

# **JUDAH OIL, LLC**

Oil and Gas Operating

RECEIVED OCD  
2010 AUG -9 A 11:44

August 4, 2010

NMOCD  
Engineering Bureau  
1220 S St. Francis Dr  
Santa Fe, NM 87505

RE: Tecolote State #1, API 30-015-27346  
C-108 Application

Dear Will,

I am sorry it has taken me so long to respond to your E-Mail dated June 30, 2010. I have been out of town quite a bit lately and have also been snowed under with some other issues. Thank you for your patience.

Listed below is my response to the questions you had concerning the Tecolote St #1 well. Please let me know if you need anything else.

**A)** We will set the CIBP at 5200 and put 100' of cement over plug.

**B)** I am enclosing the workover report (**Attachment "A"**) which covers the holes that were found in the casing. A hole was found @ 4069' and another hole was found between 2534 and 4069. I will go with our previous plans and replace the 5 ½ casing down to 4150' +/- . Cement will be pumped in two stages using a DV tool bringing cement to a minimum of 2000' below surface.

On the C-108 that was submitted on December 7, 2006, we were going to inject into perms 5713-6164. We decided to use the upper Delaware (3530-4904) to inject into because the upper Delaware has no commercial shows. We feel that the proposed disposal interval will make a good candidate for injection.

**C)** The State of New Mexico received a Patent from the United States of America on January 22, 1960 covering this acreage, and then sold it to Mr. Gant and some of his partners on January 4, 1978. I am sending a copy of the Patent (**Attachment "B"**) and a copy of a Title Opinion dated February 24, 2010 for your convenience. (**Attachment "C"**)

Southwest Petroleum Land Services, LLC (SPLS) bought Mr. Gants interest and a Mr. Rhodes interest. I have attached a copy of the deeds (**Attachment "D"**) for you convenience. I have sent the other surface interest holders a copy of the permit. One, "Tenant in Common" where-a-bouts, is unknown. He owns 1/6 of the surface. I have heard he has passed away and there are no family members around this area. I am still trying to locate a family member. Judah still has the legal right to permit a lease injection well. That is why I am applying for a "Closed System" disposal well.

P.O. Box 568  
611 W Mahone, Suite D  
Artesia, NM 88211-0568

Office: (505) 746-1280  
Fax: (505) 746-1290  
E-Mail: judahoil@yahoo.com

**D)** BEPCO and BOPCO are the same entity. Their addresses are also the same. We have had no contact from BEPCO. They have received a copy of the C-108 Application. (**Attachment "E"**)

**E)** We are attempting to permit the upper Delaware formation. This well was producing from the lower Delaware formation and was uneconomical to produce due to high water invasion. Structural dip is approximately 60' per mile to the east-southeast direction and the Big Eddy # 80 well is higher structurally than the proposed Tecolote SWD well. The lower Delaware has a "pinch out" from the Tecolote #1 to the Big Eddy #80. I have enclosed a cross section for your convenience. (**Attachment "F"**)

The upper Delaware has no commercial hydrocarbon shows in either Big Eddy #80 or Tecolote St #1 wellbores. I have enclosed a copy of the Tecolote mud log for your convenience. (**Attachment "G"**)

Please call me if you have any further questions.

Thanks again,

A handwritten signature in black ink, appearing to read 'James B Campanella', with a stylized flourish extending to the right.

James B Campanella  
Member/ Manager

attc/jc



**Disposal application on behalf of Judah Oil LLC: Tecolote State #1 30-015-27346 Bell and Cherry  
Canyon Disposal intervals**

Wednesday, June 30, 2010 3:06 PM

**From:** "Jones, William V., EMNRD" <William.V.Jones@state.nm.us>  
**To:** billy@pwwc.net, "Blaise Campanella" <judahoil@yahoo.com>  
**Cc:** "Ezeanyim, Richard, EMNRD" <richard.ezeanyim@state.nm.us>, "Dade, Randy, EMNRD" <Randy.Dade@state.nm.us>, "Reeves, Jacqueta, EMNRD" <Jacqueta.Reeves@state.nm.us>, "Gray, Darold, EMNRD" <Darold.Gray@state.nm.us>

Hello Bill:

Concerning this application, some of the usual questions:

- a. Please plan on plugging back within the 5-1/2 inch pipe to within 200 feet of the bottom of the (disposal interval 3530 to 4916) – you might consider adding more cement on top of the planned 5650 foot CIBP to reach 5100 feet.
- b. The previous application states the 5-1/2 inch casing has numerous holes in it above the calculated cement top and the intention was to pull the old pipe and install new pipe and cement it in. The current application says the cement top is calculated at 4589 and the casing will be squeezed from 4150 up to a level above the intermediate shoe. Why did the plans get changed from last year to this year?
- c. How did you determine which is the actual surface owner? The ONGARD system shows the BLM as the surface owner, your 2009 application for this well showed Joe Erwin Gant (and he protested), the latest application shows Southwest Petroleum Land Service.
- d. BEPCO is now BOPCO, please let us know if the address and contacts are the same or if not, please send BOPCO a notice. BEPCO opposed the use of this well for disposal in 2009 – did you or Blaise talk to BOPCO before the latest application or work something out?
- e. The offsetting plugged well has the top and bottom of the entire Delaware isolated but not the interval you plan on disposing into. The subject well apparently watered out or at least was a high water producer in the Delaware (with perms below your proposed injection interval). Is the subject well on top of any Delaware structure or is the offsetting plugged well actually higher on structure?
- f. Is there any possibility of production from the proposed disposal interval? How will you know? Do you have a mudlog or log analysis or do you plan to swab test?
- g. The application and the advertisement specifies this will be used for lease disposal – would you please list which lease this is and which producing wells will be sending water to this well?

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462

Att "A"

Judah Oil, LLC

P.O. Box 568

Artesia, NM 88210

cell: 505-748-5488

office: 505-746-1280

fax: 505-746-1290

## WELL PULLING REPORT

**Lease Name:** Tecolote St. #1

**Date of Report:** 09/02/2008

**Work Commenced:** 08/18/2008

**Work Completed:** 08/20/2008

### REASONS FOR PULLING

**Reason:** T/A

**Corrosion:** Moderate

**Scale:** Nil

**Paraffin:** Nil

### DETAILS OF WORK PERFORMED

- 08/18/2007** MIRU Mesa Well Service. Laid down 91 - 7/8 rods and 130 - 3/4 rods. 2' - 4' subs and 2' pump sub. Laid down 28 - 2 7/8 joints. POOH with 152 joints. Put in derrick. Laid down SN, perf sub and MA. (SN was @ 5552). RIH with 5 1/2 RBP and 154 joints tubing. Set RBP @ 4749; Pressure up to 600# would not hold. Pulled 2 joints. Set RBP @ 4979'. Pumped 17 bbls to 600#. Would not hold. SION 8:00 p.m.
- 08/19/2008** Unset RBP and pulled 24 stands out. Set RBP @ 4743. Casing didn't hold. Set RBP @ 2534'. Casing held 600#'s. POOH with plug. RIH with RBP, 5 1/2 Packer, 154 joints; set plug @ 4743. Plug tested good. Tested up hole. Found hole @ 4069'. Pumped down casing and didn't hold. More holes between 4069' and 2534'. SION.
- 08/20/2008** Laid down tubing and packer. Left 5 1/2 RBP set @ 4743. RDPU.

