

DEC 16 1969

PAN AMERICAN PETROLEUM CORPORATION

OIL AND GAS BUILDING

P. O. BOX 1410

D. L. RAY
DIVISION ENGINEER

FORT WORTH, TEXAS—76101

December 15, 1969

File: PEH-603-986.510.1

Subject: Downhole Commingling
Blinebry, Tubb, and Drinkard Pools
Lea County, New Mexico

New Mexico Oil Conservation Commission (2)
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

In accordance with the provisions of Order R-3845 (Case No. 4104), Pan American Petroleum Corporation respectfully requests administrative approval for downhole commingling of the below stated pools in the following wells:

<u>Well</u>	<u>Location</u>	<u>Pools to be Commingled</u>
Southland Royalty "A" No. 3	V-4-21-38	Tubb-Drinkard
State "C" Tract 13 No. 9	F-36-21-37	Tubb-Drinkard
Southland Royalty "A" No. 7	A-9-21-38	Blinebry-Drinkard
Southland Royalty "A" No. 1	G-9-21-38	Blinebry-Drinkard

no 30
31
32
33

Attachments 1 through 4 are plats showing these wells, which are designated by red arrows, and surrounding wells in the area.

The most recent test from each zone of the wells proposed for commingling and their current bottom hole pressures are shown on Attachment 5, as well as other pertinent data regarding these wells. It should be noted that the lowermost perforations in each of these wells are within 6,000 to 6,999', which would provide a top allowable for the commingled zones of 40 BOPD. It should also be noted from Attachment 5 that the combined producing capacity of both zones to be commingled in each well does not exceed this value. Attachments 6 through 9 are official Commission Forms C-116, reflecting the most recent capacity test from each zone in each well.

You will notice also from Attachment 5 that the bottom hole pressures of both of the zones to be commingled in each well are in relatively close agreement. Due to the similarity of bottom hole pressures in each zone, and the fact that in order to produce the combined zones at capacity these wells will be pumped off, no opportunity for cross-flow between zones

will exist. Attachments 10 through 13 are the Commission's Form C-124, reflecting data from the actual bottom hole pressure tests shown on Attachment 5.

The Tubb and Drinkard both flow in State "C" Tract 13 Well No. 9, as do the Blinebry and Drinkard in Southland Royalty "A" Well No. 7, thereby meeting the criteria set forth in Rule 303-C-1-(c). The Tubb, however, in Southland Royalty "A" Well No. 3 is pumped while the Drinkard zone flows. As shown again on Attachment 5, the bottom hole pressure in both of these zones in this well is relatively low and each zone produces at a low limited capacity. We feel, therefore, that the Drinkard flows in this well due to its relatively high gas-oil ratio. A similar case exists in Southland Royalty "A" Well No. 1, in which the Blinebry is pumped and the Drinkard flows. Again, the Drinkard gas-oil ratio is much higher than that of the Blinebry and when considering the low bottom hole pressure of each of these zones and low limited producing capacity, it must be assumed that the flowing nature of the Drinkard is due to its high gas-oil ratio. Again, it should be stressed that the bottom hole pressure in the flowing zone of both Southland Royalty "A" No. 3 and Southland Royalty "A" No. 1 is low and could not cause the well to flow without the aid of the high gas-oil ratio. In any case, should our request be approved for commingling of these two wells, the combined production will be pumped.

As shown on Attachment 5 and Attachments 6 through 9, each zone in each of the four requested wells produces at a low marginal rate. Maximum combined production from any of the wells would be 16 BOPD, this being from our Southland Royalty "A" Well No. 1. The maximum rate from any single zone is from the Drinkard in our Southland Royalty "A" Well No. 3, which has a capacity of 10 BOPD. Should we be permitted to combine these zones and produce them as one, a substantial savings in operating costs will result. The wells will, therefore, be produced to a lower economic limit, and an incremental increase in recovery from each zone will result. Additionally, the flowing zones in each of these wells are approaching rates and pressures which would necessitate the use of pumping equipment on these zones. Due to the low producing capacity of the zones, we do not feel that we could economically justify purchasing and setting pumping equipment on the currently flowing zones, and at such time as they cease to flow, they would most likely be abandoned. It is obvious that should this occur, a significant amount of reserves will not be recovered from each zone and waste will occur. Should we, however, be permitted to combine production from the flowing zones with the pumping zones in the two wells which currently have pumping equipment in use, the recovery of reserves from both zones will be greatly increased. This situation is magnified on the two wells in which both zones currently flow. It is most likely that we could not justify purchasing pumping equipment for both zones in either of these wells. We could, however, if the

zones were downhole commingled, justify the purchase and setting of just one pumping unit on each of these wells, thereby providing for the maximum recovery of reserves from both zones in each well.

The zones for which we are requesting downhole commingling authority in each of these wells are currently being commingled at the surface. Our continual surveillance of surface production equipment associated with these wells has revealed no indication of corrosion, scaling, or any other detrimental effect due to incompatibility between any of the produced fluids. Attachment 14 provides pertinent data regarding the Commission Orders approving both multiple completion and surface commingling of both zones for each of these wells. Additionally, as these wells are now commingled at the surface and the commingled stream is fed directly into the sales line, no decrease in the value of the produced fluids will result from downhole commingling of the zones. Attachment 15 presents a calculation for each well, showing that no loss in value would occur due to a lesser value crude being commingled with a high value crude. Also, production from each zone is of a sweet nature. All ownership in both zones in each of these wells is common throughout.

We can foresee no detrimental effects of future anticipated secondary recovery operations which could be caused by downhole commingling of these zones. As mentioned above, there will be essentially no opportunity for cross-flow between zones; and due to the compatibility of the fluids, no detrimental effects on the reservoir can result.

Attachments 16 through 23 are decline curves from which an extrapolation can be made and used for allocation of production between zones.

We have also attached a copy of our letters to all offset operators, notifying them of our request and requesting their waiver.

Yours very truly,

D.L. Raymy

WCW:jn
Attachments

cc: New Mexico Oil Conservation Commission
P. O. Box 127
Hobbs, New Mexico - w/attachments

BLINEBRY GAS

YESO 5500

48842

WETERN OIL FIELD



NO 3

Dual Own

NO 3

NO 3

NO 3

NO 3

NO 3

NO 3

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No. 3

Completion

Dual

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Southland Royalty Co.

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PAN AM.-SOUTHLAND ROYALTY LEASE

HUMBLE

SPRING "V"

CONT'L

W. C. HARRIS

STANOLIND

CONT'L

ST. ANTON

ST. D. OF TEXAS

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Attachment I

WELL LEGEND

- BLINEBRY GAS WELL
- BLINEBRY OIL WELL
- TUBB GAS WELL
- TUBB OIL WELL
- DRINKARD OIL WELL

R-37-E

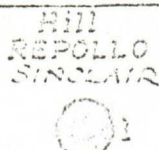
25

25



Eva Owen
(OLSEN)
T.P.C. CO.

J.S. Simmons



Lockhart's "B" 35
(CONTL) PAN AM ETAL



State
PAN AM. CO. T2.13



35

35



Mark Owen

CITIES SERVICE

State "357"
REPOLLO



Atlantic

Getty

BLINEBRY
Vesc Line 3375'



Attachment 2

- LEGEND -

- BLINEBRY OIL
- BLINEBRY GAS
- TUBB GAS
- PADDOCK OIL
- DRINKARD OIL
- TUBB OIL

Pan American Petroleum Corporation
Lubbock District

EUNICE AREA

(Lea County), New Mexico

Scale 1" = 1000'

Drawn 2-15-62 JRM
Revised
Date
Post

BLINEBRY-GAS
YESO 5500

CONT'L
HGWK "R"

CONT'L
HAWK "A"

PAN AM. SOUTHLAND ROYALTY LEASE

NAME
State "V"

CONT'L
LOCKHORN

PRN RM.

