

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 <input type="checkbox"/>	GAS WELL <input checked="" type="checkbox"/>	DRY <input type="checkbox"/>	Other _____		
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	Other _____
2. NAME OF OPERATOR						3. ADDRESS OF OPERATOR	
ARCO Oil and Gas Company, Division of Atlantic Richfield Company						P. O. Box 5540, Denver, Colorado 80217	
4. LOCATION OF WELL (Report location clearly and in accordance with State requirements)						5. LEASE DESIGNATION AND SERIAL NO.	
At surface 1030' FSL & 1040' FEL						NM-013688	
At top prod. interval reported below						6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
At total depth Approx the same						---	
14. PERMIT NO.						7. UNIT AGREEMENT NAME	
D. Elliott						---	
DATE ISSUED						8. FARM OR LEASE NAME	
3-10-82						Atlantic "A"	
15. DATE SPURRED						9. WELL NO.	
4-16-82						101	
16. DATE T.D. REACHED						10. FIELD AND POOL, OR WILDCAT	
5-9-82						East Aztec - Dakota	
17. DATE COMPL. (Ready to prod.)						11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA	
6-17-82						P 22-31N-10W	
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*						12. COUNTY OR PARISH	
6329' KB; 6328' DF; 6315' GL						San Juan	
19. ELEV. CASINGHEAD						13. STATE	
---						New Mexico	
20. TOTAL DEPTH, MD & TVD						21. PLUG, BACK T.D., MD & TVD	
7794'						7656'	
22. IF MULTIPLE COMPL., HOW MANY*						23. INTERVALS DRILLED BY	
1						ROTARY TOOLS	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*						CABLE TOOLS	
Dakota 7440' - 7627' (OA)						---	
25. WAS DIRECTIONAL SURVEY MADE						26. TYPE ELECTRIC AND OTHER LOGS RUN	
NO						DIFL; CDL/CN/GR	
27. WAS WELL CORED						28. CASING RECORD (Report all strings set in well)	
NO							
CASING SIZE		WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED	
8-5/8"	24#	709'	12-1/4"	525 sx CIH" w 2% CaCl ₂	NONE		
4-1/2"	11.6#	7793'	7-7/8"	1850 sx See Attached	NONE		
29. LINER RECORD				30. TUBING RECORD			
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
NONE					2-3/8"	7446'	NONE
31. PERFORATION RECORD (Interval, size and number)				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
Dakota 7666'-7692' 10 shots				DEPTH INTERVAL (MD)			
Dakota 7627'-7654' 8 shots				AMOUNT AND KIND OF MATERIAL USED			
Dakota 7440'-7538' 10 shots				7692' 200 gals 15% HCL + additives			
				7566' 500 gals 15% HCL + adds + 20 BS			
				7627' 714 bbls HCL & 30 bbls KCL			
				7639' 200 gals 15% HCL + additives			
33.* PRODUCTION (OVER)							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)			WELL STATUS (Producing or shut-in)		
5/26/82		FLOWING			SHUT IN		
DATE OF TEST		HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.
6-17-82		12 hrs	1/4"	---	---	66	---
FLOW. TUBING PRESS.		CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	---	---	---
28		300	---	---	---	Spray	---
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY	
TO BE SOLD						C. R. Thompson, Jr.	
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		TITLE			DATE		
W.A. Walther, Jr.		District Manager of Production			6-28-82		

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

NMOCC

BY E.B. Bach

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: "Sack's 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 FOKOUS 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	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
NO CORES AND NO DST'S				Pictured Cliffs	3069'	
				Lewis	3170'	
				Cliffhouse	4820'	
				Menefee	4919'	
				Pt. Lookout	5259'	
				Upper Mancos	5446'	
				Gallup	6609'	
				Greenhorn	7320'	
				Graneros	7372'	
				Dakota A	7428'	
				Dakota B	7518'	
				Dakota C	7558'	
				Dakota D	7654'	
				Morrison	7754'	
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.						
7343'	28 bbls HCL + 35 BS					
7538'-7440'	2979 bbls fluid + additives + 230,796# sand					