### WELL RECORD

EQUIPMENT	MATERIAL OUT			MATERIAL IN			REMARKS/CONDITION
	Size	Joints	Feet	Size	Joints	Feet	
Mud Anchor	2 7/8	1	31				
Perforations	2 7/8	1	3				
Seating Nipple	2 7/8	1	1				
Tubing	2 7/8	180	5552				
Tubing Subs							
Gas Anchor	1 1/4	1	6				
Pump	2 1/2 x 1 1/2 x 16						
Rods	7/8	91	2275				
Rods	3/4	130	3250				
Rod Subs	7/8	2	8				

Attach "B"

C. S. L. FORM 14

623

## State of New Mexico

No. 3365

## PATENT FOR STATE LAND

To All to Whom These Presents Shall Come, Greetings:

Whereas, Earl H. Miller, Gerald O. Rhoads, Joseph Erwin Gant, III, George B. Markle, IV, an undivided 1/6th interest each, and to M. Rosenberg, an undivided 1/3rd interest as tenants in common, of P.O. Box 1537, Carlsbad, State of New Mexico, have purchased from the

## STATE OF NEW MEXICO

according to the provisions of law, the following described tract of land, viz:

LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16

of Section 2, Township 21 South, Range 78 East.

New Mexico Principal Meridian, containing 588.20 acres.

more or less, according to the government survey thereof, and Earl H. Miller, Gerald O. Rhoads, Joseph Erwin Gant, III, George B. Markle, IV, undivided 1/6th interest each, and to M. Rosenberg, an undivided 1/3rd interest, as tenants in common,

have paid to the STATE OF NEW MEXICO, through the State Land Office, the amount of Fifty Thousand Eighty Two and NO/100 Dollars (\$5,882.00), the receipt

whereof is hereby acknowledged in full, and covered by Contract No. 4400 dated January 19, 1954, for the principal amount of \$5,882.00. That the STATE OF NEW MEXICO, by its Commissioner of Public Lands, its duly authorized officers according to law, does hereby

## GRANT, BARGAIN, SELL and CONVEY

Earl H. Miller, Gerald O. Rhoads, Joseph Erwin Gant, III, George B. Markle, IV, an undivided 1/6th interest each, and to M. Rosenberg, an undivided 1/3rd interest, as tenants in common, unto the State of New Mexico, and unto the said tract of land above described, subject to valid, existing rights, easements, rights of way and servitudes, and reserving also to the State of New Mexico all minerals of whatsoever kind, but not limited to coal, in the lands so granted and to its person authorized by it, the right to prospect for, mine, produce and remove the same, and perform any and all acts necessary in connection therewith, upon compliance with the conditions and subject to the limitations of the laws of the State of New Mexico, such tract of land so conveyed being a portion of the lands granted to the State of New Mexico by the United States pursuant to the acts of Congress, approved June 21, 1898, and June 20, 1910 and May 28, 1928.

unto the State, unto its heirs, together with all the rights, privileges, immunities and appurtenances of whatsoever kind that inhere in or appertain unto the said Earl H. Miller, Gerald O. Rhoads, Joseph Erwin Gant, III, George B. Markle, IV, an undivided 1/6th interest each, and to M. Rosenberg, an undivided 1/3rd interest, as tenants in common, and to their heirs and assigns forever

Witness My hand, the Commissioner of Public Lands of the State of New Mexico, has hereunto set his hand and affixed the official seal of the State Land Office, this 24th day of

January, A.D. 1928

Commissioner of Public Lands, State of New Mexico

Notary Public, County of Santa Fe, State of New Mexico, do hereby certify that the foregoing is a true and correct copy of the original as the same appears in Book 222 of the Records of the State of New Mexico.

Notary Public, Santa Fe County, Clerk  
My Comm. Expires 1930 Deputy

State Record of Patents, Vol. 10, Page 1865

Attach "C"

KELLY M. CASSELS  
CLARKE C. COLL\*  
ERIC J. COLL  
STEVEN P. FISHER\*\*  
CLAYTON S. HIGHTOWER  
IAN D. MCKELVY\*\*  
CLAY H. PAULOS\*\*  
OCTAVIO L. SANCHEZ\*\*  
ANDREW M. SHIPP  
JEREMY M. WORLEY  
JOSHUA T. WORLEY  
MICHAEL T. WORLEY\*\*

LAW OFFICES OF  
**SANDERS, BRUIN, COLL & WORLEY, P.A.**  
701 WEST COUNTRY CLUB ROAD  
ROSWELL, NEW MEXICO 88201  
POST OFFICE BOX 550  
ROSWELL, NEW MEXICO 88202-0550

February 24, 2010

JAMES L. BRUIN  
RETIRED  
CHARLES H. COLL  
OF COUNSEL  
T. T. SANDERS, JR.  
(1908-1996)

TELEPHONE  
575-622-5440

FAX  
575-622-5853

E-MAIL  
sbcw@sbcw-law.com

WEBSITE  
<http://www.sbcw-law.com>

\*ALSO LICENSED IN VIRGINIA  
\*\*ALSO LICENSED IN TEXAS

**IN RE: DIVISION ORDER TITLE OPINION—NO. 022306-S**

**State of New Mexico Oil & Gas Lease VB-0183-2, insofar as  
it embraces the following described land in Eddy County,  
New Mexico, to-wit:**

**Township 21 South, Range 28 East, N.M.P.M.**

**Section 2: Lots 1 through 16, and the S/2**

**Containing 908.2 acres, more or less.**

Southwest Petroleum Land Services, LLC  
c/o James Schultz  
100 North Pennsylvania  
Roswell NM 88203

Mr. Schultz:

At your request and in connection with title to the oil and gas mineral estate underlying the captioned lands, we have today examined the following:

### **STATE RECORDS:**

Schutz Abstract Company, Inc., letter report regarding the status of the captioned lease and miscellaneous instruments of record in the Office of the Commissioner of Public Lands of the State of New Mexico faxed to you on January 27, 2010. A copy of this letter is attached hereto as Exhibit "A."



## **COUNTY RECORDS:**

We have reviewed, and this opinion is based upon, certain documents provided by you pursuant to a take-off of the records of the Eddy County Clerk affecting the oil and gas mineral rights to the captioned lease and lands. The take-off was prepared by Southwest Petroleum Land Services, LLC purporting to cover the time period of November 16, 2005 down to January 7, 2010. A copy of the index from the take-off is attached hereto as Exhibit "B."

