



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

GL03221-10f2

WELL SITE GEOLOGY — MUD LOGGING

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY ENERGY SERVICES INC.

LOCATION SEC 15 T37N R10E

WELL ALAMOSA #1

COUNTY ALAMOSA

FIELD WILDCAT




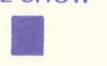


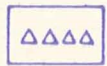



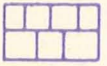




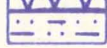
STATE COLORADO

ELEVATION 7544' GD

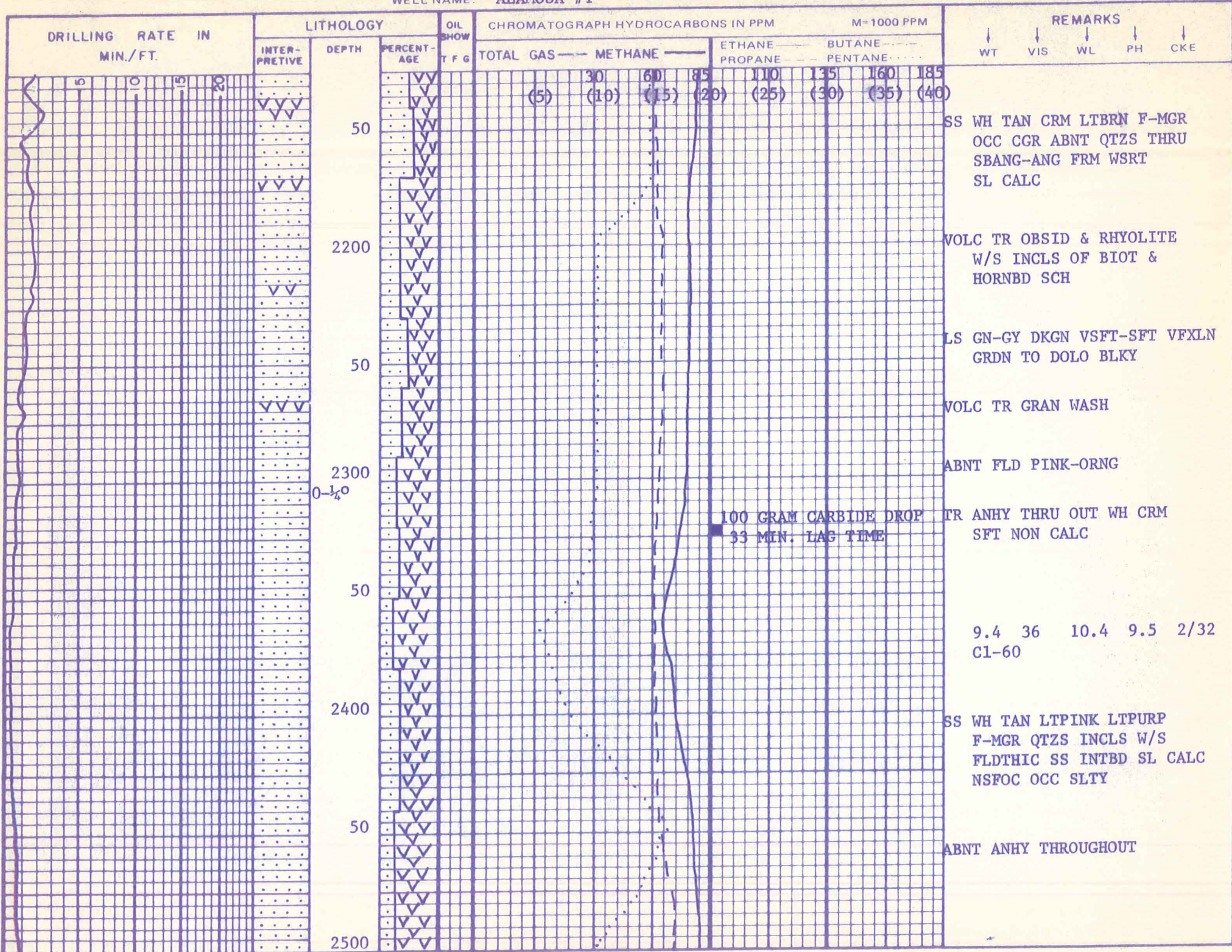
DRILLING FLUID MUD CHEM/GEL

	FROM	TO
DEPTH LOGGED	2006'	
DATE LOGGED	11/15/81	

ENGINEERS KENT D. HOLT CAMP

	SHALE		DOLOMITE		COAL		TRACE		CORE NO.	NB - NEW BIT NR - NO RETURNS CO - CIRCULATE OUT NS - NO SAMPLE TG - TRIP GAS
	SANDSTONE		CHERT		ANHY-GYP		FAIR		DST NO.	
	LIMESTONE		SALT		VOLCANICS		GOOD		DEVIATION	
					SILTSTONE					

DRILLING RATE IN MIN./FT.	LITHOLOGY INTER- PRETIVE	DEPTH	PERCENT- AGE	OIL SHOW T F G	CHROMATOGRAPH HYDROCARBONS IN PPM				REMARKS	
					TOTAL GAS	METHANE	ETHANE PROPANE	BUTANE PENTANE		
5 0 5 20										
BIT #2 HTC NM 575					25					ONE MAN LOGGING UNIT #32 ON LOCATION & RIGGED UP 11/12/81
		2000			(5)	30	60	85	110 135 160 185	CASING SET TO 1221'
		50								SS WH TAN CRM LTBRN W/S S&P F-MGR W/OCC CGR QTZS INCLS THRU SBANG-ANG SFT-FRM WSRT SL CALC
11/16/81 RPM 65 WOB 10/15 PP 400		2100								VOLC TR OBSIDIAN & RHYOLITE WH CRM TO LTPINK



DRILLING RATE IN MIN./FT. 5 10 15 20

LITHOLOGY

DEPTH

PERCENT-AGE

OIL SHOW T F G

CHROMATOGRAPH HYDROCARBONS IN PPM M=1000 PPM

TOTAL GAS --- METHANE --- ETHANE PROPANE --- BUTANE PENTANE ---

(5) (10) (15) (20) (25) (30) (35) (40)

