

OIL CONSERVATION COMMISSION
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO

February 26, 1966

Pan American Petroleum Corporation
P.O. Box 480
Farmington, New Mexico

Attn: Mr. L. O. Speer, Jr.
Area Superintendent

Re: File E-81-986,510.1

Well Deviation Survey
Martinez Gas Com G #1
Basin Dakota-Blanco
Mesaverde Pools, San Juan
County

Dear Sir:

Form C-103 which was filed prior to whipstocking this well stated that the whipstock was made for the purpose of sidetracking the junk in the old hole which Pan American was unable to retrieve.

As the total deviation, presuming the drift to be all in one direction including the original hole and the whipstock hole, is 285.9 feet and as the bottom hole location could therefore be no nearer than 504.1 feet to the nearest boundary of the proration unit, we hereby grant exemption from Rule III, as it applies to the requirement of a directional survey.

Yours very truly

Emery C. Arnold
Supervisor, District #3

ECA:ks

cc: OCC, Santa Fe, N.M.

PAN AMERICAN PETROLEUM CORPORATION

P. O. Box 480, Farmington, New Mexico
February 23, 1966

File: E-81-986.510.1

Subject: Well Deviation Survey
Martinez Gas Com "G" No. 1
Basin Dakota-Blanco Mesaverde
Field, San Juan County, New Mexico

Mr. E. C. Arnold (3)
New Mexico Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico

Dear Sir:



Pan American Petroleum Corporation respectfully requests an exemption to Rule 111 (as amended by Order No. R-2308, August 28, 1962, and Order No. R-2761, January 1, 1965), which would require a directional survey on the Martinez Gas Com "G" No. 1. In reference to our Form C-103 dated January 6, 1966 and approved January 12, 1966, the subject Martinez Gas Com "G" No. 1 was redrilled by whipstocking a new hole from a depth of 2712 feet to a new total depth of 6500 feet. The well is presently being dually completed in the Basin Dakota and Blanco Mesaverde Pools and is located 1190 feet from the north line and 790 feet from the east line of Section 24, T-29-N, R-10-W, San Juan County, New Mexico.

A summary of all the deviations taken on the well, both the original hole and the whipstocked hole, is attached. Also attached is a map showing the estimated probable and maximum possible limits of the bottom hole location of the well. As can be seen on the attached, the original well had maximum deviation of 2-1/4 degrees and with a maximum total drift of 143.1 feet. During the subsequent whipstock operations, a directional deviation was taken at 2703' and found the hole to be south 66 degrees west. As the strike of the Mesaverde, Gallup and Dakota horizons runs from northwest to southeast with dip to the northeast, it is believed reasonable to assume that the original hole deviated in an up-dip or southwesterly direction. Therefore, it is assumed that the original hole bottomed out at a location 143.1 feet at a south 66 degree west direction from the surface location.

In order to assist in sidetracking the hole, a whipstock tool was set north 76 degrees east and a new hole was drilled to a total depth of 6500 feet. Assuming all deviations taken on the new hole continue in this direction, a maximum drift of 232.8 feet would be incurred from the whipstock point. As the whipstock point is in an opposite direction to the originally drilled hole, we estimate the present bottom hole location is 179.7 feet in a north 76 degree east direction from the surface location, or at an approximate bottom hole location 1150 feet from the north line and 620 feet from the east

Page 2
Mr. E. C. Arnold (3)

February 23, 1966
E-81-986.510.1

line. Assuming all drifts on the shallower portion of the original hole and the new whipstock hole are in the same direction, the maximum possible drift is 285.9 feet from the surface location, making the closest possible bottom hole location to the Unit boundary 504.1 feet from the east line of Section 24. Therefore, we request than an exemption to Rule 111 requiring a directional survey be allowed on this well.