## **JUDGMENT AND LIEN SEARCH:**

A Judgment and Lien Search of the Eddy County Records was performed as of February 17, 2010 at 8:00 a.m. by our office. No outstanding Judgments or Liens affecting the title to the captioned lease was found other than those specifically set forth herein.

## **PRIOR OPINIONS:**

- A. Christy, Bozarth, Vickers, Hennighausen & Olson Drilling Title Opinion No. 5020 dated November 12, 1992, covering the captioned lease and lands. The opinion was based upon the records of the Commissioner of Public Lands certified from the inception of the records down to November 6, 1992, at 8:00 a.m. and Eddy County records certified from the inception of the records down to November 6, 1992, at 8:00 a.m.
- B. Interjurist Law Firm Division Order Title Opinion No. 5020-A dated December 30, 1992, covering Lot 13 of the captioned lease and lands from the surface down to the base of the Bone Spring formation. The opinion was based upon the records of the Commissioner of Public Lands certified from November 6, 1992, at 8:00 a.m. down to December 15, 1992, at 8:00 a.m. and Eddy County records certified from November 6, 1992, at 8:00 a.m. down to December 11, 1992, at 8:00 a.m.
- C. Interjurist Law Firm Drilling Title Opinion No. 5022 dated March 31, 1993, covering Lot 11 of the captioned lease and lands. The opinion was based upon the records of the Commissioner of Public Lands certified from November 6, 1992, at 8:00 a.m. down to March 17, 1993, at 8:00 a.m. and Eddy County records certified from December 11, 1992, at 8:00 a.m. down to March 22, 1993, at 8:00 a.m.
- D. Turner & Davis, P.C. Division Order Title Opinion dated May 27, 1998, covering the captioned lease and lands as to all depths below the base of the Bone Spring formation. The opinion was based upon the records of the Commissioner of Public Lands certified from July 29, 1997, at 8:00 a.m. down to January 13, 1998, at 8:00 a.m. and Eddy County records certified from July 30, 1997 at 8:00 a.m. down to January 14, 1998, at 8:00 a.m.
- E. Sanders, Bruin, Coll & Worley, P.A. Division Order Title Opinion dated April 27, 2006, covering the captioned lease and lands. The opinion was based upon the records of the Commissioner of Public Lands certified from January 13, 1998, at 8:00 a.m. down to

February 27, 2006, at 8:00 a.m. and Eddy County records certified from November 6, 1992, at 8:00 a.m. down to November 16, 2005 at 8:00 a.m.

At your instruction and from our examination of the foregoing materials, and based solely thereon, and subject to the title requirements hereinafter made, we now advise the status of title to the captioned leases and oil and gas mineral estate underlying the captioned lands as follows:

**I.  
OWNERSHIP OF SURFACE ESTATE**

Tract I:      Township 21 South, Range 28 East, N.M.P.M.:  
                    Section 2:    Lots 1 through 16

Tract I was patented by the United States of America to the State of New Mexico by Patent No. 1204162, dated January 22, 1960 without any reservation of the minerals thereunder. Patent No. 3365, dated January 24, 1978, issued from the State of New Mexico to Earl H. Miller (1/6), Gerald O. Rhoads (1/6), Joseph Erwin Gant, III (1/6), George B. Markle, IV (1/6) and M. Rosenberg (1/3), as tenants in common. The State patent specifically reserved the mineral estate to the State.

Tract II:      Township 21 South, Range 28 East, N.M.P.M.:  
                    Section 2:    S/2

Tract II was patented by the United States of America to the State of New Mexico by Patent No. 1204162, dated January 22, 1960 without any reservation of the minerals thereunder. The surface estate is still owned by the State of New Mexico subject to Agricultural Lease GO-2241 issued by West Ranch, LLC, Post Office Box 3223, Carlsbad, New Mexico, 88220-3223. This Lease has an expiration date of September 30, 2010.

**II.  
OWNERSHIP OF MINERAL ESTATE**

The mineral estate is owned 100% by the State of New Mexico, subject to Oil & Gas Lease V-0183-2 discussed hereinbelow.



Attah "D"

**WARRANTY DEED**

Joseph E. Gant, III and Beverly Gant, husband and wife, P.O. Box 1119, Carlsbad, NM 88220, for and in consideration of ten dollars and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, does hereby grant, convey and sell unto Southwest Petroleum Land Services, LLC, whose address is 100 N. Pennsylvania, Roswell, NM 88203, all of their right, title and interest in and to an undivided one-third (1/3<sup>rd</sup>) of the surface ownership in following described real estate located in Eddy County, New Mexico, to wit:

Township 21 South, Range 28 East, NMPM  
Sec. 2: Lots 1-16, less and except 25.3 acres,  
Being the Right-of-Way for Hwy 62-180  
Containing 562.88 acres, more or less.

with warranty covenants, subject to any prior reservation, restrictions, easements of record and in open view.

WITNESS our hands and seals this 22 day of December 2009.

Joseph E. Gant III  
 Joseph E. Gant, III

Beverly Gant  
 Beverly Gant

STATE OF NEW )

) ss:

COUNTY OF EDDY )

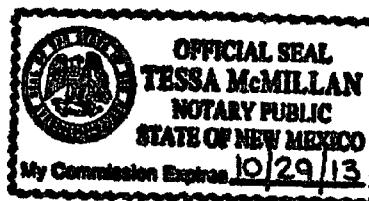
This instrument was acknowledged before me this 22 day of December 2009, by Joseph E. Gant, III and Beverly Gant, husband and wife.

MY COMMISSION EXPIRES:

10/29/2013

Tessa McMillan  
 Notary Public

RECEPTION NO: 0912294 STATE OF  
 NEW MEXICO, COUNTY OF EDDY  
 RECORDED 12/22/2009 10:38 AM  
 BOOK 0800 PAGE 0166 J. Hernandez  
 DARLENE ROSPRIM, COUNTY CLERK



Southwest Petroleum Land Services, LLC  
 100 N. Pennsylvania  
 Roswell, NM 88203

Attach "D"

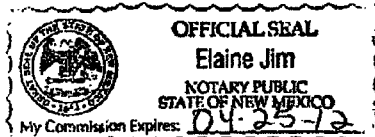
**WARRANTY DEED**

Christy Jay Rhoads and Ruth Kathleen Rhoads, husband and wife,, Albuquerque, NM87120, for and in consideration of ten dollars and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, does hereby grant, convey and sell unto Southwest Petroleum Land Services, LLC, whose address is 100 N. Pennsylvania, Roswell, NM 88203, all of their right, title and interest in and to the surface ownership in following described real estate located in Eddy County, New Mexico, to wit:

Township 21 South, Range 28 East, NMPM  
Sec. 2: Lots 1-16, less and except 25.3 acres,  
Being the Right-of-Way for Hwy 62-180  
Containing 562.88 acres, more or less.

with warranty covenants, subject to any prior reservation, restrictions, easements of record and in open view.

