

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 Atlantic Richfield Company					
3. ADDRESS OF OPERATOR 501 Lincoln Tower Bldg., 1860 Lincoln St., Denver, Colo. 80295					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface (NW SE SE) 850' f/South & 900' f/East Lines Sec. 6 At top prod. interval reported below At total depth					
14. PERMIT NO. 30-045-22932		DATE ISSUED 4-7-78		7. UNIT AGREEMENT NAME 30-045-22932	
15. DATE SPUDDED 4-19-78		16. DATE T.D. REACHED 4-30-78		8. FARM OR LEASE NAME Jacquez	
17. DATE COMPL. (Ready to prod.) W. O. Pipeline Conn.		18. ELEVATIONS (DF, REB, RT, GR, ETC.)* 6471' GR		9. WELL NO. 1-A	
19. ELEV. CASINGHEAD -		20. TOTAL DEPTH, MD & TVD 5935-TD		10. FIELD AND POOL, OR WILDCAT Blanco Mesaverde	
21. PLUG, BACK T.D., MD & TVD 5866-PBTD		22. IF MULTIPLE COMPL., HOW MANY* -		11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 6-31N-8W	
23. INTERVALS DRILLED BY →		ROTARY TOOLS X		12. COUNTY OR PARISH San Juan	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Mesaverde perfs 5475'-5776' (overall).		25. WAS DIRECTIONAL SURVEY MADE No		13. STATE New Mexico	
26. TYPE ELECTRIC AND OTHER LOGS RUN SP Ind; Comp Dens & SNP w/GR-Cal; Cmt Bond-GR-Corr.				27. WAS WELL CORRED No	
28. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8" OD	36#	268' KB	14-3/4"	275 Sx.	None
7" OD	23#	3730' KB	8-3/4"	275 Sx.	1"
29. LINER RECORD					
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	
4 1/2" OD	3567'	5925' KB	350 Sx.		
30. TUBING RECORD					
SIZE	DEPTH SET (MD)	PACKER SET (MD)			
2-3/8" OD	5438'	None			
31. PERFORATION RECORD (Interval, size and number) Mesaverde: 5475'; 5477'; 5482'; 5484'; 5504'; 5508'; 5510'; 5611'; 5613'; 5614'; 5701'; 5707'; 5710'; 5714'; 5721'; 5727'; 5731'; 5735'; 5742'; 5750'; 5755'; 5767'; 5776' 23 holes) 1 jet shot @ Ea. depth.					
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.					
DEPTH INTERVAL (MD)			AMOUNT AND KIND OF MATERIAL USED		
See Completion Record.					
33. PRODUCTION					
DATE FIRST PRODUCTION W. O. Pipeline Conn.		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flow		WELL STATUS (Producing or shut-in) SI - W. O. Conn.	
DATE OF TEST 7-25-78	HOURS TESTED 24	CHOKE SIZE 2" open line	PROD'N. FOR TEST PERIOD OIL—BBL. -	GAS—MCF. 2.2 MMCFD	WATER—BBL. -
FLOW. TUBING PRESS. 75#	CASING PRESSURE 375#	CALCULATED 24-HOUR RATE →	OIL—BBL. -	GAS—MCF. 2.2 MMCFD	WATER—BBL. -
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) To be sold when connected to pipeline.					
35. LIST OF ATTACHMENTS See back of page for Completion Record & Geological tops.					
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 8-11-78	

*** (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			38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
COMPLETION RECORD: After setting liner, waited on completion rig f/May 4 to 7-19-78. Ran bit & Csg. scraper, cleaned out to 5866-PBTD. Ran Tbg, set Pkr @ 5859', displaced hole w/2 1/2" KCL Wtr. Pulled Pkr, Ran Cmt Bond-GR-Corr log. Jet perf. Mesaverde 5475'-5776' (overall) w/23' holes. Ran Tbg, set Pkr @ 5440' & acidized these perfs w/1500 Gals 15% HCL. IR-7 BPM @ 1300#. Pulled Tbg & Pkr. Waterfrac frd. these perfs down 7" & 5 1/2" Csg. w/136,500 Gals 2% KCL Wtr w/additives & 197,000# 20-40 Sd. Max P-1000#. Avg-750# @ 46 BPM. Ran Tbg, set @ 5438'. Sw 6 hrs, well started flow. Flow for test to clean up.			GEOLOGICAL TOPS (Elec. Log) Mesaverde 4994' Cliff House 5400' Menefee 5688' Point Lookout 5862' Upper Mancos		
COMPLETED GAS WELL: Flowed @ rate of 2.2 MMCFD for 24 Hrs thru 2" open line f/Mesaverde perfs 5475-5776.					

