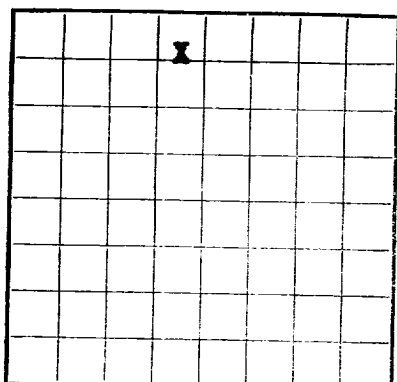




LOCATE WELL CORRECTLY

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYU. S. LAND OFFICE **Navajo Tribal**  
SERIAL NUMBER **14-20-603-2200**  
LEASE OR PERMIT TO PROSPECT  
**Navajo Tribal "C"**U. S. GEOLOGICAL SURVEY  
NEW MEXICO

## LOG OF OIL OR GAS WELL

Company **Pan American Petroleum Corporation** Address **Box 480, Farmington, New Mexico**  
Lessor or Tract **Navajo Tribal "C"** Field **Cha Cha Gallup** State **New Mexico**  
Well No. **3** Sec. **20** T. **20N** R. **14E** Meridian **N.M.P.M.** County **San Juan**  
Location **200 ft. N. of S. Line and 220 ft. E. of W. Line of Section 20** Elevation **5201 (RDS)**  
The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.  
Signed **R. M. Davis**  
Date **December 27, 1960** Title **Area Engineer**

The summary on this page is for the condition of the well at above date.

Commenced drilling **November 27**, 19**60** Finished drilling **December 9**, 19**60**OIL OR GAS SANDS OR ZONES  
(Denote gas by G)

No. 1, from **4620** to **4630** No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

## IMPORTANT WATER SANDS

No. 1, from \_\_\_\_\_ to \_\_\_\_\_ No. 3, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_

## CASING RECORD

| Size casing   | Weight per foot | Threads per inch | Make        | Amount      | Kind of shoe | Cut and pulled from | Perforated |     | Purpose           |
|---------------|-----------------|------------------|-------------|-------------|--------------|---------------------|------------|-----|-------------------|
|               |                 |                  |             |             |              |                     | From—      | To— |                   |
| <b>8-5/8"</b> | <b>32</b>       | <b>SRT</b>       | <b>J-40</b> | <b>4720</b> | <b>Guide</b> |                     |            |     | <b>Barrel</b>     |
| <b>4-1/2"</b> | <b>9.5</b>      | <b>SRT</b>       | <b>J-55</b> | <b>4723</b> | <b>Guide</b> |                     |            |     | <b>Oil String</b> |

## MUDDING AND CEMENTING RECORD

| Size casing   | Where set   | Number sacks of cement     | Method used                 | Mud gravity | Amount of mud used |
|---------------|-------------|----------------------------|-----------------------------|-------------|--------------------|
| <b>8-5/8"</b> | <b>205</b>  | <b>180 sacks of cement</b> | <b>Halliburton 1 plug</b>   |             |                    |
| <b>4-1/2"</b> | <b>4709</b> | <b>200 sacks of cement</b> | <b>B. J. Service 2 plug</b> |             |                    |

## PLUGS AND ADAPTERS

Heaving plug—Material \_\_\_\_\_ Length \_\_\_\_\_ Depth set \_\_\_\_\_  
Adapters—Material \_\_\_\_\_ Size \_\_\_\_\_

## SHOOTING RECORD

| Size | Shell used | Explosive used | Quantity | Date | Depth shot | Depth cleaned out |
|------|------------|----------------|----------|------|------------|-------------------|
|      |            |                |          |      |            |                   |
|      |            |                |          |      |            |                   |
|      |            |                |          |      |            |                   |

## TOOLS USED

Rotary tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Cable tools were used from **0** feet to **4720** feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

## DATES

Completed as flowing oil well **Cha Cha Gallup Field** **December 26**, 19**60**  
Put to producing **December 27**  
The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which \_\_\_\_\_% was oil; \_\_\_\_\_% emulsion; \_\_\_\_\_% water; and \_\_\_\_\_% sediment. **212** Gravity, °Bé. **99.8**  
If gas well, cu. ft. per 24 hours \_\_\_\_\_ Gallons gasoline per 1,000 cu. ft. of gas **43.7° API**  
Rock pressure, lbs. per sq. in. \_\_\_\_\_