WITNESS our hands and seals this 29<sup>th</sup> day of April, 2010.



Christy Jay Rhoads  
 Christy Jay Rhoads  
Ruth Kathleen Rhoads  
 Ruth Kathleen Rhoads

STATE OF NEW MEXICO )  
 ) ss:  
 COUNTY OF BERNALILLO )

This instrument was acknowledged before me this 29 day of April, 2010, by Christy Jay Rhoads and Ruth Kathleen Rhoads, husband and wife.

MY COMMISSION EXPIRES:

April 25, 2012

[Signature]  
 Notary Public

RECEPTION NO: 1004866 STATE OF  
 NEW MEXICO, COUNTY OF EDDY  
 RECORDED 05/25/2010 10:11 AM  
 BOOK 0814 PAGE 0600 Wasson  
 DARLENE ROSPRIM, COUNTY CLERK



SOUTHWEST PETROLEUM LAND SRVCS LLC  
 100 N PENNSYLVANIA  
 ROSWELL NM 88201

Attach "E"

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"><li>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li><li>■ Print your name and address on the reverse so that we can return the card to you.</li><li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li></ul>		<p>A. Signature <u>B. Bell</u> <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by <u>B. Bell</u> C. Date of Delivery <u>6/7/10</u></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input checked="" type="checkbox"/> No</p>	
1. Article Addressed to:  <div style="border: 1px solid black; padding: 10px; text-align: center;">BEPCO PO Box 2760 Midland, TX 79702</div>		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
2. Article Number (Transfer from service label)		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
		7006 2150 0005 7877 5936	
PS Form 3811, February 2004		Domestic Return Receipt 102595-02-M-1540	

# WOODCO LOGGING SERVICE



3502 Cass Drive  
Carlsbad, New Mexico 88220  
(505) 887-2469

<input checked="" type="checkbox"/> SAND	<input type="checkbox"/> LIMESTONE	<input checked="" type="checkbox"/> GRANITE WASH
<input type="checkbox"/> SILTSTONE	<input checked="" type="checkbox"/> DOLOMITE	<input checked="" type="checkbox"/> CONGLOMERATE
<input type="checkbox"/> SHALE	<input checked="" type="checkbox"/> ANHYDRITE	<input checked="" type="checkbox"/> CHERT

NRS - NEW BIT  
DCB - DIAMOND CORE BIT  
DST - DRILL STEM TEST

NR - NO RETURN  
CO - CIRCULATED OUT

COMPANY <u>ENERGEX COMPANY</u>	
WELL <u>TECOLOTE STATE #1</u>	
LOCATION <u>SECTION 2</u>	TWP <u>21S</u> RGE <u>28E</u>
COUNTY <u>EDDY</u>	STATE <u>NEW MEXICO</u>
ELEVATION <u>DR</u>	GL <u>3324'</u> KB <u>3335'</u>
SUPERVISING ENGR. <u>JIM WOOD Sr</u> <u>JIM WOOD Jr</u>	
DEPTH LOGGED FROM <u>3162'</u>	TO <u>6285'</u>
DATE LOGGED FROM <u>5-14-93</u>	TO <u>5-19-93</u>
METHANE <u>-----</u>	PROPANE <u>-----</u>
ETHANE <u>-----</u>	BUTANE <u>-----</u>
PENTANE <u>-----</u>	

DRILLING RATE	FT/HR	TFG PORO.	LITHOLOGY	LEACHED UNIT	FLUOR %OIL	OIL STAIN	HYDROCARBON ANALYSIS LOG	MAN SERVICE	CHROMATOGRAPH ANALYSIS	REMARKS
MIN/FT				TFG			TOTAL GAS			W V F CK PH CL

SURF CSG 259'  
ST INTRM CSG 1252'  
LG INTRM CSG 3162'

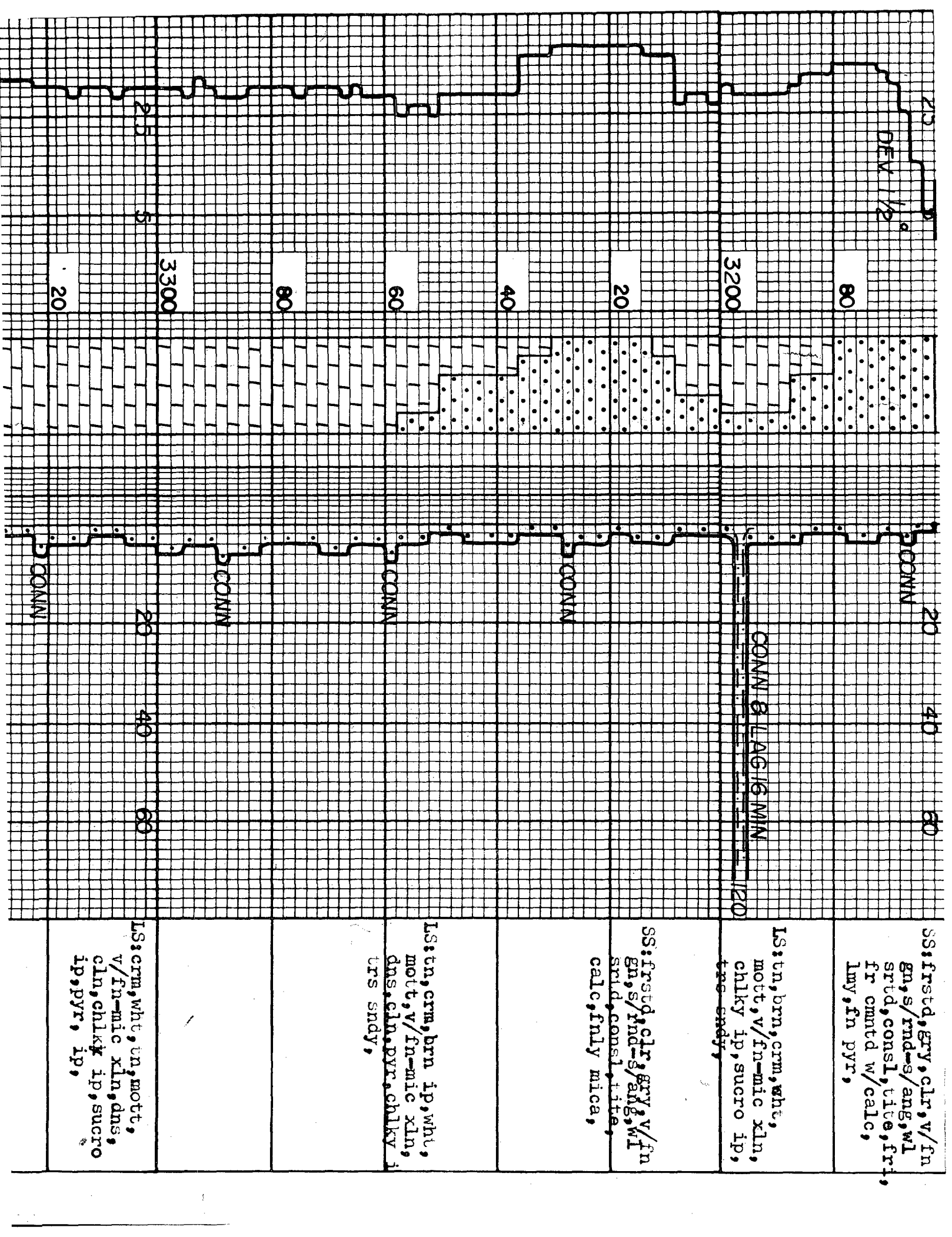
BEGAN TWO MAN LOGGING  
AT 5:00 PM M.S.T  
5-14-93