4/20/78	100	Drig surf. Spud 14-3/4" hole 11:15 p.m. 4/19/78. Spud mud. 80 RPM, all wgt. B#1, 14-3/4", HTC, OSC16 in @ 0' & drlg, 100' in 4-1/4 hrs. \$ 9,152
4/21/78	270	WOC & RD. Ran 7 jts 9-5/8" 36# K-55 ST&C (6 jts R-3, 1 jt R-1), 277', set @ 268'KB, CS 265', baffle @ 226', Cent @ 247', 185' & 85'. Pmp 10 BW, foll w/275 sx CI "B" w/2% CaCl, gd ret, circ 15 bbl cnt to surf. PD 1:00 p.m. 4/20. WOC. \$ 19,616
4/22/78	1570	Drig sd & sh. 3/4" @ 787' & 1350'. Nip'd up, inst BOP. Tst blind rams 1000# f/15 min, OK. Tst pipe rams 1000#, bled to 500# in 10 min. To repair & retest. 60 RPM, 250#. Mud: 9.1#, vis 26, WL 8. B#2, Sm., F-2, in @ 270' & drlg, 1303' in 21-1/4 hrs. \$ 38,494
4/23/78	2170	Drig sd & sh. 3/4" @ 1883'. Trip @ 1883', inst new rubber in pipe rams, tsid @ 1000# f/15 min, OK, w/tst plug. 60 RPM, 300#. Mud: 9.1#, vis 30, WL 10.8. B#2, Sm., F-2, in @ 270' & drlg, 1500' in 40-3/4 hrs. \$ 48,973
4/24/78	2500	Drig sd & sh. 3/4" @ 2387'. 60 RPM, 300#. Mud: 9.1#, vis 29, WL 9. B#2, Sm., F-2, 270-2427', 2157' in 54-3/4 hrs. B#3, Sm., F-2, in @ 2427' & drlg, 73' in 3-3/4 hrs. \$ 54,868
4/25/78	2875	Drig sd & sh. 60 RPM, 300#. Mud: 9.0#, vis 29, WL 6.8. B#3, 8-3/4", Sm., F-2, in @ 2427' & drlg, 448' in 22-3/4 hrs. \$ 60,941
4/26/78	3525	Drig sd & sh. 60 RPM, 300#. Mud: 9.1#, vis 30, WL 10, FC 1/32. B#3, 8-3/4", Sm., F-2, in @ 2427' & drlg, 1098' in 46-1/2 hrs. \$ 71,598
4/27/78	3730	Logging. Rng SP Ind log. Mud: 10.4#, vis 50, WL 11, FC 2/32, Ph 9, Pv 22, V 17. 1" @ 3730'. B#3, 8-3/4", Sm., F-2, 2427-3730', 1303' in 63-1/4 hrs. \$ 82,658
4/28/78	3730	WOC. Ran SP Ind., Comp Dens & SHP w/GR-cal logs. Cond hole, LD DP & DC. Ran 91 jts, 3742', 7" OD 23# K-55 LT&C R-3 H csg set @ 3730'KB, pmp 10 BW, cntd w/125 sx 50/50 Poz w/10# gilsonite/sx, 4% gel, .2% CFR-2, fol w/150 sx CI "B" w/2% CaCl & .2% CFR-2, gd ret thruout, PD 10:30 p.m. 4/27, float did not hold. SI w/cntg head f/6 hrs. Rel press, held OK. Biff fill @ 3668'. Cent @ 3703'. 3667', 3587', 3504', 3420', 3337', 3254', 3170'. \$130,300
4/29/78	4435	Drig sd & sh. 1" @ 4279. 60 RPM, 200#. Drig w/gas, 200#. B#4, Reed, FP-62, in @ 3730' & drlg, 705' in 10 hrs. WOC. NU. Tst blind & pipe rams to 1000# f/30 min ca., held OK. Blew dn w/NOVSCO, switched to nat'l gas. \$147,744
4/30/78	5485	Drig sd & sh. 2-1/2" @ 4714', 1-1/2" @ 5041', 1-3/4" @ 5363'. Drig w/gas, 200#. 60 RPM, 200#. B#4, Reed, FP-62, in @ 3730' & drlg, 1755' in 29-3/4 hrs. \$166,744
5/1/78	5935	Rng 4-1/2" liner. 2" @ 5670' & 5935'. Drld to 5935', strap out. Ran Sidewall Neut, Comp Dens & Ind-GR logs, MLTD 5941'. Tops: Cliff House 4994', Menefee 5400', Pt Lookout 5688', Upper Hancos 5362'. BHT 168°. TI w/DC & DP, LD sent. Drld w/gas, 240#. 60 RPM, 200#. B#4, Reed, FP-62, 3730-5935', 2205' in 39-1/2 hrs. \$183,991
5/2/78	5935	TD - WOC. HORT. Ran 57 jts, 2345.66', 4-1/2" OD 10.5# K-55 ST&C R-3 new liner, set @ 5925'KB, TIM Ty HL liner hanger pkr @ 3567', GS @ 5925', FC 5883', Cent @ 5904', 5863', 5801', 5720', 5019' & 3705'. RU Dowell. Pmp 20 bbl gelled wtr, foll w/350 sx CI "B" w/2% gel, .75% D-65, .2% D-13, bump plug w/500# over pmp press, PD 10:45 a.m. 5/1/78. Compressed pkr, PO liner, rev circ hole, rec'd 15 bbl cnt & 20 bbl gelled wtr, LD BP. Rig rel 6 p.m. 5/1/78. \$207,590
5/3/78	5935	TD - NO completion. \$207,590
5/4 - 7/19	5935	TD - Dilto
7/20/78	5935	TD - Prep to CO to btm & run cased hole logs. MI & RU Drake Well Serv. Instl tbg head & BOP. Tally & PU 2-3/8" EUE tlg w/pkr, 7" csg scraper & 6-3/4" bit to top of liner @ 3567'. Pld tbg. PU 3-3/4" bit & 4-1/2" csg scraper. RHH to 4000'. SDON. \$229,131
7/21/78	5935	TD - Fin plg tbg & frac. TIR w/Bkr 4" csg scraper to 5859'. Displ hole w/2% KCl wtr. TOH ran CO Int'l cnt bend log CR/Correl log. Press tst 4-1/2" & 7" csg to 2500#, held OK f/20 min. Select fire perf'd @ 5475', 77', 82', 84', 5504', 08', 10', 5611', 13', 14', 5701', 07', 10', 14', 21', 27', 31', 35', 42', 50', 55', 67', 76' (23 shots). GR collar log meas. Ran Bkr retriev plug, set @ 5440'. Trid Mesaverde perfs w/1500 gals 15% HCl w/30 ball sealers. Brk fm @ 1600#, 7 BPM, TP 1200-1300#, 5-7 BPM. Well on vac after job. Lowered plug thru perfs. Pld 12 stnds. SDON. \$244,340
7/22/78	5935	TD - Prep to sub. Fin FOH w/ 2-3/8" tbg. Sd wtr frac dn csg Mesaverde perfs 5475-5675'OA w/136,500 gals 2% KCl wtr w/2#/1000 gal fric reducer, 30#/1000 gals fld loss add, 157,000# 20/40 sd. Avg rate 46 BPM, avg press 750#, max & final 1000# SI press, 4 min on vac. Ran 2-3/8" tbg. RU Nitrogen truck, CO 91' of sd to P8TD 5366'. Tbg set @ 5438', opnd ended w/SN 1 jt up. Swbd 1 hr, CP 100%, tbg opn to pit. SDON.
7/23/78	5866	PD - Flwg to pit to clean up. Yest am CP 754, TP 0#. Swbd 6 hrs, well kicked off. Left flwg to pit, gas very wet. Pitot tube meas 2.061 MCFFD. SDON. Left flwg to pit to clean up. \$256,471
7/24/78	5866	PU - Cont LFT. SD f/Sunday. Flwg gas @ rate of 2.1 MCFFD f/Mesaverde perfs 5475-5675'OA. \$256,871
7/25/78	5866	PB - COMPLETED GAS WELL 7/25/78. Flwd gas @ rate of 2.2 MCFFD thru opn line in 24 hrs f/Mesaverde perfs 5475-5675'OA. Lowest prod. poss 5776'. \$258,371