Attachment 3

WELL LEGEND

-  BLINEBRY GAS WELL
-  BLINEBRY OIL WELL
-  TUBB GAS WELL
-  TUBB OIL WELL
-  DRINKARD OIL WELL

BLINEBRY GAS

YESO 5500

CONT'L
HOWE "R"

NORTHERN OIL FIELD

STAND-
ING
IN
ALP. H. G.
1904

Southland Royalty Co.
STAND-
ING
IN
ALP. H. G.
1904

Well
Owyo

PRN AM.

SHELL
Livingston

CONT'L
State-10

CONT'L
HOWE "R"

PRN AM.
Southland Royalty Co.

W. 21-5

PRN AM. SOUTHLAND ROYALTY LEASE

W. 21-5

CONT'L
HOWE "B"

CONT'L

U.S.A.
W. C. HAWK B
STAND-
ING
IN
ALP. H. G.
1904

CONT'L
Lockhart

PRN AM.

Attachment 4

WELL LEGEND

-  BLINEBRY GAS WELL
-  BLINEBRY OIL WELL
-  TUBB GAS WELL
-  TUBB OIL WELL
-  DRINKARD OIL WELL

R-37-E

ATTACHMENT 5

<u>Well</u>	<u>Pools</u>	<u>Latest Test</u> <u>(BOPD x BWPD x GOR)</u>	<u>Bottom Hole Pressure</u> <u>(psi)</u>	<u>(Datum)</u>	<u>Remarks</u>
Southland Royalty "A" Well No. 3	Tubb Drinkard	2 x 3 x 3500 10 x 1 x 9400	652 594	-2700 -3050	oil - pump oil - flow
State "C" Tract 13 Well No. 9	Tubb Drinkard	8 x 2 x 32,561 7 x 1 x 17,625	850 1066	-2700 -3050	oil - flow oil - flow
Southland Royalty "A" Well No. 7	Blinebry Drinkard	9 x 2 x 3558 5 x 1 x 19,936	728 810	-2400 -3050	oil - flow oil - flow
Southland Royalty "A" Well No. 1	Blinebry Drinkard	10 x 2 x 362 6 x 1 x 8434	701 778	-2400 -3050	oil - pump oil - flow

GAS-OIL RATIO TESTS

Attachment

Operator Pan American Petroleum Corporation		Pool Tubb & Drinkard		County Lea									
Address P. O. Box 68, Hobbs, New Mexico		TYPE OF TEST - (X)		Completion ☐ Scheduled ☐ Special ☒									
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.
		U	S	T						R	WATER BBLs.	GRAV. OIL	
Southland Royalty A	3	V	4	21	37								
Tubb								3	24	3	39.5	2	7
Drinkard								11	24	1	37.8	10	94
													3500
													9400

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 that well can be assigned increased allowables when authorized by the Commission.

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 Commission in accordance with Rule 301 and appropriate pool rules.

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

James E. York
(Signature)

AREA ENGINEER
(Title)

11-26-69
(Date)

GAS-OIL RATIO TESTS

Attachment 7

Operator		Pool		County											
Pan American Petroleum Corporation		Tubb - Drinkard		Lea											
Address		TYPE OF TEST - (X)		Completion ☐ Scheduled ☐		Special ☒									
Box 68, Hobbs, New Mexico															
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.		
		U	S	T						R	WATER BBLs.	GRAV. OIL		OIL BBLs.	GAS M.C.F.
State C Tract 13 Tubb Drinkard	9	F	36	21	37										
						11-13-69	F 16/64	60	8	24	2	40.9	8	260	32,561
						11-14-69	F 18/64	60	8	24	1	41.5	7	123	17,625

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 that well can be assigned increased allowables when authorized by the Commission.

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 Commission in accordance with Rule 301 and appropriate pool rules.

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

James E. York
(Signature)

AREA ENGINEER
(Title)

12-3-69
(Date)

Attachment 8

Operator		Pool		County											
Pan American Petroleum Corporation		Blinebry - Drinkard		Lea											
Address		TYPE OF TEST - (X)		Completion ☐ Scheduled ☐		Special ☒									
P. O. Box 68, Hobbs, New Mexico															
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKED SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL		
		U	S	T						R	WATER BBLs.	GRAV. OIL		OIL BBLs.	GAS M.C.F.
Southland Royalty "A"	7	A	9	21	37	11-14-69 F	20/64	80	11		2	38	9	32	3558
Blinebry						11-15-69 F	24/64	80	6		1	42.2	5	98	19,636
Drinkard															

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 that well can be assigned increased allowables when authorized by the Commission.

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 Commission in accordance with Rule 301 and appropriate pool rules.

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

James E. York
(Signature)

AREA ENGINEER

(Title)

12-2-69

(Date)

GAS-OIL RATIO TESTS

Attachment 9

Operator Pan American Petroleum Corporation		Pool Blinebry - Drinkard		County Lea									
Address Box 68, Hobbs, N.M.		TYPE OF TEST - (X)		Completion ☐ Special ☒									
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.
		U	S	T						R	WATER BBLs.	GRAV. OIL	
Southland Royalty "A" Blinebry Drinkard	1	G	9	21	37								
						11-15-69 P		14		2	38.6	10	3.6
						11-16-69 F	24/64	150	8	1	42.7	6	51
													8434

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 that well can be assigned increased allowables when authorized by the Commission.

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 Commission in accordance with Rule 301 and appropriate pool rules.

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

James E. York
(Signature)

AREA ENGINEER

(Title)

12-1-69

(Date)

TYPE OF REPORT - (X)	
Initial Completion	
Special	
General Survey	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-124
Revised 1-1-65

RESERVOIR PRESSURE REPORT

Attachment 10

Operator Pan American Petroleum Corporation		Pool Drinkard		County Lea		Date 11-26-69	
Address P. O. Box 68, Hobbs, New Mexico		Producing Formation Drinkard		Oil Gradient psi/ft.		Water Gradient psi/ft.	
Well No.		LOCATION U S T R		OIL ELEV. OR GAS (G)		DATE TESTED	
LEASE							
3		V 4 21 37		3482 0 RDB		10-29-69	
Southland Royalty A (Drinkard) 2-1/16" tbg							
3		V 4 21 37		3482 0 RDB		10-29-69	
Southland Royalty A (Tubb)							

BOMB TEST DATA				SONIC INSTRUMENT TEST DATA*				
TEST DEPTH	B.H. TEMP. °F	OB. SERVED PRESS.	PROD. TEST (BBLs./DAY)	LIQUID LEVEL	LIQUID GRAD-IENT PSI/FT.	WT. OF		PRESS.
						LIQUID COL. PSI	GAS COL. PSI	
6332	110	580			.07			594
(Sonic)	110			4960	.38	437	32	652

All depths plus or minus sea level; all pressures psi; Bomb shall be calibrated frequently enough against a dead weight tester to ensure an accuracy of one per cent; gas gravity shall be determined by analysis; liquid level shall be feet above datum plane. SEE RULE 302.

* Well shall be produced at least 24 hours prior to shutting in for sonic test.

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

James E. York
(Signature)

AREA ENGINEER

11-26-69

(Date)

TYPE OF REPORT - (X)	
Initial Completion	
Special	
General Survey	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-124
Revised 1-1-65

RESERVOIR PRESSURE REPORT

Attachment #11

Operator Pan American Petroleum Corporation		Pool Tubb - Drinkard		County Lea		Date 12-2-69	
Address P. O. Box 68, Hobbs, New Mexico		Producing Formation See Below		Oil Gradient psi/ft.		Gas Gravity	
Well No.		Location U S T R		Elev. Oil (O) or Gas (G)		DATE TESTED	

State "C" Tr. 13
Tubb

State "C" Tr. 13
Drinkard

LEASE	WELL NO.	LOCATION				ELEV. OIL (O) OR GAS (G)	DATE TESTED	SHUT-IN PRESS.	BOMB TEST DATA			SONIC INSTRUMENT TEST DATA*					PRESS. AT DATUM
		U	S	T	R				TEST DEPTH	B.H. TEMP. ° F.	OB. SERVED PRESS.	LIQUID LEVEL	LIQUID GRADIENT PSI/FT.	WT. OF LIQUID COL. PSI	WT. OF GAS COL. PSI	CSC. PRESS.	
	9 F	36	21	37		3368 RDB	11-17-69	24 670	6068	110	850		.14				850
	9 F	36	21	37		3368 RDB	11-17-69	24 520	6218	110	1000		.33				1066

All depths plus or minus sea level; all pressures psi; Bomb shall be calibrated frequently enough against a dead weight tester to ensure an accuracy of one per cent; gas gravity shall be determined by analysis; liquid level shall be feet above datum plane. SEE RULE 302.