BIT #6 7 7/8  
REED HP52  
IN AT 3162'

HOT WIRE CALIBRATION  
1% CI=100 U

40  
20  
60  
80

WOB 40  
RPM 60  
SPM 60  
BP 1050



DEV 1/2

80

3200

20

40

60

80

3300

20

CONN

20

40

60

CONN & LAG 16 MIN

120

CONN

CONN

CONN

CONN

20

40

60

SS: frst d, gry, clr, v/fn gn, s/rnd-s/ang, wl strd, consl, tite, fri, fr cmtd w/calc, lmy, fn pyr,

LS: tn, brn, crm, wht, mott, v/fn-mic xln, chky ip, sucro ip, tns endy,

SS: frst d, clr, gry, v/fn gn, s/rnd-s/ang, wl strd, consl, tite, calc, fnly mica,

LS: tn, crm, brn ip, wht, mott, v/fn-mic xln, dns, chn, pyr, chky,

LS: crm, wht, tn, mott, v/fn-mic xln, dns, chn, chky ip, sucro ip, pyr, ip,



LS:erm,un,dk brn,brn,  
mott,v/fn-mic xln,  
dus,cln,trs chky,  
fnly pyr,trs sh,  
SH:dk ery,blk,ery,dky  
frm,sme slty,carb,  
calc,vfn pyr,  
CHT:wht,mlky,transl,cln

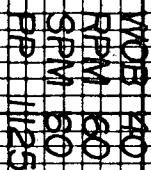
LS:brn,un,whu,dk brn  
ip,mott,mic-v/fn  
xln,transl ip,dus  
fr cln,trs sh,fnly  
mica,trs pyr,

SS:tn,ery,brn,clr,frst  
vfn gr,lslycons-cons  
s/rnd-s/ang,tite,  
lmv,vfn mica,vfn pyr

SS:clr,frstd,ery,tn,br  
vfn gr,cons,tite,  
s/rnd-s/ang,w/srtd  
pr-fr cmtd,lmv,vfn  
mica,vfn pyr,trs  
arg,

SHRT:tn,brn,wht,transl-  
trnsp,mlky-smky,calc  
strkd-specik,

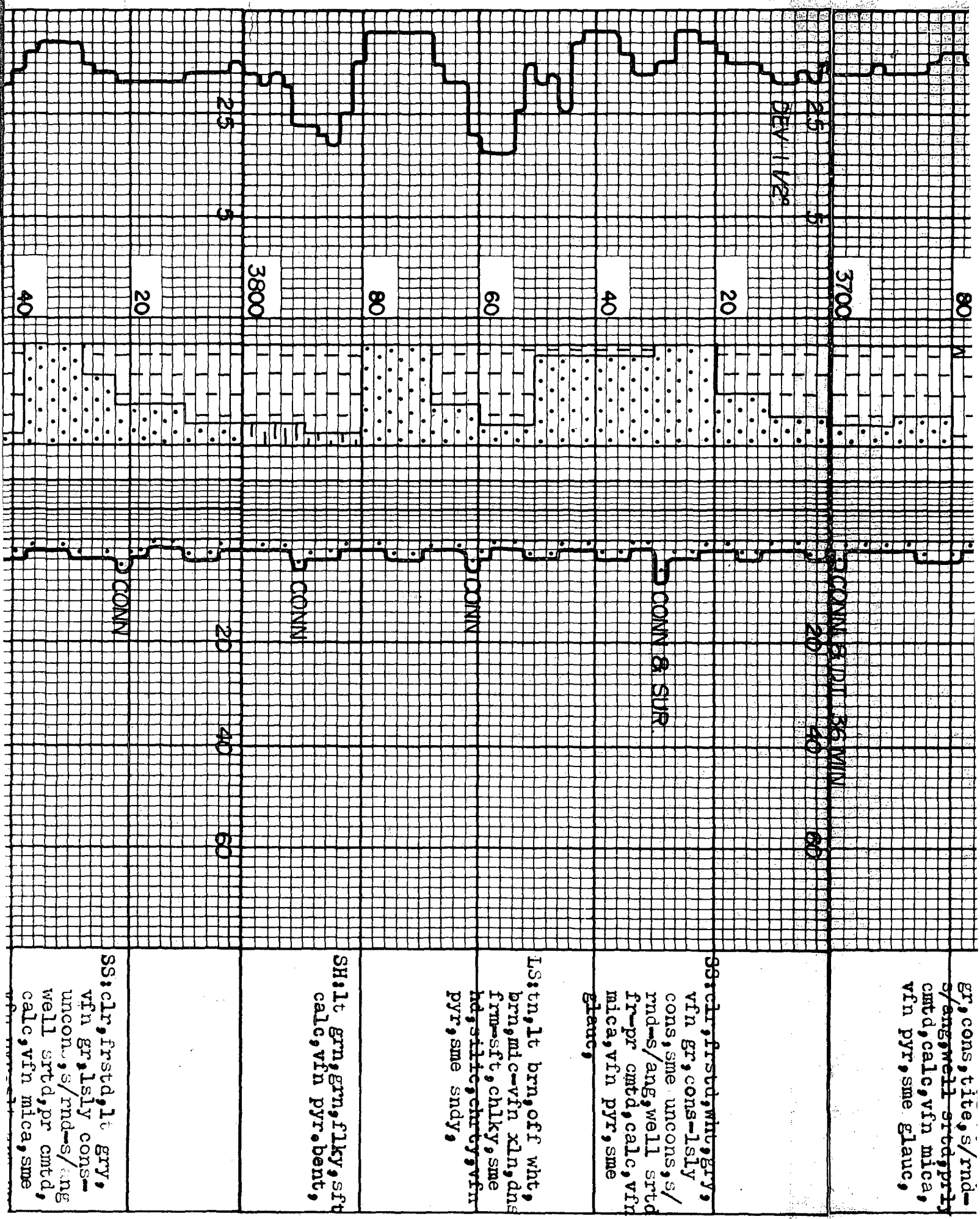
LS:tn,brn,off wht,mott  
vfn-mic xln,dus-sm



SS:cl,r,frstd,lsly cons  
-uncons,s/rnd-s/ang  
wll strd,prly cmprd  
calc,vfn mica,vfn  
pyr,sme glauc,no  
vis show,