## EMPLOYEES

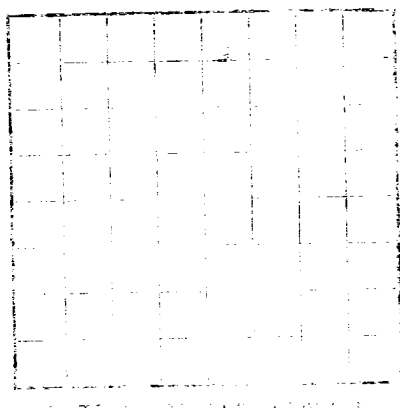
\_\_\_\_\_, Driller **R. D. Davis** \_\_\_\_\_, Driller **James Smith**  
\_\_\_\_\_, Driller **M. O. Ebersold** \_\_\_\_\_, Driller **Bert W. Farris**

## FORMATION RECORD

| FROM—       | TO—         | TOTAL FEET  | FORMATION                                                                 |
|-------------|-------------|-------------|---------------------------------------------------------------------------|
| <b>0</b>    | <b>510</b>  | <b>510</b>  | <b>Surface sands and shales including Fruitland and Farmington Zones.</b> |
| <b>510</b>  | <b>650</b>  | <b>140</b>  | <b>Pictured Cliffs sands and shales.</b>                                  |
| <b>650</b>  | <b>1655</b> | <b>1005</b> | <b>Lewis shale.</b>                                                       |
| <b>1655</b> | <b>3290</b> | <b>1635</b> | <b>Mesaverde sands, shales and coals.</b>                                 |
| <b>3290</b> | <b>4260</b> | <b>970</b>  | <b>Mancos shale.</b>                                                      |
| <b>4260</b> | <b>4595</b> | <b>335</b>  | <b>Gallup sands and shales.</b>                                           |
| <b>4595</b> | <b>4720</b> | <b>125</b>  | <b>Gallup pay sands and shales.</b>                                       |
|             |             |             | <b>(Tops from E log)</b>                                                  |

LOG OF OIL OR GAS WELL

DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
UNITED STATES



27,745 gallons oil and 30,000 pounds sand. Perforated casing with 6 1/2 inch per foot 4627-33. Sand oil tracked with  
Mark II fluid loss additive. Perforation pressure 24.50 psi. Average injection rate 33 barrels per minute. Casing  
2-3/8 inch at 26, 1960 as running oil well. Casing 2-3/8 inch at 26, 1960 as running oil well. Casing 2-3/8 inch at 26, 1960 as running oil well.  
Gelling fluid. Perforated casing 26, 1960, 212 hours on 26/64 choke.  
144 220, CIP 370, Gravity 43.70 API.  
This is the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together  
with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was  
checked or left in place, give the date, size, position, and number  
of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or balling.  
Spudded 12-1/4 hole on November 29, 1960 and drilled to 205'. Set 8-5/8 casing as 205'. With 180 sacks cement containing 25 calcium chloride. Circulated 35 sacks  
of cement. After waiting on cement, tested casing with 350 psi for 30 minutes,  
which held with no indication of pressure drop. Redrilled hole to 4-7/8 at 205' and re-  
sumed drilling operations.  
Core No. 1 - recovered 59' as follows: 1' shale, 8' sand, 16' shale with thin sand  
laminations, fractured throughout, 1' light sand, 9' clean medium grained sand with  
good porosity. 13' in last foot with occasional thin shale partings throughout,  
28' sand and sandy shale. Fractured throughout.

IMPORTANT WATER SANDS

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together  
with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was  
checked or left in place, give the date, size, position, and number  
of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or balling.  
Spudded 12-1/4 hole on November 29, 1960 and drilled to 205'. Set 8-5/8 casing as 205'. With 180 sacks cement containing 25 calcium chloride. Circulated 35 sacks  
of cement. After waiting on cement, tested casing with 350 psi for 30 minutes,  
which held with no indication of pressure drop. Redrilled hole to 4-7/8 at 205' and re-  
sumed drilling operations.

