5847 San Felipe Suite 3600
Houston, Texas 77057
Telephone: (713) 780-5000
FAX (713) 780-5273
Telex 9108813603

February 28, 1991

State of New Mexico
Oil Conservation Division
P O Box 2088
Santa Fe, New Mexico 87504-2088

BHP Petroleum (Americas) Inc

Attention: Mr. David Catanach

RE: Gallegos Canyon Unit #306 (SWD)
NE¼, SE¼, Sec. 19, T29N, R12W
San Juan, New Mexico

Dear Mr. Catanach:

The above referenced well was authorized to be used as a salt water disposal well by Order No. SWD - 225 on May 21, 1980.

BHP Petroleum respectfully requests authorization to increase the density of the existing perforations and to perforate additional areas within the previously authorized Mesaverde formation.

This request is necessary to accommodate increased produced water volumes in the Gallegos Canyon Unit.

I have enclosed the original and one copy of completed Form C-108 and 2 copies of the Dual Induction log showing where the existing perforations are located and the areas where we propose to add perforations.

The existing perforation density is two shots per foot. We propose to increase this density to four shots per foot in the previously perforated areas.

We propose to perforate additional areas within the Mesaverde formation at a rate of four shots per foot.

The existing and proposed perforation areas are listed below and indicated on the enclosed log.

Existing perforations:	3022′ - 3042′	(20′)
(@ 2 spf)	3102′ - 3108′	(6′)
	3145′ - 3152′	(7′)
	3175′ - 3190′	(15′)
(propose to add 2 spf)	3306′ - 3314′	(8′)
	3342′ - 3368′	(26′)
	3520′ - 3546′	(26′)
	3574′ - 3600′	(26′)
Proposed new perforation:	3317′ - 3323′	(6′)
(4spf)	3329′ - 3333′	(4′)
	3400′ - 3407′	(7′)
	3412′ - 3418′	(6′)
	3473′ - 3500′	(27′)

3150 - 3600

3317 - 3500

Please don't hesitate to contact me, if any additional information is required.

Sincerely,

Chuck Williams

Chuck Williams
Field Services Administrator
Inland Business Unit

CW: rm

Enclosure - Dual Induction log & Form C-108

cc: Mr. Ernie Busch, N.M.O.C.D., Aztec, NM.
BLM Farmington, NM.
Fred Lowery - BHP Farmington, NM.
Well File

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: BHP Petroleum (Americas) Inc.

Address: 5847 San Felipe #3600 Houston, Texas 77057

Contact party: Chuck Williams, Field Services Admin. Phone: (713) 780-5448

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 ☐ no
If yes, give the Division order number authorizing the project SWD - 225.

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 geological data on the injection zone including appropriate lithologic detail, geological 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 source 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 source 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: Chuck Williams Title Field Services Administrator

Signature: Chuck Williams Date: February 28, 1991

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Schlumberger

DUAL INDUCTION-SFL
WITH LINEAR CORRELATION LOG

COUNTY [illegible]
FIELD KUTZ FRUITLAND
LOCATION
WELL GALLEGOS CANYON U. #306
COMPANY ENERGY RESERVES GR

COMPANY ENERGY RESERVES GROUP INC

WELL GALLEGOS CANYON UNIT #306

FIELD KUTZ FRUITLAND, WEST

COUNTY SAN JUAN STATE NEW MEXICO

LOCATION 2065' FSL & 925'FEL

Other Services: CNL/FDC

API SERIAL NO	SEC	TWP	RANGE
	19	29-N	12-W

Permanent Datum: G.L. ; Elev.: 5415
Log Measured From K.B. 13 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 5428
D.F. 5427
G.L. 5415

Date	4-22-80			
Run No.	ONE			
Depth—Driller	4150			
Depth—Logger	4154			
Btm. Log Interval	4148			
Top Log Interval	220			
Casing—Driller	9 5/8 @ 235	@	@	@
Casing—Logger	236			
Bit Size	8 3/4			
Type Fluid in Hole	FGM			
Dens. | Visc.	9			
pH | Fluid Loss	ml	ml	ml	ml
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	2.32 @ 62 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	2.04 @ 58 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	M			
Rm @ BHT	1.22 @ 118F	@ °F	@ °F	@ °F
Circulation Stopped	0000			
Logger on Bottom	0630			
Max. Rec. Temp.	118 °F	°F	°F	°F
Equip. | Location	8174 FARM			