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION



L. O. Speer, Jr.
Area Superintendent

FHH:en
Attach.

cc: Southern Union Production Company
Farmington, New Mexico

BOTTOM HOLE LOCATION
TABULATION OF DEVIATION TESTS
PAN AMERICAN PETROLEUM CORPORATION
MARTINEZ GAS COM "G" NO. 1
BASIN DAKOTA FIELD
SAN JUAN COUNTY, NEW MEXICO
SURFACE LOCATION -

1190' FNL & 790' FEL, SEC. 24, T29N, R10W

Original Hole					Present Hole After Last Plug (125 Sx. "A" With 2% Calcium Chloride & 15% Sand)					
Depth	Deviation	Incremental Depth	Drift	Total Drift	Depth	Deviation	Incremental Depth	Drift	Sidetrack Total	Total Drift
320'	1/2°									
770'	1/2°	770'	6.7'	6.7'						
986'	1°									
1300'	1°									
1850'	1°	1080'	18.9'	25.6'						
2355'	1-3/4°	505'	15.4'	41.0'						
2476'	2°	121'	4.2'	45.2'						
					2622'	2°	146'	5.1'		50.3'
					2644'	2-1/4°	22'	.9'		51.2'
					2656'	2-1/2°	12'	.5'		51.7'
					2702'	1-3/4°	46'	1.4'		53.1'
					2703'	2-1/4°	1'	-	S66°W	53.1'
					2706'	2°				
					2712'	2°				
					2720'	2°	17'	.6'	.6 N74°E	52.5'
					2734'	3-1/4°	14'	.8'	1.4 N76°E	51.7'
					2755'	4°				
					2786'	4°	52'	3.6'	5.0'	48.1'
					2829'	4-3/4°	43'	3.6'	8.6'	44.5'
					2860'	5-1/4°	31'	2.8'	11.4'	41.7'
					2894'	5°	34'	3.0'	14.4'	38.7'
2900'	1-1/4°	424'	9.3'	54.5'	2942'	4-1/2°				
					2973'	4-1/2°	79'	6.2'	20.6'	32.5'
					3067'	4°	94'	6.6'	27.2'	25.9'
					3130'	3-3/4°	63'	4.1'	31.3'	21.8'
					3161'	3-1/4°				
					3197'	3-1/4°	67'	3.8'	35.1'	18.0'
					3228'	3°				
					3259'	3°	62'	3.2'	38.3'	14.8'
					3290'	3-1/4°	31'	1.8'	40.1'	13.0'
3322'	1°	422'	7.4'	61.9'	3321'	3°	31'	1.6'	41.7'	11.4'
					3353'	3-3/4°	32'	2.1'	43.8'	9.3'
					3384'	3-1/2°	31'	1.9'	45.7'	7.4'
					3415'	3°	31'	1.6'	47.3'	5.8'
					3509'	3-1/4°	94'	5.3'	52.6'	.5'
					3571'	4-1/2°	62'	4.9'	57.5'	4.4'
					3663'	5-3/4°	92'	9.2'	66.7'	13.6'
3700'	3/4°	378'	5.0'	66.9'	3757'	7°	94'	11.4'	78.1'	25.0'
					3788'	7-1/2°	31'	4.0'	82.1'	29.0'
					3819'	7°				
					3845'	7°	57'	6.9'	89.0'	35.9'
					3877'	6-1/2°				
					3908'	6-1/2°	63'	7.1'	96.1'	43.0'
					3939'	6°	31'	3.2'	99.3'	46.2'
					3970'	5°	31'	2.7'	102.0'	48.9'
					4002'	4-1/2°				
					4033'	4-1/2°				
					4064'	4-1/2°	94'	7.4'	109.4'	56.3'
4088'	1°				4126'	5-1/4°	62'	5.7'	115.1'	62.0'
					4187'	5-1/2°	61'	6.1'	121.2'	68.1'
					4251'	6°	64'	6.7'	127.9'	74.8'
					4313'	5-1/2°	62'	6.2'	134.1'	81.0'
					4376'	6-1/4°	63'	6.9'	141.0'	87.9'