REMARKS

WT VIS WL PH CKE

SS WH TAN CRM LTBRN F-MGR  
OCC CGR ABNT QTZS THRU  
SBANG-ANG FRM WSRT  
SL CALC

VOLC TR OBSID & RHYOLITE  
W/S INCLS OF BIOT &  
HORNBD SCH

LS GN-GY DKGN VSFT-SFT VFXLN  
GRDN TO DOLO BLKY

VOLC TR GRAN WASH

ABNT FLD PINK-ORNG

100 GRAM CARBIDE DROP  
33 MIN. LAG TIME

TR ANHY THRU OUT WH CRM  
SFT NON CALC

9.4 36 10.4 9.5 2/32  
CI-60

SS WH TAN LTPINK LTPURP  
F-MGR QTZS INCLS W/S  
FLDTHIC SS INTBD SL CALC  
NSFOC OCC SLTY

ABNT ANHY THROUGHOUT

DEPTH 50 2200 50 2300 50 2400 50 2500

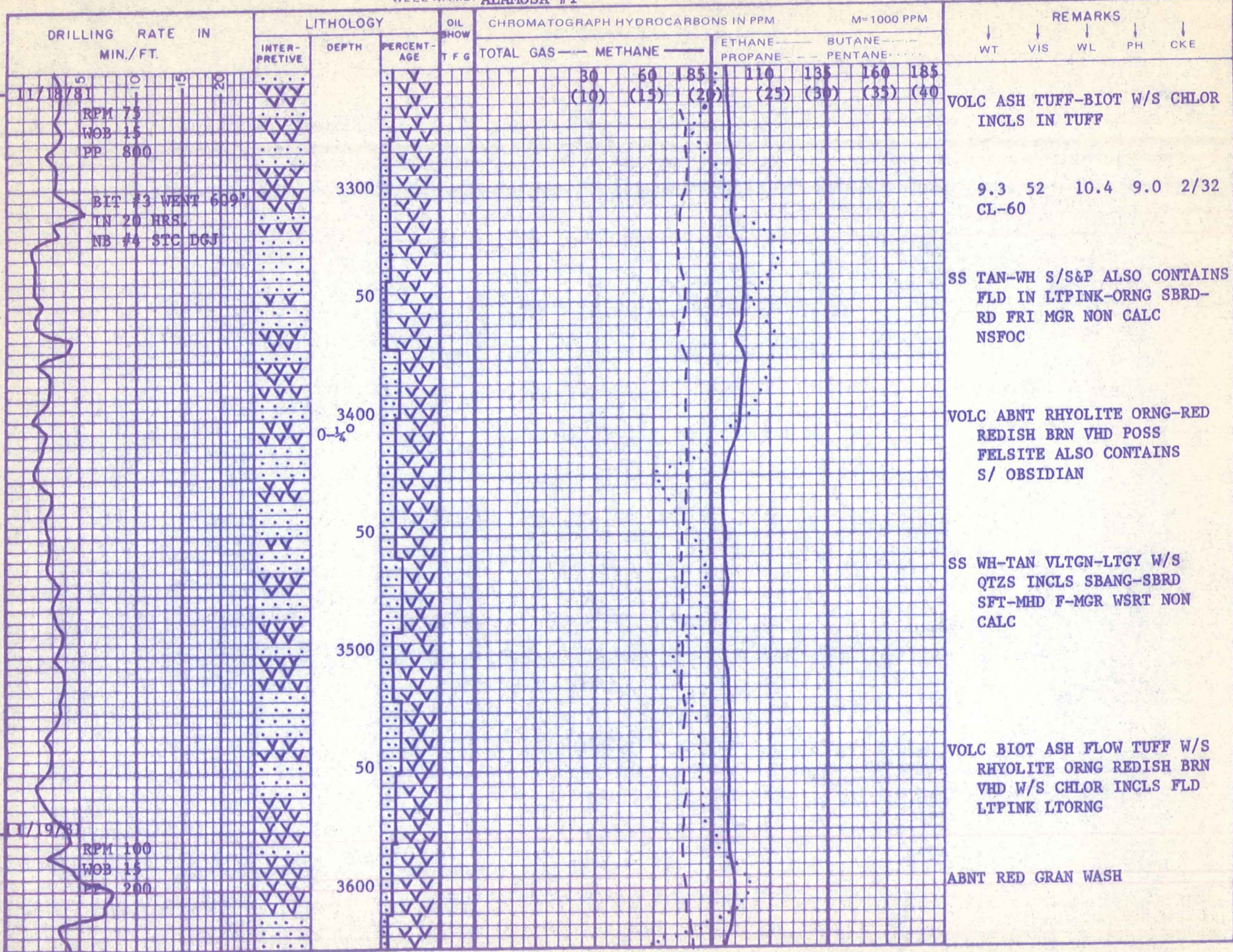
0-1/4°

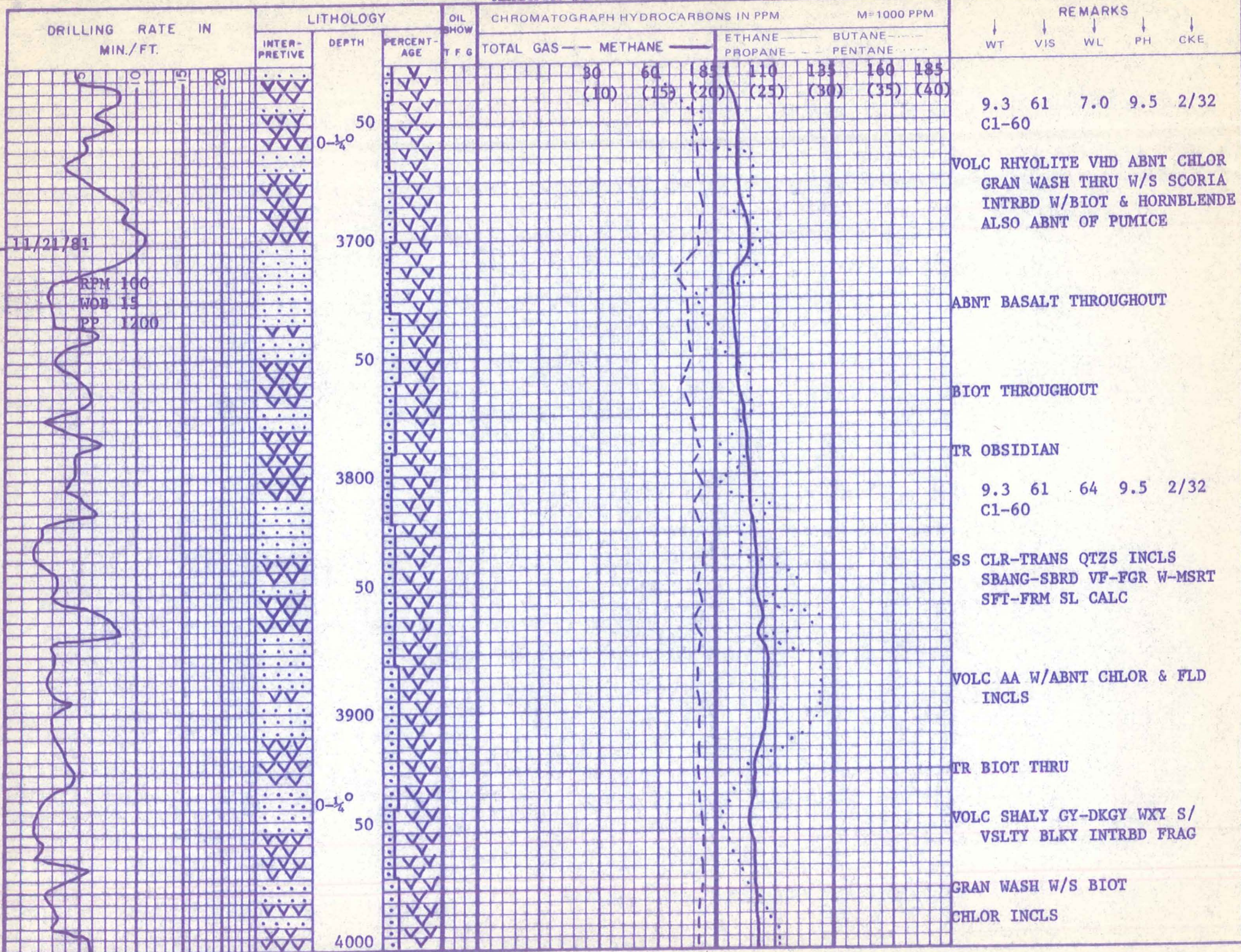
DRILLING RATE IN MIN./FT.				LITHOLOGY		OIL SHOW	CHROMATOGRAPH HYDROCARBONS IN PPM M=1000 PPM					REMARKS				
				INTER- PRETIVE	DEPTH	PERCENT- AGE	T F G	TOTAL GAS	METHANE	ETHANE PROPANE	BUTANE PENTANE	WT	VIS	WL	PH	CKE
0	0	0	0		0-1/40	∇		(5)	30 (10)	60 (15)	85 (10)	110 (25)	135 (30)	160 (35)	185 (40)	ABNT ANHY WH CRM TAN SFT NON CALC
					50	∇										VOLC INCLS OF BREC BLK SHARP BREAK OFF ANG ALSO BIOT BLK-GN BREAK OFF IN SHEETS
					2600	∇										EXCESS FLD ORNG-PINK S/INTB W/QTZS INCLS
					50	∇										TR LS GN-GY DKN VSFT VFXLN BLKY
					2700	∇	N S									SS WH-CRM LTORNG-ORNG W/QTZS INCLS VF-FGR SBANG-SBRD FRM WSRT SL CALC
					50	∇										VOLC ASH FLOW TUFFS INCLD W/ BREC ABNTS OF FLD PINKISH ORNG
					2800	∇										ANHY VWH SFT-HD W/S CRM-TAN SL CALC
11/1/81					0-1/40	∇										TR LS THRU NXT 60' DKN SFT- VSFT VF-FXLN W/S BLKY
RPM 60					50	∇										SM AMT GRNT WASH W/S BREC & CHLOR
WOB 15						∇										
PP 400						∇										

