

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.6.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL:		OIL WELL ☒	GAS WELL ☐	DRY ☐	Other _____		
b. TYPE OF COMPLETION:		NEW WELL ☒	WORK OVER ☐	DEEP-EN ☐	PLUG BACK ☐	DIFF. RESVR. ☐	Other _____
2. NAME OF OPERATOR ARCO Oil & Gas Company Division of Atlantic Richfield Company						5. LEASE DESIGNATION AND SERIAL NO. Jicarilla Contract #111	
3. ADDRESS OF OPERATOR Suite 501 1860 Lincoln Street, Denver, Colorado 80295						6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 2150' FSL & 1600' FWL (NE SW) Unit K At top prod. interval reported below At total depth Approx. the same API #30-039-22104						7. UNIT AGREEMENT NAME ---30-039-22104	
14. PERMIT NO. Mr. Barrick						DATE ISSUED 6-28-79	
15. DATE SPUDDED 10-3-79						12. COUNTY OR PARISH Rio Arriba	
16. DATE T.D. REACHED 10-17-79						13. STATE New Mexico	
17. DATE COMPL. (Ready to prod.) 11-24-79						18. ELEVATIONS (DF, BNB, RT, GR, ETC.)* 6735' GL & 6749' KB	
19. ELEV. CASINGHEAD ---						20. TOTAL DEPTH, MD & TVD 7326'	
21. PLUG, BACK T.D., MD & TVD 7278'						22. IF MULTIPLE COMPL., HOW MANY* 1	
23. INTERVALS DRILLED BY →						24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Gallup 5967'-6171' ; Dakota 7062'-7122'	
25. WAS DIRECTIONAL SURVEY MADE NO						26. TYPE ELECTRIC AND OTHER LOGS RUN FDC/CNL-GR ; DI-SFL	
27. WAS WELL CORED NO						28. CASING RECORD (Report all strings set in well)	
CASING SIZE		WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD		AMOUNT PULLED
8-5/8"	24#	323'	12-1/4"	300 sxs			NONE
5-1/2"	17# & 15.5#	7319'	7-7/8"	650 sxs			NONE
29. LINER RECORD							
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	30. TUBING RECORD		
NONE					SIZE 2-3/8"	DEPTH SET (MD) 6998'	PACKER SET (MD) NONE
31. PERFORATION RECORD (Interval, size and number) Dakota 7062' - 7122' Gallup 5967' - 6171'				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
DEPTH INTERVAL (MD)				AMOUNT AND KIND OF MATERIAL USED			
7062'-7122'				350 gals 15% MCA			
7062'-7122'				96.9M gals 1% KCL & 90M# Sand			
5967'-6171'				2500 gals 15% HCL & 66 ball seal			
5967'-6171'				275.7M gals 1% KCL & 215M# Sand			
33.* PRODUCTION							
DATE FIRST PRODUCTION 11-24-79		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pumping				WELL STATUS (Producing or shut-in) Producing	
DATE OF TEST 11-24-79	HOURS TESTED 24	CHOKE SIZE 3/4"	PROD'N. FOR TEST PERIOD →	OIL—BBL. 120	GAS—MCF. 316	WATER—BBL. 102	GAS-OIL RATIO 2633:1
FLOW, TUBING PRESS. 185#	CASING PRESSURE 920#	CALCULATED 24-HOUR RATE →	OIL—BBL. 120	GAS—MCF. 316	WATER—BBL. 102	OIL GRAVITY-API (CORR.) 45.6° API @ 60° F.	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) To be sold							
35. LIST OF ATTACHMENTS 2 of #26 above and Daily Well History							
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records							
SIGNED W. A. Walther, Jr.		TITLE Operations Manager				DATE 12-3-79	

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	38. GEOLOGIC MARKERS		
				NAME	MEAS. DEPTH	TRUE VERT. DEPTH
No cores and No DST's				Picture Cliffs	2717'	
				Lewis Shale	2734'	
				Chacra	3519'	
				Mesaverde	4310'	
				Upper Mancos	5043'	
				Gallup	5962'	
				Greenhorn	6849'	
				Graneros	6909'	
				Dakota	7057'	
				Burro Canyon	7151'	
				Morrison	7307'	