Original Hole					Present Hole After Last Plug (125 Sx. "A" With 2% Calcium Chloride & 15% Sand)					
Depth	Deviation	Incremental Depth	Drift	Total Drift	Depth	Deviation	Incremental Depth	Sidetrack Drift	Total	Total Drift
4425'	1°	725'	12.7'	79.6'	4439'	5-3/4°	63'	6.3'	147.3'	94.2'
					4501'	7°				
					4532'	7°				
					4565'	7°	126'	15.3'	162.6'	109.5'
					4626'	6-1/2°	61'	6.9'	169.5'	116.4'
					4657'	5-1/4°	31'	2.8'	172.3'	119.2'
					4687'	5-1/2°	30'	3.0'	175.3'	122.2'
					4751'	4°	64'	4.5'	179.8'	126.7'
					4786'	3-3/4°	35'	2.3'	182.1'	129.0'
					4814'	2-3/4°	28'	1.3'	183.4'	130.3'
4823'	1-1/4°	403'	8.8'	88.4'	4845'	2-1/4°	31'	1.2'	184.6'	131.5'
					4876'	1-3/4°	31'	.9'	185.5'	132.4'
					4907'	1°				
					4939'	1°	63'	1.1'	186.6'	133.5'
					4970'	1-1/2°	31'	.8'	187.4'	134.3'
					5001'	3/4°	31'	.4'	187.8'	134.7'
					5032'	1/2°				
					5064'	1/2°				
5264'	1-1/2°	436'	11.4'	99.8'	5126'	1/2°	125'	1.1'	188.9'	135.8'
					5200'	3/4°				
					5405'	3/4°	279'	3.6'	192.5'	139.4'
					5592'	2°	187'	6.5'	199.0'	145.9'
					5656'	1-1/2°	64'	1.7'	200.7'	147.6'
					5748'	1-1/4°	92'	2.0'	202.7'	149.6'
					5937'	2-1/4°	189'	7.4'	210.1'	157.0'
5960'	2°	696'	24.2'	124.0'	5999'	2-1/2°	62'	2.7'	212.8'	159.7'
					6062'	2-3/4°	63'	3.0'	215.8'	162.7'
6134'	2-1/4°	174'	6.8'	130.8'	6093'	2-1/2°	31'	1.3'	217.1'	164.0'
					6218'	1-3/4°				
					6310'	1-3/4°	217'	6.6'	223.7'	170.6'
6460'	2°	326'	11.4'	142.2'	6403'	2-3/4°	93'	4.5'	228.2'	175.1'
6485' (TD) *		25'	.9'	143.1'	6500' (TD) *		97'	4.6'	232.8'	179.7'

*(Estimated 2°--no deviation taken)

*(Estimated 2-3/4°--no deviation taken)

Estimated bottom hole location (Whipstock hole) - $\frac{179.7' \text{ N76}^\circ\text{E}}{(\text{Approx. } 1150' \text{ FNL \& } 620' \text{ FEL})}$

Maximum Possible Drift (Assuming all deviations in one direction)

Original Hole	53.1'
Whipstock Hole	<u>232.8'</u>
	285.9'
	790.0' FEL
Closest Possible Bottom Hole Location to Unit Boundary =	<u>- 285.9'</u>
	504.1' FEL

La Plata Gathering
System's Herrin 13 #1

Section
13

Undrilled - Southern
Production Company

Section 18

Pan American Petroleum
Corporation's Valencia
Gas Com "B" #1

T

29

N

Pan American Petroleum Corporation's
Martinez Gas Com "G" #1

Maximum possible drift 285.9' of new
hole.

Estimated original well
bottom hole location.

Estimated present bottom
hole location (179.7'
N 76° E or approximately
1150' FNL & 620' FEL).

Closest
possible
1190' point
to Unit
boundary
504.1'
790'

Pan American Petroleum
Corporation's Snyder Gas
Com "B" #1

Section 24

Pan American Petroleum Corporation's
Martinez Gas Com "F" No. 1

Section 19

R 10 W

R 9 W

PAN AMERICAN PETROLEUM CORPORATION

MARTINEZ GAS COM "G" NO. 1 - BOTTOM HOLE LOCATION
BASIN DAKOTA-BLANCO MESAVERDE FIELDS, SAN JUAN COUNTY, NEW MEXICO

SCALE: 1" = 1000'

DRG.
NO. 2-11-66

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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.	