INSTRUMENT CHECK

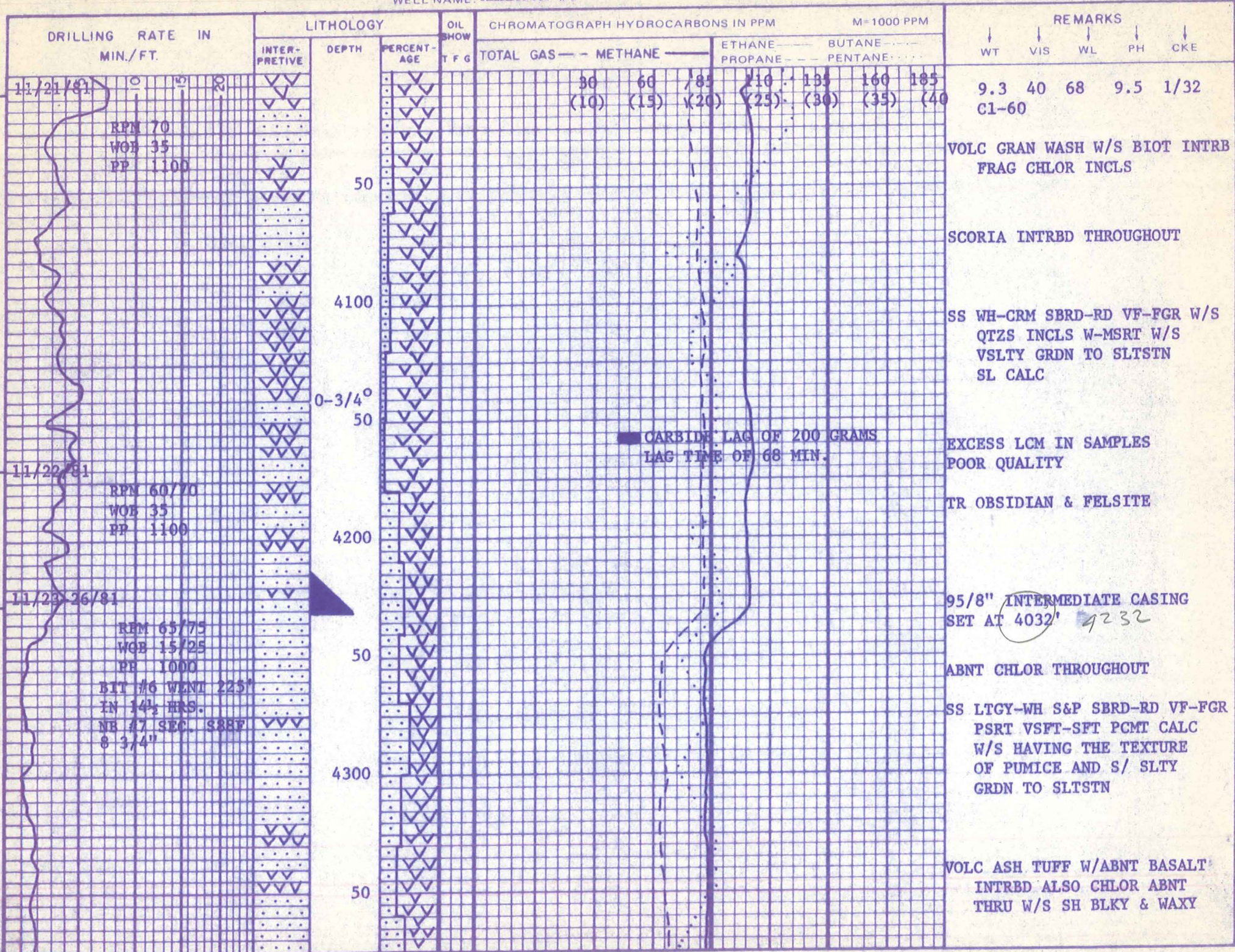


WELL NAME: ALAMOSA #1





11/21/81  
RPM 100  
WOB 15  
PP 1200



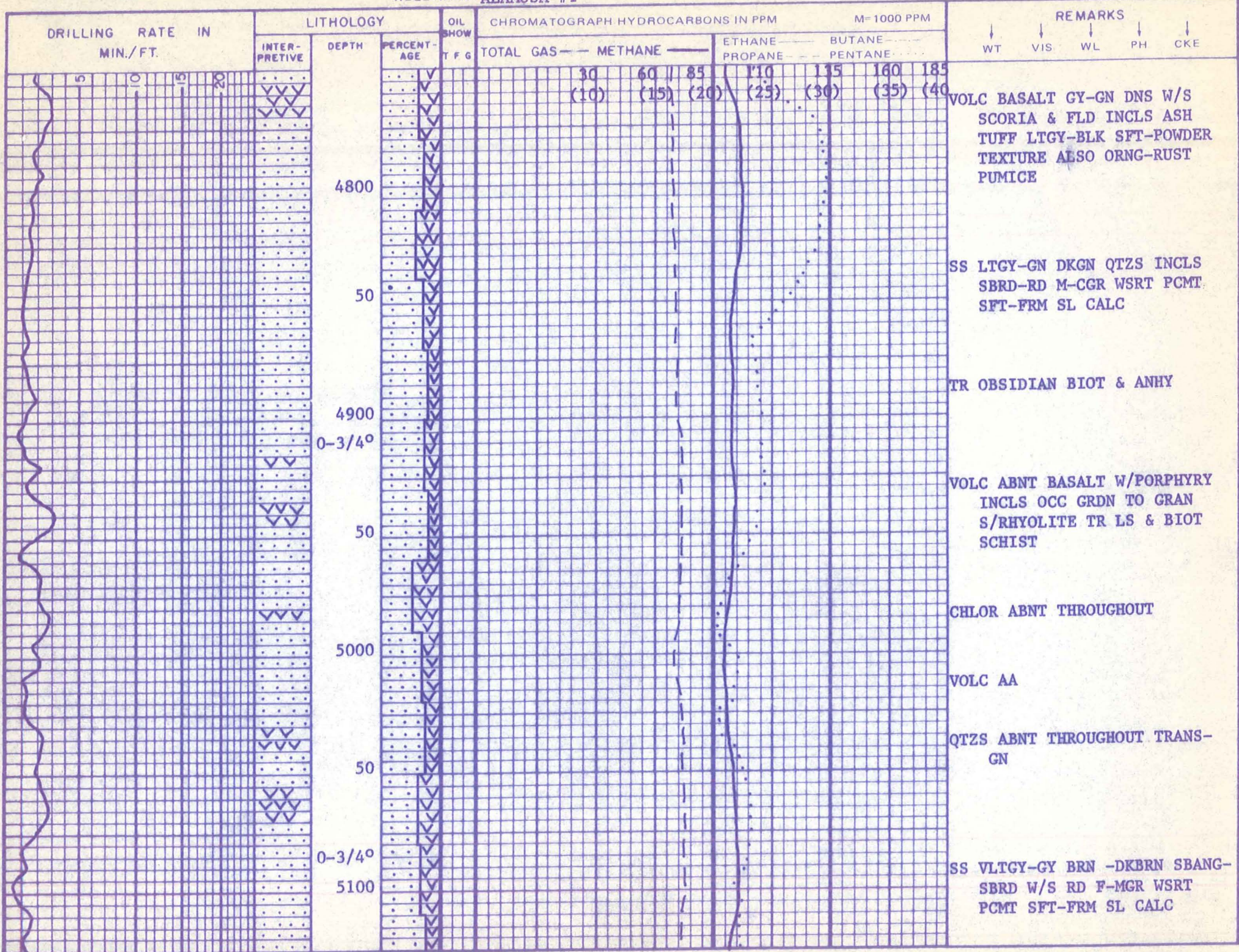
CARBIDE LAG OF 200 GRAMS  
LAG TIME OF 68 MIN.

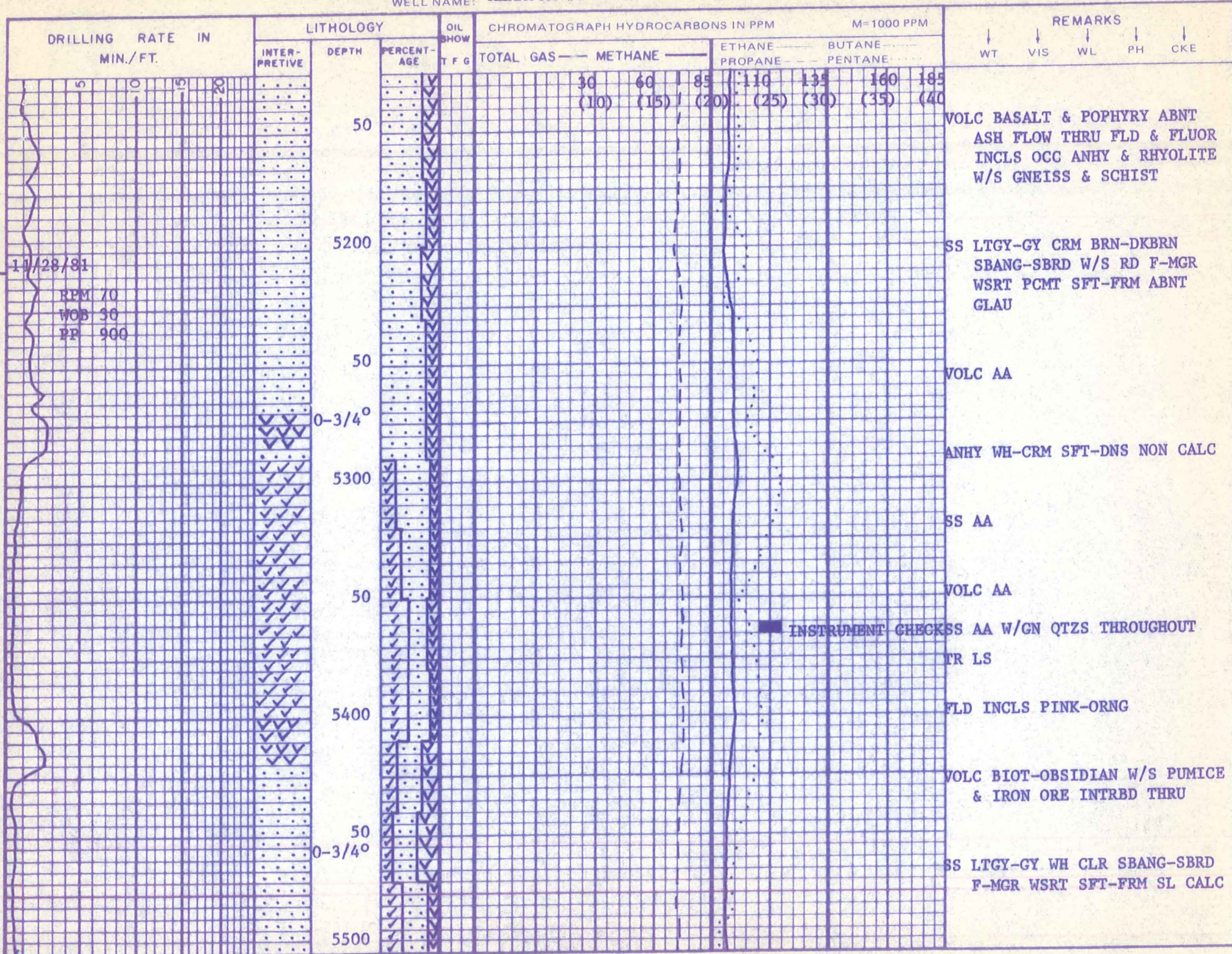
WELL NAME: **ALAMOSA #1**

DRILLING RATE IN MIN./FT.				LITHOLOGY		OIL SHOW	CHROMATOGRAPH HYDROCARBONS IN PPM					REMARKS								
				INTER- PRETIVE	DEPTH	PERCENT- AGE	T F G	TOTAL GAS — METHANE		ETHANE PROPANE	BUTANE PENTANE	M=1000 PPM								
								30	60	85	110	135	160	185	WT	VIS	WL	PH	CKE	
				▽▽	0-1/2° 4400	▽▽		(10)	(15)	(20)	(25)	(30)	(35)	(40)	SS	WH-CLR LTGY S&P SBANG-SBRD F-MGR WSRT SFT-FRM PCMT SL CALC LTGY-GN VSLTY GRDN TO SLTSTN W/ABNT CHLOR				
					0-1/2° 50	▽▽									TR	LS WH-CRM FRM MICXLN				
					4500	▽▽									TR	DOLO				
				▽▽	50	▽▽									VOLC	ABNT ASH FLOW TUFF & BASALT GY-DKGY GN-DKGN DNS W/ABNT SCORIA INCLS IRON DEPOSITS & FLD FRAG				
				▽▽	4600	▽▽									TR	ANHY WH-CRM SFT-DNS NON CALC				
11/27/81					50	▽▽									TR	OBSIDIAN BLK SMOOTH SHINY BREAK AWAY IN TRANSPARENT THIN FRAGS				
RPM 72 WOB 30 PP 900					0-1° 4700	▽▽									VOLC	AA				
					50	▽▽									TR	LS AA				
				▽▽	50	▽▽									SS	LTGY-GY GN REDISH BRN W/ QTZS INCLS SBRD-RD M-CGR WSRT PCMT SFT-FRM SL CALC				

