



Amoco Production Company (USA)

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

R. W. Schroeder
District Superintendent

July 21, 1982

New Mexico Oil Conservation Commission
Attn: Dan Nutter
Box 2088
Santa Fe, NM 87501

File: DHS-331-986.510.1

Dear Sir:

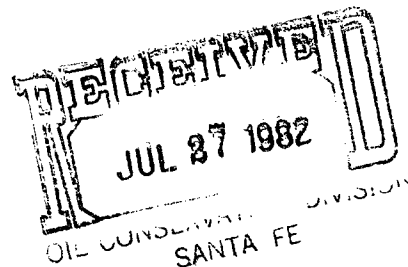
Commingling Application - Stanolind Gas Com B No. 1
1390 FSL x 890 FEL Section 9, T32N, R12W
San Juan County, New Mexico

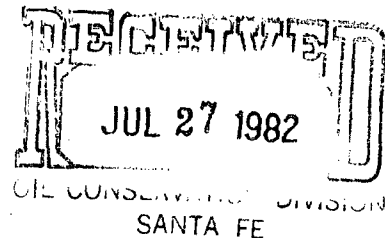
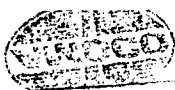
Attached please find two copies of our application to commingle production from the Greenhorn and Gallup formations in the subject well. Also attached are two copies of the application to multiple complete the Mesaverde with the commingled production from the Greenhorn and Gallup that was approved April 8, 1982. This application was originally sent to you April 5, 1982. If possible we would like to obtain verbal approval for the commingling as soon as possible so that we may begin production.

Sincerely,

DSR/tk

Attachments





April 5, 1982

New Mexico Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, NM 87410

New Mexico Oil Conservation Division
Box 2088
Santa Fe, NM 87501

File: WLP-72-985.510.1

Commingling and Multiple Completion Application for the Stanolind Gas Com "B"
No. 1, 1390 FSL x 890 FEL Section 9, T32N, R12W, San Juan County, New Mexico

Amoco Production Company requests approval to commingle the Undesignated Greenhorn and Undesignated Gallup formations in the subject well. We also request approval to produce the two commingled zones in a dual completion with the Blanco Mesaverde formation. This multiple completion will use a production packer set between the Mesaverde and the Gallup, a 2-1/16" tubing string to produce the Mesaverde and a 2-3/8" tubing string to produce the Greenhorn-Gallup.

The commingling of the Greenhorn and Gallup production is necessary due to the anticipated low production from the Greenhorn of 400 MCFD. This production is low enough that it would not be economical to produce the zone by itself. Therefore, the only way to produce the zone is by commingling with the Gallup production. The proposed commingling will not adversely effect either zone for the following reasons:

1. The bottom hole pressure of the Gallup (2177 psi) and Greenhorn (2317 psi) are approximately equal, thus preventing crossflow.
2. Only the Greenhorn produces liquid (0-5 BCPD), so there will be no mixing of incompatible fluids in the wellbore.
3. The Gallup does not have a history of sensitivity to liquid hydrocarbons and will not be damaged by the Greenhorn's condensate production.
4. Since both zones produce gas of approximately the same composition, there will be no loss of value as a result of the commingling.
5. Both zones have common ownership, so there will be no problems in allocating royalty or working interest payments.

In compliance with NMOC Rule 303 C "Downhole Commingling", please find attached two copies of each of the following:

1. "Well Location and Acreage Dedication Plat" (NMOC Form C-102)
2. Well location map
3. List of names and addresses of all outside operators
4. A complete well completion history (USGS Form 9-331 "Sundry Notices and Reports on Wells")
5. Copies of the potential tests for the Greenhorn and the Gallup
6. NMOC Form C-116 for the Greenhorn showing the results of a 24-hour flow test. The Greenhorn was flow tested through a separator for five days after completion. During the last 24-hour period it flowed 400 MCF and 3 barrels of condensate. The Gallup was not tested for 24 hours.

State rules require current (within 30 days) productivity tests. The Greenhorn flow test was taken in August, 1980, and has not been produced since that time except for the 3-hour potential test. The Gallup also has never been produced. Because both zones have never been produced since their tests, we request that an exception be granted to the 30-day requirement for both the productivity tests and bottom hole pressure tests.

7. Actual bottom hole pressures for each zone as measured by pressure bomb
8. A copy of the gas analysis of produced gas from the Greenhorn
9. A copy of the gas analysis of commingled Gallup-Greenhorn production. An individual Gallup gas analysis is not available; however, comparison of the Gallup-Greenhorn to the individual Greenhorn gas analysis shows the horizons to have similar gas properties.
10. A copy of the letter sent to all offset operators and the Minerals Management Services notifying them of our intent to commingle

To allocate production to the individual Gallup and Greenhorn horizons, we recommend the following:

1. Allocate 400 MCFD as shown on Form C-116 to the Greenhorn horizon for the first 30 days of production.
2. Allocate the remainder of the commingled production to the Gallup formation for the first 30 days.

Page 3

April 5, 1982

File: WLP-72-986.510.1

3. After 30 days, we will submit a Form C-116 for the Gallup to reflect the difference between commingled and Greenhorn (400 MCFD) production.
4. Allocate production to each horizon after the first 30 days according to the ratio of Gallup and Greenhorn production established in the previous step (No. 3).
5. Allocate all condensate production to the Greenhorn horizon.

Production from the Gallup is 100 percent dry gas. The Greenhorn produces approximately 5 BCPD and no water. Therefore we have not attached a fluid analysis of the produced fluids. The Gallup formation does not have a history of sensitivity to condensate and will not be damaged by commingling.

Amoco also proposes to dually complete the Greenhorn-Gallup commingled production with production from the Blanco Mesaverde horizon. This is necessary to fulfill a lease demand for the Mesaverde by the Minerals Management Services. In compliance with NMOC Rule 112-A "Multiple Completions" please find attached two copies of the following:

1. A completed copy of NMOC Form C-107 "Application for Multiple Completion"
2. Wellbore diagram
3. Electrical logs
4. Names and addresses of all offset operators

In summary, the Stanolind Gas Com B No. 1 has been completed in three zones, the Greenhorn, the Gallup and the Mesaverde. The rate that the Greenhorn will produce is not enough to justify its production as a single completion. Therefore we propose commingling the Greenhorn and Gallup. The Mesaverde must be produced in order to fulfill a lease demand by the Minerals Management Services. Therefore we also propose producing the Mesaverde with the commingled Greenhorn-Gallup using a dual completion.

We would like to obtain approval for this well as soon as possible so that we may begin production. Your prompt handling of this matter is appreciated.

Sincerely,

Original Signed By
R. W. SCHROEDER

DSR/tk
Attachments

WSTC
copy

Copy to
WSTC
WSTC
JUL 27 1982

RECEIVED
APR 8 1982
OIL CON. COM.
DIST. 3

APPLICATION FOR MULTIPLE COMPLETION

SANTA FE
2/17/82

Operator Amoco Production Company County San Juan Date 2/17/82
Address 501 Airport Dr., Farmington, NM Lease Stanolind Gas Com "B" No. 1 Well No. 12
Location I Unit 9 Section 32 Township 12 Range 12
of Well

RECEIVED
JUN 14 1982
OIL CON. COM.
DIST. 3

All Applicants for multiple completion must complete Items 1 and 2 below.

1. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Blanco Mesaverde	Undesignated Gallup	Undesignated Greenhorn
b. Top and Bottom of Pay Section (Perforations)	4426 - 4599 3979 - 4599	5968 - 6058	6722 - 6778
c. Type of production (Oil or Gas)	Gas	-Gas	Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing	Flowing
e. Daily Production ☐ Actual ☒ Estimated Oil Bbls. Gas MCF Water Bbls.	942 MCFD	2523 MCFD Gallup and Greenhorn production be commingled downhole	400 MCFD

RECEIVED
JUL 20 1982
FARMINGTON
DIST. 3
1
2
3
4
5 GDM
6 WSTC
7 GTR
8 TRPM

2. The following must be attached:

- Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease
- Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed _____ Title District Superintendent Date _____

(This space for State Use)
Approved By [Signature] Title Dist Sup. Date 4-8-82

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

All distances must be from the outer boundaries of the Section

JUL 27 1982
No. 1

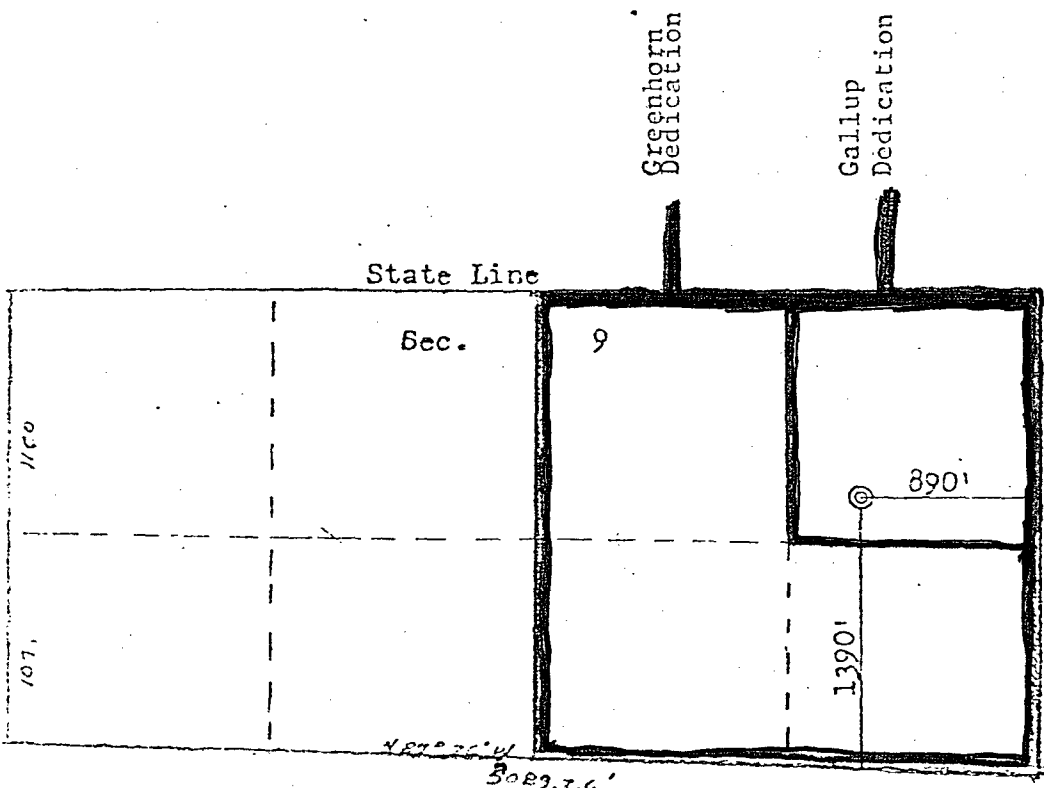
Operator AMOCO PRODUCTION COMPANY			Lease STANOLIND GAS COM. "B"		
Well Letter I	Section 9	Township 32N	Range 12W	County San Juan	
Well Footage Location of Well: 1390 feet from the South line and 890 feet from the East line					
Ground Level Elev: 6071	Producing Formation Greenhorn/Gallup	Pool Undesignated Greenhorn/ Undesignated Gallup		Dedicated Acreage: 149.63/38.94 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Communitized