* Well shall be produced at least 24 hours prior to shutting in for sonic test.

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

James E. York
(Signature)

Area Engineer
(Title)

12-3-69
(Date)

TYPE OF REPORT - (X)	
Initial Completion	
Special	
General Survey	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-124
Revised 1-1-65

RESERVOIR PRESSURE REPORT

Attachment 12

Operator Pan American Petroleum Corporation		County Lea		Date 12-2-69	
Address P.O. Box 68, Hobbs, N.M.		Oil Gradient psi/ft.		Datum Plane DRINKARD -3050 BLINEBRY -2400	
Producing Formation Drinkard - Blinebry		Water Gradient psi/ft.		Gas Gravity	

LEASE	WELL NO.	LOCATION			OIL ELEV. (O) OR GAS (G)	DATE TESTED	SHUT-IN TBG. PRESS.	BOMB TEST DATA			SONIC INSTRUMENT TEST DATA*					PRESS. AT DATUM
		U	S	T	R			TEST DEPTH	B.H. TEMP. °F	OB. SERVED PRESS.	PROD. TEST (BBLs./DAY)	LIQUID LEVEL	LIQUID GRADIENT PSI/FT.	WT. OF LIQUID COL. PSI	WT. OF GAS COL. PSI	
Southland Royalty A Drinkard	7	A	9	21	37	3480 RDB	24	6330	110	770			.20			810
	7	A	9	21	37	3480 RDB	24	5680	100	700			.14			728

All depths plus or minus sea level; all pressures psi; Bomb shall be calibrated frequently enough against a dead weight tester to ensure an accuracy of one per cent; gas gravity shall be determined by analysis; liquid level shall be feet above datum plane. SEE RULE 302.

* Well shall be produced at least 24 hours prior to shutting in for sonic test.

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

James E. York
(Signature)

AREA ENGINEER

12-2-69

(Title)

(Date)

NEW MEXICO OIL CONSERVATION COMMISSION

RESERVOIR PRESSURE REPORT

TYPE OF REPORT - (X)
Initial Completion
Special
General Survey

Operator Pan American Petroleum Corporation	Pool Drinkard	County Lea	Date 12-1-69
Address P. O. Box 68, Hobbs, N.M.	Producing Formation Drinkard	Oil Gradient psi/ft.	Water Gradient psi/ft.
		Gas Gravity	Drinking BLINEBRY
			-3050
			-2400

LEASE	WELL NO.	LOCATION				OIL (O) OR GAS (G)	ELEV. (O) OR GAS (G)	DATE TESTED	SHUT-IN TBG. PRESS.	BOMB TEST DATA			SONIC INSTRUMENT TEST DATA*					PRESS. AT DATUM		
		U	S	T	R					TEST DEPTH	B.H. TEMP. °F	OB-SERVED PRESS.	PROD. TEST (BBLs./DAY)	LIQUID LEVEL	LIQUID GRAD-IENT PSI/FT.	WT. OF LIQUID COL. PSI	WT. OF GAS COL. PSI		CSG. PRESS.	
Southland Royalty A Drinkard 2" EUE	1	G	9	21	37	3488 DF	11-15-69	24	610	5938	110	725				.03				778
	1	G	9	21	37	3488 DF	11-17-69	24		(Sonic) 100	4774	0.39	434	39	228				701	

All depths plus or minus sea level; all pressures psi; Bomb shall be calibrated frequently enough against a dead weight tester to ensure an accuracy of one per cent; gas gravity shall be determined by analysis; liquid level shall be feet above datum plane. SEE RULE 302.

* Well shall be produced at least 24 hours prior to shutting in for sonic test.

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

James G. York
(Signature)

AREA ENGINEER
(Title)

12-1-69

(Date)

ATTACHMENT 14

W e 1 1

Surface Commingling Data

Multiple Completion Data

Southland Royalty "A" No. 3

Order #PC-89; August 13, 1962

Order #MC-1117

State "C" Tract 13 No. 9

Order #PC-282, September 13, 1966

Order #MC-1664; September 7, 1965

Southland Royalty "A" No. 7

Order #PC-89; April 19, 1962

Order #MC-1236; September 10, 1962

Southland Royalty "A" No. 1

Order #PC-89, April 19, 1962

Order #MC-1178; April 11, 1962

ATTACHMENT 15

FLUID CHARACTERISTICS

<u>Well</u>	<u>Pool</u>	<u>Type Fluid</u>	<u>Gravity (^oAPI)</u>
Southland Royalty "A" No. 3	Tubb Drinkard	Sweet Crude "	39.5 37.8
State "C" Tract 13 No. 9	Tubb Drinkard	Sweet Crude "	40.9 41.5
Southland Royalty "A" No. 7	Blinebry Drinkard	Sweet Crude "	38.0 42.2
Southland Royalty "A" No. 1	Blinebry Drinkard	Sweet Crude "	38.6 42.7

VALUE OF COMMINGLED PRODUCTION

(All production sold under Mobil intermediate crude posting; Top = \$3.31/bbl, (Gravity = 40-44.9^o API)

Southland Royalty "A" No. 3

- a) Tubb gravity = 39.5^oAPI @ \$3.29/bbl.
 - b) Drinkard gravity = 37.8^o API @ \$3.25/bbl.
 - c) Combined Tubb-Drinkard gravity = 38.0^o API @ \$3.27/bbl.
- Value produced dually = \$3.29/bbl + \$3.25/bbl = \$6.54/2 bbl.
Value of commingled production = \$3.27/bbl x 2 bbl. = \$6.54/2 bbl.

State "C" Tract 13 Well No. 9

- a) Tubb gravity = 40.9^o API @ \$3.31/bbl.
- b) Drinkard gravity = 41.5^o API @ \$3.31/bbl.

As the crude value for both zones is equal, no decrease in value will occur due to commingling.

Southland Royalty "A" Well No. 7

- a) Blinebry gravity = 38.0° API @ $\$3.27/\text{bbl}$.
- b) Drinkard gravity = 42.2° API @ $\$3.31/\text{bbl}$.
- c) Combined Blinebry-Drinkard gravity = 39.5° API @ $\$3.29/\text{bbl}$.

Value produced dually = $\$3.27/\text{bbl} + \$3.31/\text{bbl} = \$6.58/2 \text{ bbl}$.
Value of commingled production = $\$3.29/\text{bbl} \times 2 \text{ bbl} = \$6.58/2 \text{ bbl}$.