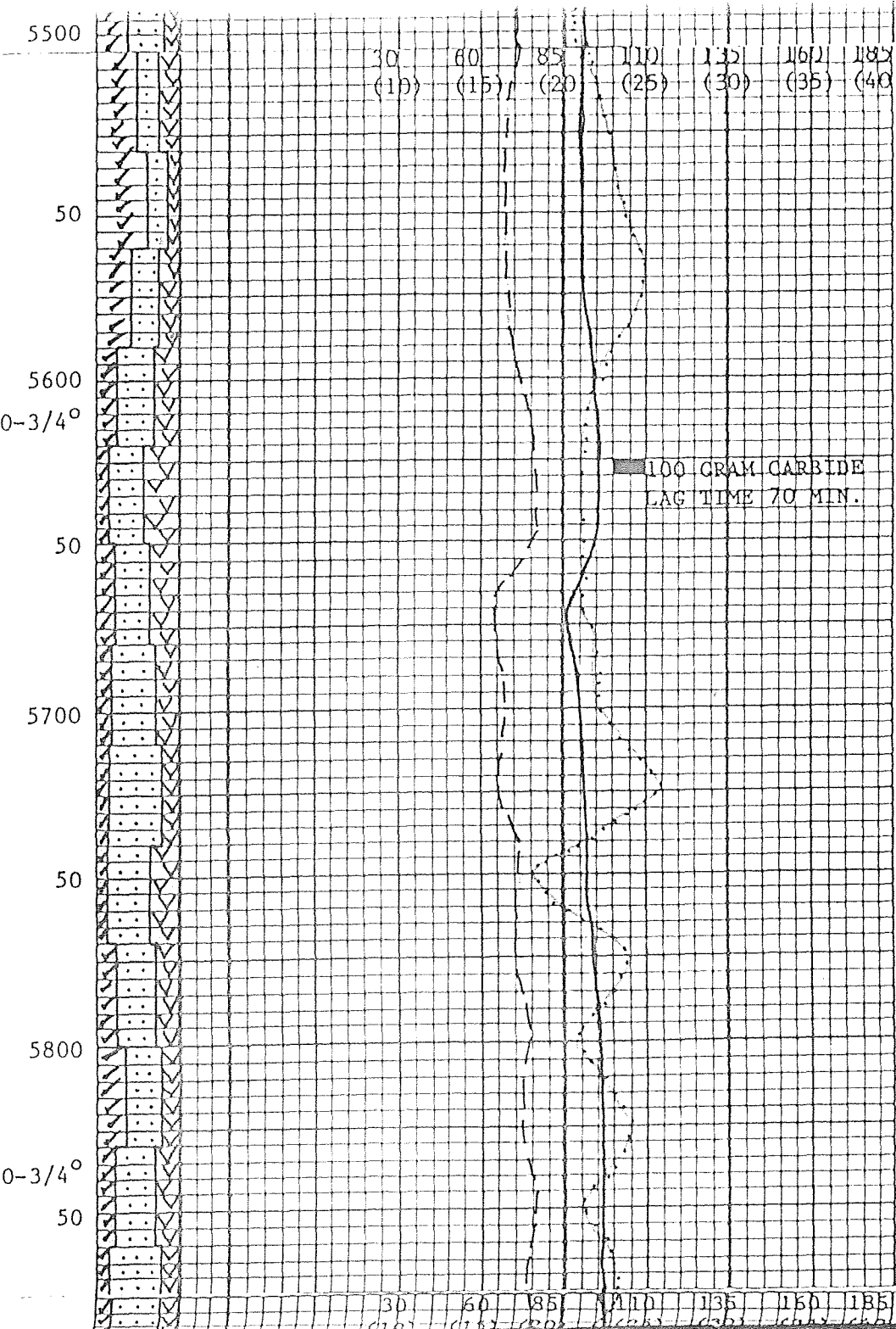
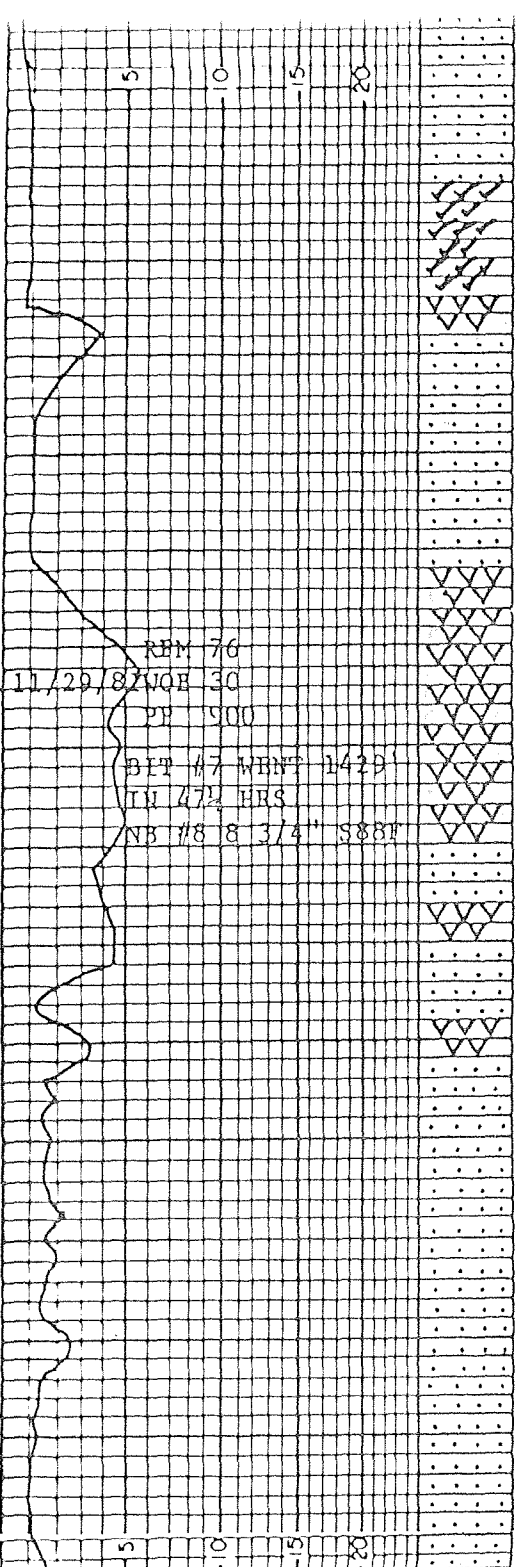


