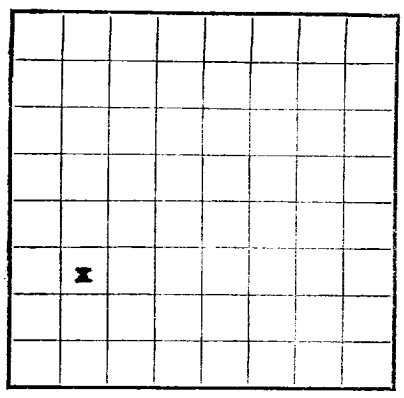
Form 9-330

Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

U. S. LAND OFFICE New Mexico
SERIAL NUMBER NM-013885
LEASE OR PERMIT TO PROSPECT Crawford Gas Unit "B"



LOCATE WELL CORRECTLY

RECEIVED NOV 6 1961

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Pan American Petroleum Corporation Address Box 480, Farmington, New Mexico
Lessor or Tract Crawford Gas Unit "B" Field Basin Dakota State New Mexico
Well No. 1 Sec. 24 T. 29N R. 12W Meridian N.M.P.M. County San Juan
Location 1850 ft. {N.} of S Line and 810 ft. {E.} of W Line of Section 24 Elevation 5629 (KDB)
(Derrick floor relative to sea level)

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 ORIGINAL SIGNED BY R. M. Bauer, Jr.

Date October 31, 1961 Title Senior Petroleum Engineer

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

Commenced drilling October 1, 19 61 Finished drilling October 13, 19 61

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 6284 to 6332 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 From—	Perforated To—	Purpose
8-5/8"	22.7#	8	Armco	282	Guide				Surface
4-1/2"	10.5#	8R	Armco	6356	Guide				Oil string

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	290'	250	Halliburton 1 plug		
4-1/2"	6356'	675	Halliburton 2 plug		

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 0 feet to 6356 feet, and from ____ feet to ____ feet
Cable tools were used from ____ feet to ____ feet, and from ____ feet to ____ feet

DATES

Completed as shut in gas well Basin Dakota Field, October 26, 19 61 Well shut in for pipeline connection
Put to producing October 26, 19 61

The production for the first 24 hours was ____ barrels of fluid of which ____% was oil; ____% emulsion; ____% water; and ____% sediment. Gravity, °Bé. ____

Preliminary test
If gas well, ~~cubic~~ MCF per 24 hours 7625 Gallons gasoline per 1,000 cu. ft. of gas ____
Rock pressure, lbs. per sq. in. 2100 (SICP) Potential test to be reported on Sundry Notice when available.

EMPLOYEES

R. C. Cary, Driller John E. Roe, Driller
J. G. Brinkley, Driller Charles Lockhart, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1673	1673	Undifferentiated surface sand and shale.
1673	1832	159	Pictured Cliffs sand and shale.
1832	3195	1363	Lewis shale.
3195	4392	1197	Mesaverde sand, shale, and coal.
4392	5284	892	Mancos shale.
5284	6020	736	Gallup sand and shale.
6020	6133	113	Greenhorn sand and shale.
6133	6356	223	Dakota sand and shale.
			(Tops from "B" log)

FOLD | MARK

[OVER]

16—42094-4

FROM—	TO—	TOTAL FEET	FORMATION

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION

FRACTURES

Rock pressure, lbs per sq in ---------- Dallas

Rock pressure, lbs per sq in ---------- Dallas

DATES

Cable tools were used from ---------- feet to ---------- feet, and from ---------- feet to ---------- feet

Rotary tools were used from ---------- feet to ---------- feet, and from ---------- feet to ---------- feet

TOOLS USED

Date	Depth cleaned out	Depth shot	Quantity	Explosive used	Shot used	Age

SHOOTING RECORD

Adapters—Material ---------- Size ----------

Hanging plug—Material ---------- Length ---------- Depth set ----------

PLUGS AND ADAPTERS

Size	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	From—	To—	Purpose

CASING RECORD

Size	Kind of packer	Depth set	Amount of mud fluid used	Method used	Mud fluid	Amount of cement	Hole size

MUDDING AND CEMENTING RECORD

70—43094-2 U. S. GOVERNMENT PRINTING OFFICE

HISTORY OF OIL OR GAS WELL

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 "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give 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 bailing.

Spudded 12-1/4" hole on October 1, 1961, and drilled to 291'. Set 8-5/8" casing at 290' with 250 sacks of cement containing 2 percent Calcium Chloride. Circulated 30 sacks of cement. After waiting on cement, tested 8-5/8" casing with 500 psi for 30 minutes, which held with no indication of pressure drop. Reduced hole to 7-7/8" at 291'.

Ran Sonic Log. Set 4-1/2" casing at 6356' with DV tool at 1905'. First stage cemented 300 sacks 6 percent Gel cement containing 1-1/2 pounds Tuf Plug per sack followed by 100 sacks neat. After waiting on cement 4 hours, tested 4-1/2" casing with 3000 psi for 15 minutes, which held with no indication of pressure drop. Second stage cemented 275 sacks 6 percent Gel cement. After waiting on cement 18 hours, tested 4-1/2" casing with 3000 psi for 15 minutes, which held with no indication of pressure drop. Drilled DV tool at 1905'.

Total depth 6356', plug back depth 6314'. Spotted 1000 gallons 7-1/2 percent CA over Dakota. Ran correlation log. Perforated Dakota with 8 shots per foot 6224-6232'. Sand water fracked with 43,300 gallons of water containing 1 percent Calcium Chloride and 20 pounds WAC-8 per 1000 gallons and 40,000 pounds sand. Breakdown pressure 300 psi, average treating pressure 2200 psi. Average injection rate 41 barrels per minute. Landed 2-3/8" tubing at 6233'.

Completed as shut-in Gas well Basin Dakota Field October 26, 1961. Preliminary test October 25, 1961, flowed 3 hours and gauged 7625 MCF per day with tubing pressure flowing 575 psi and casing pressure flowing 1275 psi. Top pay Dakota 6216', elevation ground level 5618'.

Company ---------- Address ---------- Field ---------- State ----------

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LOG OF OIL OR GAS WELL

GEOLOGICAL SURVEY

DEPARTMENT OF THE INTERIOR

UNITED STATES

FORM 9-330