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
 Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 8/4/78	
Company Atlantic Richfield Company				Connection None		
Pool Blanco Mesa Verde				Formation Mesa Verde		Unit
Completion Date 7/24/78		Total Depth 5935		Plug Back TD 5866		Elevation 6471 GL
Casing Size 4 1/2" *		WT. 10.5#		ID 4.052		Set At 5925
Perforations: From 5475 To 5776		Well No. 1-A				
Tubing Size 2 3/8"		WT. 4.7#		ID 1.995		Set At 5438
Perforations: From To		Unit P		Sec. 6		Twp. 31N
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single		Packer Set At None		County San Juan		
Producing Thru Tubing		Reservoir Temp. °F @		Mean Annual Temp. °F 12.0		State New Mexico
L 5438	H 5438	Gg .60(est)	% CO ₂	% N ₂	% H ₂ S	Prover 2"
Meter Run		Taps				

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							989		985		11 days
1.	2"		0.750"	265		68 ⁰	459		696		3 hrs
2.											
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	9.453		277	.9924	1.291	1.024	3435
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.	
					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.	
	1.	.41	528	1.47	.954	Specific Gravity Separator Gas 0.60 (est) X X X X X X X X
	2.					Specific Gravity Flowing Fluid X X X X X
	3.					Critical Pressure 671 P.S.I.A. P.S.I.A.
4.					Critical Temperature 358 R R	
5.						

P _c 1001	P _c ² 1002001		
NO.	P _i ²	P _w	P _w ²
1	221841	665	441919
2			
3			
4			
5			

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.7890$$

$$AOI = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5314$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5469$$

Absolute Open Flow 5314 Mcfd @ 15.025	Angle of Slope θ _____	Slope, n 0.750
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Remarks: Well tested 'through 48/64" choke
 *Liner from 3567 to 5925. 7" 23# from surface to 3730'.

Approved By Commission	Conducted By Rex Hitchcock, Jr.	Calculated By Rex Hitchcock, Jr.	Checked By
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