vfg, cons & fria to uncons, sbrndd/sbang/ rndd, well srtd, cln, no fluor
SS: trnsl lttn, vfg, cons & friam sbrndd/ sbang/rndd, well srtd, cemtd w/sili, tr pyr, cln, no fluor
TR LS: crm, microxln, frm, dns, cln, n/f
SS: trnsl ltgy, vfg, cons & fria, sbrndd/ rndd, well srtd, cemtd w/sili, tr pyr, few lith frags, cln, no fl
25
50
100
200
300
400
500
10# Brine
28-Vis
10-pH


LS: crm lttn, micro to vfxln, frm, cln, tr pyr, no fluor
LS: ltbn tn crm, micro to vfxln, frm to sm sft & chlky, dns, fine diss pyr,sm dolomitic, tr sdy,no fluor
SS:trnsl ltgy, vfg/fgn cons, fria to frm, sm uncons, sbang to sbrndd to rndd, well srtd, cln sili & lime cemt
DOL:tn ltbn, vfx, sdy, frm,limy, gran succ text
SS:trnsl ltgy tn, vfg/fgn,cons, fria to frm, sbang to sbrndd to rndd well to v/well srtd, lime dolo sili cemt, tr pyr, no fluor
SS:gy trnsl tn, vf/fgn, cons, fria to frm, sban sbrndd rndd, well srtd, cemt w/sili lime & tr clay, tr pyr
SS:trnsl ltgy,vf/fg uncons to cons & fria sbang rndd sbrndd, well to v/well srtd, no fluor, intr gran poro
SH:bn, sft,smth text, sdy
SS:trnsl ltgy, vf/fg uncons, sbagn to sbrndd rndd, sm cons & fria, well to v/well srtd, cln, no fluor
SS:trnsl ltgy tn, vfg fgn,cons & fria to un cons,sbang rndd sbrnd, well to v/well srtd, tr pyr, cln, no fluor
SS:trnsl ltgy, vfg/fgn uncons to sm cons & fri sbang to sbrndd to rndd well to v/well srtd
4100
4200
DS-1°
svy
DTG
CLT-55 min
25
50
100
200
300
400
500


4200
4300
4400
50
50
25
50
100
200
300
400
500
well to v/well srtd, tr pyr, cln, no fluor
SS:trnsl ltgy, vfg/fgn uncons to sm cons & fri sbang to sbrndd to rndd well to v/well srtd, cln, no fluor, prob intrgran poro
SS:trnsl ltgy,vf/fgn cons & fria to frm, sm uncons, sbang rndd sbrn well srtd, cemt w/sili & sm lime,tr clay cemt, pred cln, tr pyr, no fluor
SLTST/SH:dkbn bk kdkgy, blky,frm to modsft,carb pyr,sdy, gritty crse text
SS:trnsl ltgy, vf/fgn uncons to cons & fria, sbang rndd sbrndd,well to v/well srtd, cln, no fluor, no stn
SLTST/SH:bk dkbn dkgy, blky,frm to sft,carb sdy,crse gritty text, pyr
SS:ltgy trnsl, vfg/fg cons & fria to frm, sm uncons,sbang rndd sbrnd well srtd, cln to sl/ arg, pyr, lithic frags
SS:trnsl ltgy, vf/fgn, uncons to cons & fria well to v/well srtd, sbang rndd sbrndd, cln tr pyr, tr lithic frags no fluor, intrgran poro
SLTST/SH:dkbn bk dkgy, blky,frm, slty/sdy grd-ing between sandy sh & sltst,carb,pyr,crse gritty text
SS:trnsl ltgy, vf/fgn, cons & fria to frm to uncons, sbang rndd sbrn well srtd, cemt w/lime sili & sm clay, pyr, lithic frags, no fluor
10.1# brine
Vis-28
pH-10
CHL-194,000


4400
50
4500
50
WOB-1#
RPM-(MM)70
PP-1200
SPM-60
Inc-.6°
6/1-2..Kickoff Pt. 4590'
SLIDE
gritty text
SS:trnsl ltgy, vf/fgn, cons & fria to frm to uncons, sbang rndd sbrn well srtd, cemt w/lime sili & sm clay, pyr, lithic frags, no fluor
SS:trnsl ltgy, vffg cons & fria to uncons, sbang sbrndd rndd,well srtd, cemt w/lime sili & sm clay, tr pyr, no fluor
SLTST:dkbn bn,frm gritt text, grding to a shly sand, pyr, carb
SS:trnsl ltgy, vfg/fgn cons & fria to uncons sbang rndd sbrndd, well to v/well srtd, cln, poorly cemt, tr pyr, no fluor, intrgran por
SS:trnsl ltgy,vf/fgn, uncons to cons & fria, sbang rndd sbrndd, well srtd to vwell srtd, cln tr pyr, no fluor, intr gran poro
SS:ltgy trnsl, vf/fgn, cons, fria to frm,sm uncons, sbang rndd sb rndd, well srtd, cemt w sili lime & sm clay, cln to sl/arg, tr pyr
TR SLST:dkbn gy, frm grding to shly sand,pyr
SS:trnsl ltgy,vf/fgn, cons & fria to uncons sbang rndd sbrndd, well srtd, cemt w/sili & lime,cln,pyr
SLTST/SH:dkbn dkgy,blky crse gritty text, carb pyr, grding between slt st & shaley sand
SLST: dkbn gy bk, blky, modsft, carb, pyr, grading to sandy sh
****
Drlrs TD 5502',Ran Gyro
25
50
100
200
300
400
500
TG
9.9# Brine
29-Vis
10-pH