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

B. E. Fackrell

Name

B. E. FACKRELL

Position

DISTRICT ENGINEER

Company

AMOCO PRODUCTION COMPANY

Date

AUGUST 20, 1979

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

July 5, 1979

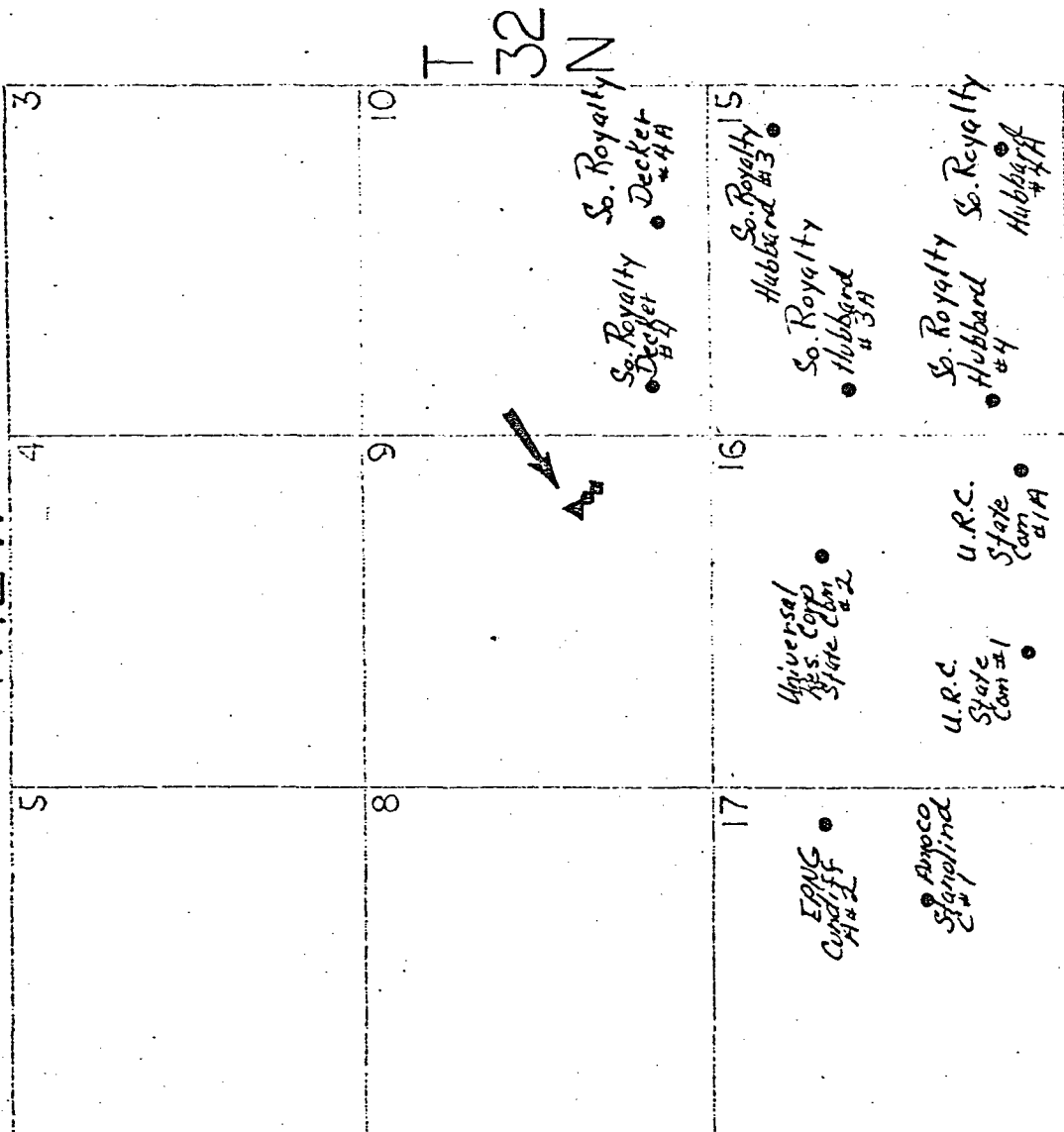
Registered Professional Engineer
and Land Surveyor

Fred B. Kerr Jr.

Certificate No.

3950

R12W



• BLANCO MESAVERDE WELLS

■ UNDES GALLUP

▲ UNDES GREENHORN

1. El Paso Natural Gas
P. O. Box 990
Farmington, NM 87401
2. Southland Royalty Company
P. O. Drawer 570
Farmington, NM 87401
3. Universal Resources Corporation
710 National Foundation West Building
3555 NW 58th St.
Oklahoma City, OK 73112

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

JUL 27 1982

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☒ other ☐
well well
2. NAME OF OPERATOR
Amoco Production Company
3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, NM 87401
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1390' FSL x 890' FEL
AT TOP PROD. INTERVAL: Same
AT TOTAL DEPTH: Same
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐
(other) Completion Summary

SUBSEQUENT REPORT OF:

RECEIVED
JAN 25 1982
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME
Stanolind Gas Com B
9. WELL NO.
10. FIELD OR WILDCAT NAME
Blanco Mesaverde/Basin Dakota
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
NE/4, SE/4 Section 9, T32N, R12W
12. COUNTY OR PARISH
San Juan
13. STATE
New Mexico
14. API NO.
30-045-24149
15. ELEVATIONS (SHOW DF, KDB, AND WD)
6071 GL

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Moved in and rigged up service unit 7-20-80. Perforated intervals 6924-6944' and 6945-6958' with 2 SPF. Attempted to foam frac Dakota. Frac sanded off with 19,000 lbs. of 20-40 sand in formation. Cleaned out sand and pumped 10,000 gallons foam pad. Tried to start sand and sanded off when sand hit perms. Clean out sand and frac with 38,000 gallons 40 pound crosslinked gelled water. Could not complete flush due to high pressure. Clean out sand and pumped 2% KCl water to establish rate. Well pressured out. Spotted 1000 gallons 15% HCl over perms. Perforated 6924-6944' and 6948-6958' with 4 SPF. Pumped 2% KCl water to establish rate and could not. Well would not flow. Swabbed well dry and still would not flow. Set drillable bridge plug at 6830 and perforated Greenhorn interval 6722-73' with 2 SPF. Spotted 3 bbls. of 15% acid over perf. Attempted to breakdown with 1000 gallons 15% acid. Could not

(over)

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Wayne A. Peterson TITLE Dist. Engineer DATE 1-19-82

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD

JAN 26 1982

*See Instructions on Reverse Side

OPERATOR

FARMINGTON DISTRICT
BY 23

0-4 - USGS - Farmington
1 - Shipp
1 - Ross
1 - Open
1 - 2070-2
1 - Smith

Instructions

General: This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 17: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

(Cont'd)

determine if formation had broken down. Dropped 200 balls and could not see any ball action. Spotted acid over perfs then pumped 1000 gallons 15% HCl at 6 BPM at 5100 psi. Swabbed well and recovered 71 bbls. of gas cut fluid. Put well on flow test. Finished flow test and frac Greenhorn with 94,000 gallons frac fluid and 73,000 pounds 20-40 sand. Flowed well to pit. Cleaned out sand and swabbed well. Released service unit 8-9-80.

Moved in and rigged up swab unit 8-12-80. Swabbed well and it kicked off. Released swab unit 8-14-80. Flowed well to clean up. Flow tested well.

Finished flow test and moved in and rigged up service unit 8-27-80. Set drillable bridge plug at 6350. Perforated Gallup intervals 6139-6260' with 2 SPF. Broke down formation at 1400 psi with 2% KCl water. Dropped balls and saw no ball off. Set retrievable bridge plug at 6100'. Perforated Gallup interval 5968-6058'. Broke down with 2% KCl water at 2400 psi. Dropped balls and saw no ball off. Retrieved bridge plug and swabbed well. Recovered 108 bbls. of gas cut fluid. Swabbed well and it kicked off. Flowed well to clean up and test. Service unit released 9-5-80.

Moved in and rig up service unit 9-9-80. Frac Gallup with 392,000 gallons 40 pound crosslinked gelled water and 714,000 pounds 20-40 sand. Frac sandered off with 353,000 pounds of sand in formation. Cleaned out sand and flowed to clean up. Released service unit 9-13-80.

Moved in and rigged up swab unit 9-16-80. Swabbed well and it kicked off. Released swab unit and flowed well to clean up.

Moved in and rigged up swab unit 10-15-80. Swabbed well and it kicked off. Released swab unit 10-25-80. Flowed well to clean up.

Moved in and rigged up service unit 1-8-81. Drilled out bridge plug at 6350'. Spotted 5 sx Class B cement with dump baller at 6830'. Set production packer at 6672'. Land 2-1/16 inch tubing at 6257' to produce Gallup, land 2-3/8 inch tubing at 6778' to produce Greenhorn. Opened up Greenhorn and Gallup to flow. Rig released 1-15-81.

Page 2, Sundry Notice

Moved in and rigged up service unit 10-1-81. Milled out packer.

Set drillable bridge plug at 4705'. Perforated Mesaverde interval 4426-4464'. Well kicked off. Killed well and perfed 4474-4511', 4514-4517', 4523-4527', 4557-4577' and 4592-4597'. Well kicked off. Killed well and set drillable bridge plug at 4200'. Perforated intervals 3979-4040' with 2 SPF. Frac with 40,000 gallons gelled water and 64,000 pounds 20-40 sand. Flowed well to clean up. Well died. Swabbed well and it would not kick off. Squeezed interval 3979-4040' with 100 sx of RSC 10-2 containing 1% fluid loss additive. Drilled out cement and clean out sand to bridge plug at 4215'. Tripped out with bridge plug. Set production packer at 4748'. Landed 2-3/8 tubing at 6648' to produce Greenhorn and Gallup; land 2-1/16 inch tubing at 4520' to produce Mesaverde. Rig released 11-4-81.

Type Test ☒ Initial ☐ Annual ☒ Special				Test Date JUL 27 1982 2-16-81			
Company Amoco Production Company				Connection El Paso Natural Gas Co.			
Pool Blanco <i>Unders</i>				Formation Gallup <i>and Gallup</i>			
Completion Date 1-15-81		Total Depth 7105		Plug Back TD 6797		Elevation 6071	
Form or Lease Name Stanolind Gas Com "B"				Well No. 1			
Csg. Size 7.000	Wt. 23	d 6.336	Set At 7105	Perforations: From 5968 To 6260		Well No. 1	
Tub. Size 2.063	Wt. 3.25	d 1.751	Set At 6257	Perforations: From open To ended		Unit I 9 32N 12W	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Dual				Packer Set At 6672		County San Juan	
Producing thru tubing		Reservoir Temp. °F p		Mean Annual Temp. °F		State New Mexico	
L	H	Gg	% CO ₂	% H ₂	% H ₂ S	Prover	Meter Run Taps

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI	7 days						1557		1557		
1.	2.375	.750					203		785		3 hrs
2.											
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mhd
1	12.365		215	1.000	.9258	1.025	2523
2.							
3.							
4.							
5.							

NO.	P _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure P.S.I.A.	Critical Temperature °R
1.										
2.										
3.										
4.										
5.										

P _c 1569 P _c ² 2461761				
NO.	P _w	P _w ²	P _c ² - P _w ²	
1	797	635209	1826552	
2				
3				
4				
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.3478$$

$$AOI = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3156$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2509$$

Absolute Open Flow	3156	Mhd @ 15.025	Angle of Slope	Slope, n .75
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Approved By	Conducted By	Calculated By	Checked By
	JJB	J. J. BARNETT	CB

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT ID ONE POINT BACK PRESSURE

Form C-122
Revised 9-1-65

FOR GAS WELL
MULTIPOINT
JUL 27 1982

Type Test ☒ Initial ☐ Annual ☒ Special		Test Date 2-9-81	
Company Amoco Production Company		Connection El Paso Natural Gas Co.	
Pool		Formation Greenhorn	
Completion Date 1-15-81		Total Depth 7105	Plug Back TD 6797
		Elevation 6071	Unit HDP MWD
Csg. Size 7.000	Wt. 23	d 6.366	Set At 7105
Perforations: From 6722 To 6778		Well No. 1	
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 6773
Perforations: From open To ended		Unit Sec. Twp. Rge. I 9 32N 12W	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Dual		Packer Set At 6672	County San Juan
Producing Thru Tubing	Reservoir Temp. °F 8	Mean Annual Temp. °F	Bore. Press. - P ₀
State New Mexico			
L	H	G _g .70	% CO ₂
		% H ₂	% H ₂ S
		Prover	Meter Run
		Taps	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI	14 days						1870				
1.	2375		.750				20				3 hrs
2.											
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{cp}	Rate of Flow Q, Mgd
1	12.365		32	1.000	.9258	1.000	368
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ XXXXXXXXXX
3.					Specific Gravity Flowing Fluid _____ XXXXX
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ °R _____ °R

P _c 1882	P _c ² 3541924	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 1.0010$	(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.0008$
NO. 1	P _w 62	P _w ² 3844	P _c ² - P _w ² 3538080
2.			
3.			
4.			
5.			