WELL NAME: ALAMOSA #1





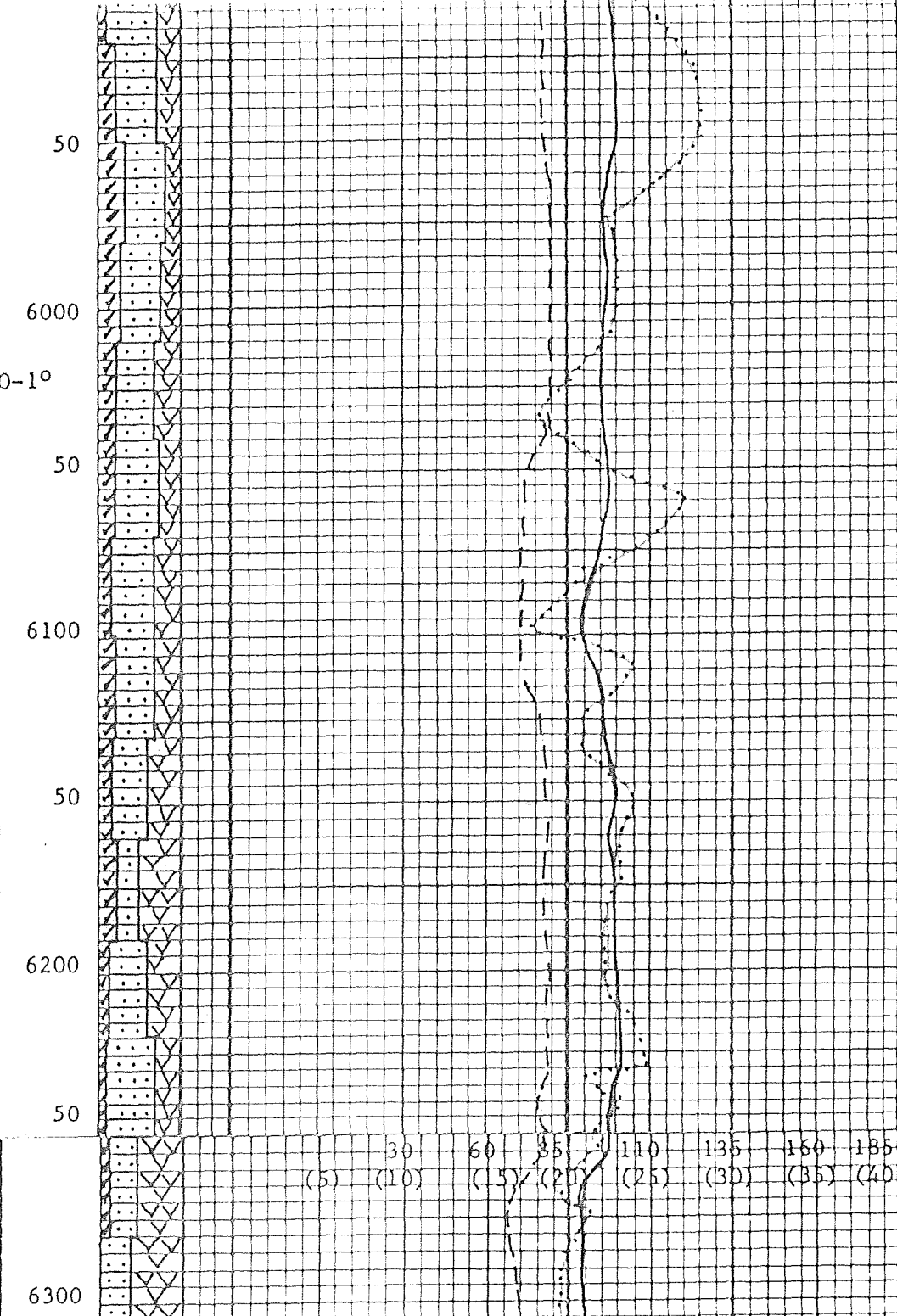
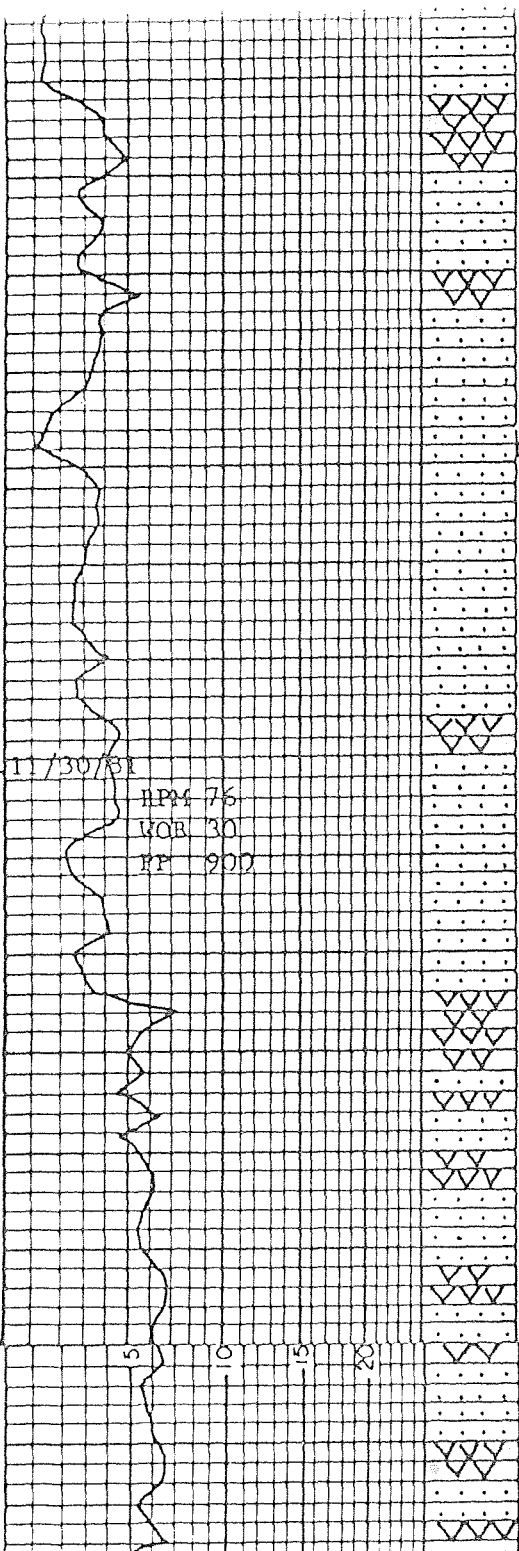
11/28/81  
RPM 70  
WOB 30  
PP 900