HISTORY OF OIL OR GAS WELL

| FROM |     | TO  |      | TOTAL FEET |      | FORMATION |      |
|------|-----|-----|------|------------|------|-----------|------|
| 0    | 10  | 10  | 20   | 10         | 20   | 10        | 20   |
| 10   | 20  | 20  | 30   | 20         | 30   | 20        | 30   |
| 20   | 30  | 30  | 40   | 30         | 40   | 30        | 40   |
| 30   | 40  | 40  | 50   | 40         | 50   | 40        | 50   |
| 40   | 50  | 50  | 60   | 50         | 60   | 50        | 60   |
| 50   | 60  | 60  | 70   | 60         | 70   | 60        | 70   |
| 60   | 70  | 70  | 80   | 70         | 80   | 70        | 80   |
| 70   | 80  | 80  | 90   | 80         | 90   | 80        | 90   |
| 80   | 90  | 90  | 100  | 90         | 100  | 90        | 100  |
| 90   | 100 | 100 | 110  | 100        | 110  | 100       | 110  |
| 100  | 110 | 110 | 120  | 110        | 120  | 110       | 120  |
| 110  | 120 | 120 | 130  | 120        | 130  | 120       | 130  |
| 120  | 130 | 130 | 140  | 130        | 140  | 130       | 140  |
| 130  | 140 | 140 | 150  | 140        | 150  | 140       | 150  |
| 140  | 150 | 150 | 160  | 150        | 160  | 150       | 160  |
| 150  | 160 | 160 | 170  | 160        | 170  | 160       | 170  |
| 160  | 170 | 170 | 180  | 170        | 180  | 170       | 180  |
| 170  | 180 | 180 | 190  | 180        | 190  | 180       | 190  |
| 180  | 190 | 190 | 200  | 190        | 200  | 190       | 200  |
| 190  | 200 | 200 | 210  | 200        | 210  | 200       | 210  |
| 200  | 210 | 210 | 220  | 210        | 220  | 210       | 220  |
| 210  | 220 | 220 | 230  | 220        | 230  | 220       | 230  |
| 220  | 230 | 230 | 240  | 230        | 240  | 230       | 240  |
| 230  | 240 | 240 | 250  | 240        | 250  | 240       | 250  |
| 240  | 250 | 250 | 260  | 250        | 260  | 250       | 260  |
| 250  | 260 | 260 | 270  | 260        | 270  | 260       | 270  |
| 260  | 270 | 270 | 280  | 270        | 280  | 270       | 280  |
| 270  | 280 | 280 | 290  | 280        | 290  | 280       | 290  |
| 280  | 290 | 290 | 300  | 290        | 300  | 290       | 300  |
| 290  | 300 | 300 | 310  | 300        | 310  | 300       | 310  |
| 300  | 310 | 310 | 320  | 310        | 320  | 310       | 320  |
| 310  | 320 | 320 | 330  | 320        | 330  | 320       | 330  |
| 320  | 330 | 330 | 340  | 330        | 340  | 330       | 340  |
| 330  | 340 | 340 | 350  | 340        | 350  | 340       | 350  |
| 340  | 350 | 350 | 360  | 350        | 360  | 350       | 360  |
| 350  | 360 | 360 | 370  | 360        | 370  | 360       | 370  |
| 360  | 370 | 370 | 380  | 370        | 380  | 370       | 380  |
| 370  | 380 | 380 | 390  | 380        | 390  | 380       | 390  |
| 380  | 390 | 390 | 400  | 390        | 400  | 390       | 400  |
| 390  | 400 | 400 | 410  | 400        | 410  | 400       | 410  |
| 400  | 410 | 410 | 420  | 410        | 420  | 410       | 420  |
| 410  | 420 | 420 | 430  | 420        | 430  | 420       | 430  |
| 420  | 430 | 430 | 440  | 430        | 440  | 430       | 440  |
| 430  | 440 | 440 | 450  | 440        | 450  | 440       | 450  |
| 440  | 450 | 450 | 460  | 450        | 460  | 450       | 460  |
| 450  | 460 | 460 | 470  | 460        | 470  | 460       | 470  |
| 460  | 470 | 470 | 480  | 470        | 480  | 470       | 480  |
| 470  | 480 | 480 | 490  | 480        | 490  | 480       | 490  |