ATLANTIC "A" 101
SE SE Section 22-31N-10W
San Juan County, New Mexico

4/17/82	710	Day-1, Ftg-710. Rng 8-5/8" csg. Spud mud. MI & RU. SPUD 6:30 pm 4/16/82. Drld rat & mouse hole. Drld. Survey. Drld 12-1/4" hole to 710'. Circ & survey & TO. RU to run csg. WO lock ring f/cent. Run 8-5/8" csg. 3/4° @ 330', 1° @ 710'.
4/18/82	1426	Day-2, Ftg-716. Drlg. Wtr & benex. Run 8-5/8" csg. RU Howco. Circ w/rig pmp. Cmt w/Howco: ran 16 jts 8-5/8" OD (718.00') 24#, K-55, 8R, ST&C w/Howco GS & Howco super seal diff fill flt clr; cntrlzrs @ 693', 617', 527', 437', csg btm @ 709' RKB. Circ 3/4 hr w/mud; cmt w/525 sx Cl "H" cmt w/2% CaCl ₂ ; mixed 15.6# ppg, 400 psi @ 6 BPM max. Displ'd w/43 BW. Full returns during job. Circ 95 sx to surf. PD 0825 4/17/82. Held OK. WOC. Cut csg, weld on csg hd. NU BOP. Tst blind rams 800 psi 30 min - OK. TI drld FC & 27' cmt. Tst csg & pipe rams 800 psi f/30 min - OK. Drld 18' cmt & GS. Drld. Survey. Drld. 3/4° @ 1118'.
4/19/82	2800	Day-3, Ftg-1374. Drlg. Mud: 8.9#, vis 34, WL 8.4. Drld & surveyed. Service rig & chg drlg hd rubber. Drld, circ'd & surveyed. 1° @ 1487', 1/2° @ 1887', 2368' & 2776'.
4/20/82	3500	Day-4, Ftg-700. Drlg. Mud: 9.1#, vis 34, WL 8.5. Drld. Rig service & WO pmp. Survey & trip f/bit. Drld & survey. 3/4° @ 2989', 1/2° @ 3331'.
4/21/82	3975	Day-5, Ftg-475. Drlg. Mud: 9.1#, vis 37, WL 7.4. Drlg. Rig service - wrk BOP. Drld. Lost circ @ 3760'. Pld 5 stds. Mixed mud & LCM. Pmpd LCM pill. Plugged bit. TOH. Found BH clr plugged. Wshd plug out of clr. TIH. Circ 18 stds off btm. Wouldn't circ @ 5 stds off btm. Pld 3 stds & brk circ. Wsh back to btm. Drld & surveyed. 3/4° @ 3794'.
4/22/82	4530	Day-6, Ftg-555. Drlg. Mud: 9#, vis 34, WL 7. Drld. Rig service - wrk BOPs. Drld - lost 100 BM @ 4077'. Repair drlg hd drive. Drld. Circ & survey. Lost 100 BM. Drld - losing partial returns, lost 500 BM. 1-1/2° @ 4255'.
4/23/82	4868	Day-7, Ftg-338. Mixing mud & LCM. Mud: 8.8#, vis 36, WL 10. Lost circ - 500 bbls @ 4562'. Pld 2 jts - mixed mud & LCM. Drld - partial returns. Lost circ @ 4593' - 400 bbls. Pld 5 stds - mixed mud & LCM. Wrkd to btm. Drld - full returns. Survey. Drld - full returns. Lost circ - 1000 bbls in 5 hrs. Pld 5 stds - mixed mud & LCM - no returns. Pld 5 more stds - mixed mud & LCM. Backside full, but no circ - no gas. 1-3/4° @ 4624'.
4/24/82	5190	Day-8, Ftg-322. Drlg. Mud: 8.6#, vis 34, WL 10. Mix mud & LCM & wrk back to btm. Drld. Survey & TOH f/plugged jet - brk circ @ mid pt & TIH w/new bit. Drlg - losing partial returns below 4970' (lost 760 bbls) Rng 12-20% LCM & getting 5% back. 2° @ 4905'.