VOLC RHYOLITE-BIOT W/SM AMT  
 IRON ORE OBSIDIAN INCLS  
  
 TR CHT  
  
 TR LS THROUGHOUT  
  
 ANHY WH-CRM SFT-DNS NON CALC  
  
 SS LTGY-GY WH-CLR TRANS SBANG  
 ANG MGR WSRT PCMT FRM  
 SL CALC ALSO S/GN QTZS  
  
 LS THRU  
  
 VOLC PORPHYRY & BASALT W/S  
 ASH FLOW FLD INCLS SM  
 AMT RHYOLITE&SCHISTS  
  
 ANHY AA POSS CVGS  
  
 CHLOR ABNT  
  
 VOLC IRON DEPOSITS THRU W/SM  
 AMT ZEOLITE  
  
 ANHY POSS CVGS

30 (10) 60 (15) 85 (20) 110 (25) 135 (30) 160 (35) 185 (40)

SBANG-ANG W/S SBRD F-MGR  
WSRT PCMT SFT W/S GRDN  
TO SLTSTN SL CALC



TR LS THROUGHOUT

ANHY WH-CRM DNS POSS CVGS

VOLC BIOT & RHYOLITE & S/  
FELSITE W/S SCHIST FLD  
AND OCC OBSIDIAN IRON  
DEPOSITS ABNT CHLOR THRU  
W/S PUMICE POSS HEMATITE