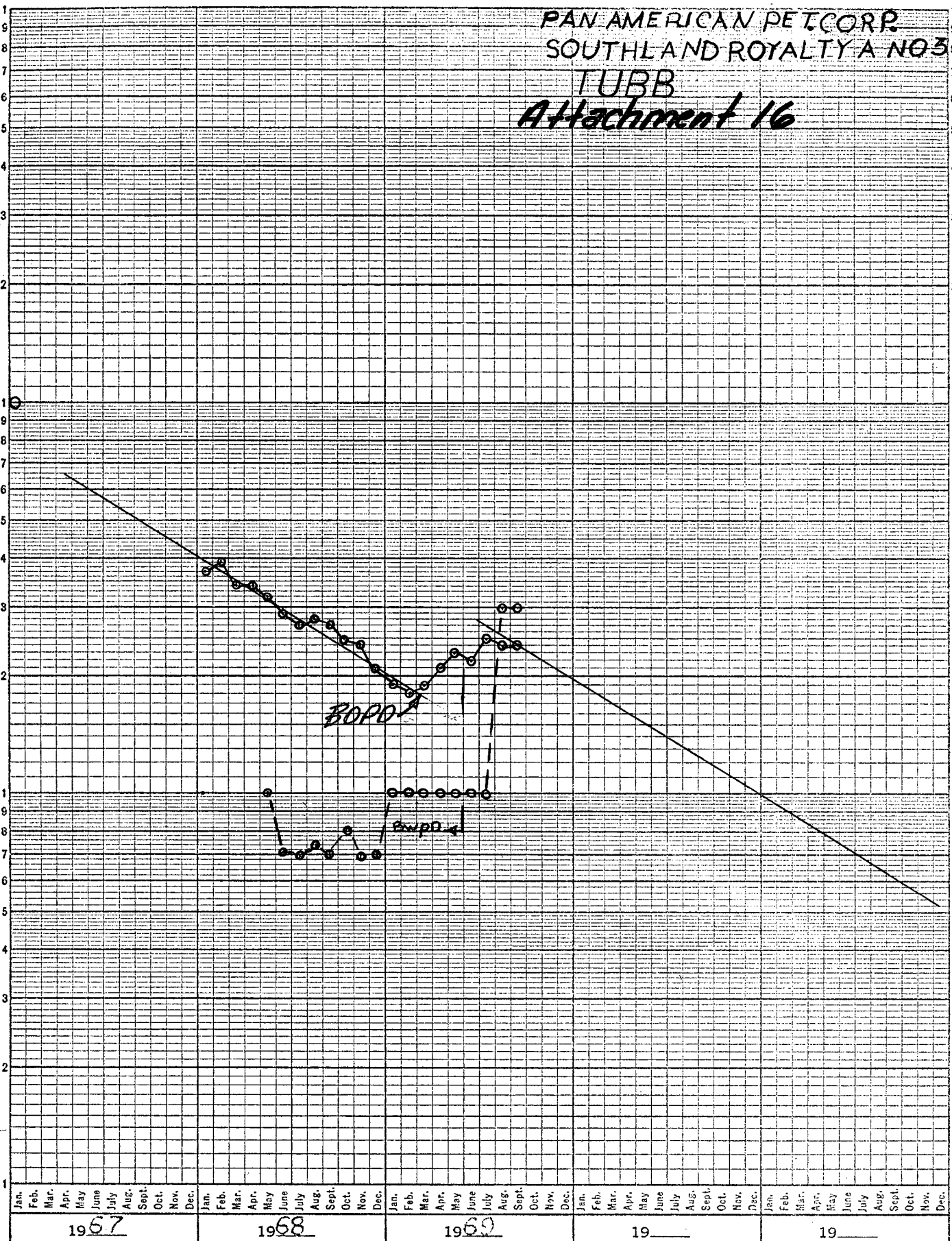
Southland Royalty "A" Well No. 1

- a) Blinebry gravity = 38.6° API @ $\$3.27/\text{bbl}$.
- b) Drinkard gravity = 42.7° API @ $\$3.31/\text{bbl}$.
- c) Combined Blinebry-Drinkard gravity = 40.1° API @ $\$3.31/\text{bbl}$.

Value produced dually = $\$3.27/\text{bbl} + \$3.31/\text{bbl} = \$6.57/2 \text{ bbl}$.
Value of commingled production = $\$3.31/\text{bbl} \times 2 \text{ bbl} = \$6.62/2 \text{ bbl}$.