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4/25/82	5510	Day-9, Ftg-320. Drlg. Mud: 8.8#, vis 38, WL 7.0. Drld. Rig service & wrk BOPs. Drld & surveyed. Chg rotary sprocket. Drlg w/full returns in Pt Lookout. 2° @ 5273'.
4/26/82	5815	Day-10, Ftg-305. Drlg. Mud: 8.9#, vis 36, WL 7.4. Drlg - seepage loss @ intervals. Rig service - wrk BOPs. Drld. Lost 200 BM @ 5610'. Circ & survey @ 5700'. Drld. 1-1/2° @ 5700'.
4/27/82	5932	Day-11, Ftg-117. Circ'g & cond'g mud, bldg vol. Mud: 8.6#, vis 32, WL 12. Drld. Rig service. Drld. Lost complete returns @ 5932'; mix mud. Pull 5 stds - wouldn't circ 5 stds out. Pld 5 stds - wouldn't circ 10 stds out. 1 jet plugged. Pld 9 stds. Hole tite 16 stds out. Kicking gas & fresh wtr. Fresh wtr has Ph 9.0; 700 ppm Cl; 400 ppm Ca. Mix mud & no returns 19 stds out. Lost 1560 BM in 14-1/2 hrs. Regaine circ. Circ & cond mud. Bld vol.
4/28/82	5932	Day-12, Ftg-0. Circ & cond mud, bld vol. Mud: 8.6#, vis 42. Circ & cond mud, bld vol - partial returns. Pld 7 stds; 26 stds & 1 single out. Mix mud @ 3530'. Trip f/bit - jet plugged. TI. Brk circ. Circ btms up @ 3550' - full returns. RIH 8 stds. Circ & cond mud. Lost 160 BM @ 4300'. Pld 8 stds. Circ & cond mud w/full returns. Trip to chg jets in bit. Circ & cond mud. Bld vol @ 3550'. RI 2 stds. Circ & bld vol @ 3730'.
4/29/82	5932	Day-13, Ftg-0. Circ & cond mud in hole; wshg to btm. Mud: 8.4#, vis 45, WL 12. RIH 2 stds. Circ & bld mud vol. RIH to 5397'. Lost returns @ 5350'. Approx 150 BM. Pld 12 stds to 4300'. Mix mud & bld vol. RIH to 5520' brkg circ. Bridge @ 5520'. Circ & cond mud, bld vol. RIH wshg out bridges. Lost approx 150 BM. Circ & bld vol @ 5900'.
4/30/82	6152	Day-14, Ftg-220. Drld. Mud: 8.8#, vis 44, WL 6. RIH. Wsh out bridges. Tag btm @ 5932' @ 7:40 am. Circ. Drld - losing mud 2-3"/hr. Chg rotary sprocket. Drld - full returns. Survey. Drld - full returns. 1-1/2° @ 6100'.
5/1/82	6452	Day-15, Ftg-300. Drlg. Mud: 8.8#, vis 44, WL 5.2. Drld. Service rig. Drld.
5/2/82	6780	Day-16, Ftg-328. Drlg. Mud: 8.7#, vis 47, WL 6.0. Drld. Service rig & wrk BOPE. Drld. Survey. Drld. 1-1/4° @ 6528'
5/3/82	6965	Day-17, Ftg-185. Drlg. Mud: 8.9#, vis 45, WL 6.4. Drld. Survey & trip f/new bit. Brk circ @ DC, 35 stds in & 10 stds off btm. Drld. 3/4° @ 6911'.