Absolute Open Flow 368		MdL # 15.025	Angle of Slope 6	Slope, n .75
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Approved By Commission	Conducted By JJB	Calculated By J. J. BARNETT	Checked By CE
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GAS-OIL RATIO TESTS

Operator		Pool		County		TYPE OF TEST - (X)		Schedule		Completion		GAS-OIL RATIO		
Amoco Production Company		Undesignated Greenhorn		San Juan		TEST - (X)		Schedule		Completion		GAS-OIL RATIO		
501 Airport Drive		Undesignated Greenhorn		San Juan		TEST - (X)		Schedule		Completion		GAS-OIL RATIO		
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	PRESS.	DAILY ALLOW.	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS-OIL RATIO CU.FT./BBL.	
		U	S	T						R	WATER BBL.	GRAV. OIL		OIL BBL.
Stanolind Gas Com "B"	1	H	9	32	12	8/22/80	16/64	410		24	0	3	400	1,333,333

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order the well can be assigned increased allowable, when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15,025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 331 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

(Signature)

(Title)

BOTTOM HOLE PRESSURE DATA

WELL NAME & NO. STANOLIND "B"-1 Gallup
FIELD _____

Date of Test 9-8-81

Well Completion Data

Total Depth	7105		
Plugged Back Depth	-6830		
Production Casing	4-1/2 K-55	" CSA	7105 Ft.
Tubing	2-3/8" J-55	" Landed At	6648 Ft.
Seating Nipple Depth			
Perforations	5968'-6058		

Mid-Point Perforations 6013
Elevation 6071 GL; DF; 6084 RDB
Datum (Sub-Sea)

Pressure Data

Shut-in Tubing Pressure	1855	PSIG
Shut-in Casing Pressure	1855	PSIG

Bottom Hole Pressure Data

Type Instrument Used Amerada RPG-3 Element
Pressure Range of Element 0-3000
Date Element Calibrated -

<u>Time</u>	<u>Depth Stopped</u>	<u>Extension</u>	<u>Pressure</u>	<u>Gradient</u>	<u>Temperature</u>
	Surface	1.218	1855		
	6200	1.428	2177		

BHP 2177 Datum

Remarks

BOTTOM HOLE PRESSURE DATA

WELL NAME & NO. STANOLING "B" -1 Greenhorn
FIELD

Date of Test 9-8-81

Well Completion Data

Total Depth	7105		
Plugged Back Depth	6830		
Production Casing	4-1/2 K-55	" CSA	7105 Ft.
Tubing	2-3/8" J-55	" Landed At	6648 Ft.
Seating Nipple Depth			
Perforations	6722'-6778'		

Mid-Point Perforations 6750
Elevation 6071 GL; DF; 6084 RDB
Datum (Sub-Sea)

Pressure Data

Shut-in Tubing Pressure	1893	PSIG
Shut-in Casing Pressure	1893	PSIG

Bottom Hole Pressure Data

Type Instrument Used Amerada RPG-3 Element
Pressure Range of Element 0-3000
Date Element Calibrated

<u>Time</u>	<u>Depth Stopped</u> <u>Surface</u>	<u>Extension</u> 1.243	<u>Pressure</u> 1893	<u>Gradient</u>	<u>Temperature</u>
	6750'	1.520	2317		
BHP	2317		Datum		

Remarks

220

CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794
Casper, Wyoming 82602

GAS ANALYSIS REPORT

Company Amoco Production Company Date 8-26-80 Lab. No. 35150
 Well No. Stanolind Gas Com B No. 1 Location Section 9-32N-12W
 Field San Juan Formation Green Horn
 County New Mexico Depth _____
 Sample pressure 302 psig; Sample pressure 285 psig; Temperature 83 ° F; Container number AMOCO
 Remarks _____

Component	Mole % or Volume %	
Oxygen.....	0	
Nitrogen.....	1.48	
Carbon dioxide.....	2.20	
Hydrogen sulfide.....	*	
Methane.....	87.72	
Ethane.....	6.59	
Propane.....	1.43	
Iso-butane.....	0.29	
N-butane.....	0.15	
Iso-pentane.....	0.04	
N-pentane.....	0.03	
Hexanes & higher.....	0.02	
Total.....	100.00	0.583

Gallons
per MCF
0.4065
0.095
0.047
0.015
0.011
0.009

GPM of pentanes & higher fraction..... 0.035
 Gross btu/cu. ft. @ 60° F. & 14.7 psia (dry basis)..... 1059
 Specific gravity (calculated from analysis)..... 0.636
 Specific gravity (measured)..... 0.635

Remarks: * H_2S negative to Lead Acetate Paper.

W
4-59
ION
1
2
3
3.60
Gallons
per MCF
0.4065
0.095
0.047
0.015
0.011
0.009
cc: By Rec
vance mottle

W.C.
Engineer

CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794
Casper, Wyoming 82602

GAS ANALYSIS REPORT

Company AMOCO Production Co. Date 3-25-82 Lab. No. 40219-4
Well No. Stanolind Gas Com B#1 Location _____
Field Undesignated Greenhorn Gallup Formation _____
County San Juan Depth _____
State New Mexico Sampling point _____
Line pressure 1635 psig; Sample pressure 1370 psig; Temperature _____ ° F; Container number RC3125
Remarks (3-18-82)

Component	Mole % or Volume %	
Oxygen.....	0	
Nitrogen.....	0.87	
Carbon dioxide.....	1.13	
Hydrogen sulfide.....	Nil	
Methane.....	88.26	Gallons
Ethane.....	6.90	per MCF
Propane.....	1.75	0.480
Iso-butane.....	0.40	0.131
N-butane.....	0.39	0.123
Iso-pentane.....	0.18	0.066
N-pentane.....	0.08	0.029
Hexanes & higher.....	0.04	0.018
Total.....	100.00	0.847
GPM of pentanes & higher fraction.....	0.113	
Gross btu/cu. ft. @ 60° F. & 14.7 psia (dry basis).....	1097	
Specific gravity (calculated from analysis).....	0.637	
Specific gravity (measured).....	0.640	

Remarks: _____



Amoco Production Company (USA)

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

R. W. Schroeder
District Superintendent

March 8, 1982

El Paso Natural Gas ✓
P.O. Box 990
Farmington, NM 87401

Southland Royalty Company
P. O. Drawer 570
Farmington, NM 87401

Universal Resources Corporation
910 National Foundation West Bldg.
3555 NW 58th St.
Oklahoma City, OK 73112

Minerals Management Services
Drawer 600
Farmington, NM 87401

File: WLP-73-986.510.1

Commingling Gallup - Greenhorn Formations, Stanolind Gas Com "B" No. 1,
1390 FSL x 890 FEL, Section 9, T32N, R12W, San Juan County, New Mexico

Amoco Production Company plans to commingle production from the Undesignated Gallup and the Undesignated Greenhorn formations in the subject well. If you have no objections, please sign and return a copy of this letter to the New Mexico Oil Conservation Division in Aztec, New Mexico.

Sincerely,

DSR/tk

Approved: _____

By: _____

Date: _____

LIST OF OFFSET OPERATORS

1. El Paso Natural Gas
P. O. Box 990
Farmington, NM 87401
2. Southland Royalty Company
P. O. Drawer 570
Farmington, NM 87401
3. Universal Resources Corporation
710 National Foundation West Building
3555 NW 58th St.
Oklahoma City, OK 73112

MESAVERDE

4426'
4597'

GALLUP

5968'
6058'

GREENHORN

6722'
6778'

9 5/8" CSA 372' W/300 SX CMT

ESTIMATED CMT TOP AT 4000'

2 1/16" TSA 4215'

PKR SET AT 4748'

DV TOOL SET AT 4865'

2 3/8" TSA 6648'

DRILLABLE BRIDGE PLUG SA 6830' PBD

7" CSA 7105' W/2315 SX CMT

Amoco Production Company

SCALE:

STANOLIND GAS COM B #1

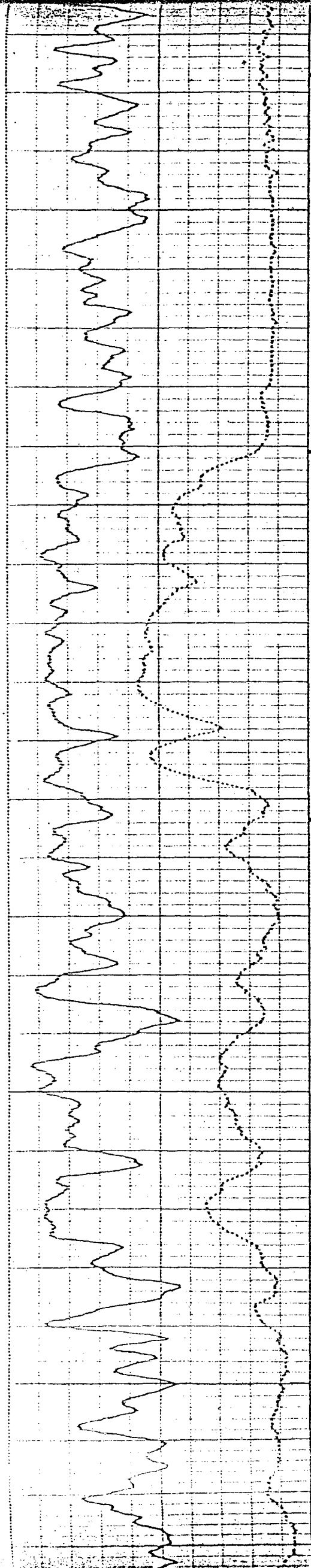
DRG.
NO

03600

03700

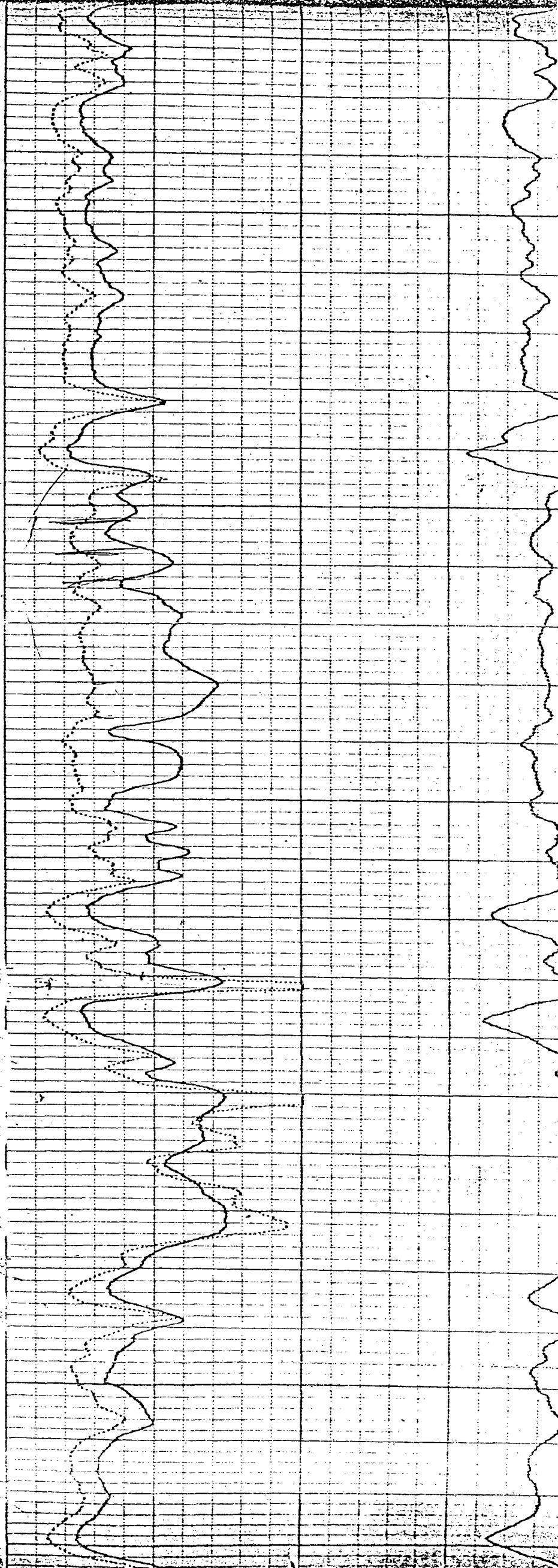
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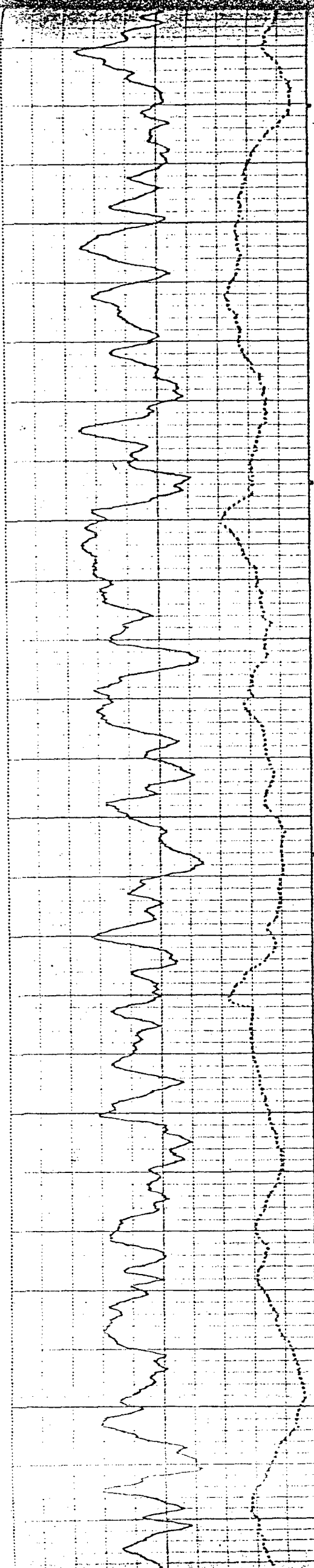
03800