BFPD

PAN AMERICAN PETCORP.
 SOUTHLAND ROYALTY A NO 3
 TUBB
 Attachment 16

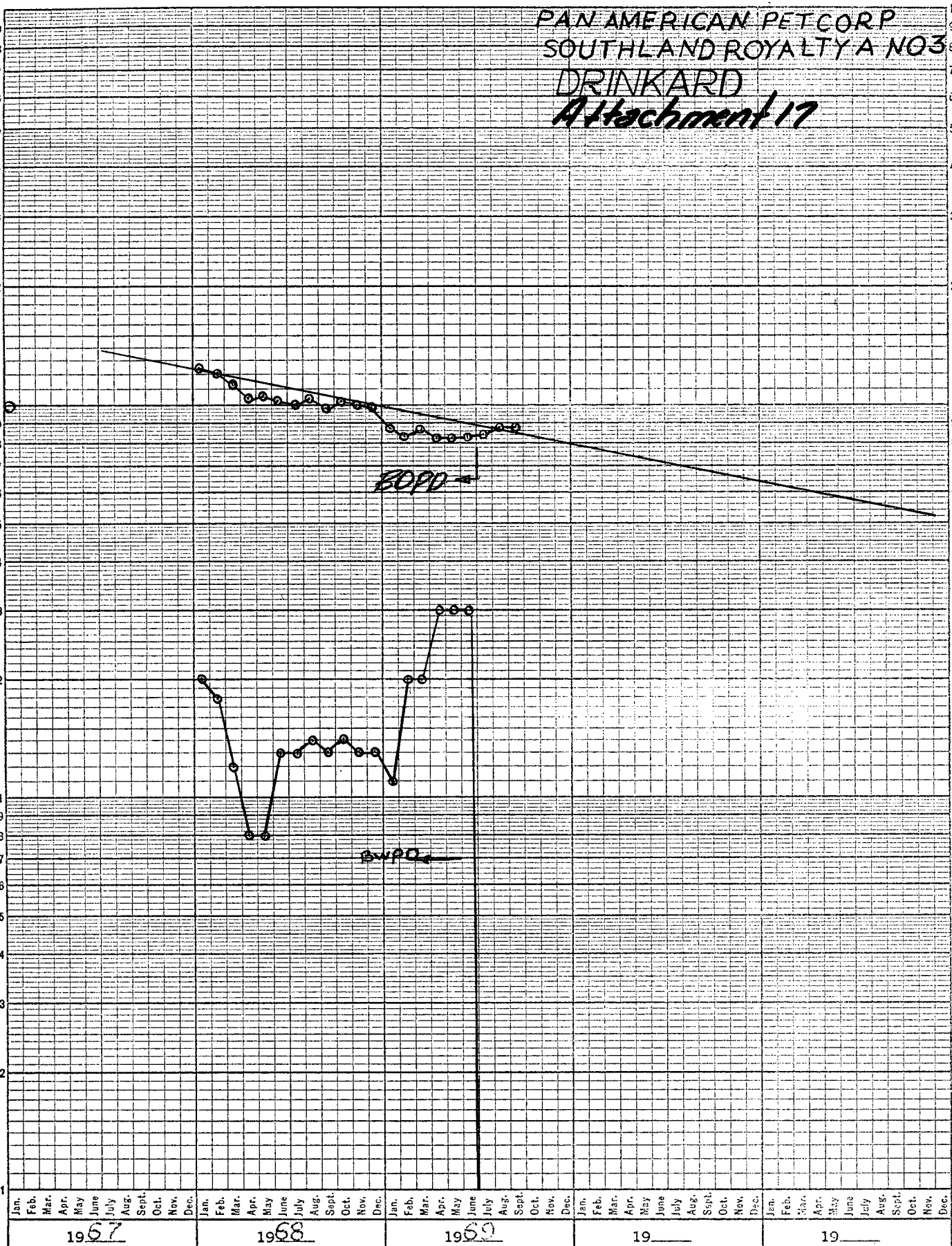


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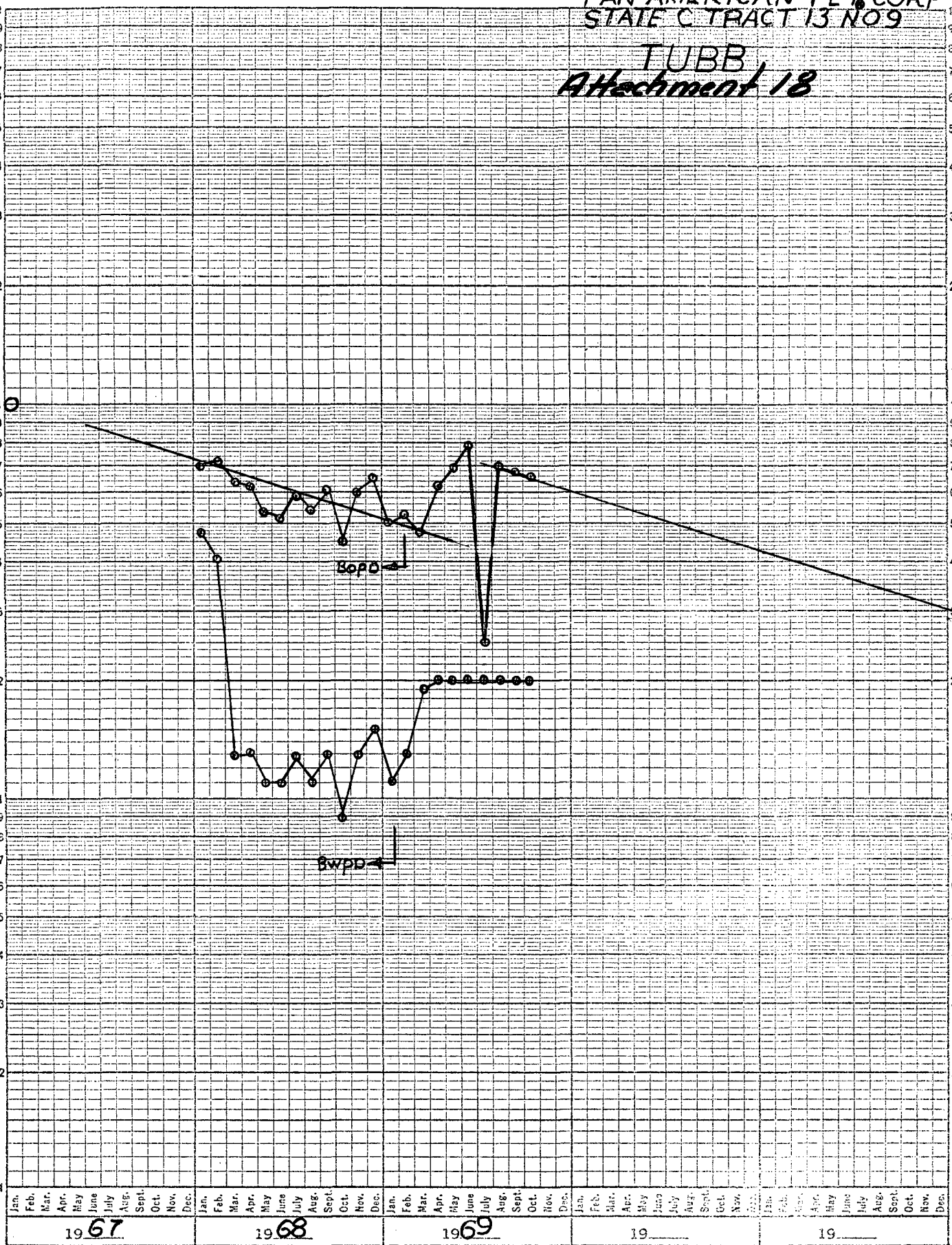
PAN AMERICAN PET CORP
SOUTHLAND ROYALTY A NO3
DRINKARD
Attachment 17



TUBB
Attachment 18

BFPD

K&E 5 YEARS BY MONTHS 46 6693
X 3 LOG CYCLES
MADE IN U.S.A.
KEUFFEL & ESSER CO.

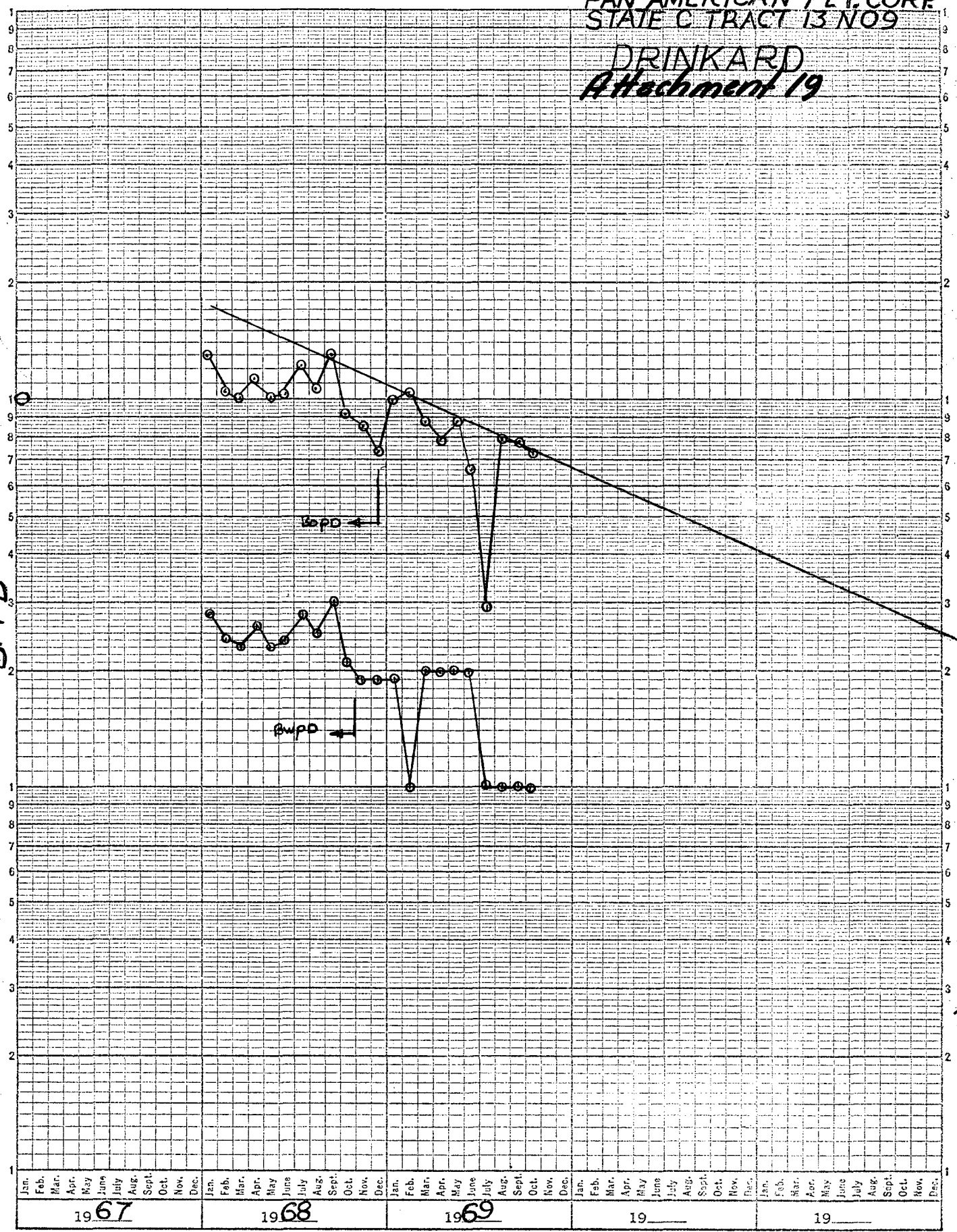


55%

KE 5 YEARS BY MONTHS 46 6693
 MADE IN U.S.A.
 KEUFFEL & ESSER CO.