LS: off wht, tn, brn, mott  
vfn-mic xln, dns, frm  
chiky, sme hd, stic  
chrt, vfn pyr,

SH:dk gry,gry,lt gry,  
frm,slty,carb,calc,  
vfn pyr,vfn mica,





LS:lt tn,lt brn,brn,  
off wht,mic-vfn xln  
dus,chlky,sme silid  
frm-nd,sme sndy,vf  
pyr,

SS:clr,frstd,gr,vy,vfn gr  
lsly cons-uncons,  
s/rnd-rnd-s/ang,fr-  
pr cmtd,calc,vfn mica  
vfn pyr,trs glauc,

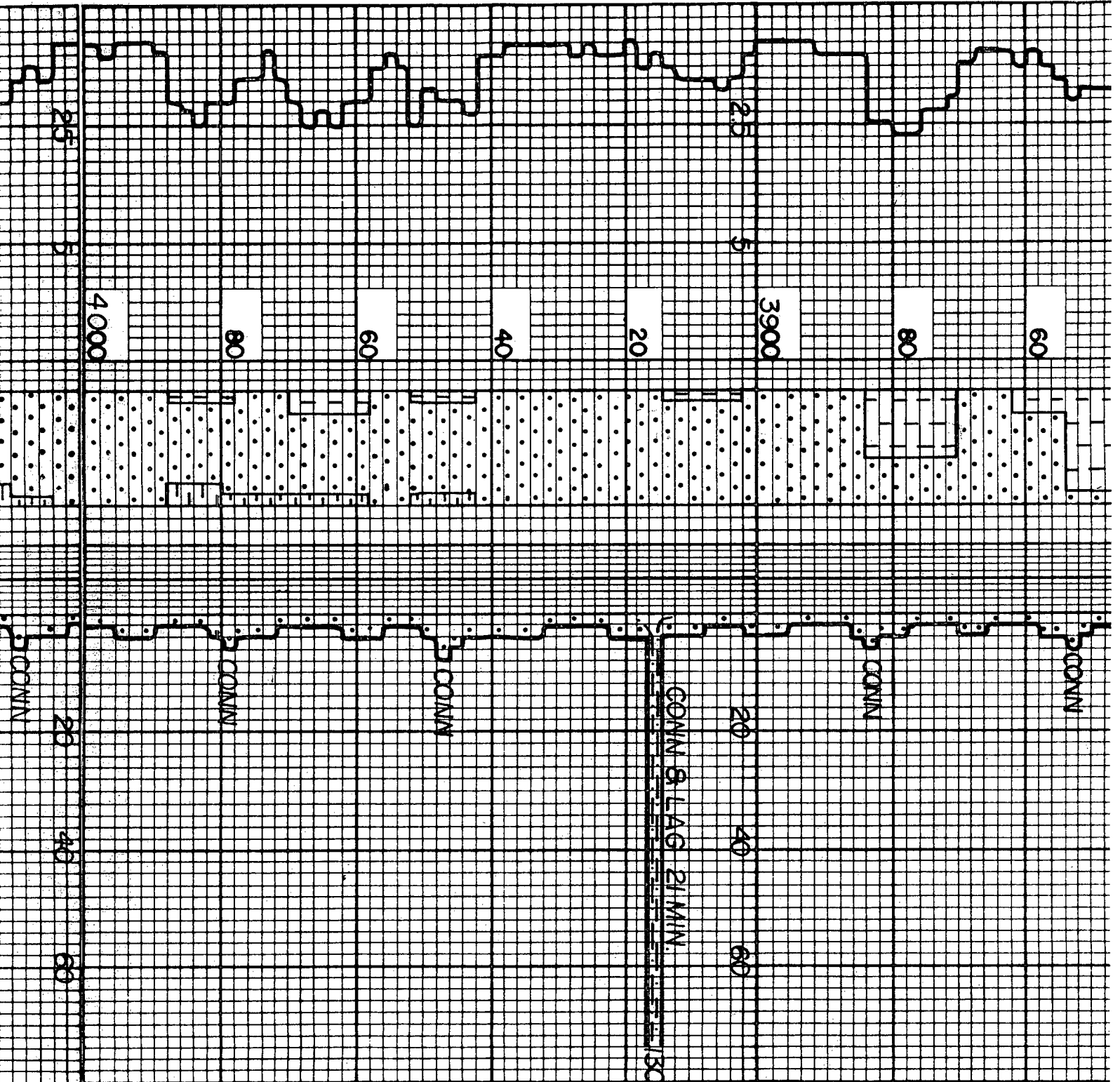
SS:frstd,clt,lt gry,  
v/fn gn,s/rnd-s/ang  
wl srtd,cons1-uncon  
fr cmtd,calc,fily  
pyr ip,

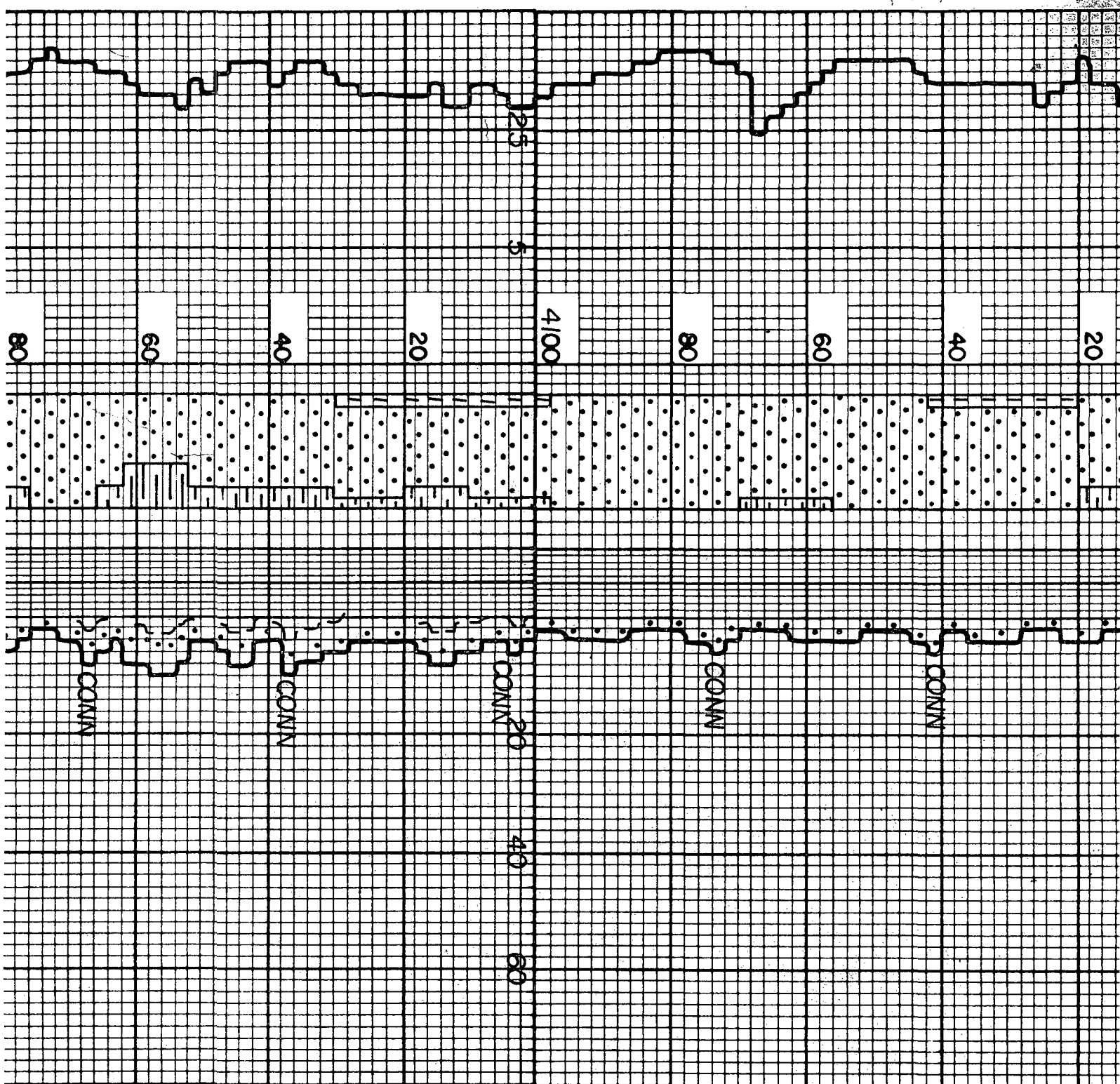
SH:dk brn,brn,blky,  
frm,calc,trs carb,  
sndy,fily mica,