03900

04000

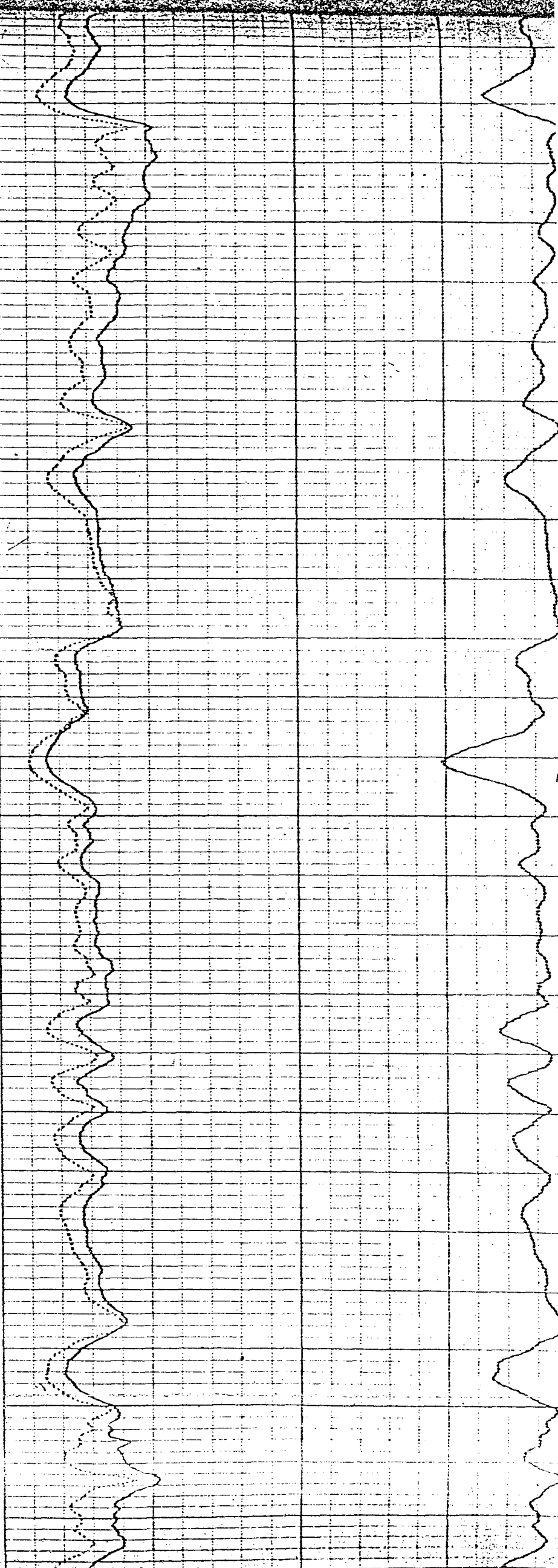


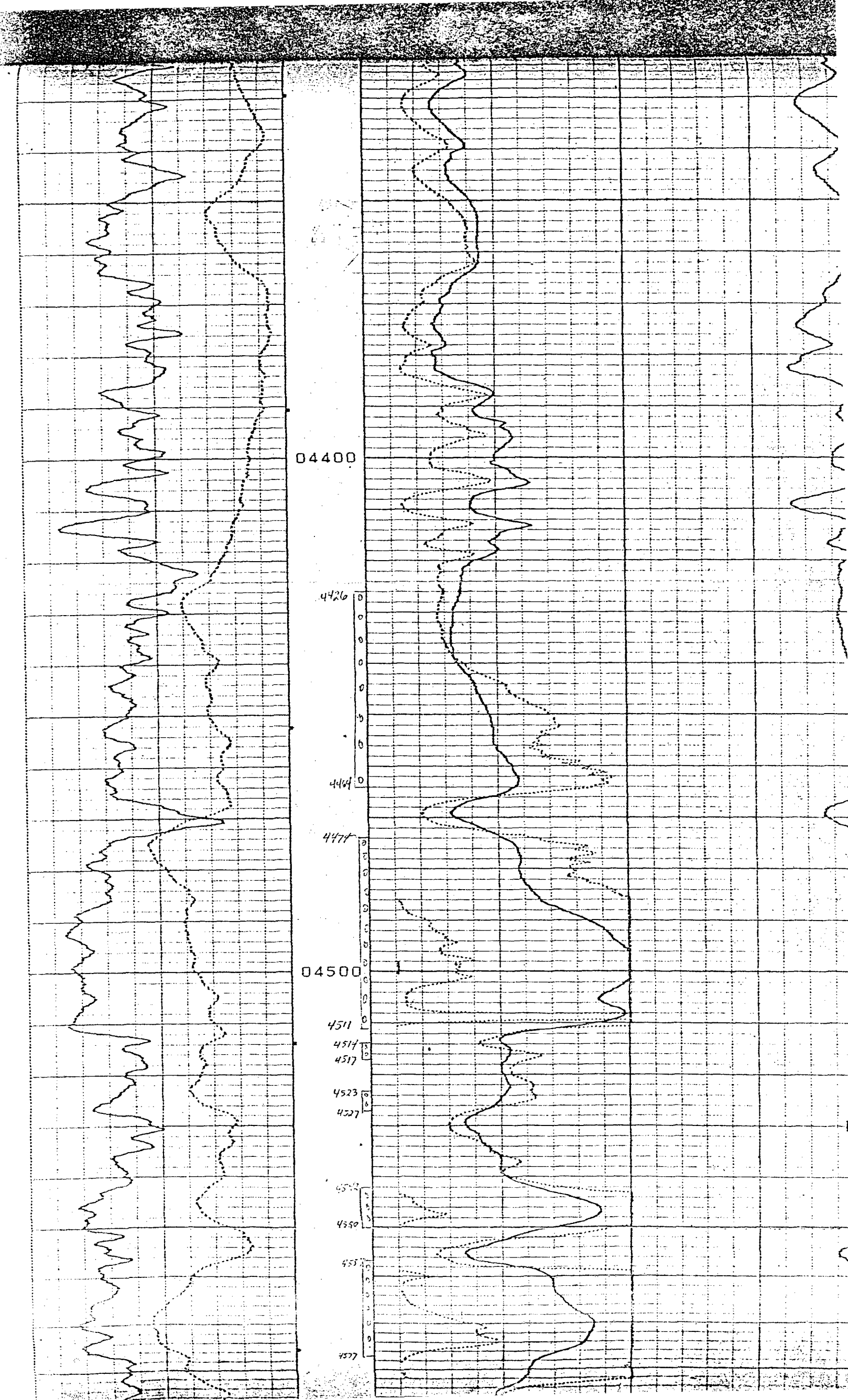


04100

04200

04300





4592
4599
04600

04700

04800

Bathymetry NKSaverde

05700

05800

Top Gallup

05900

GALLUP

25pf

06000

25pf

25pf

06100

25pf

25pf

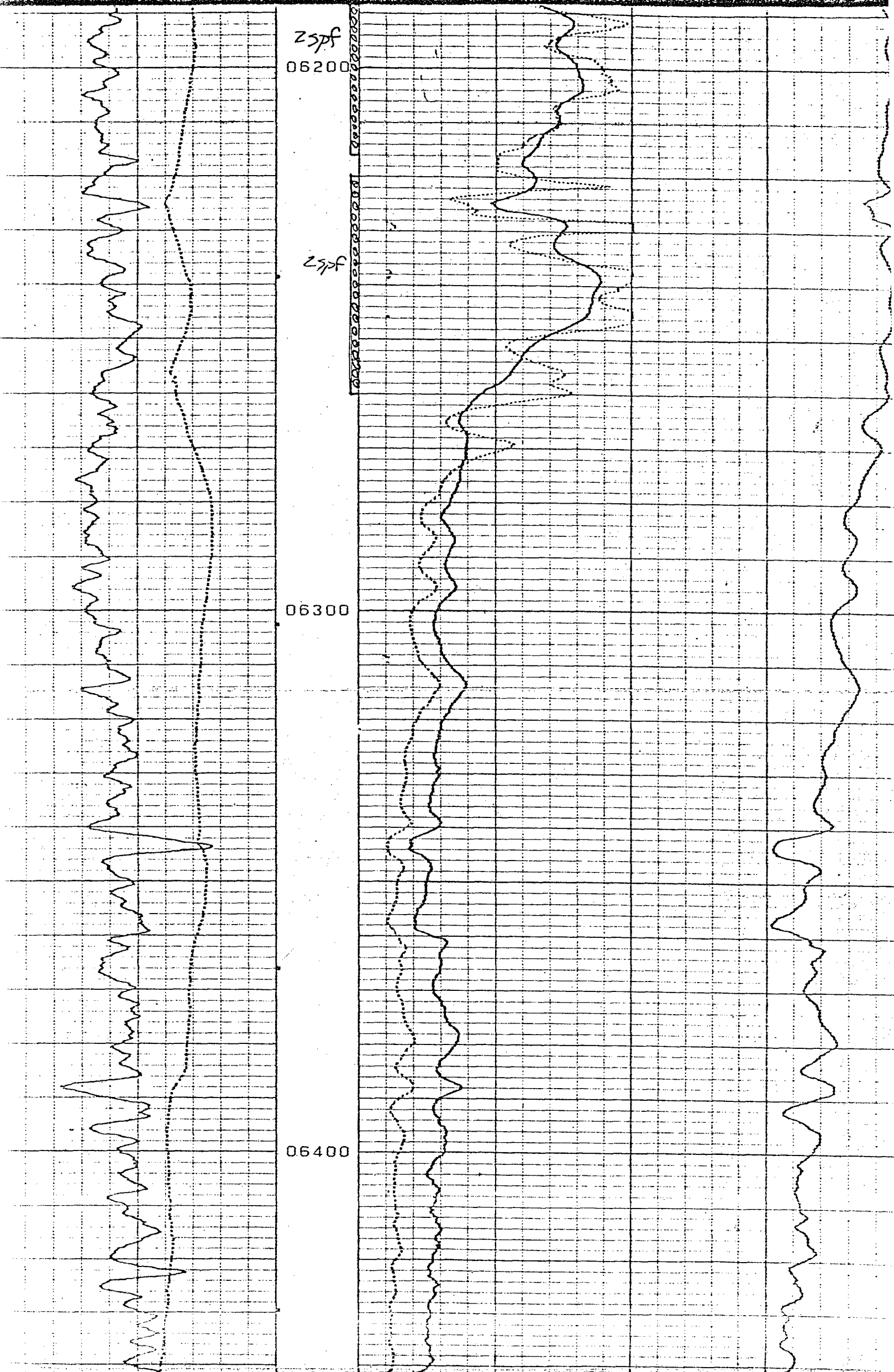
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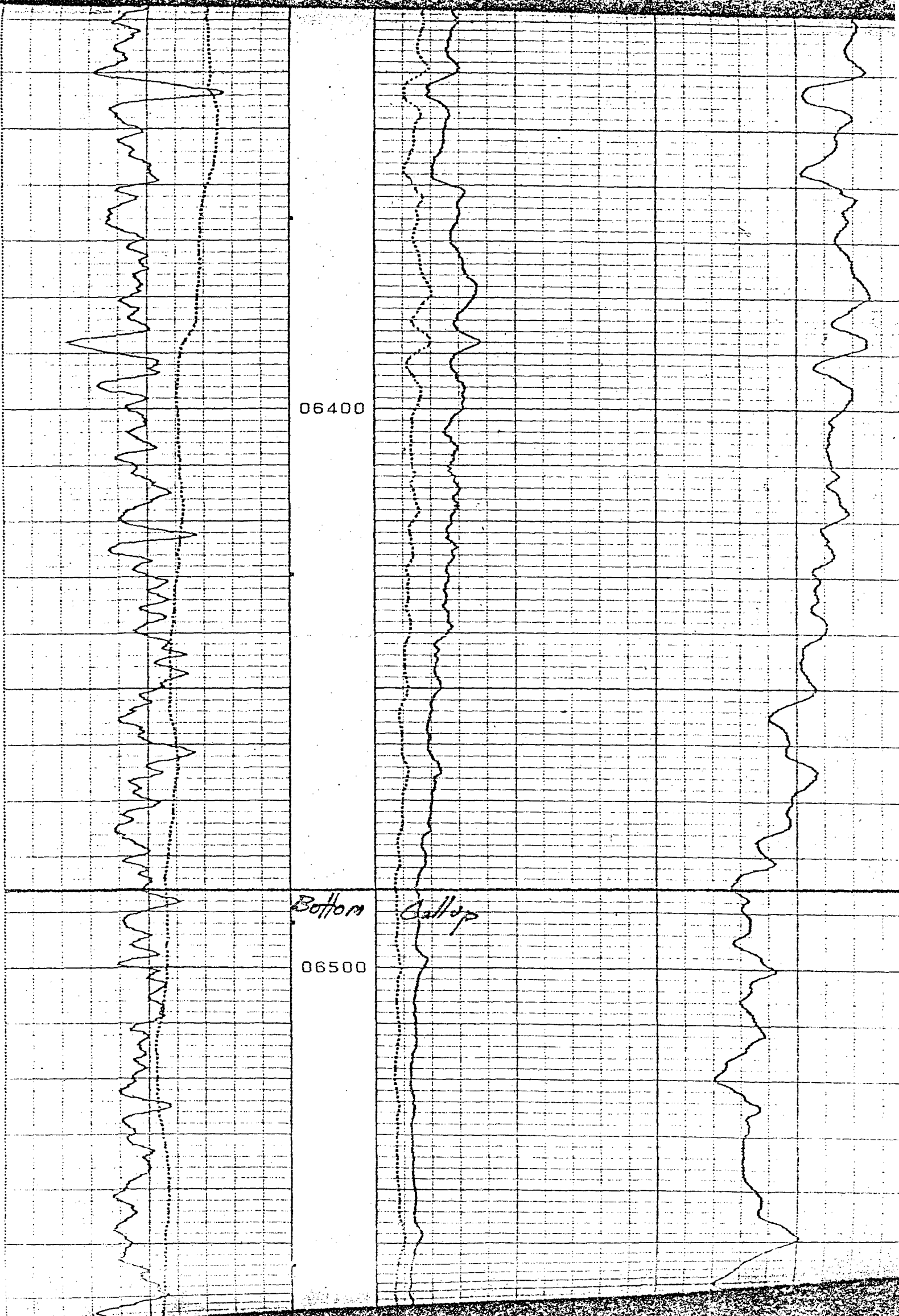
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25pf

06300

06400



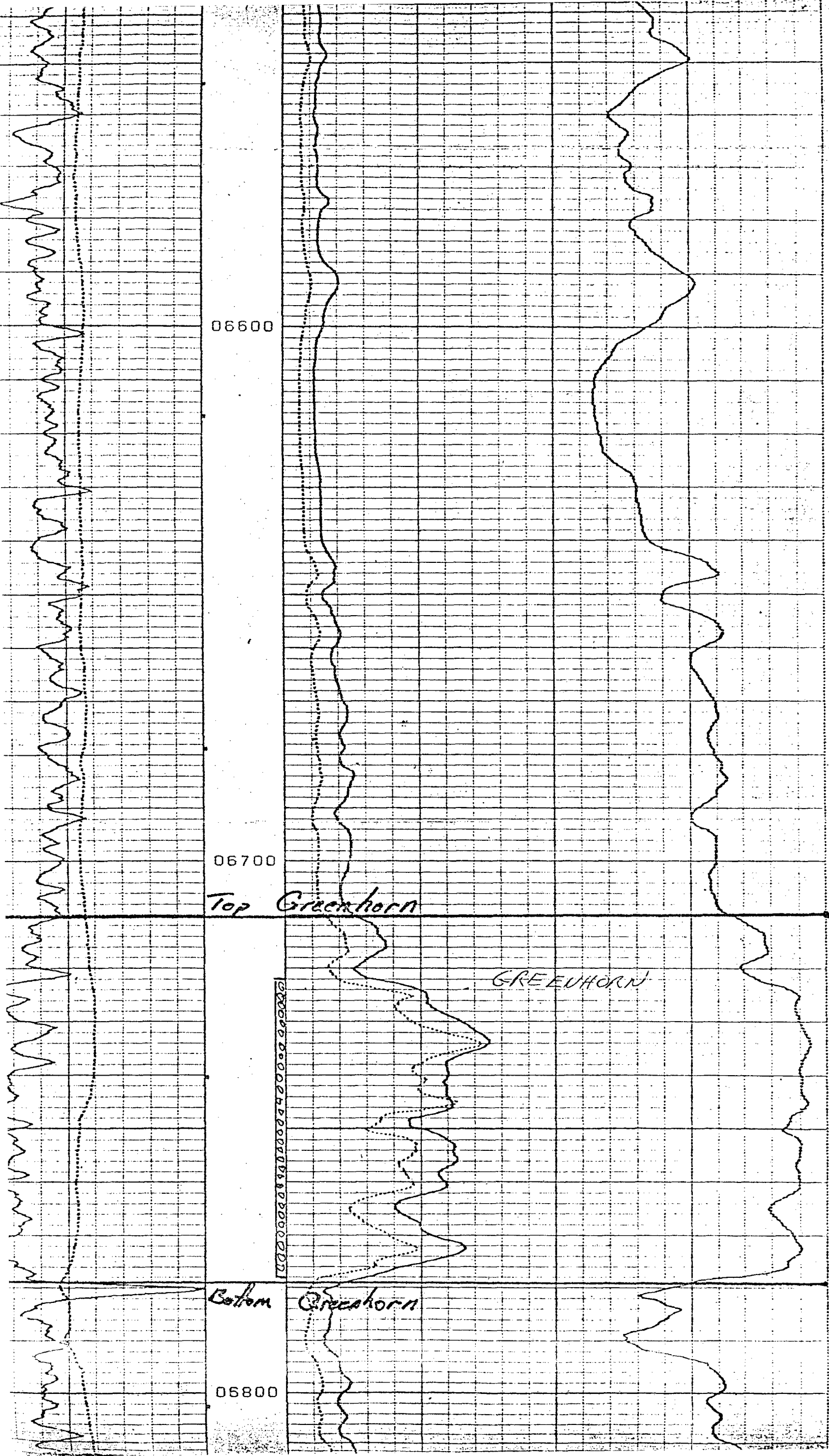


06400

Bottom

06500

Gallop



06600

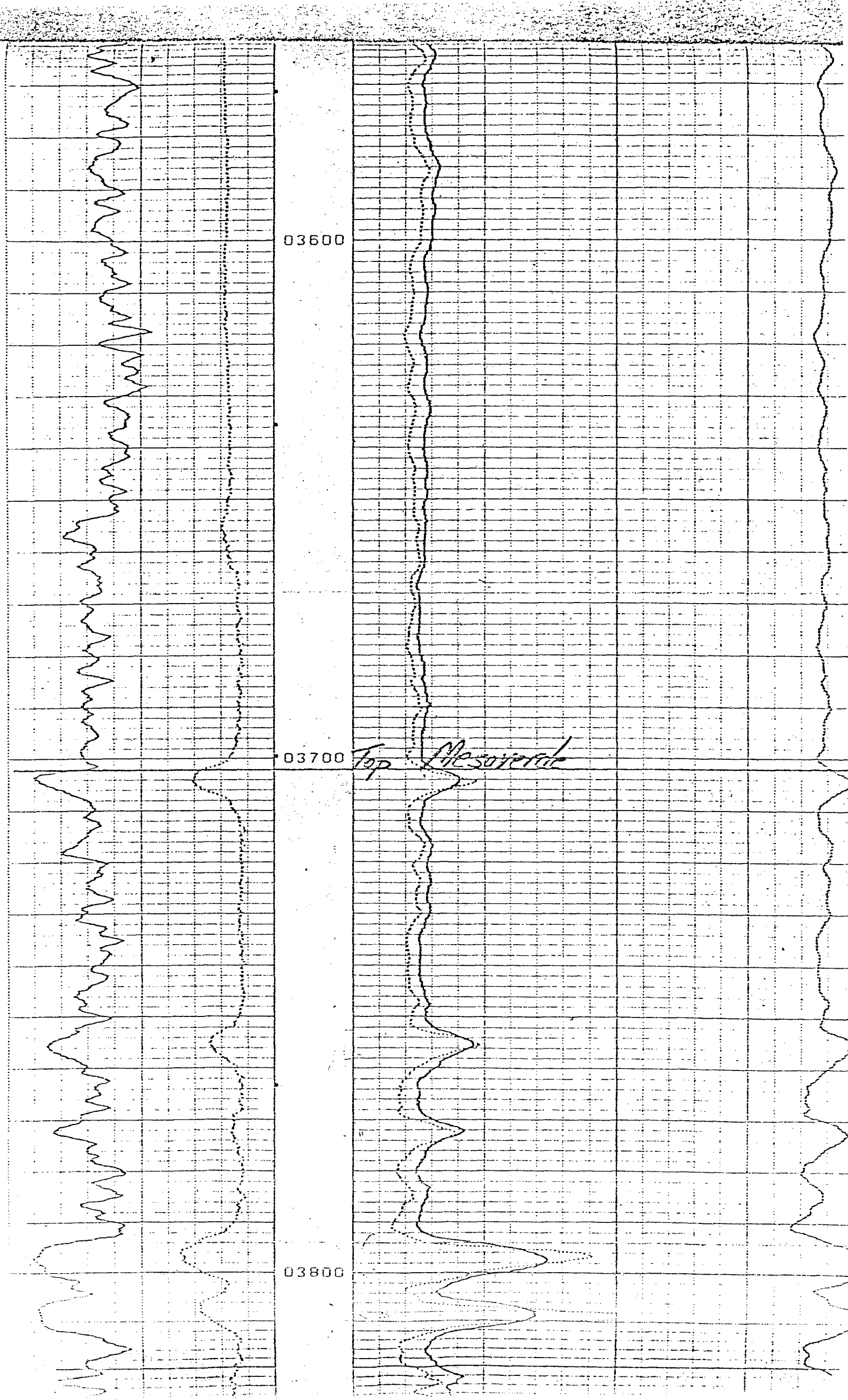
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Top Greenhorn