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 "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator PAN AMERICAN PETROLEUM CORPORATION	8. Farm or Lease Name Martinez Gas Com "G"
3. Address of Operator P. O. Box 480, Farmington, New Mexico	9. Well No. 1
4. Location of Well UNIT LETTER A 1190 FEET FROM THE North LINE AND 790 FEET FROM THE East LINE, SECTION 24 TOWNSHIP 29-N RANGE 10-W NMPM.	10. Field and Pool, or Wildcat Basin Dakota-Blanco NW
15. Elevation (Show whether DF, RT, GR, etc.) 5564' RDB, 5551' GR	12. County San Juan

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input checked="" type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input checked="" type="checkbox"/> Re-Drill Well	CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <input type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

In reference to our Form C-103 of 12-28-65 and Form C-101 of 1-4-64 on the subject Martinez Gas Com "G" No. 1, the additional information is being furnished:

After tubing became stuck, broke circulation with water and worked tubing 4 hrs. and unable to free. Ran free point and could not get below 3502'. Tubing free at 3500' and cut tubing 3490' and pulled tubing. Ran tubing and 6 drill collars and jars and Bowen overshot. Unable to get over fish. Fish in hole was 361' tubing and bit. Pulled tubing. Ran tubing with 60' of 4" OD washover pipe with flat bottom shoe. Unable to wash over fish. Pulled tubing and washover pipe. Ran tubing and washover pipe and sawtooth shoe and unable to wash over fish. Ran impression block with no results. Ran tubing, 2-3/8", and one joint 32' by 1" EUE tubing. Tagged top fish 3490'. Went by top fish. Washed 3' bridge of sand. Unable to feel anything next 27' to 3520'. Circulated 1-1/2 hour. Circulated no sand. Pulled 2-3/8" tubing and 1". Ran tubing and wash pipe with 4-3/4" OD drag tooth shoe. Tagged top fish 3490'. Washed over fish 1.87'. Unable to wash further. Pulled tubing and wash pipe. Ran 2-3/8" and 96' 1" EUE tubing. Tagged top fish 3490' and went by fish to 3533'. Could feel nothing while going by fish. Unable to get 1" below 3533. Reversed circulated 1-1/2 hour. Circulated no sand. Pulled tubing. Ran 2-3/8" tubing and 4-1/2" OD mill. Tagged fish 3490' and milled 1-1/3' in 55 minutes and started circulating. Small amount steel cuttings and large amount black shale. Circulated one hour.

(Over)

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

ORIGINAL SIGNED BY

G. W. Eaton, Jr.

SIGNED G. W. Eaton, Jr. TITLE Area Engineer DATE January 6, 1966

APPROVED BY Emory C. Amos TITLE Sup. Dist. TTB DATE 1-12-66

CONDITIONS OF APPROVAL, IF ANY:

(Continued on attached sheet)