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5/4/82	7121	Day-18, Ftg-156. Circ & cond mud & bld vol. Mud: 8.7#, vis 45, WL 8. Drld. Service rig & wrk BOP. Drld. Lost circ @ 7121'. Pull 5 stds. Mix mud & bld vol. Well kicking gas & wtr. Pull 5 more stds. Wouldn't circ. Pull 10 more stds. Well unloaded gas & wtr. Mix mud, bld vol, regain circ, full returns. Wtr 3800 ppm Chl, 340 ppm Ca, Ph 9.0. Circ & cond mud, bld vol. full returns. Lost 800 BM.
5/5/82	7294	Day-19, Ftg-173. Drlg. Mud: 8.8#, vis 40, WL 6. Circ & cond mud - 20 stds off btm - full returns. TIH to btm. Brk circ @ 10 stds - full returns. Drld. Chg 20 tooth rotary sprocket to 22 tooth. Drld. Repair mud pmp. Replace liner & swb in C-250. Drld.
5/6/82	7486	Day-20, Ftg-192. Trip b/bit. Mud: 8.9#, vis 48, WL 6.8. Drld. Survey. Service rig. Drld. Survey & trip f/bit. 3/4° @ 7350'.
5/7/82	7621	Day-21, Ftg-135. Drlg. Mud: 8.9#, vis 50, WL 5.8. Trip f/new bit. Brk circ on TIH. Drld. Chg rotary sprocket f/22T to 20T. Drlg. 3/4° @ 7486'.
5/8/82	7788	Day-22, Ftg-167. Drlg. Mud: 8.6#, vis 55, WL 7.0. Drlg. Svc rig & kelly valves. Work BOP. Drld. Lost 100 bbl mud 7740-7764' on evening tour.
5/9/82	7794	Day-23. Ftg-6. WO fsg tools. Mud: 8.8#, vis 50, WL 6.0. Drlg. Circ & cond for logs. 10 std short trip - no problems. Circ & cond f/logs. Began reduce LCM. Survey & MOH. SLM no correction. Dresser-Atlas Logging. Ran DIL-ES, GR f/TD to csg; CNL-FDC f/TD to 3942'; FDC-CNL stuck & pulled off at rope socket-leaving 26' FDC/CNL in hole w/arms expanded - 2 arms stuck @ 3942'. WL TD 7786'. WO fshg tools. 3/4° @ 7794'.
5/10/82	7794	Day-24, Ftg-0. Wsh to bttm w/OS. Mud: 8.8#, vis 65, WL 7.4. WO fshg tools. Make up fshg tools - OS w/3', 7-3/8" OD wall hook. TIH. Wsh 3900-4024'. Chain out of hole - no recovery. TIH. Wsh & rotate thru. Enlarged 14" hole 4024-4160'. TIH to 7550'. Wsh on bridge @ 7550'. Chain out of hole - no recovery. LD wall hook, replace w/standard skirt on OS. TIH w/OS to top of bridge 7484'. Wsh thru fill to 7690' - hole tight.
5/11/82	7794	Day-25, Ftg-0. Circ & cond hole @ 7750'. Mud: 8.8#, vis 47, WL 7.6 Wshg to btm. Hole tite @ 7690'. Trip f/OS. LD 7-3/8" OS. PU 5-3/4" OS. Top of fill 7356'. Wsh to 7565'. Lost all returns. LD 6 jts DP. Pmpd LCM pill. Regained circ. Cond mud. Lost all returns. Pld 9 stds DP. Reblld vol. Regained circ. Lost 300 BM. Ran 9 stds DP to 7340'. Wsh to 7750' - full returns. Wrk DP. Circ & cond hole.