GREENHORN

Bottom Greenhorn

06800

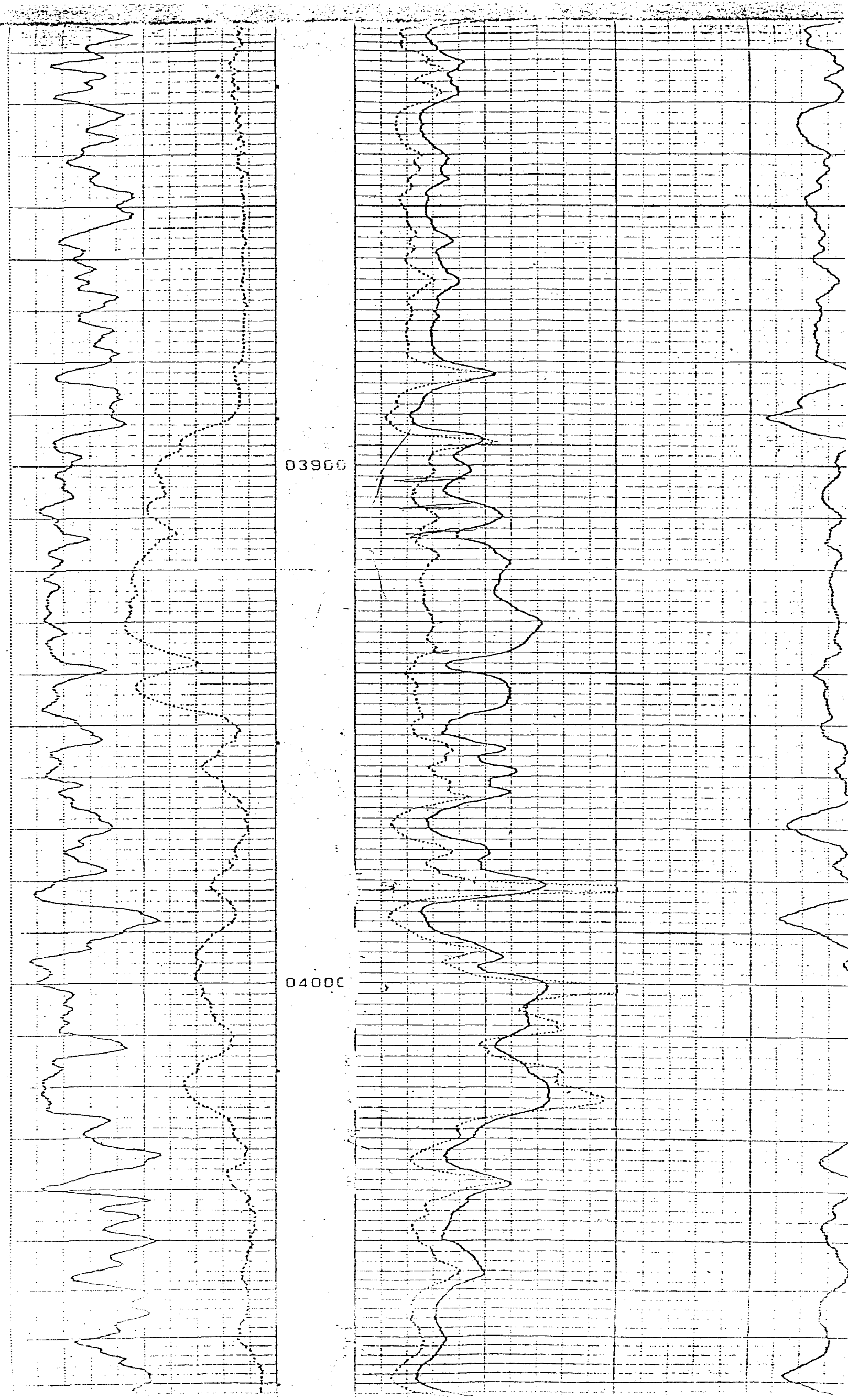


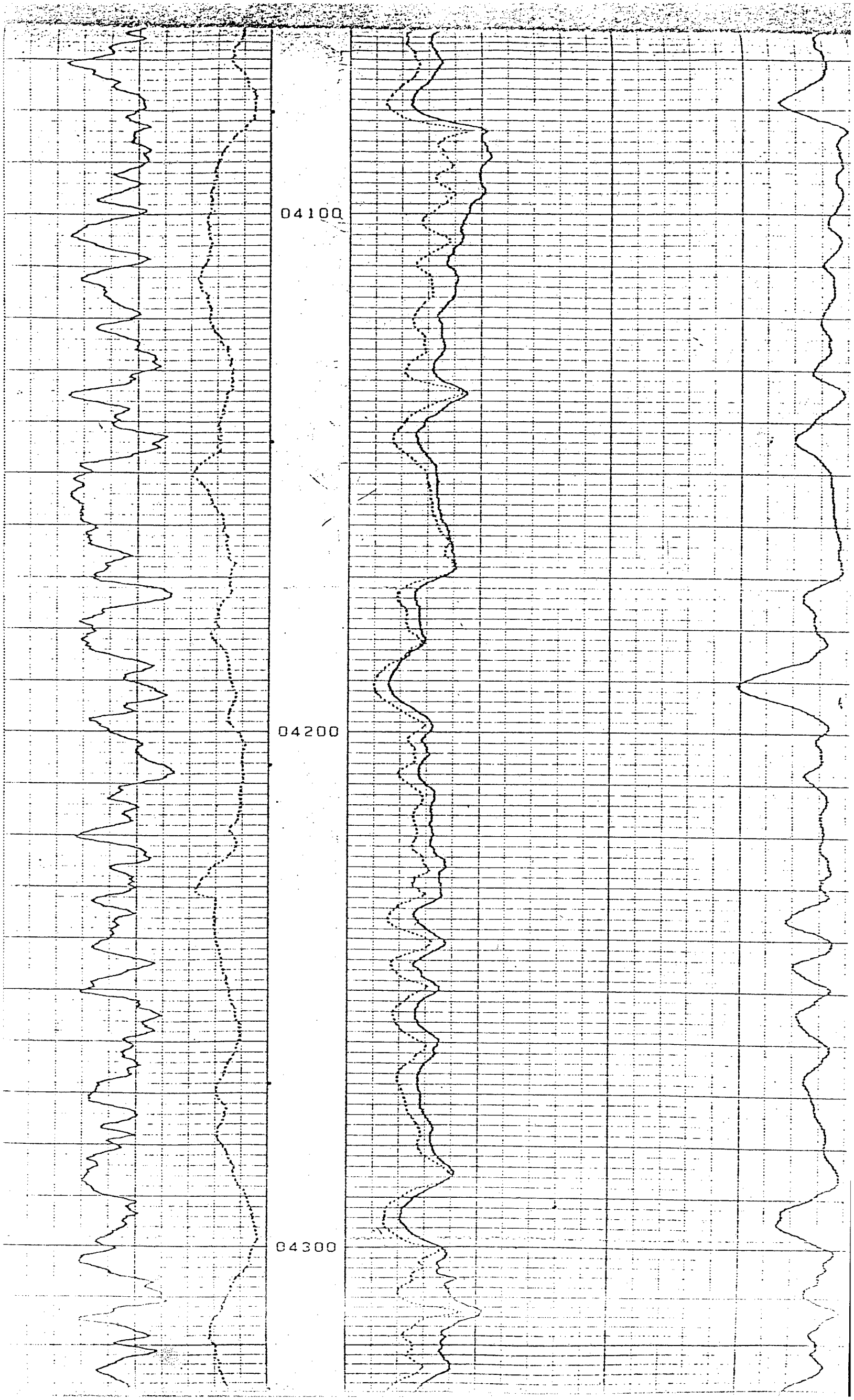
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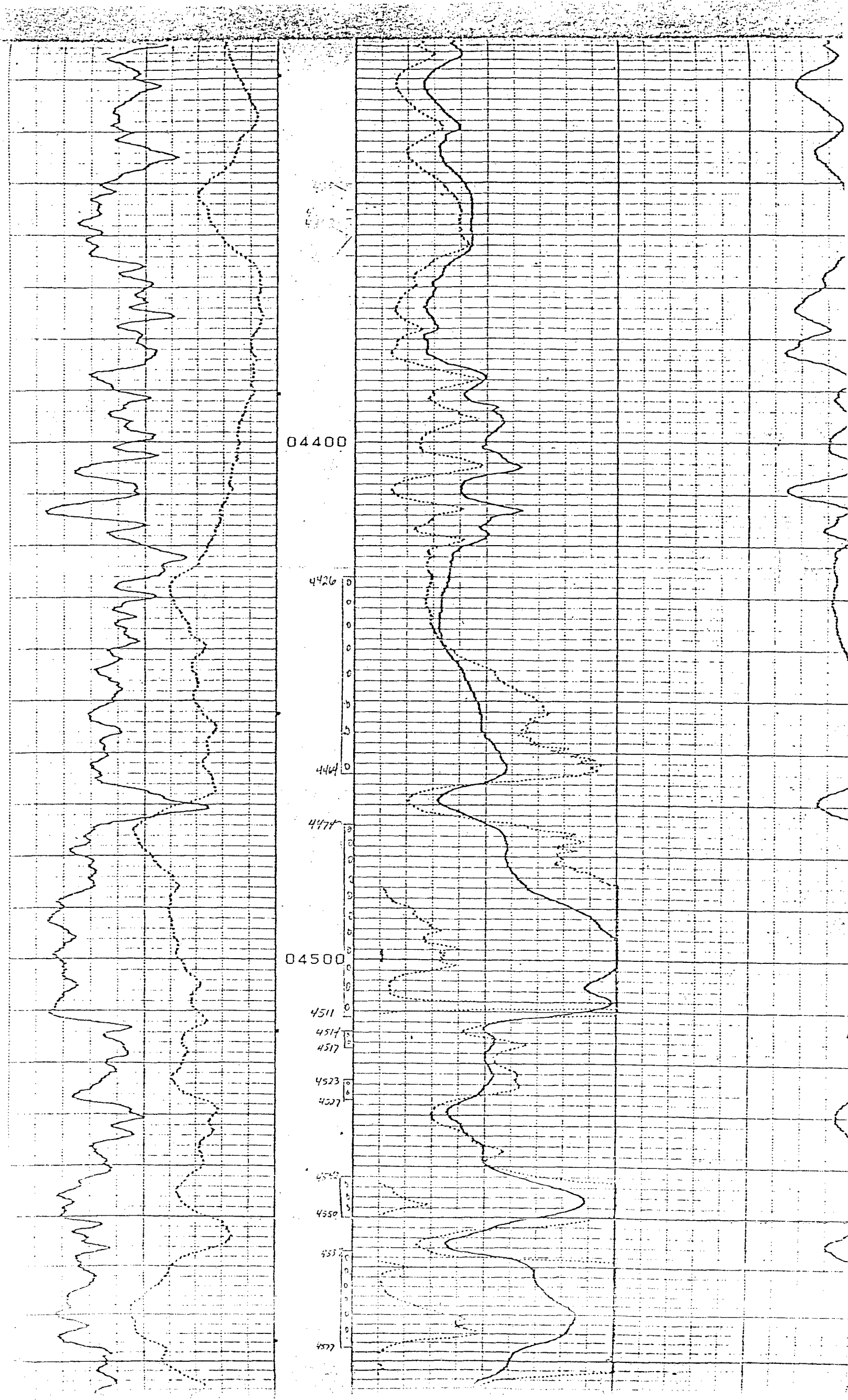
03700