PAN AMERICAN PET. CORP.
 STATE C TRACT 13 NO9
 DRINKARD
 Attachment 19

BFPD

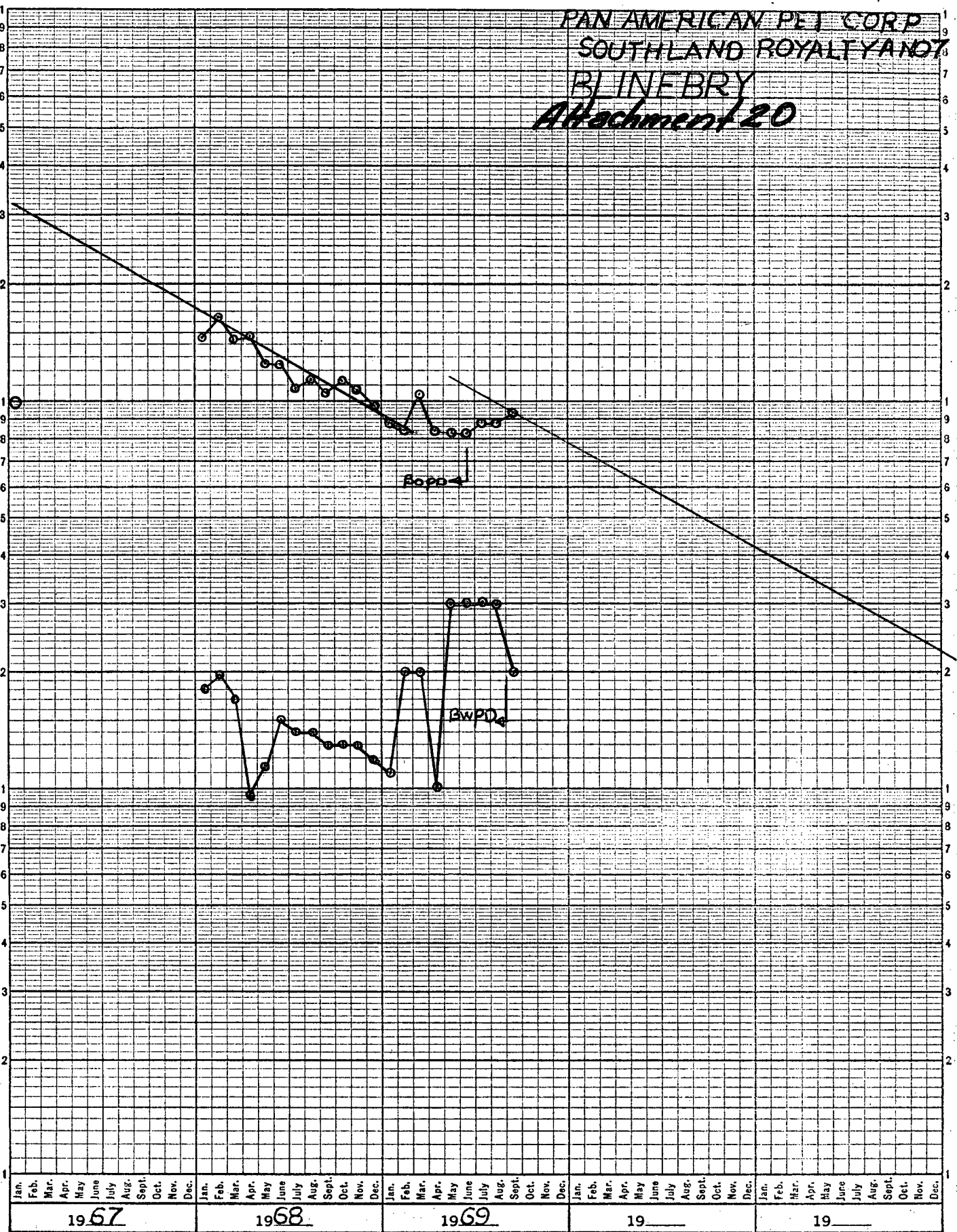


2.5

450/0

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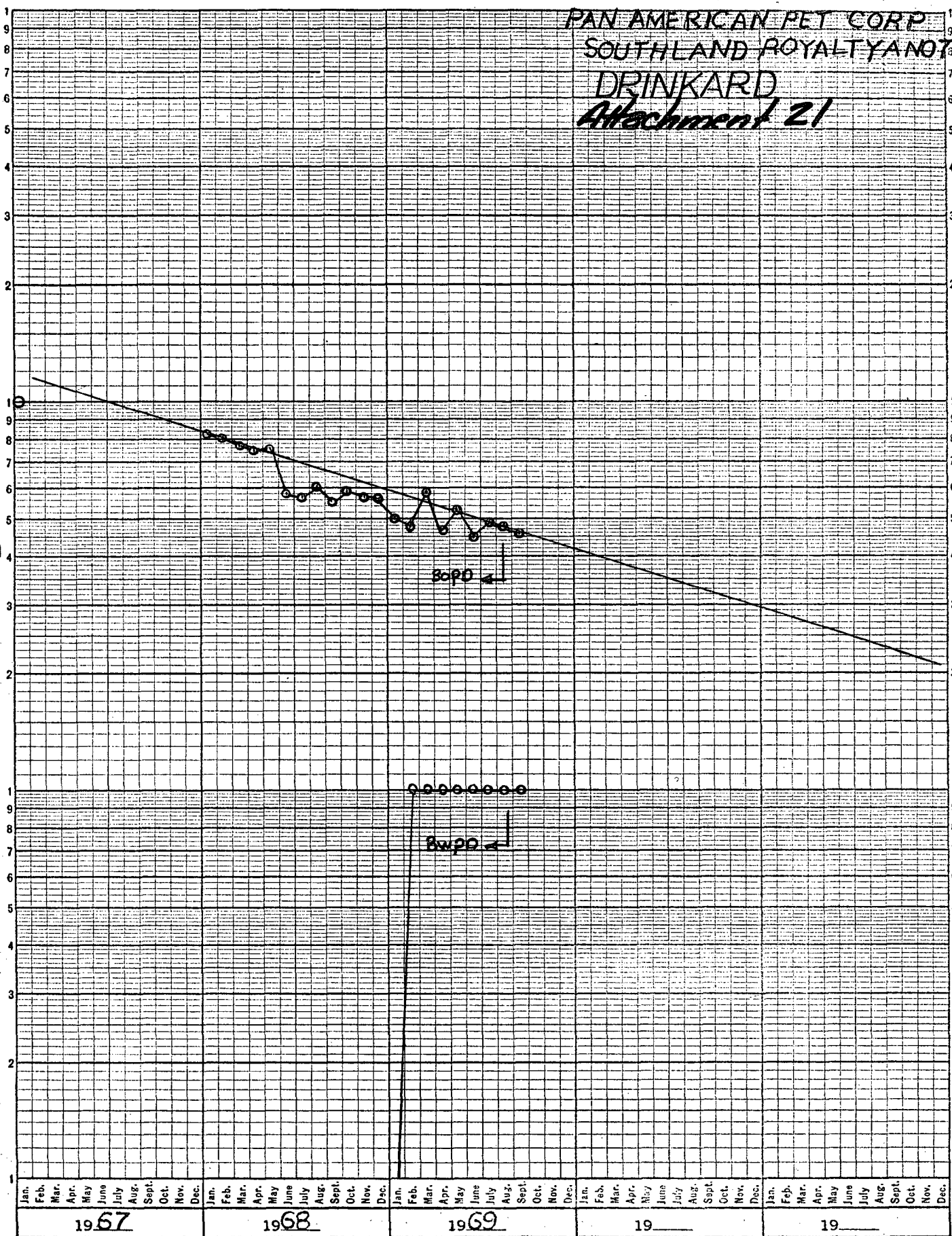
PAN AMERICAN PET CORP
 SOUTHLAND ROYALTY AND
 RJ INF BRY
 Attachment 20