10/2/79		Prep to MI & RU.
10/3/79	330	WOC; sd & sh. PD @ 6 am, 10/3/79. Ran 9 jts 8-5/8" 24# K-55 ST&C (329'); land @ 323' KB. Cmt'd w/300 sx C1 "B" 2% CaCl ₂ , 1/4# flocele/sx. 1/4° @ 148'; 1° @ 300'. 150 RPM, 0-15M#. Mud: 8.8#, Vis 60 (KB to GL 14'). B#1, 12-1/4", HTC, OSC3, made 330' in 4 hrs. (Spudded 9 pm, 10/2/79)
10/4/79	1110	Drlg sd & sh. NU & press blind rams to 1M#; held OK. Press tstd pipe rams to 1M#, held OK. Strt drlg cmt @ 6 pm, 10/3/79. 3-3/4° @ 885'. 90 RPM, 15M#. Mud: 8.4#, Vis 32, WL 15, FC 2/32, Sd tr, Ph 8, Oil 6%. (B#2) \$27,869
10/5/79	2270	Drlg sd & sh. 60' of fillup on trip. No tite places; no bridges. 3-1/4° @ 1291'; 1-3/4° @ 1730'; 2° @ 2232'. 90 RPM, 20M#. Mud: 8.2#, Vis 40, WL 6, FC 2/32, Sd tr, Salt 450, Ph 10.0, Pv 14, Yld 4, Gels 1/3, Solids 1%, Ca tr, Oil 8%. B#2, 7-7/8", Sm, DT, made 961' in 13 hrs. (B#3)
10/6/79	2995	Drlg sd & sh. 1-3/4° @ 2421'; 1-3/4° @ 2951'. 65 RPM, 40M#. Mud: 8.9#, Vis 41, WL 4.6, FC 2/32, Sd tr, Salt 400, Ph 9, Pv 15, Yld 4, Gels 0/1, Solids 4, Ca 20, Oil 8%. B#3, 7-7/8", HTC, OSC3, made 1130' in 16 hrs. (B#4)
10/7/79	3650	Drlg sd & sh. 1-1/4° @ 3550'. 65 RPM, 40M#. Mud: 9.3#, Vis 41, WL 5.2, FC 2/3 Sd tr, Salt 400, Ph 8.5, Pv 14, Yld 4, Gels 1/3, Solids 7, Ca 20, Oil 6%. (B#4)
10/8/79	4130	Drlg sd & sh. 1° @ 4052'. 65 RPM, 40M#. Mud: 9.2#, Vis 38, WL 7.4, FC 2/32, Sd tr, Salt 450, Ph 8.5, Pv 12, Yld 4, Gels 0/2, Solids 7%, Ca 20, Oil 6%. (B#4)
10/9/79	4715	Drlg sd & sh. Trouble w/motor. 1° @ 4556'. 65 RPM, 40M#. Mud: 9.1#, Vis 35, WL 8, FC 2/32, Sd tr, Salt 400, Ph 8.5, Pv 10, Yld 3, Gels 0/1, Solids 7, Ca 80, Oil 6%. (B#4)
10/10/79	5125	Trip f/bit; sd & sh. 65 RPM, 40M#. Mud: 9.3#, Vis 41, WL 6.0, FC 2/32, Sd tr, Salt 500, Ph 9.0, Pv 12, Yld 4, Gels 1/3, Solids 7, Ca 60, Oil 6%. B#4, 7-7/8", HTC, J-22, made 2704' in 101 hrs.
10/11/79	5517	Drlg sd & sh. 30' fill-up; no bridges or tite spots. 1° @ 5125'. 65 RPM, 40M#. Mud: 8.9#, Vis 40, WL 7.2, FC 2/32, Sd tr, Salt 550, Ph 9.0, Pv 10, Yld 3, Gels 0/1, Solids 5%, Ca 80, Oil 6%. (B#5)