D HERE The well name, location and borehole reference data were furnished by the customer.

o.	ONE				
e Order No.	118599				
evel	FULL				
y ppm. cl					
F.P.M.	80				
PMENT DATA					
No.	509				
lo.	224				
No.	235				
Panel No.	1032				
anel No.	653				
art No.	1096				
Recorder - (TTR)	2785				
Encoder - (DRE)	902				
re Wheel - (CPW)	902				
Centralizers					
Off - Inches					
BRATION DATA					
	1				
Error - ILM	5.9				
Error - ILD	7.0				
KG. - CPS.	78				
ource - CPS.	216				
et In Hole - Depth					
orr. - Hole Size					
GING DATA					
	1				
og - ILM	5.9				
og - ILD	7.0				
Scale per 100 Div.	200				
T.C.					
ens.	200				

SCALE CHANGES

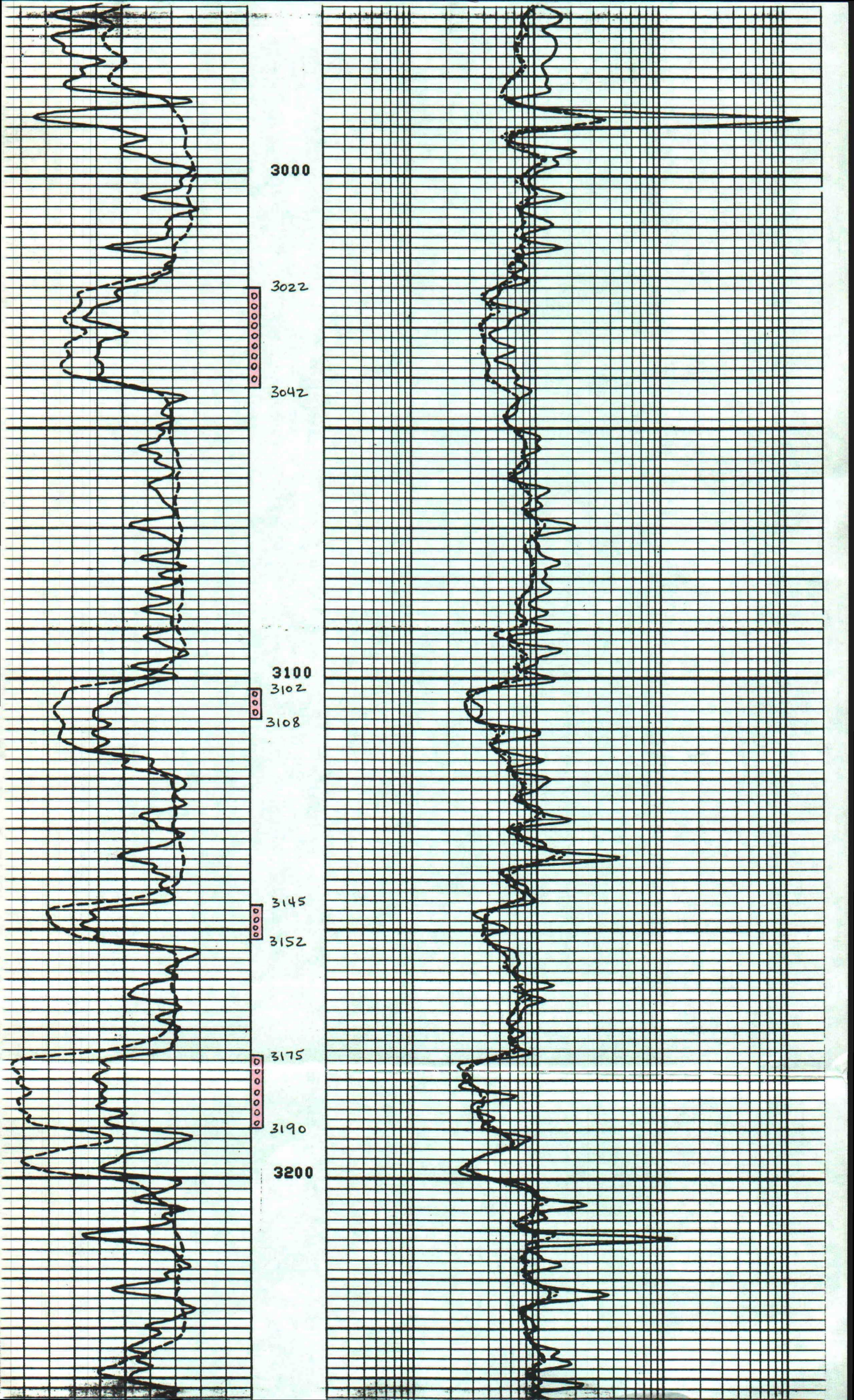
Type Log	Depth	Scale Up Hole	Scale Down

REMARKS

SP BASELINE SHIFT AT 2145

PARAMETERS

NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE
DO		0.0	BHS		OPEN	FPHI		PHIX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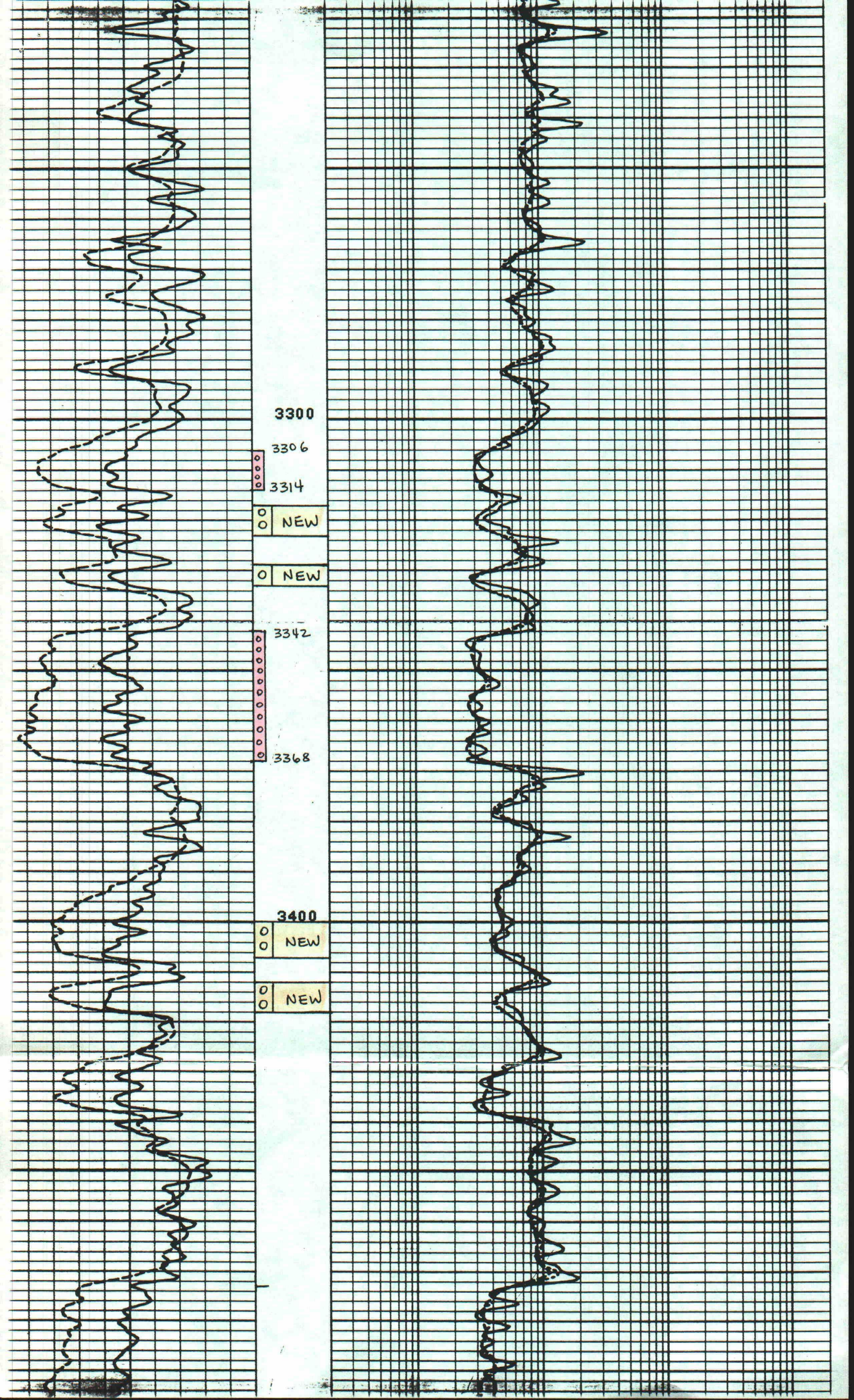
3042
3100
3102
3108
3145
3152
3175
3190
3200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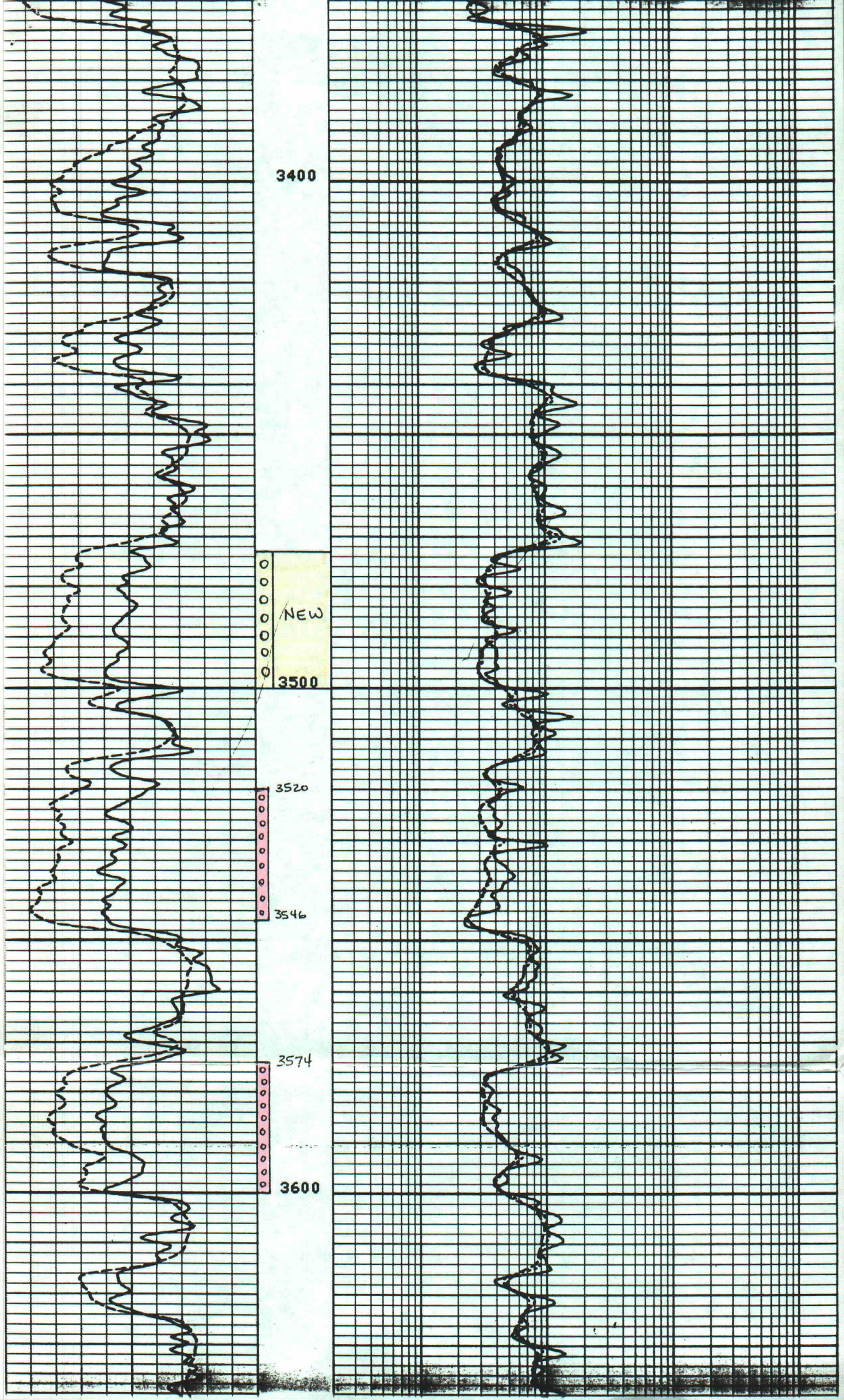
NEW
NEW
3342
3368
3400
NEW
NEW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NEW
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3520
3546
3574
3600