Pulled tubing and mill and mill indicated drilling on 2-3/8" tubing. Run tubing and 60' washover pipe and 4-3/4" plain shoe and cut lip. Attempted to wash over and unable. Pulled tubing and washover pipe. Run tubing and washover pipe and 4-1/2" flat bottom shoe approximately 6" inside shoe. Run tubing and washover pipe and 4-1/2" flat bottom shoe and cut rod on inside bottom. Mill and washed cup fish 3491'. 3' in 2-1/4 hour. Circulated small amount steel cuttings. Pulled wash pipe. Shoe indicated junk on outside since bottom 1' 8" was badly worn on outside of shoe. Run 4-3/8" impression block. Block stopped at 3490' and slipped down hole 2' with 2000 pound weight. Block pooled off on side 2" wide and 1/4" deep. Bottom of block indicates 2 pieces of motor 2-5/8" apart, starting at edge of pooled area extending toward center 2-3/4" x 2" respectively and one indentation 1/2" in diameter on opposite of block. Run 4-3/4" 60 impression block. Block took weight at 3490' and stopped at 3493'. Again block was pooled off on one side 1-1/4" wide by 1/2" deep. Pulled to pick up indentations on bottom, indicating metal, however, bottom of block showed two 1/2" diameter indentations 2" apart. Run 60' wash pipe with 4-1/2" drag hook rotary shoe. The observation at 3490' and rotated by and stopped at 3493'. Made 4' in 50 minutes to 3497' with no appreciable weight indicated. Circulated large amount shoe. Pulled tubing and wash pipe. Shoe indicated very little wear on inside, however, outside of shoe was worn for 2'. Run tubing and wash pipe and 4-3/4" 60 shoe and drag hook. Tagged fish 3491' and rotated first to 3493' and rotated and washed to 3496'. Pulled tubing and shoe indicated no wear in 2 hours rotation. Run tubing and two 4-3/4" 60 drill collars with six 3-1/8" drill collars above 2' tapered mill. Took weight at 3488'. Mill 8 minutes and fell thru to 3491' and took weight. Mill to 3492' in 8 minutes. Picked up tubing and bit light spot 3489'. Worked thru and picked up to 3485'. Run mill to 3488' and took weight and rotated to 3492'. 1/4 hour. Picked up to 3489' and bit light spot and worked thru to 3485'. Run mill collar to 3492' and free travel and bit light spot at 3489' each time picking up. Circulated 1/2 hour and circulated small amount shale and steel cuttings. Pulled tubing and found mill worn from top to 2-1/2" 60 point, and no wear above until 4-3/4" 60 point which was well worn. Run tubing and 4-3/4" 60 impression block and set down at 3488'. Pulled tubing and 4-3/4" 60 impression block. Block indicated it set down on 5-1/2" casing. Run tubing and 3" impression block. Tagged at 3492'. Put 6000 pound weight on block and fell free 3' to 3495'. Pulled tubing and impression block. Block had one 1" slightly concave mark 1/4" wide and 1/4" deep on face. Run tubing and drill collars and 3-5/8" short anchor flat bottom overhook. Unable to get into 5-1/2" casing stub parted at 3488'. Pulled tubing and drill collars and overhook. Overhook indicated it had set down on 5-1/2" casing collar. Run tubing and drill collars and long anchor overhook and cut lip bottom. Tagged observation at 3488'. Rotated and went thru and worked overhook to 3492'. Fall free with slight drag to 3495'. When pulling up tubing dragged with 6000 pound weight for 5' and came free. Pulled tubing and drill collars and overhook. No markings on overhook. Run tubing and drill collars and 4-3/4" mill and tapered to 3" and flat bottom. Bit light spot at 3484'. Rotated and worked mill to 3488', looking partly returns. Rotated and worked to 3490'. Looked up at 3490'. Pulled 15,000 pounds and pulled loose and pulled to 3480. Worked back and forth from 3480-3490' several times. Free travel over this interval but each time bit solid at 3490'. Pulled tubing and mill. Mill had very little wear on flat bottom and up to 4-1/2" on taper. From 4-1/2" to 4-3/4" on taper it had considerable wear. Run tubing and drill collars and 3-1/2" impression block. Tagged at 3480' and worked to 3490' and took impression with 6000 pound weight. Pulled tubing and block. Block had only 2" of one side of outside lip pooled off. Had appearance of having caught on 5-1/2" casing stub and slipped off. No markings on face of block. Run tubing and six 3-1/8" drill collars and 4-3/4" W/Z bit. Bit observation at 3488'. Drilled 15 minutes and fell free to 3490'. Drilled on 3490' and fell free to 3501'.

Drilled on iron to 3513' at 5-10 minutes per foot. Fell free to 3515'. Drilled on iron 15 minutes. Picked up to 3505' and unable get back down. Drilled 3505-15' at 5-10 minutes per foot. Drilled 45 minutes at 3515' with no progress. Pulled tubing and bit. Found very little wear on bit. Ran tubing and drill collars and 4-3/4" W7R bit. Took weight 3491'. Worked thru in 13 minutes. Fell free to 3502'. Took weight at 3502'. Worked thru in one minute and fell free to 3515' with no rotation. Picked up to 3513' and took 18 minutes rotation to go to 3517'. Rotated 3 minutes and got to 3517' and one hour 40 minutes to 3518' and made 4" in one hour 15 minutes. Pulled bit. Showed no wear. Ran tubing and cement retainer set at 3400'. Pressured annulus with 600 pounds and pumped in at 4 BPM with 900 pounds down tubing. Squeezed with 100 sacks Type "C" Neat. Pressure 400-500 pounds. Shut down one hour and pressure stabilized at 400 pounds in one hour. Dropped bridging bar. Pulled out of retainer and reverse circulated tubing. Pulled tubing and laid down. As a result of the casing and tubing junk in the hole, we propose to cut off the 5-1/2" casing below the 8-5/8" intermediate casing set at 2327', pull, and drill a new sidetrack hole to approximately 6500' to test the Bakona and Mesaverde horizons.