LS:crm,tn,wht,mott,  
mic-v/fn xln,cln,  
dus,chlky ip,fiky  
pyr ip,

SS:frstd,clr,gr,vy,v/fn  
gn,s,rnd-s/ang,wl  
srtd,uncon-lsly  
cons1,pr cmtd,calc  
trs shly ip,pyr ip,

SH:dk brn,brn,blky,  
frm,calc,sndy,slid  
carb,fily mica,





Ls:crm,wht,tn,mot,  
frm,cln,dns,chlky  
ip,fnly mica,pyr,

SS:frstd,ery,clr,brn  
ip,v/fn gn,s/rnd-  
s/ang,wl strd,lslly  
cond-wncst,calc,  
prly cmtd,shlky  
ip,

Ls:crm,tn,wht,mot,  
frm,mic-v/fn xln,  
dns/cln,chlky ip,  
fnly pyr,

Shdk brn,brn,blky,frm  
calc,sndy,carb ip,  
fnly mica,

SS:frstd,clr,brn ip,  
v/fn gn,s/rnd-s/an  
wl strd,condl,calc  
shly,lmf,pyr,mica,

20%brn sh, blk, trs  
pty, calc, sndy,

8.8, 28, N/C, —, 11, 40K

SS: frstd, clr, gry, brn  
lp, v/fn gn, s/rnd-  
s/ang, wl strt, lsly  
consl-uncon, calc,  
prly cmtd, pyr,  
shly lp, trs lmy,

SH: dk brn, brn, blk,  
frm, calc, sndy, crab  
fily mica,

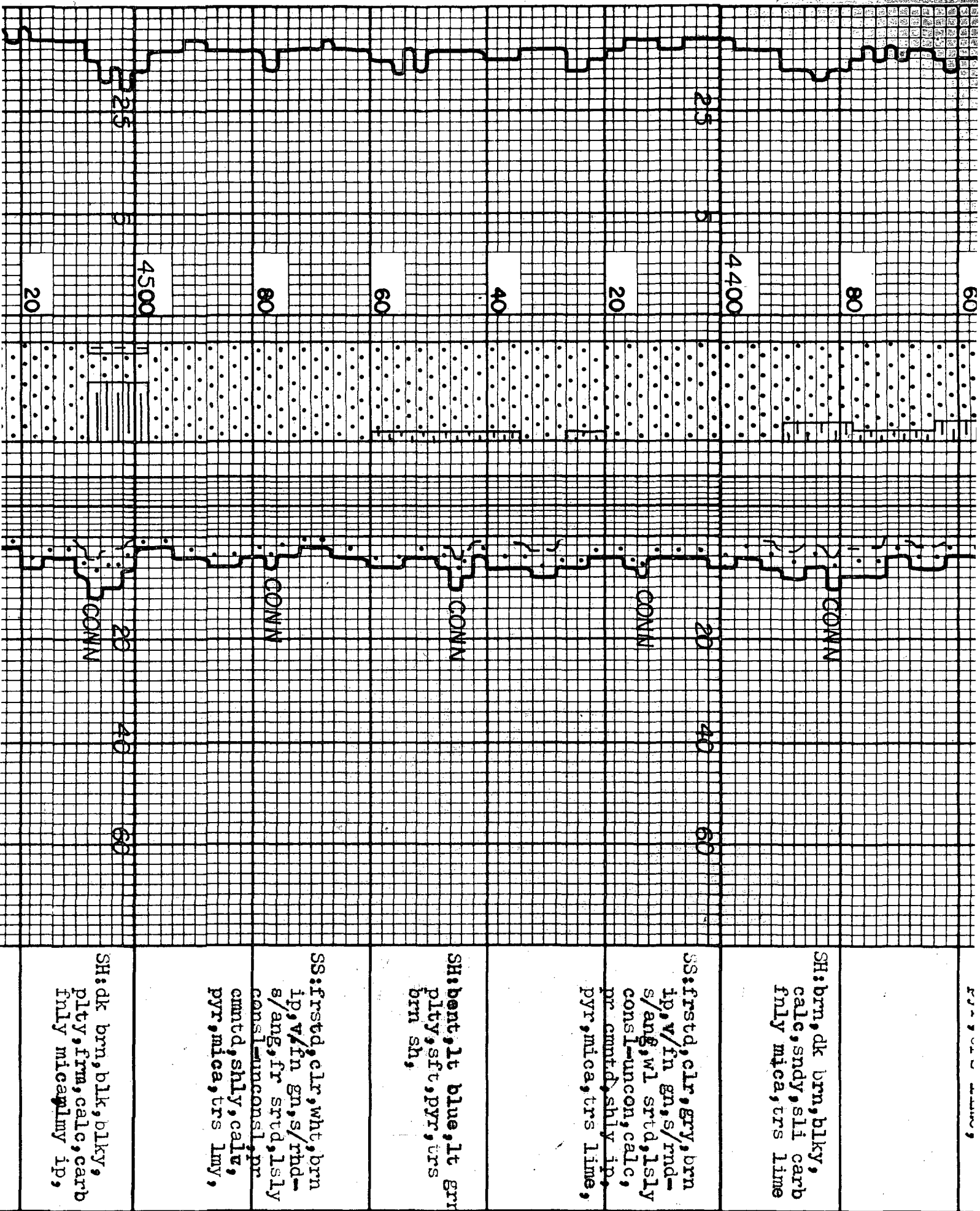
BS: crm, tn, wht, mott,  
trs brn, mic xln,  
frm, dns, cln, chky  
lp, fily pyr ip,