K⁺E 5 YEARS BY MONTHS
X 3 LOG CYCLES

BFPD

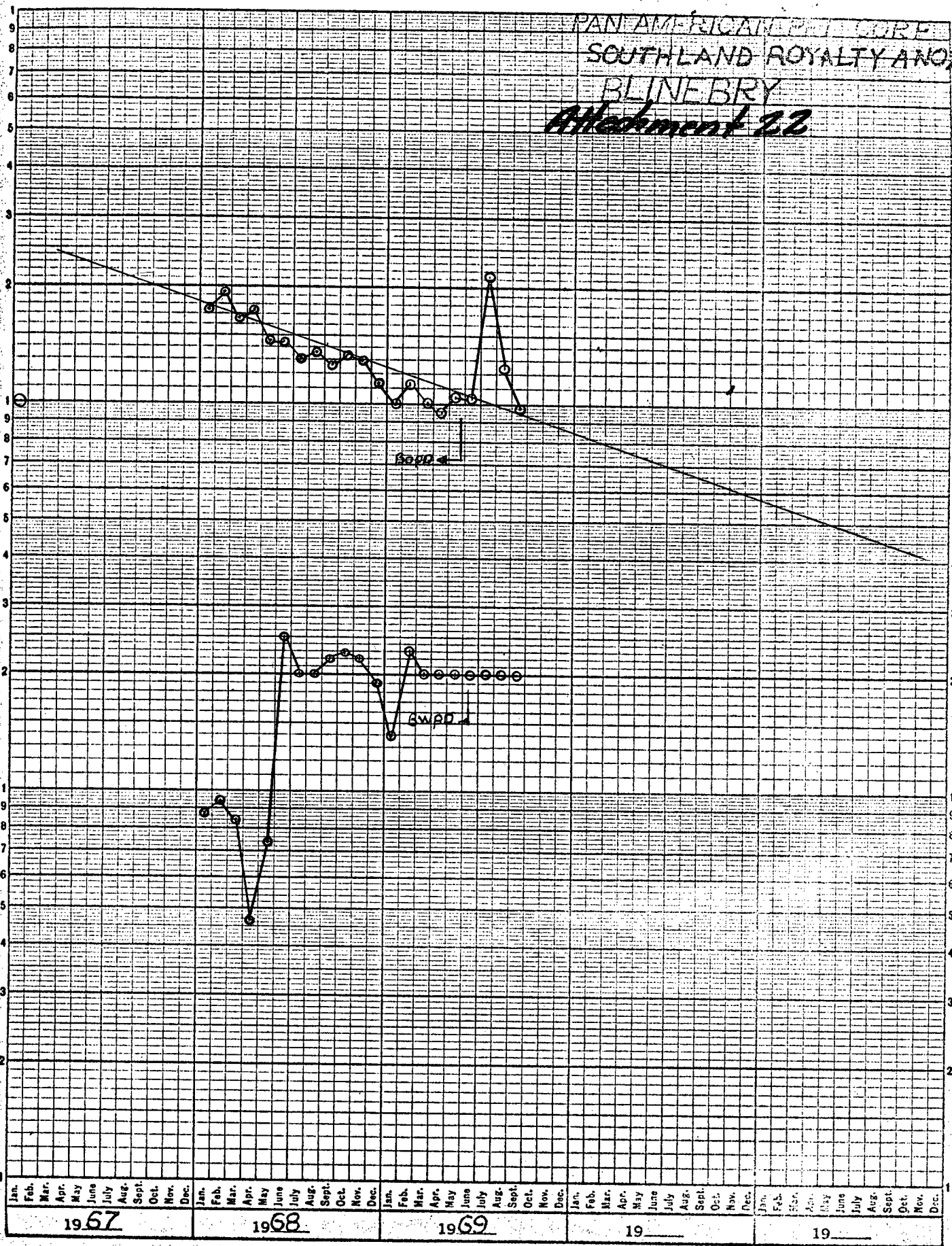
PAN AMERICAN PET CORP
SOUTHLAND ROYALTY AND
DRINKARD
Attachment 21



K-E 5 YEARS BY MONTHS 46 6693
 X 3 LOG CYCLES
 KEUFFEL & ESSER CO.

BFPD

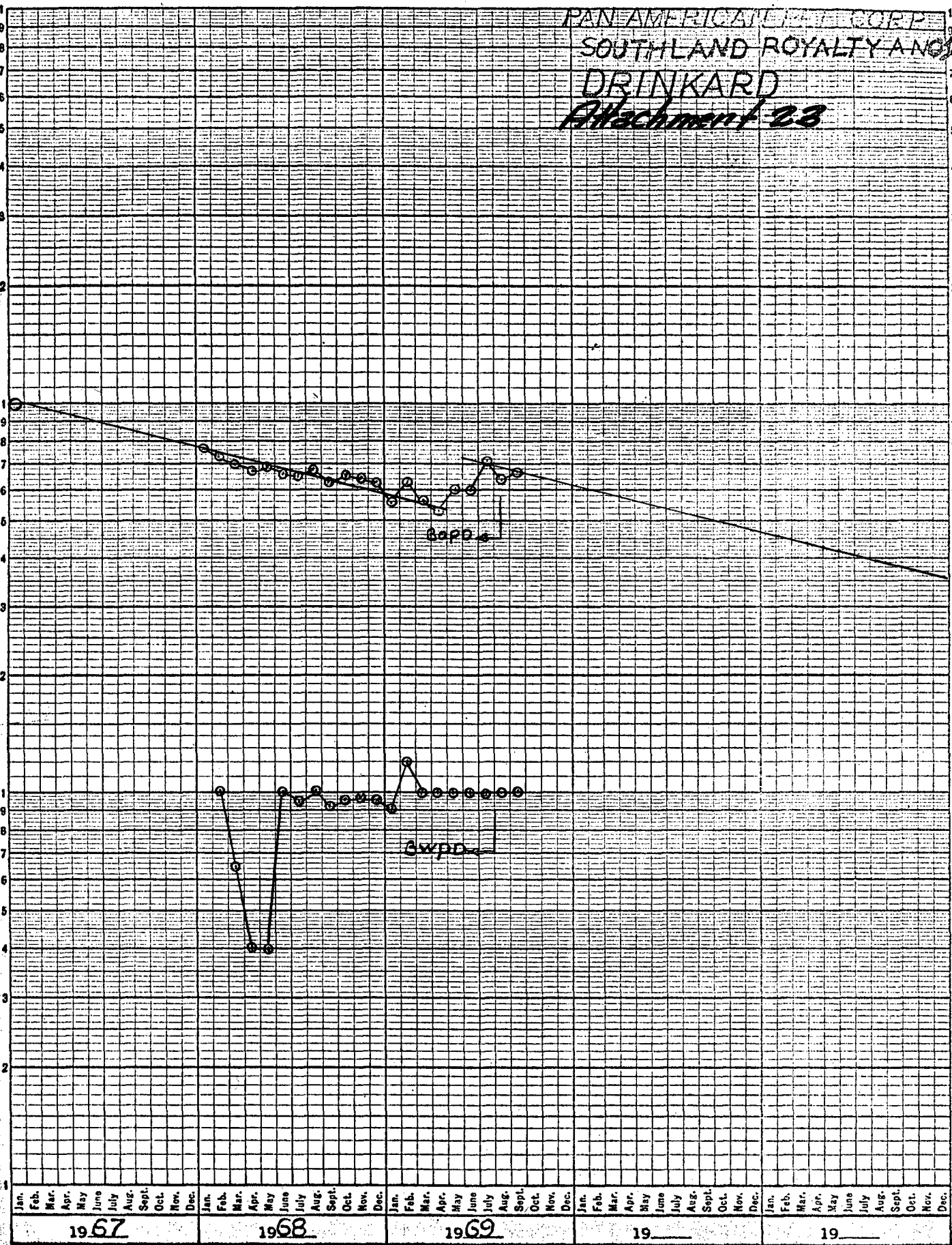
PAN AMERICAN PETROLEUM CORP.
 SOUTHLAND ROYALTY AND
 BLINE BRY
 Attachment 2.2



K&E 5 YEARS BY MONTHS 46 6693
MADE IN U.S.A.
NEUPPEL & ESSER CO.

PAN AMERICAN CORP
SOUTHLAND ROYALTY AND
DRINKARD
Attachment 23

BFPD



PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

December 3, 1969

File: VES-403-400.1

Subject: Waivers of Objection for
Downhole Commingling
State "C" Tract 13 No. 9
Tubb - Drinkard Field

Continental Oil Company, Box 460, Hobbs, New Mexico
Cities Service Oil Company, Box 97, Hobbs, New Mexico
Atlantic Richfield Company, Box 1710, Hobbs, New Mexico
Texas Pacific Oil Company, Box 1069, Hobbs, New Mexico
Getty Oil Company, Box 249, Hobbs, New Mexico

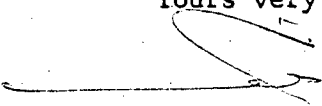
Gentlemen:

We propose to downhole commingle our State "C" Tract 13 No. 9, a Tubb (oil) - Drinkard (oil) dual, located 1980' FNL and 1980' FWL, Section 36, T-21-S, R-37-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one (1) copy of this letter as your waiver and return to Mr. N. S. Whitmore, P. O. Box 1410, Fort Worth, Texas. Please also forward one copy of the signed waiver to the NMOCC in Santa Fe.