10/12/79	6007	Drlg sd & sh. 65 RPM, 40M#. Mud: 9.3#, vis 39, WL 5, FC 2/32, Sd-tr, salt 400 Ph 9, Pv 12, Yld 4, Gels 0/1, solids 7%, Ca 60, oil 6%. (B#5).
10/13/79	6434	Drlg sd & sh. 1-3/4° @ 6183'. 65 RPM, 42M#. Mud: 9.3#, vis 41, WL 4.2, FC 2/32, Sd 1/4%, salt 450, Ph 8.5, Pv 12, Yld 4, Gels 1/2, solids 7%, Ca 80, oil 6%. (B#5).
10/14/79	6950	Drlg Dakota. 65 RPM, 42M#. Mud: 9.3#, vis 40, WL 7.4, FC 2/32, Sd 1/4%, salt 400, Ph 8.5, Pv 13, Yld 6, Gels 0/2, solids 8%, Ca 40, oil 8%. (B#5) \$127,921
10/15/79	7190	Drlg Dakota. 2° @ 7030'. 65 RPM, 42M#. Mud: 9.3#, vis 50, WL 6, FC 2/32, Sd 1/8%, salt 400, Ph 8.5, Pv 15, Yld 7, Gels 0/3, solids 9%, Ca 80, oil 7%. B#5, 7-7/8", HTC, J-22, made 2095' in 94-1/2 hrs. (B#6).
10/16/79	7326	Logging.w/Schl. Ran dual ind log, spiral focus log, compensated neutron & fm dens logs. 65 RPM, 42M#. Mud: 9.4#, Vis 100, WL 4.4, FC 2/32, Sd 1/4%, Salt 550, Ph 8, Pv 32, Yld 21, Gels 7/15, Solids 9%, Ca 60, Oil 6.5%. B#6, 7-7/8" Sm, F-5, made 290' in 18 hrs.
10/17/79	7326	TD - Landing csg on slips. Ran DIL f/TD to btm of surf pipe. Ran CNL-FDC/GR f/TD to 5850', 5150-4150', 2870-2450'. Ran caliper f/TD-5500' & 4000-2500'. Ran 187 jts 5-1/2" csg, 35 jts 17# K-55 R3 ST&C (1372.72'), 152 jts 15.5# K-55 R3 ST&C (5954.06'), GS, diff dillup clr & DV tool (6.11'), total 7332.8 DV tool @ 3980', top of jt #85. Cmt basket on jt #84, 20 cent on jts 1,3,5,7,9,11,13,15,17,19,22,25,28,31,34,84,86,88,90,92. 30 scratchers spaced 20' apart. Cmt 1st stage 1000 gals mud flush, 10 BW, 350 sx RFC, made 100 bbls slurry. Displcd w/172-1/2 BW. PL 12:30 am 10/17/79. Bmpd plug w/1700#, flt held OK. 2nd stage 1000 gals mud flush, 10 BW, cmt w/300 sx RFC, made 85 bbls slurry. Displcd w/95 BW. PD 4:30 am 10/17/79. Closed DV tool w/2000#. Csg landed @ 7319' KB.
10/17/79	7326	TD - MORT, prep to clean loc. Fin setting slips & cutting off csg. RR 7 am 10/17/79.
10/18/79	7326	TD - Prep to PU bit, csg scrpr & tbg. MIRU Big "A" Well Svc. NU BOP. Unload & tally 2-3/8" tbg.