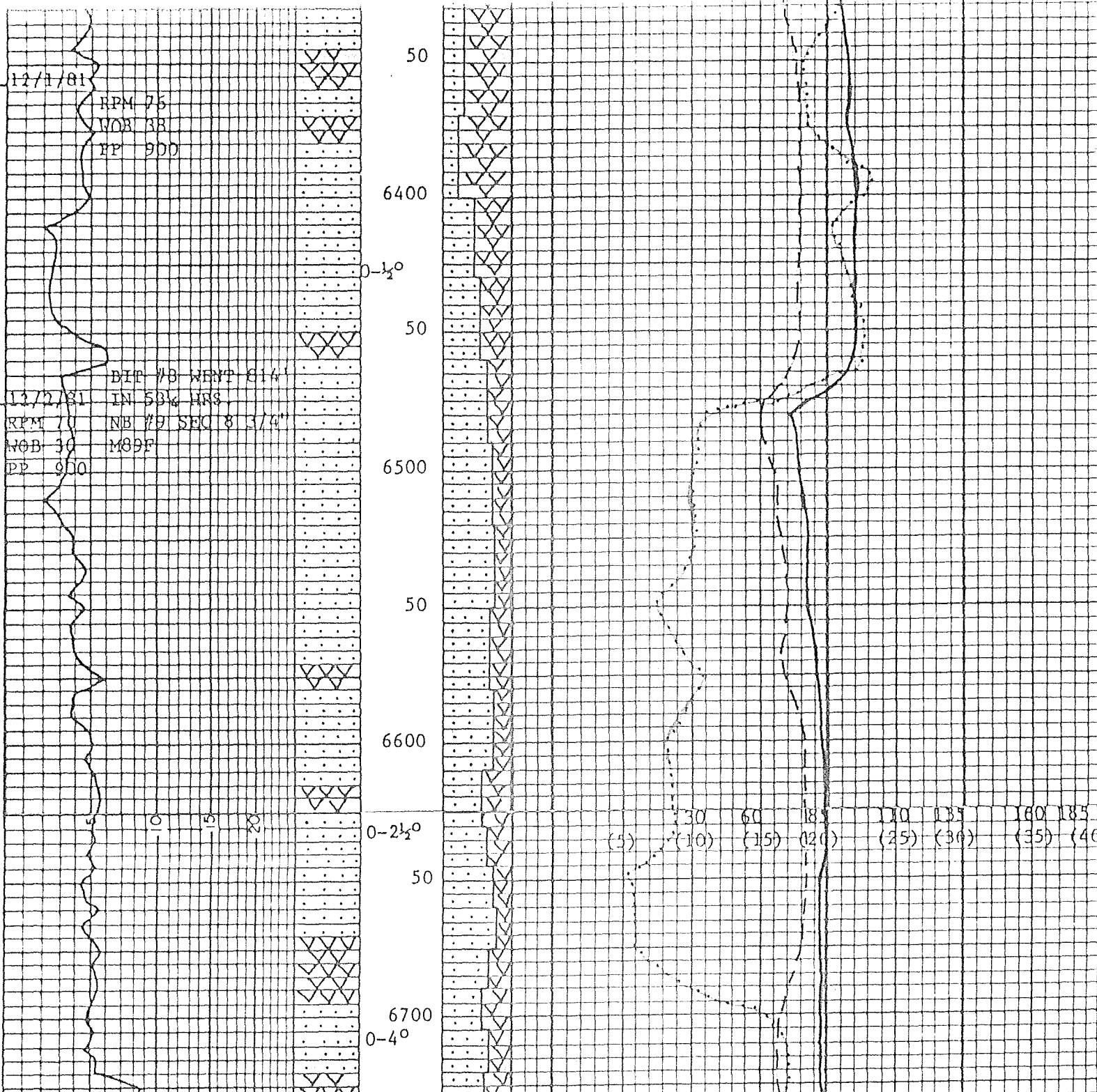
TR LS ABNT THROUGHOUT

ANHY AA POSS CVGS

SS GY-GN W/S REDISH BRN W/  
ABNT TRANS & GN QTZS  
SBANG-VANG OCC RD MGR  
W/ OCC CGR VWSRT PCMT  
NON CALC-SL CALC

VOLC MAROON ORNG-RUST ABNT  
IRON ORE INCLS BIOT FLD  
RHYOLITE OCC OBSIDIAN

VOLC ASH FLOW TUFF RHYOLITE  
BIOT BLK SHINY S/ SCHIST  
FLD INCLS W/BASALT INCLS



SS GRN LGR CLR QTZS SBANG-  
ANG OCC RD W/THE QTZS  
VANG VWSRT PCMT FRM-HD  
SL CALC

TR LS INTRBD THROUGHOUT  
W/SM AMT DOLO

TR'S ANHY THRU POSS UPHOLE  
CVGS

ABNT SCHIST-GNEISS W/FLD &  
FLUOR OCC OBSIDIAN

QTZS FROS-CLR VANG NON CALC

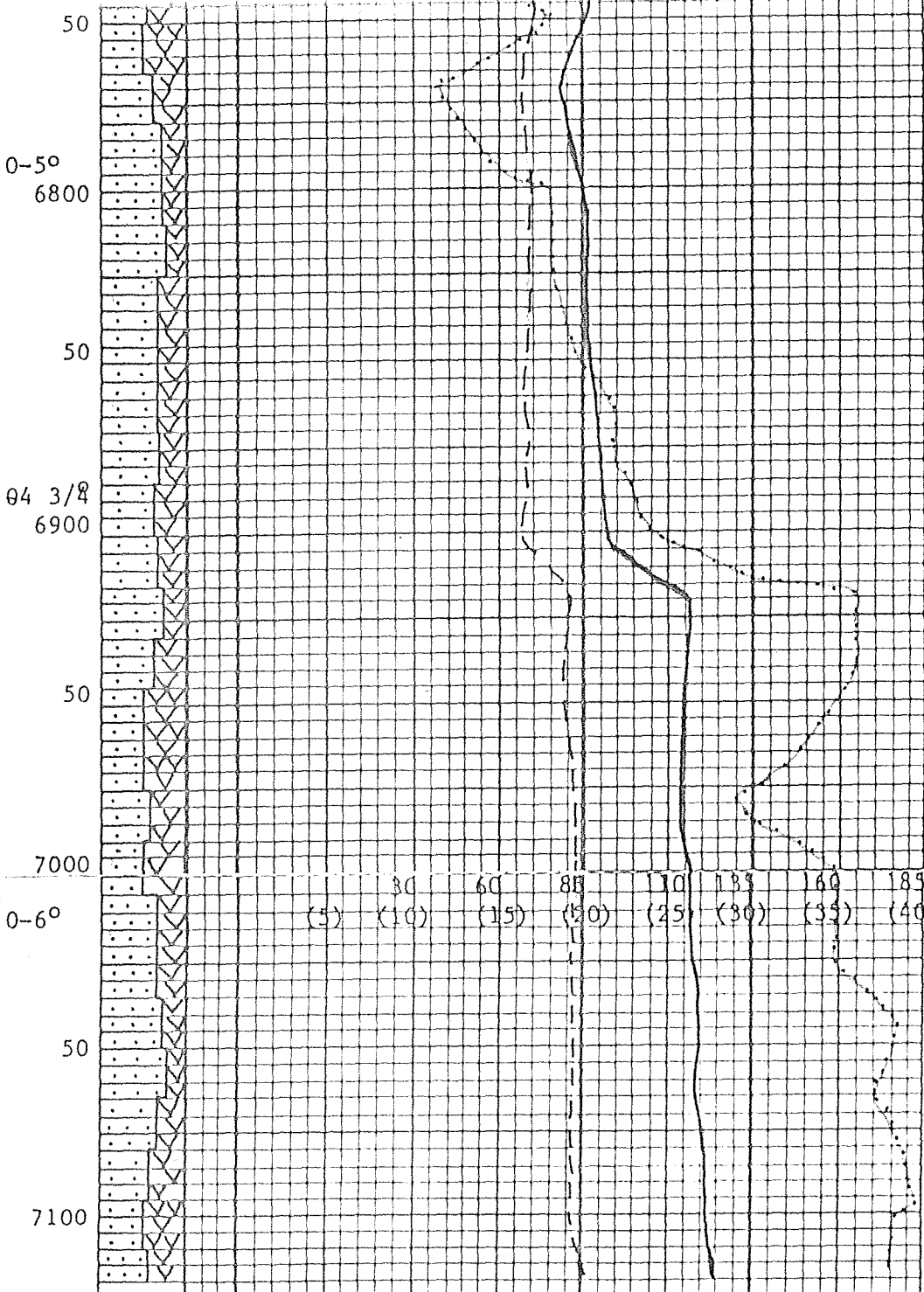
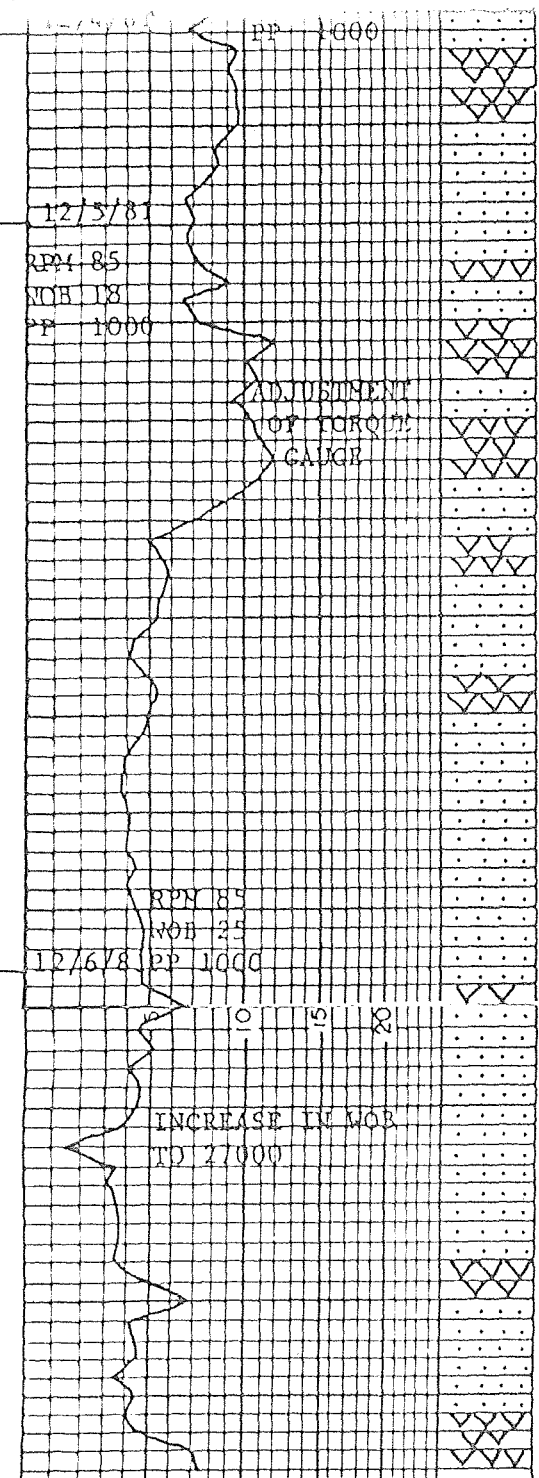
8.7 28 -- -- --

SS AA W/ ABNT QTZS INCLS

VOLC SOME ASH FLOW RHYOLITE  
BIOT W/ ABNT SLIVERED  
MICA SCHIST GNEISS SM/  
AMT ZEOLITE INCLS W/S  
TR GRAN WASH

SS WH-CLR TRANS QTZS SBANG-  
ANG THE QTZS BEING VANG  
WSRT VPCMT FRM-HD W/ OCC  
HD THRU SL CALC

VOLC ABNT BIOT & MUSC W/S  
RHYOLITE & CHLOR MICA  
SCHISTS



TWISTED OFF THE JARS FISHING WITH OVERSHOT

SS GY-DKGY-GN SBRD-SBANG SFT-FRM WSRT FCMT QTZS CLR FROS-TRANS ANG WSRT PCMT HD-VHD SL CALC

VOLC BIOT & MUSC ABNT MICA SCHISTS W/OCC CHLOR INCLS

TRANSFERED THERMAL PROBE DIRECTLY INTO FLOW LINE FOR INCREASED SENSITIVITY

SS LTGY-GY GN SBRD-SBANG SFT-FRM M-WSRT P-FCMT W/S GRDN TO SLTSTN QTZS ABNT THROUGHOUT CLR-TRANS W/S IRON STAIN ORNG HD-VHD

VOLC MUSC & BIOT W/MICA SCHISTS OCC CHLOR INCLS ANHY CVGS THROUGHOUT

SS GY-GN SBANG SFT-FRM M-WSRT P-FCMT SM AMT GRDN TO SLTSTN QTZS ABNT CLR-TRANS W/S ORNG STAINED W/ IRON S/ LTGN QTZS HD

DRILLERS TD @ 7120'

LOGGERS TD @ 7118'