Yours very truly,


V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR: _____

BY: _____

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

November 26, 1969

File: VES-393-400.1

Subject: Waivers of Objection for
Downhole Commingling
Southland Royalty "A" No. 3
Tubb - Drinkard Field

Continental Oil Company, Box 460, Hobbs, New Mexico
Humble Oil & Refining Company, Box 2100, Hobbs, New Mexico
Shell Oil Company, Box 1509, Midland, Texas
Western Oil Field, Inc., 112 North First, Artesia, New Mexico

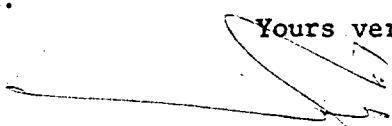
Gentlemen:

We propose to downhole commingle our Southland Royalty "A" No. 3, a Tubb (oil) - Drinkard (oil) dual located 660' FSL and 1980' FWL, Section 4, T-21-S, R-37-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one (1) copy of this letter as your waiver and return to Mr. N. S. Whitmore, P. O. Box 1410, Fort Worth, Texas. Please also forward one copy of the signed waiver to the NMOCC in Santa Fe.

Yours very truly,


V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR: _____

BY: _____

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

December 1, 1969

File: VES-399-400.1

Subject: Waivers of Objection for
Downhole Commingling
Southland Royalty "A" No. 1
Blinebry - Drinkard Field

Continental Oil Company, Box 460, Hobbs, New Mexico
Humble Oil Company, Box 2100, Hobbs, New Mexico
Shell Oil Company, Box 1509, Midland, Texas
Western Oil Field, Inc., 112 North First, Artesia, New Mexico

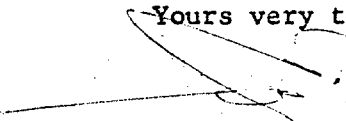
Gentlemen:

We propose to downhole commingle our Southland Royalty "A" No. 1, a Blinebry (oil) - Drinkard (oil) dual, located 1980' FNL x 1980' FEL, Section 9, T-21-S, R-37-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one (1) copy of this letter as your waiver and return to Mr. N. S. Whitmore, P. O. Box 1410, Fort Worth, Texas. Please also forward one copy of the signed waiver to the NMOCC in Santa Fe.

Yours very truly,


V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR _____

BY: _____

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

December 2, 1969

File: VES-401-400.1

Subject: Waivers of Objection for
Downhole Commingling
Southland Royalty "A" No. 7
Blinebry - Drinkard Field

Continental Oil Company, Box 460, Hobbs, New Mexico
Humble Oil & Refining Company, Box 2100, Hobbs, New Mexico
Shell Oil Company, Box 1509, Midland, Texas
Western Oil Field, Inc., 112 North First, Artesia, New Mexico

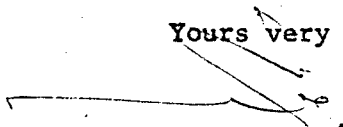
Gentlemen:

We propose to downhole commingle our Southland Royalty "A" No. 7, a Blinebry (oil) - Drinkard (oil) dual located 660' FNL and 585' FEL of Section 9, T-21-S, R-37-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one copy of this letter as your waiver and return to Mr. N. S. Whitmore, P. O. Box 1410, Fort Worth, Texas. Please also forward one copy of the signed waiver to the NMOCC in Santa Fe.

Yours very truly,


V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR: _____

BY: _____

PAN AMERICAN PETROLEUM CORPORATION

DEC 12 1969

OIL AND GAS BUILDING P. O. BOX 1410

FORT WORTH, TEXAS—76101

December 10, 1969

D. L. RAY
DIVISION ENGINEER

File: PEH-602-986.510.1

Subject: Downhole Commingling
Blinebry and Drinkard Pools
Lea County, New Mexico

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico 87501

Gentlemen:

Reference is made to our letter of November 28, 1969,
requesting administrative approval for downhole commingling of the
following wells in the subject pools:

Southland Royalty "A" Well No. 5 (Q-4-21-37)
State "S" Well No. 1 (C-32-22-38)
State "C" Tract 12 Well No. 3 (E-16-21-37)
State "C" Tract 12 Well No. 7 (D-16-21-37)

Attached please find executed waivers of objection from all
offset operators to these wells.

Yours very truly,

D. L. Ray

WCW:jn
Attachments

cc: New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico w/attachments

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

November 24, 1969

File: VES-390-400.1

Subject: Waivers of Objection for
Downhole Commingling
State "C" Tract 12 No. 7
Blinebry - Drinkard Field

Amerada Petroleum Corporation, P. O. Box 668, Hobbs, New Mexico
Continental Oil Company, P.O. Box 460, Hobbs, New Mexico
Gulf Oil Corporation, P.O. Box 670, Hobbs, New Mexico

Gentlemen:

We propose to downhole commingle our State "C" Tract 12 Well No. 7, a Blinebry (oil) - Drinkard (oil) dual, located 660' FNL and FWL, Section 16, T-21-S, R-38-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one (1) copy of this letter as your waiver and return to Mr. N. S. Whitmore, P.O. Box 1410, Fort Worth, Texas.

Yours very truly,

V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR: Continental Oil Company

BY: 

G. C. Jamieson, Assistant Division Manager

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

November 24, 1969

File: VES-390-400.1

Subject: Waivers of Objection for
Downhole Commingling
State "C" Tract 12 No. 7
Blinebry - Drinkard Field

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Dist. Prod. Supts.			
FORT WORTH			
DEC 8 1969			
	D.P.M.		
	A.D.P.M.		
	D.S.-L		
	D.S.-O		
	DRUG.		
	PLANT		
	ENGR.		
	UNIT.		
	ADM.		
	FILE		

- ✓ Amerada Petroleum Corporation, P. O. Box 668, Hobbs, New Mexico ✓
- ✓ Continental Oil Company, P.O. Box 460, Hobbs, New Mexico
- ✓ Gulf Oil Corporation, P.O. Box 670, Hobbs, New Mexico

Gentlemen:

We propose to downhole commingle our State "C" Tract 12 Well No. 7, a Blinebry (oil) - Drinkard (oil) dual, located 660' FNL and FWL, Section 16, T-21-S, R-38-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one (1) copy of this letter as your waiver and return to Mr. N. S. Whitmore, P.O. Box 1410, Fort Worth, Texas.

Yours very truly,

V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR: GULF OIL CORPORATION

BY: M. J. Taylor

District Production Manager

DATE: December 4, 1969

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico 88240

November 24, 1969

File: VES-390-400.1

Subject: Waivers of Objection for
Downhole Commingling
State "C" Tract 12 No. 7
Blinebry - Drinkard Field

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t. Prod. Supts.			
FORT WORTH			
DEC 2 1969			
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	W.L.B.		
	GAS		
	PLANT		
	ENGR.		
	UNIT.		
	ADM.		
	FILE		

Amerada Petroleum Corporation, P. O. Box 668, Hobbs, New Mexico ✓
Continental Oil Company, P.O. Box 460, Hobbs, New Mexico
Gulf Oil Corporation, P.O. Box 670, Hobbs, New Mexico

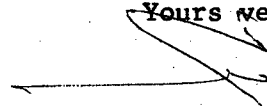
Gentlemen:

We propose to downhole commingle our State "C" Tract 12 Well No. 7, a Blinebry (oil) - Drinkard (oil) dual, located 660' FNL and FWL, Section 16, T-21-S, R-38-E, Lea County, New Mexico.

NMOCC Order No. R-3845 requires a 20-day waiting period for approval of downhole commingling if offsetting operators do not waive objection to the commingling. In order to expedite early approval of the subject matter, we solicit your waivers of objection to downhole commingling.

If you have no objection to the proposed commingling, please sign one (1) copy of this letter as your waiver and return to Mr. N. S. Whitmore, P.O. Box 1410, Fort Worth, Texas.

Yours very truly,



V. E. Staley
Area Superintendent

DCJ/jt

APPROVED FOR:

Amerada Division
Amerada Hess Corporation

BY:

Bo. Webb
District Supt.