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5/12/82	7794	Day-26, Ftg-0. LD DP. Mud: 8.7#, vis 56, WL 8. Circ & cond hole. Wsh to btm. Latched onto fish @ 7768'. Pld loose 30M# over. Chain out of hole. Rec'd fish w/both sources. Left back up caliper arm in hole. Load out D-A logging tools & fshg tools. TIH w/bit. Brk circ & wsh to btm. Circ & cond mud. Shake out LCM. Bld vol. LD DP (1 hr delay - brk low gear chain on drwwrks).
5/13/82	7794	Day-27, Ftg-0. RD, prep to move. Mud: 8.9#, vis 57, WL 10.6. LD DP. RU & run csg. Ran 179 jts (7794.01') 4-1/2", 11.6#, N-80, LT&C csg w/GS, FC, 2 DV tools, 20 cntrlzrs, 8 scratchers & 2 cmt bskts. Set csg @ 7793', FC @ 7757' & stage tools @ 5534' & 3328'. Cntrlzrs spaced across Dak & Graneros, Pt Lookout & Menefee & Pictured Cliff zones. Cmt bskts @ 5627' & 3423'. Scratchers spaced 15' f/7759-7620'. 30' of fill - wshd csg to btm. Circ csg w/mud f/1 hr - pmpd 10 BM flush. Cmtd 1st stage w/225 sx Hall lite, 6# salt/sx, 12-1/2# gilsonite/sx, 0.5% CFR-2, foll'd by 125 sx 50/50 Poz A, Cl "H", 6# salt/sx, 0.75% CFR-2. Displ'd plug w/32 BW & 88 BM - full returns. PD 5:10 pm. Dropped bomb & opn lower stage tool @ 5:36 pm. Circ 3 hrs w/mud - no cmt returns to surf. Pmpd 10 BM flush. Cmtd 2nd stage w/450 sx Hall lite, 6# salt/sx, 6-1/4# gilsonite/sx, 2% CaCl ₂ , 0.5% CFR-2. Displ'd plug w/33 BW & 53 BM - full returns. PD 10:02 pm. Drop bomb & opn upper stage tool @ 10:35 pm. Circ 2 hrs w/mud - no cmt returns to surf. Pmpd 10 mud flush. Cmtd 3rd stage w/1050 Hall lite, 6# salt/sx, 6-1/4# gilsonite/sx, 2% CaCl ₂ , 0.5% CFR-2. In last 100 bbls of slurry pmpd, lost full returns f/31 bbls. Regained about 50% returns f/next 60 bbls & lost full returns f/last 9 bbls. Displ'd plug w/51 BW - no returns. PU press @ 14 bbls pmpd. Final press 850 psi. PD @ 1:55 am 5/13/82. JC. PU BOPs, set csg hgr & cut off csg. Cln mud tks & RR 0600 5/13/82.
5/14/82	7794	Day-27. TD - Prep to move rig to Atlantic C-101, unable to get trucks yesterday, vy muddy conditions.
5/15-17- 5/20/82	7794	Day-27. TD - WO completion.
5/21/82	7794	Day-28. TD - Prep to TOH to chk bit. MI Big A (#8). Unloaded tbg & DCs. NU csg hd & tstd to 1000#. NU BOP. RU to run tbg. PU Smith 3-7/8", T-2 bit SN #L85232 on 4-1/2" csg scraper, XO, 4 - 3-1/8" DCs, XO, & 100 jts 2-3/8" EUE 8rd tbg. Tagged cmt @ 3265'. Drld cmt to DV tool @ 3333'. Drld on DV tool 2-1/4 hrs. Rec'd rubber, metal & O-rings. Didn't drl thru DV tool. Circ csg cln. Pld up 1 jt tbg. SI well & SDON.
5/22/82	7794	Day-29. TD - Prep to CO to FC & cond KCl wtr to 9.0 ppg. TOH. PU 3-7/8" flat btm mill w/csg scraper & TIH to 3333'KB & drld remainder of DV. Cont TIH to cmt @ 5484' KB & drld to DV @ 5538'KB. Drld DV & circ hole. TIH to cmt @ 7658'KB. Pld up 10', SI well. SDON.