Top Mesozoic

03800







4592
4590
04600

04700

04800

Bottom, N. S. Verde

05700

05800

Top Gallup

05900

GALLUP

25pf

06000

25pf

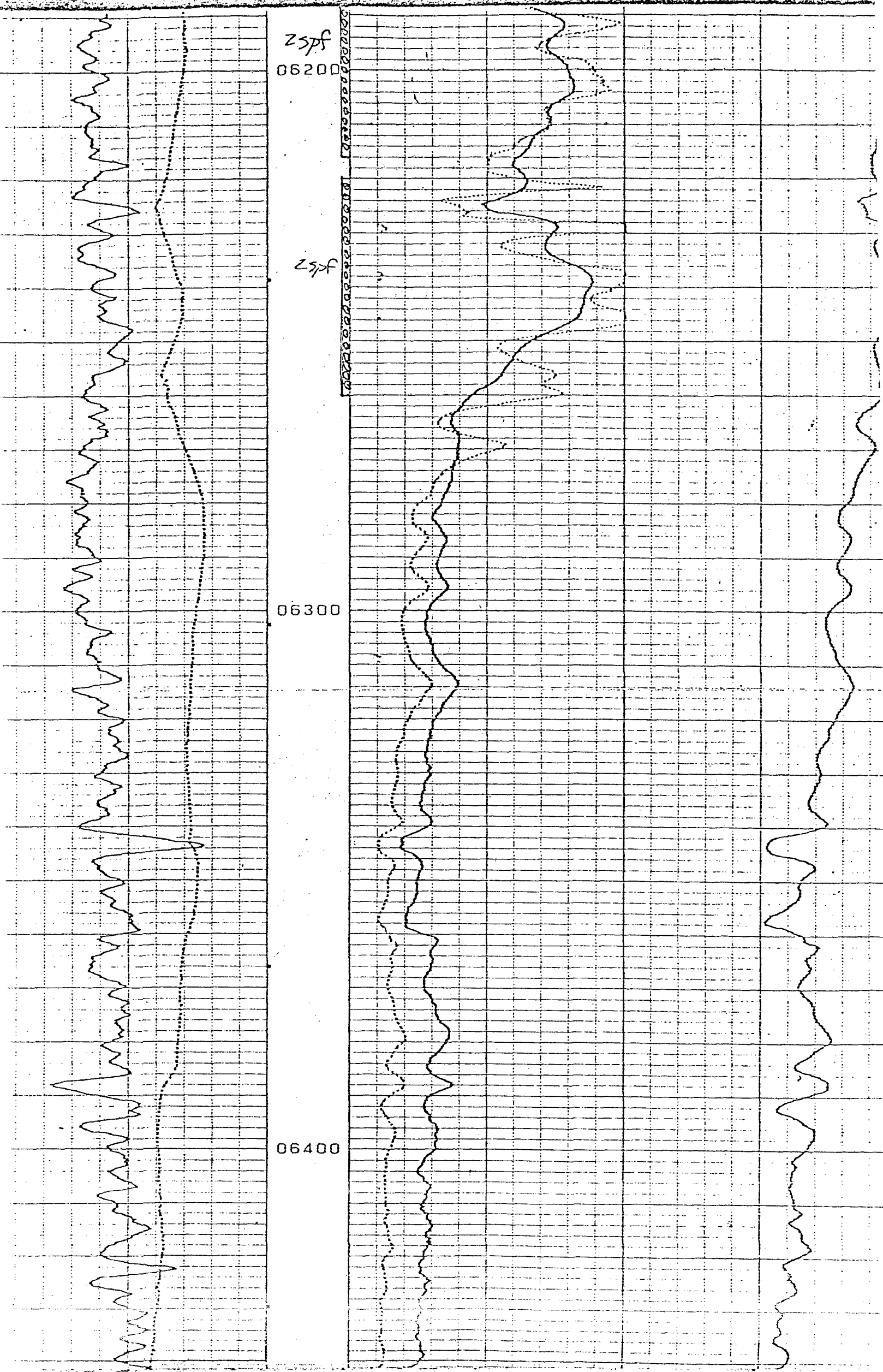
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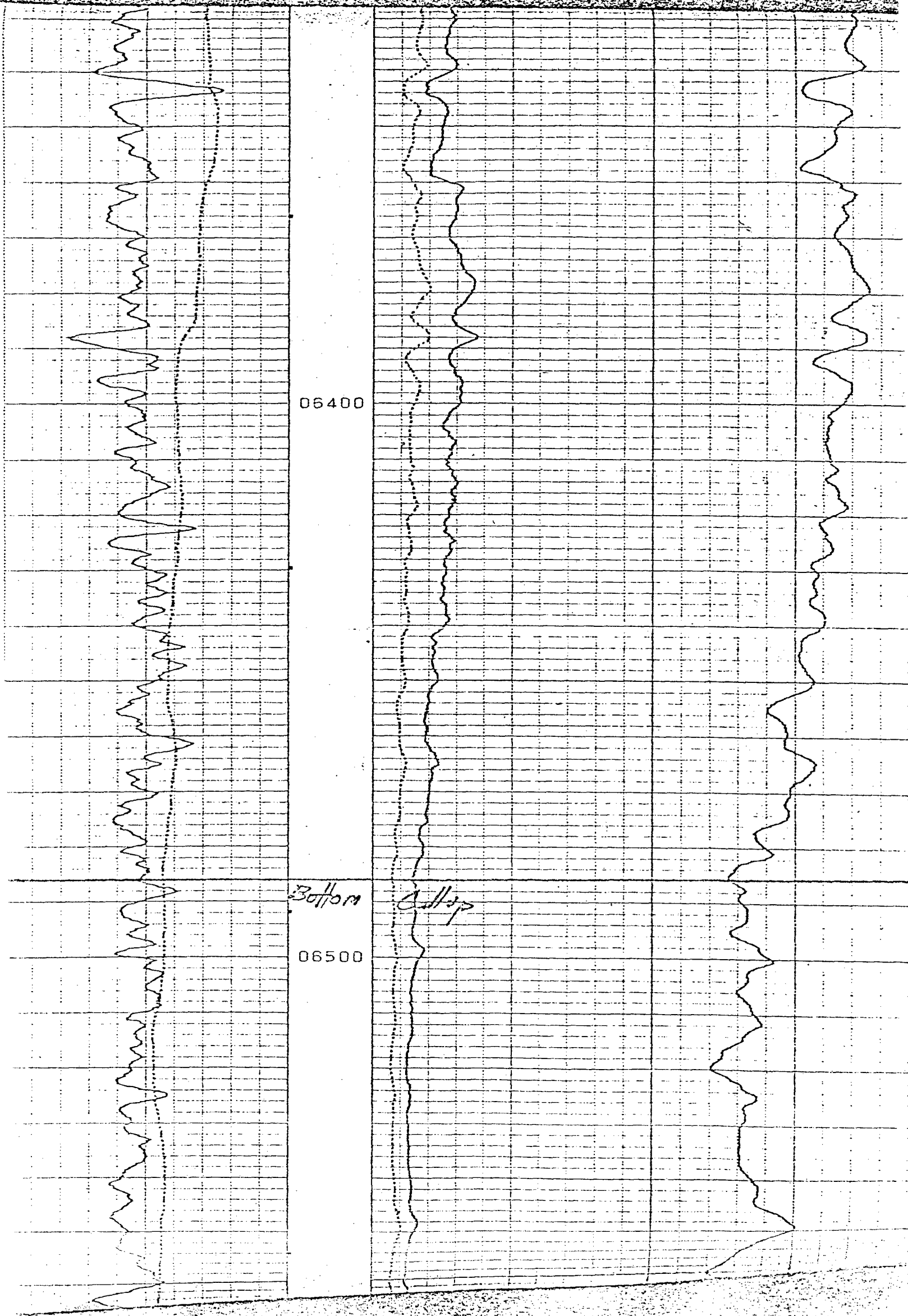
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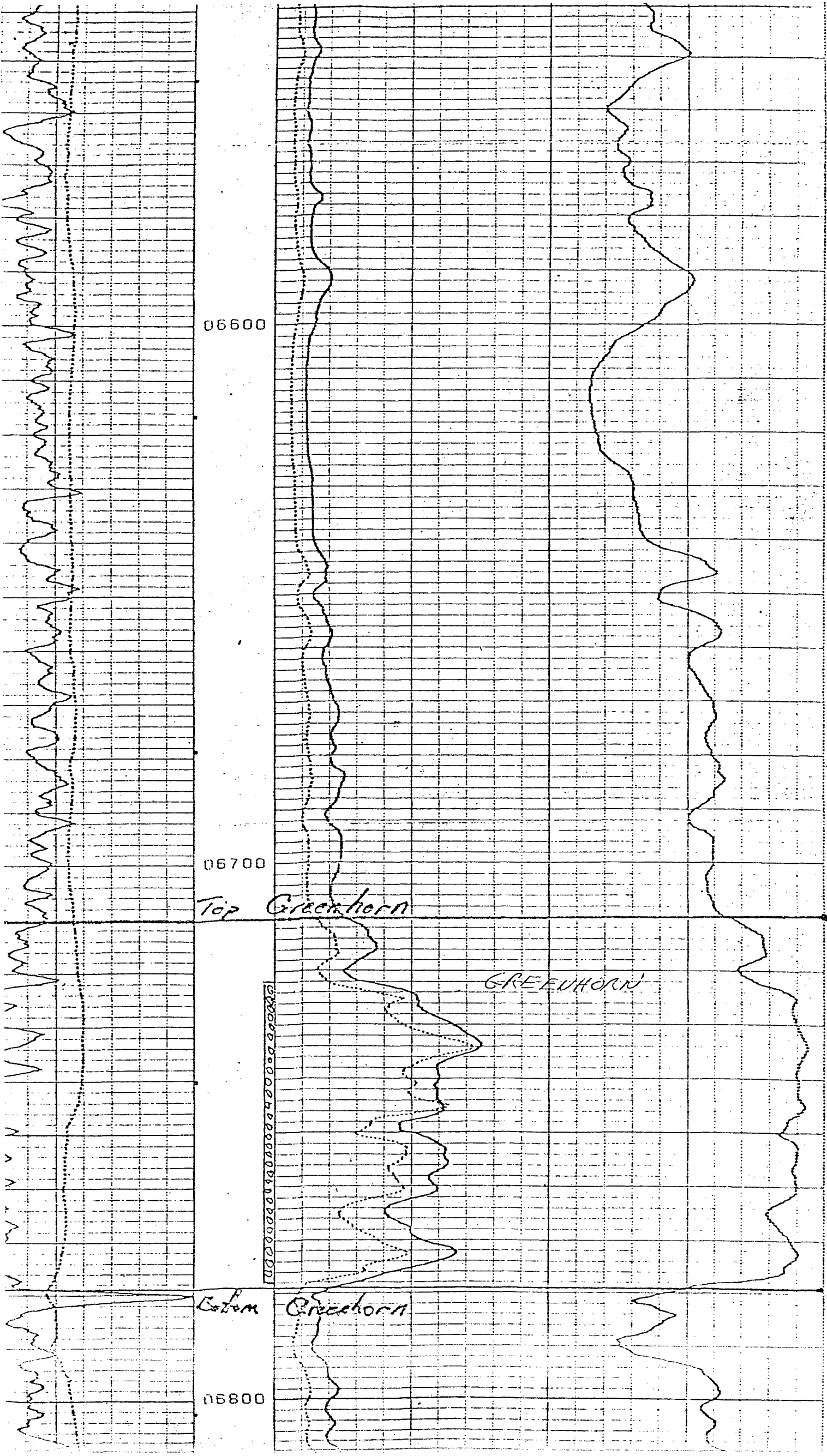
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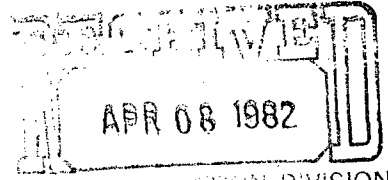


Amoco Production Company (USA)

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

R. W. Schroeder
District Superintendent

April 5, 1982



New Mexico Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, NM 87410

New Mexico Oil Conservation Division
Box 2088
Santa Fe, NM 87501

File: WLP-72-986.510.1

Commingling and Multiple Completion Application for the Stanolind Gas Com "B"
No. 1, 1390 FSL x 890 FEL Section 9, T32N, R12W, San Juan County, New Mexico

Amoco Production Company requests approval to commingle the Undesignated Greenhorn and Undesignated Gallup formations in the subject well. We also request approval to produce the two commingled zones in a dual completion with the Blanco Mesaverde formation. This multiple completion will use a production packer set between the Mesaverde and the Gallup, a 2-1/16" tubing string to produce the Mesaverde and a 2-3/8" tubing string to produce the Greenhorn-Gallup.