SS: frstd, gry, brn, clr,  
v/fn gn, s/rnd-s/an  
wl strt, consl, fr  
cmtd, calc, shly ip

SH: dk brn, brn, blk,  
frm, sndy, calc, carb  
ip, fily mica,

SS: frstd, clr, brn ip,  
v/fn gn, s/rnd-s/an  
wl strt, consl, calc  
fr cmtd, shly, mica







LS: crm, brn, wht, tn, trs  
 dk brn, mic xln, frm  
 chky, trs shly, dns,  
 frly cln, pyr lp,

SH: dk brn, brn, dk gry,  
 gry, lt brn, blk, frm  
 slty, andy, carb, calc  
 vfn mica, vfn pyr,

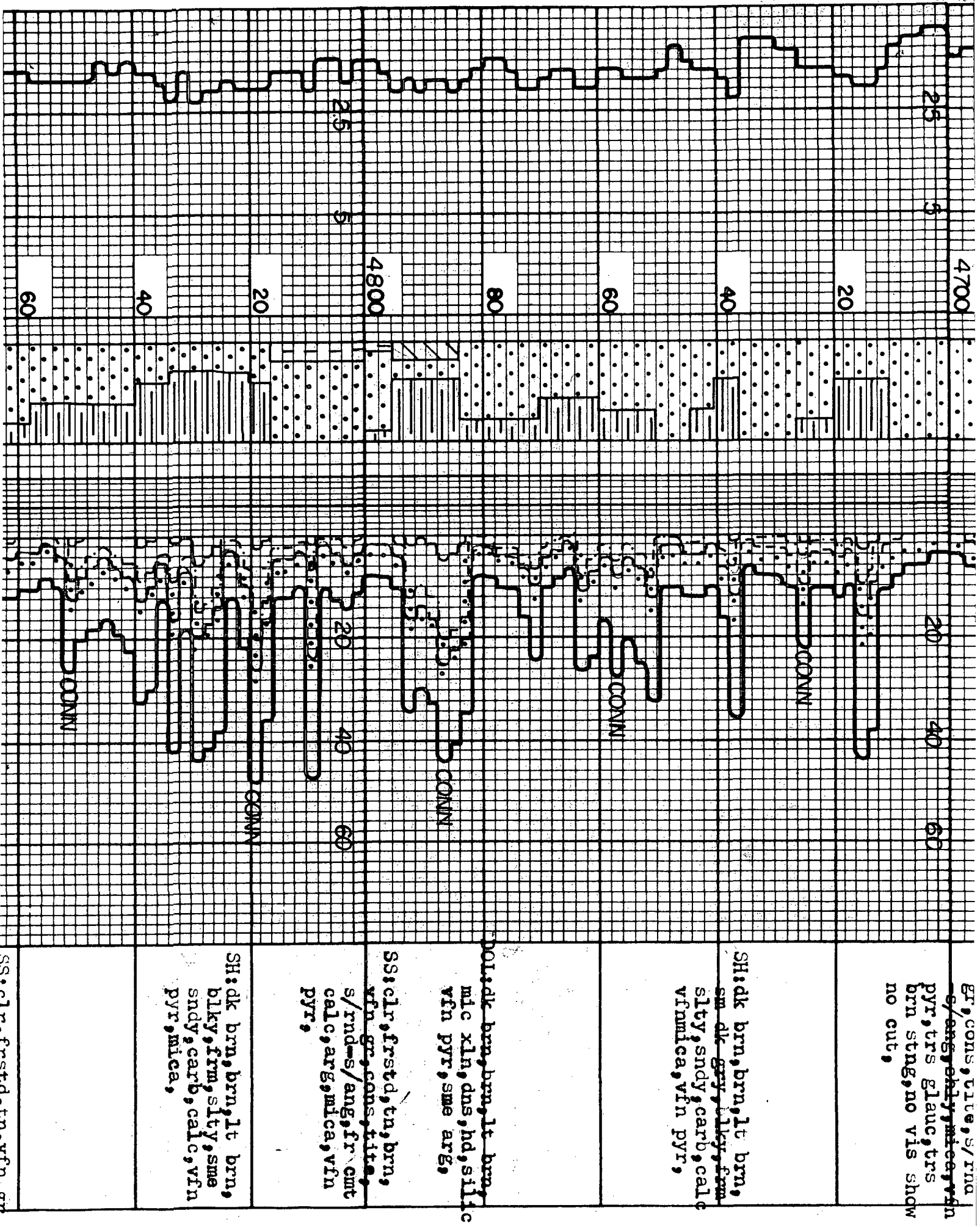
SS: clr, frstd, tn, brn, vl  
 - gr, cons, tite, s/rnd  
 -s/ang, well strd, fr  
 cmtd, arg, calc, vfn  
 pyr, vfn mica, sm glauc

SH: lt brn, brn, blk, frm  
 slty, andy, vfn pyr,  
 fnly mica,

DOL: brn, dk brn, mic xln,  
 dns, frm, nd, slty,  
 slt chrtty, arg l.p.  
 vfn pyr,

SH: dk brn, brn, dk gry,  
 lt brn, blk, frm, slty  
 andy, carb, calc, vfn  
 pyr, fnly mica,

Scale factor 1 in = 100 ft





-s/ang,ir-pr cmca,  
slt calc,vfn pyr,  
mica,sme arg,

80

25

5

4900

20

40

60

SS:clr,frstd,tn,brn,vf  
-fn gr,cons,sme tite  
fria,s/rnd-s/ang,  
fr-pr cmtd,calc,arg  
mica,vfn pyr,

20

20

40

60

SS:clr,frstd,tn,brn,vf  
-fn gr,cons,sme tite  
fria,s/rnd-s/ang,  
fr-pr cmtd,calc,arg  
mica,vfn pyr,

LS:tn,brn,lt brn,mic xl  
dns,chlky,frm,

40

20

40

60

DOL:tn,brn,dk brn,mic  
xln dns,frm,hd,silic  
arg,vfn pyr,

60

20

40

60

SH:dk brn,brn,lt brn,  
blky,frm,sily,sndy,  
vfn pyr,mica,carb,sl  
calc,

80

20

40

60

SS:clr,frstd,tn,brn,vf  
-fn gr,lsly cons,sm  
tite,s/rnd-s/ang,  
fr-pr cmtd,calc,arg  
sme shly,vfn pyr,  
mica,

5000

20

40

60

DOL:tn,brn,dk brn,mic  
xln,dns,frm,silic,

20

20

40

60