SPM-60
Inc-.6°
6/1-2..Kickoff Pt. 4590'
SLIDE
4600
WOB-30K
Inc-2.1°
Rotate
Slide
50
Inc-4.3°
WOB-40/45K
Inc-6.6°
Rotate
Slide
4700
WOB-50K
PP-1280
SPM-59
12.6°
Rot
Inc-12.6°
50
Slide
Incl-16.18°
cement
cement
cement
cement
cement
SLST: dkbn gy bk, blky, modsft, carb, pyr, grading to sandy sh
****
Drlrs TD 5502',Ran Gyro & E-logs,Set Cmt Plugs, TIH & tagged cemt@ 4411 drilled cmt 4411-4590' TOOH/TIH w/direc tools mud mtr & RR bit2,HTC, 8&3/4",GX38C,Jets 3x16, drilling w/10# brine thru reserve pit
****
SS:trnsl, vfg/fgn,uncon to cons & fria, sbang ang sbrndd, cln,well srtd
SH:dkbn bn, blky,sft to frm, carb ip, sm sdy, modsmth to crse gritty text, pyr, sm grsding to sltst
SS:gy trnsl wh, vf/fgn, cons,fria to frm, sbang rndd sbrndd, well srtd cemt w/sili,lime & sm clay, cln to sl/arg
SS:gy trnsl wh, vf/fgn cons & fria to frm, sm uncons, well srtd,sbagn rndd sbrndd, cemt w/sil lime & sm clay, pred cln to sl/arg, lithic frags, tr pyr, no fluor
TR SLTST:bn, gritty sdy text,carb,pyr, grding to a shaley sand
SS:gy trnsl tn wh, vf/f gn,cons,fria to frm, sm uncons, sbang rndd sbrn well srtd, cemt w/sili lime & clay, cln to mod arg, tr pyr
SLTST:bn, sft to frm, carb, gritty sdy text pyr
SS: trnsl ltgy gy, vf/ fg, cons & fria to frm, sbrndd/sbang/ang, mod well srtd, cemtd w/sili cln to sl/arg, pyr ip, no fluor
SLST: dkbn bn gy, sblky frm to modfrm, carb, pyr, sndy txt ip
****
4837': TOOH for Bit,Bit #2 made 4167' in 170hrs
29-Vis
10-pH
TG
25
50
100
200
300
400
500
CLT-55 min
9.9# Brine
28-Vis
10.5-pH

CONCHO

RECEIVED OCD
2012 SEP -4 P 1:03

August 30, 2012

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

RE: Lease Map
Rocket Federal #1 SWD
Township 26 South, Range 29 East, N.M.P.M.
Section 4: 116' FSL & 564' FEL
Eddy County, New Mexico

Dear Mr. Jones:

COG Operating LLC recently submitted to you a C-108 application for the Rocket Federal #1 SWD well referenced above. Per your request, please find the enclosed lease map identifying all of the separately owned tracts of land along with the owners of each tract.