The commingling of the Greenhorn and Gallup production is necessary due to the anticipated low production from the Greenhorn of 400 MCFD. This production is low enough that it would not be economical to produce the zone by itself. Therefore, the only way to produce the zone is by commingling with the Gallup production. The proposed commingling will not adversely effect either zone for the following reasons:

1. The bottom hole pressure of the Gallup (2177 psi) and Greenhorn (2317 psi) are approximately equal, thus preventing crossflow.
2. Only the Greenhorn produces liquid (0-5 BCPD), so there will be no mixing of incompatible fluids in the wellbore.
3. The Gallup does not have a history of sensitivity to liquid hydrocarbons and will not be damaged by the Greenhorn's condensate production.
4. Since both zones produce gas of approximately the same composition, there will be no loss of value as a result of the commingling.
5. Both zones have common ownership, so there will be no problems in allocating royalty or working interest payments.

In compliance with NMOCD Rule 303 C "Downhole Commingling", please find attached two copies of each of the following:

1. "Well Location and Acreage Dedication Plat" (NMOCD Form C-102)
2. Well location map
3. List of names and addresses of all outside operators
4. A complete well completion history (USGS Form 9-331 "Sundry Notices and Reports on Wells")
5. Copies of the potential tests for the Greenhorn and the Gallup
6. NMOCD Form C-116 for the Greenhorn showing the results of a 24-hour flow test. The Greenhorn was flow tested through a separator for five days after completion. During the last 24-hour period it flowed 400 MCF and 3 barrels of condensate. The Gallup was not tested for 24 hours.

State rules require current (within 30 days) productivity tests. The Greenhorn flow test was taken in August, 1980, and has not been produced since that time except for the 3-hour potential test. The Gallup also has never been produced. Because both zones have never been produced since their tests, we request that an exception be granted to the 30-day requirement for both the productivity tests and bottom hole pressure tests.

7. Actual bottom hole pressures for each zone as measured by pressure bomb
8. A copy of the gas analysis of produced gas from the Greenhorn
9. A copy of the gas analysis of commingled Gallup-Greenhorn production. An individual Gallup gas analysis is not available; however, comparison of the Gallup-Greenhorn to the individual Greenhorn gas analysis shows the horizons to have similar gas properties.
10. A copy of the letter sent to all offset operators and the Minerals Management Services notifying them of our intent to commingle

To allocate production to the individual Gallup and Greenhorn horizons, we recommend the following:

1. Allocate 400 MCFD as shown on Form C-116 to the Greenhorn horizon for the first 30 days of production.
2. Allocate the remainder of the commingled production to the Gallup formation for the first 30 days.

Page 3
April 5, 1982
File: WLP-72-986.510.1

3. After 30 days, we will submit a Form C-116 for the Gallup to reflect the difference between commingled and Greenhorn (400 MCFD) production.
4. Allocate production to each horizon after the first 30 days according to the ratio of Gallup and Greenhorn production established in the previous step (No. 3).
5. Allocate all condensate production to the Greenhorn horizon.

Production from the Gallup is 100 percent dry gas. The Greenhorn produces approximately 5 BCPD and no water. Therefore we have not attached a fluid analysis of the produced fluids. The Gallup formation does not have a history of sensitivity to condensate and will not be damaged by commingling.

Amoco also proposes to dually complete the Greenhorn-Gallup commingled production with production from the Blanco Mesaverde horizon. This is necessary to fulfill a lease demand for the Mesaverde by the Minerals Management Services. In compliance with NMOCD Rule 112-A "Multiple Completions" please find attached two copies of the following:

1. A completed copy of NMOCD Form C-107 "Application for Multiple Completion"
2. Wellbore diagram
3. Electrical logs
4. Names and addresses of all offset operators

In summary, the Stanolind Gas Com B No. 1 has been completed in three zones, the Greenhorn, the Gallup and the Mesaverde. The rate that the Greenhorn will produce is not enough to justify its production as a single completion. Therefore we propose commingling the Greenhorn and Gallup. The Mesaverde must be produced in order to fulfill a lease demand by the Minerals Management Services. Therefore we also propose producing the Mesaverde with the commingled Greenhorn-Gallup using a dual completion.

We would like to obtain approval for this well as soon as possible so that we may begin production. Your prompt handling of this matter is appreciated.

Sincerely,

R W Schneider

DSR/tk
Attachments



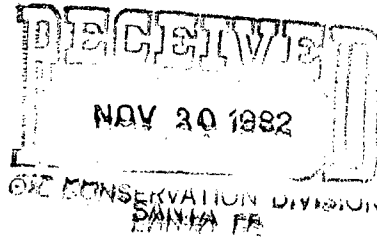
STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

November 24, 1982



Amoco Production Company
501 Airport Drive
Farmington NM 87401

Re: Stanolind Gas Com B #1, I-9-32N-12W, DHC-369

Gentlemen:

As per the referenced order your recommended commingled allocation is hereby accepted as follows:

	<u>Gas</u>	<u>Oil</u>
Undesignated Greenhorn	47%	100%
Undesignated Gallup	53%	0%

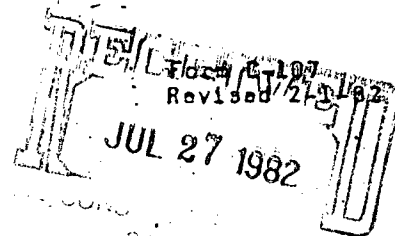
If you have any questions please call this office.

Yours truly,

Frank T. Chavez
District Supervisor

FTC:gc

cc: Santa Fe
Minerals Management Service, Farmington
El Paso Natural Gas Company
Plateau, Incorporated



APPLICATION FOR MULTIPLE COMPLETION

Amoco Production Company		San Juan		2/17/82 TA EE	
Operator		County		Date	
501 Airport Dr., Farmington, NM		Stanolind Gas Com "B" No. 1			
Address		Lease		Well No.	
I 9		32		12	
Location of Well		Unit Section		Township Range	

All Applicants for multiple completion must complete Items 1 and 2 below.

1. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Blanco Mesaverde	Undesignated Gallup	Undesignated Greenhorn
b. Top and Bottom of Pay Section (Perforations)	4426 - 4599	5968 - 6058	6722 - 6778
c. Type of production (Oil or Gas)	Gas	-Gas	Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing	Flowing
e. Daily Production ☐ Actual ☒ Estimated Oil Bbls. Gas MCF Water Bbls.	942 MCFD	2523 MCFD Gallup and Greenhorn production to be commingled downhole	400 MCFD

2. The following must be attached:

- Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed _____ Title District Superintendent Date _____

(This space for State Use)

Approved By _____ Title _____ Date _____

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

LIST OF OFFSET OPERATORS

1. El Paso Natural Gas
P. O. Box 990
Farmington, NM 87401
2. Southland Royalty Company
P. O. Drawer 570
Farmington, NM 87401
3. Universal Resources Corporation
710 National Foundation West Building
3555 NW 58th St.
Oklahoma City, OK 73112



Amoco Production Company

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

R. W. Schroeder
District Superintendent

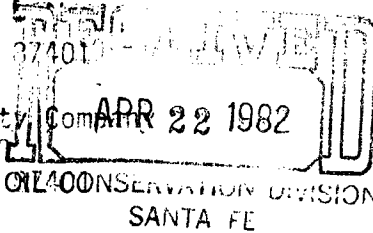
March 8, 1982

El Paso Natural Gas
P.O. Box 990
Farmington, NM 87401

Universal Resources Corporation
910 National Foundation West Bldg.
3555 NW 58th St.
Oklahoma City, OK 73112

Southland Royalty Company
P. O. Drawer 570
Farmington, NM 87401

Minerals Management Services
Drawer 500
Farmington, NM 87401



File: WLP-73-986.510.1

Commingling Gallup - Greenhorn Formations, Stanolind Gas Con "B" No. 1,
1390 FSL x 890 FEL, Section 9, T32N, R12W, San Juan County, New Mexico

Amoco Production Company plans to commingle production from the Undesignated Gallup and the Undesignated Greenhorn formations in the subject well. If you have no objections, please sign and return a copy of this letter to the New Mexico Oil Conservation Division in Aztec, New Mexico.

Sincerely,

Original Signed By
R. W. SCHROEDER

DSR/tk

Approved:

El Paso Nat'l Gas Co

By:

John A. Ahlman

Date:

April 12, 1982





RECEIVED

APR - 8 1982

FARMINGTON DISTRICT

Amoco Production Company (USA)

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

R. W. Schroeder
District Superintendent

March 8, 1982

El Paso Natural Gas
P.O. Box 990
Farmington, NM 87401

Southland Royalty Company ✓
P. O. Drawer 570
Farmington, NM 87401

Universal Resources Corporation
910 National Foundation West Bldg.
3555 NW 58th St.
Oklahoma City, OK 73112

Minerals Management Services
Drawer 600
Farmington, NM 87401

File: WLP-73-986.510.1

Commingling Gallup - Greenhorn Formations, Stanolind Gas Com "B" No. 1,
1390 FSL x 890 FEL, Section 9, T32N, R12W, San Juan County, New Mexico

Amoco Production Company plans to commingle production from the Undesignated Gallup and the Undesignated Greenhorn formations in the subject well. If you have no objections, please sign and return a copy of this letter to the New Mexico Oil Conservation Division in Aztec, New Mexico.

Sincerely,

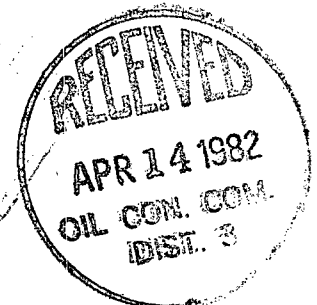
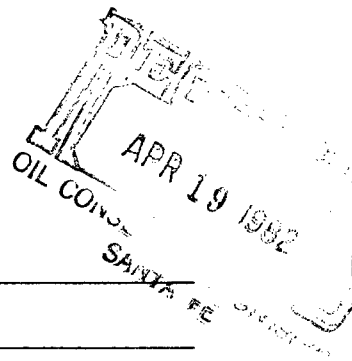
R W Schroeder wsr

DSR/tk

Approved: Southland Royalty Company

By: *CC Parsons*

Date: April 13, 1982





STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

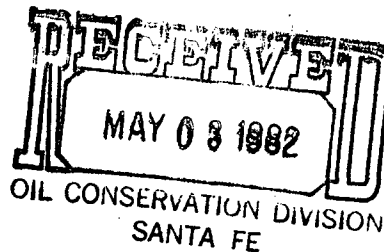
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE April 28, 1982

RE: Proposed MC _____
Proposed DHC x _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____



Gentlemen:

I have examined the application dated April 8, 1982
for the Alamo Verde Co. Standard San Tom 13# I-9-32X-12W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank T. [Signature]