Ran CBL-GR correl w/var dens. Logger TD 7238'. Showed vy poor bond, var den vy poor quality. Top cmt @ 5480'. Press csg to 1200#. Reran CBL f/7238-5400 var dens showed no improvement & amplitude curve showed vy good bonding throughout logged interval. Reran tools w/new var dens camera. Tools stru on btm. Worked free. Log f/7138-5480' & 3990-2870' w/tool drag to 2000' & then came free (must be rubber).

- 10/21/79 7278 PB - Prep to run pkr & acidize Gallup. TIH w/2-3/8" tbg & 4-3/4" bit. CO to 7278' PBD. Circ w/1% KCl. PU & set tbg @ 7140'. Spt 350 gals 15% MCA acid. POH. RU Schl. Perf Dakota 7062', 63, 64, 66, 73, 75, 84, 86, 88; 7094', 96, 97, 98; 7100', 07, 09, 10, 11, 12, 18, 20, 22 (22 shots) CBL meas correld to Schl CNL-FDC 1. Frac Dakota 7062-7122' w/96,900 gals 1% KCl wtr containing 2#/1000 gals FR, 30#/1000 gals FLA, 90,000# 20/40 sd. Fm brk @ 2800#. Total frac 20M gals pa 70M gals wtr & 90M# sd. ISIP 3M#, 5 min 2400#, 10 min 2300#, 15 min 2250#. At vy last of flush 19 BPM @ 3800#. Almost screened out. RU Schl to GIH w/w CIBP. Plug would not go. Set BP @ 7000' w/sinker bars. Tst csg 4M#, OK 5 min. Perf Gallup w/3-1/2" select fire guns 6171', 69, 67, 65, 52, 49, 42, 39, 36, 33, 30, 27, 24, 21, 18; 6064', 60, 52, 50, 48, 40, 37, 34, 30, 27, 23, 20, 12, 02; 5985', 82, 69, 66. All meas CBL log correld to CNL-FDC log.
- 10/22/79 7278 PB - Wshg out sd @ 7158'. TIH w/Bkr pkr & 2-3/8" tbg, set pkr @ 5841'; brk fr 5.5 BPM 2550#. Trtd w/2500 gals 15% HCl & 66 ball sealers. Trtd 5 BPM @ 13. Max press 3400#, gd ball action, did not ball completely out. ISIP 2100#. Rel press, lowered pkr to knock off balls. POH. Frac Gallup perfs 5967-6171' w/275,700 gals 1% KCl wtr containing 2#/1000 gals FR, 15#/1000 gals FL add, 215M# 20/40 mesh sd, pad contained 30#/1000 gals FL add. Total frac 40M gal pad, 230M gals wtr & 215M# sd. Tax trtg press 2M#, min 1700#, avg 1800#. ISIP 1100#, 5 min, 10 min, 15 min SIP 1M#. Flwd well bk to frac tnks on 20/64" & Recd 700 BFW. CP decrsd f/1000-100#. TIH w/4-3/4" bit, tgd sd @ 6900'. Circd out sd to 7000', drld bridge plug @ 7000'. Wshd sd out to 7158'. Wshg below 7158'. Total frac wtr load = 8871 bbls. Recd 700 bbls. Yet to recover 8171 bbls.
- 10/23/79 7278 PB - Cont flwg well to frac tnks. Wsh sd 7158-FC @ 7258'. Circd hole clean. POH w/tbg & bit. TIH w/225 jts tbg (6985'), set @ 6998' KB w/SN @ 6967'. St 1-1/2 hrs = 85 BW, FL @ surf. Flwg thru 3/4" chk to frac tnks. Recd 414 BFF, CP incrsd f/0-125#. Total fld recd in 24 hrs = 500 bbls. Total accum recd 1100 bbls. Frac fld yet to recover = 7771 bbls.
- 10/24/79 7278 PB - To cont flwg f/clean up. Flwg to frac tnks f/clean up, 3/4" chk, CP 525# Recd 315 BF = 299 BW & 16 BO, vy sli gas show. Frac fld yet to recover 745 bbls.
- 10/25/79 7278 PB - 24 hrs flwg to frac tanks on 32/64" chk. 925# CP, 75# TP. Recovd 595 BF (25 BO & 570 BW), last hr 20% oil, 80% wtr. Oil & gas show improving. Total frac load recovd 1985 bbls. Load yet to recovr 6884 bbls.
- 10/26/79 7278 PB - Prep to check btm f/sd fillup. Flwg to frac tks, 32/64" ck, CP 1150#. Tbg logged off. Opn. to 3/4" chk. Strtd unloading. Rec's 201 BF, 30% oil, 70% wtr. Flwg 3/4" chk, CP dec'd to 925#. Rec'd 114 BF, 30% oil & 70% wtr. Flwg on 40/64" chk, CP incr'd to 1100#. Well logged off. Opn to 3/4" chk. Rec'd 42 BF, 10% oil, 90% wtr. Flwg 3/4" chk, CP 1150#. Rec'd 11 BF. Well died. Made swb run f/1100'. Flwg on 3/4" chk, CP 1125#. Rec'd 27 BF. Total fld rec'd 24 hrs - 395 bbls, 101 oil & 294 water. Total frac wtr rec'd 2279 bbls. Yet to recover 6590 bbls.
- 10/27 7278 PB - Cont flwg well to frac tk. 2 hrs flwg on 3/4" chk, CP 1175#, rec'd 18 BF, 30% oil, 70% wtr. 3 hrs blew csg dn, loaded tbg 50 bbls 1% KCl wtr. Ran 6 jts tbg, hole clean to 7183". PU & set tbg @ 6998', SN 6967', ND BOP. NU tree. 19 hrs swbd & flwd 320 BF thru 2", rec'd 120 BO, 200 BW. CP f/0-100. Total frac fld rec'd 2495 bbls, total left to recover 6374 bbls.
- 10/28 7278 PB - Prep to RD, WO pmpg unit. Swbg & flwg to frac tks, 1 hr swbg (2-3 runs). Well unloads f/2-3 hrs, rec'd 262 BF in 24 hrs, 42 BO, 220 BW, CP 1100-625#, CP 625# at 6 am. Well swbd dn to SN. Total frac rec'd 2715 bbls, load to recover 6154 bbls.

10/29 7278 PB - WO pmpg unit. 1 hr. flwg, 1 hr swbg, rec'd 18 BF, 25% oil & 75% wtr. CP varied 625-675#. Total frac fld rec'd 2730 bbls. Frac fld yet to recover 6154 bbls. Total oi' rec'd 220 bbls. RD completion rig, pmp oil to prod tks Rel CU 6 pm 10/28/79.

11/30/79 7278 PB - COMPLETED OIL WELL 11-24-79. Gallup/Dakota fm. Test date 11-24-79. Flwg 3/4" chk on 24 hr tst 120 bbls oil. 102 bbls fr wtr & 316 MCF gas from Gallup perfs 5967'-6171' & Dakota perfs 7062'-7122'. CP 920#; TP 185#; Oil Gravity 45.6' API @ 60° F, GOR 2633:1, LPP 7122'.