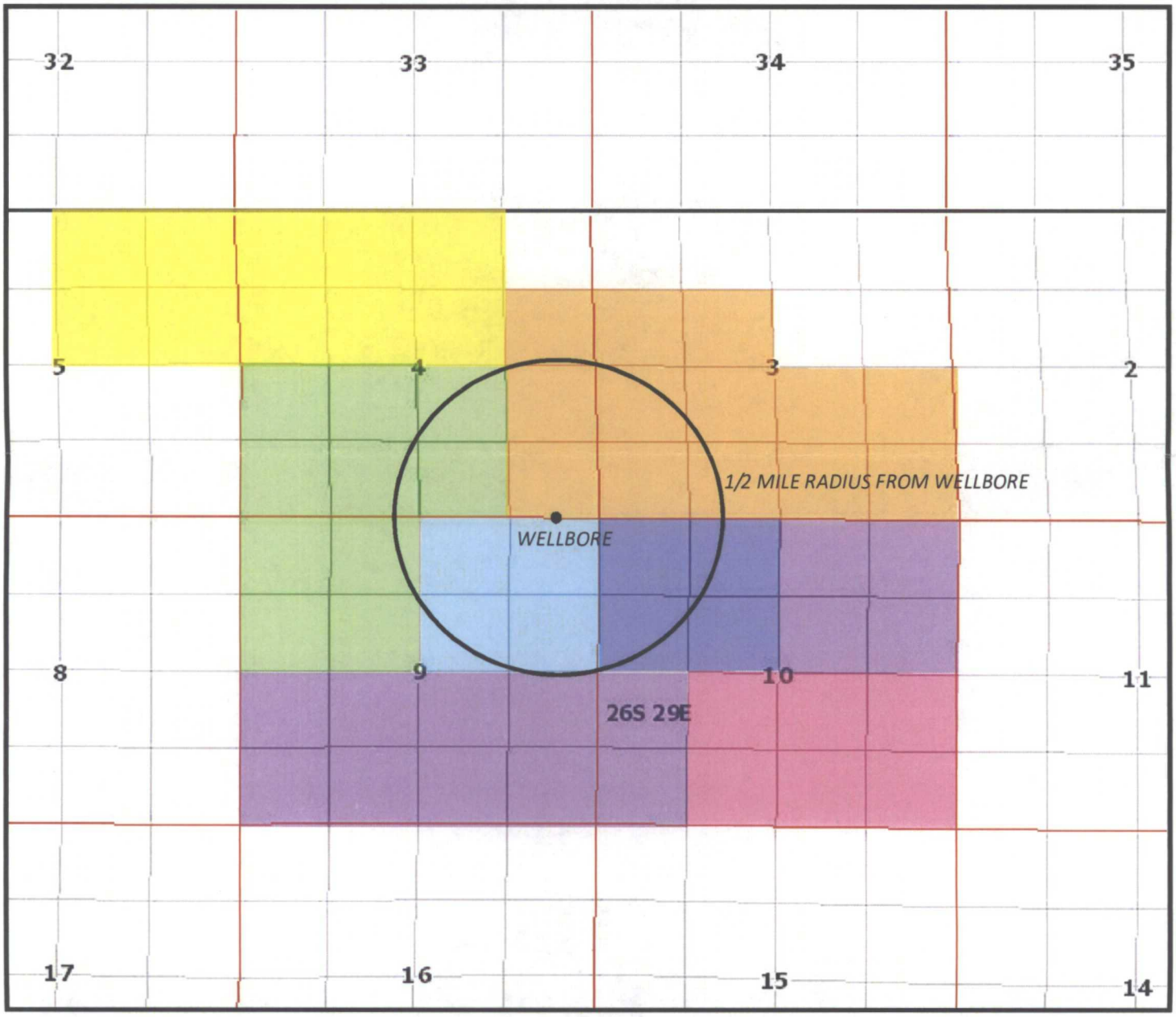
Please do not hesitate to contact me at (575) 748-6940 should you have any questions.

Sincerely,

Brian Collins
Senior Operations Engineer

BC/sw
Enclosure

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



Oxy USA Inc

COG Operating LLC

Oxy USA Inc

Oxy USA Inc

Oxy USA Inc

COG Operating LLC

COG Operating LLC

Rocket Federal 1 SWD
116' FSL & 564' FEL
Sec 4; T26s - R29e
Eddy County, New Mexico

Injection Permit Checklist (11/15/2010)

WFX______ PMX______ SWD 1356 Permit Date 9/6/12 UIC Qtr (J/A/S)

Wells 1 Well Name(s): ROCKET Federal #1

API Num: 30-0 15-34795 Spud Date: ______ New/Old: ____(UIC primacy March 7, 1982)

Footages 116 FSL/564 FEL Unit P Sec 4 Tsp 26S Rge 29E County EDDY

General Location: JUST N. of RED BLUFF RES.

Operator: COG OPERATING LLC Contact BRIAN COLLINS

OGRID: ______ ~~RULE 5.9 Compliance (Wells)~~ ______ (Finan Assur) ______ IS 5.9 OK? OK

Well File Reviewed ___ Current Status: OIL/Gas Lateral is watered OUT

Planned Work to Well:

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: ✓

Well Details:	Sizes Hole.......Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
New __Existing ✓ Surface	12 1/4 9 5/8	670'	—	400 SX	CIRC
New__Existing __Interm					
New__Existing ✓ LongSt	8 3/4 5 1/2	7064 MD/5113 TVD	4382'	2,125 SX	CIRC/CIRC
New__Existing __ Liner					
New__Existing __ OpenHole					

Brushy Draw; Del (Area)

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	~2940	Del	✓
Injection TOP:	3225	Bell Canyon	
Injection BOTTOM:	4775	Cherry Canyon	
Formation(s) Below			

Max. PSI 645 OpenHole ___ Perfs ✓

Tubing Size 2 7/8 3 1/2 (OD) Packer Depth 3175'

~5060 TVD = Del Oil PAY

~~Capitan Reef?~~ ___ (~~Potash?~~ ___ ~~Noticed?~~ ___) [~~WIPP?~~ ___ ~~Noticed?~~ ___] Salado Top/Bot 550 - 2743 ~~Cliff House?~~ ___

Fresh Water: Depths: < 140' Formation Pecos River Wells? NO Analysis? — Affirmative Statement ✓

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

Disposal Interval: Analysis? ___ Production Potential/Testing: Gas?

Notice: Newspaper Date 7/26/12 Surface Owner BLM (7/25/12) Mineral Owner(s)

Tracts Where

RULE 26.7(A) Affected Persons: OXY (7/30/12)

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

.......Active Wells 3 Repairs? 0 WhichWells? —

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

Issues: Request Sent ______ Reply: ______