| 480  | 490 | 490 | 500  | 490        | 500  | 490       | 500  |
| 490  | 500 | 500 | 510  | 500        | 510  | 500       | 510  |
| 500  | 510 | 510 | 520  | 510        | 520  | 510       | 520  |
| 510  | 520 | 520 | 530  | 520        | 530  | 520       | 530  |
| 520  | 530 | 530 | 540  | 530        | 540  | 530       | 540  |
| 530  | 540 | 540 | 550  | 540        | 550  | 540       | 550  |
| 540  | 550 | 550 | 560  | 550        | 560  | 550       | 560  |
| 550  | 560 | 560 | 570  | 560        | 570  | 560       | 570  |
| 560  | 570 | 570 | 580  | 570        | 580  | 570       | 580  |
| 570  | 580 | 580 | 590  | 580        | 590  | 580       | 590  |
| 580  | 590 | 590 | 600  | 590        | 600  | 590       | 600  |
| 590  | 600 | 600 | 610  | 600        | 610  | 600       | 610  |
| 600  | 610 | 610 | 620  | 610        | 620  | 610       | 620  |
| 610  | 620 | 620 | 630  | 620        | 630  | 620       | 630  |
| 620  | 630 | 630 | 640  | 630        | 640  | 630       | 640  |
| 630  | 640 | 640 | 650  | 640        | 650  | 640       | 650  |
| 640  | 650 | 650 | 660  | 650        | 660  | 650       | 660  |
| 650  | 660 | 660 | 670  | 660        | 670  | 660       | 670  |
| 660  | 670 | 670 | 680  | 670        | 680  | 670       | 680  |
| 670  | 680 | 680 | 690  | 680        | 690  | 680       | 690  |
| 680  | 690 | 690 | 700  | 690        | 700  | 690       | 700  |
| 690  | 700 | 700 | 710  | 700        | 710  | 700       | 710  |
| 700  | 710 | 710 | 720  | 710        | 720  | 710       | 720  |
| 710  | 720 | 720 | 730  | 720        | 730  | 720       | 730  |
| 720  | 730 | 730 | 740  | 730        | 740  | 730       | 740  |
| 730  | 740 | 740 | 750  | 740        | 750  | 740       | 750  |
| 740  | 750 | 750 | 760  | 750        | 760  | 750       | 760  |
| 750  | 760 | 760 | 770  | 760        | 770  | 760       | 770  |
| 760  | 770 | 770 | 780  | 770        | 780  | 770       | 780  |
| 770  | 780 | 780 | 790  | 780        | 790  | 780       | 790  |
| 780  | 790 | 790 | 800  | 790        | 800  | 790       | 800  |
| 790  | 800 | 800 | 810  | 800        | 810  | 800       | 810  |
| 800  | 810 | 810 | 820  | 810        | 820  | 810       | 820  |
| 810  | 820 | 820 | 830  | 820        | 830  | 820       | 830  |
| 820  | 830 | 830 | 840  | 830        | 840  | 830       | 840  |
| 830  | 840 | 840 | 850  | 840        | 850  | 840       | 850  |
| 840  | 850 | 850 | 860  | 850        | 860  | 850       | 860  |
| 850  | 860 | 860 | 870  | 860        | 870  | 860       | 870  |
| 860  | 870 | 870 | 880  | 870        | 880  | 870       | 880  |
| 870  | 880 | 880 | 890  | 880        | 890  | 880       | 890  |
| 880  | 890 | 890 | 900  | 890        | 900  | 890       | 900  |
| 890  | 900 | 900 | 910  | 900        | 910  | 900       | 910  |
| 900  | 910 | 910 | 920  | 910        | 920  | 910       | 920  |
| 910  | 920 | 920 | 930  | 920        | 930  | 920       | 930  |
| 920  | 930 | 930 | 940  | 930        | 940  | 930       | 940  |
| 930  | 940 | 940 | 950  | 940        | 950  | 940       | 950  |
| 940  | 950 | 950 | 960  | 950        | 960  | 950       | 960  |
| 950  | 960 | 960 | 970  | 960        | 970  | 960       | 970  |
| 960  | 970 | 970 | 980  | 970        | 980  | 970       | 980  |
| 970  | 980 | 980 | 990  | 980        | 990  | 980       | 990  |
| 980  | 990 | 990 | 1000 | 990        | 1000 | 990       | 1000 |