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5/23/82	7794	<p>Day-30. TD - Prep to TIH to spt acid. Drld cmt to 7735'KB & circ hole cln. RU Nat'l cementers & mixed 14%, 9 ppg KCl wtr (avg wt 9.5 ppg when fin'd mixing). TOH. RU Schl & ran CBL log w/var dens GR & CCL f/7738-1618'. Had 40-50% bonding f/7738-7678'; had 80-100% bonding @ foll depths: 7678-7380', 7342-7066', 6562-6054' & 5538-4120'. Had less than 80% bonding f/4120' to top of cmt @ 1840'. RU Nat'l cementers & press tstd csg & BOPs to 6M psi w/9.5 ppg KCl wtr f/30 min - tstd OK. SDON.</p>
5/24/82	7794	<p>Day-31. TD - Prep to knock off frac balls & swb back acid. TIH to 7692'KB. RU Western. Press tstd pipe rams to 1500# w/9.5#/gal KCl wtr. RD Western. RU rig pmp. Circ hole to even out KCl wtr. RU Western. Spt 200 gals 15% HCl acid w/ 1/2 gal/1000 gals claymaster; 1 gal/1000 gals aqua flw; 5 gals/1000 gals XR-2L. TOH 2-3/8" EUE 8rd tbg. RU Schl. Perf'd Dakota 7666', 7669', 7672', 7675', 7678', 7681', 7684', 7687', 7689', 7692' w/1 SPF D-A FDC CNL log meas. RD Schl. RU Western. Pmpd 18.5 bbls 2% KCl wtr to displ acid into perms. RD Western. TIH w/Mtn States oil tool 4-1/2" Bkr Mod "R" pkr on 2-3/8" EUE tbg to 7566'KB. Set pkr w/16M#. RU Western. Pmpd 2% KCl wtr to establish inj rate of 4.4 BPM @ 4500#. ISIP 2100#. Pmpd 500 gals 15% HCl acid w/ 1/2 gal/1000 gals claymaster, 1 gal/1000 gals aqua flw & 5 gals/1000 gals XR-2L w/20 ball sealers. Pmpd acid @ 2 BPM. Strtd 2% KCl wtr.flush. Pmpd 29 bbls @ 3.3 BPM @ 3600# @ 27-1/2 bbls displmt. Annulus strtd to flw. SI annulus. Fin displmt. ISIP 2300#, 5 min SIP 1800#. Left well SI 1 hr - SIP 1100#. Flwd well back. Pld 6 stds of 2-3/8" tbg. Reset pkr. SI well. SDON.</p>
5/25/82	7794	<p>Day-32. TD - Prep to swb tst. SITP 500 psi, SICP 125 psi. Rel'd pkr. RIH to 7716' to knock off frac balls. Pld up hole & set pkr @ 7662'KB. Press'd annulus to 500 psi. RU to swb. Swb tbg dn in 9 runs. Made 15 swb runs total. Rec'd ±36 BW. Had vy weak blw of gas - probably acid gas. SI. SDON.</p>
5/26/82	7794	<p>Day-33. TD - Prep to blw & swb well. Had 175 psi SITP & 450 psi SICP. Blew dn & RU to swb. Tag FL @ 4000'. Swbd dn to SN @ 7656'KB in 4 runs. Made 18 total runs during day. FL @ ±6600'. Rec'd ±22 BW, 78 bbls total recovery. Well blew vy wk after ea swb run. Gas would burn. Fld samples as foll: Run #1 - 26,400 ppm Cl, 1920 ppm Ca, 8.7 ppg 2-1/2%; Run #4 - 18,200 ppm Cl, 1120 ppm Ca 8.8 ppg 2%; Run #18, 17000 ppm Cl, 360 ppm Ca 8.6 ppg 1%. RD swb. RU 2" orifice well tstr w/ 1/8" plate. Had 77" H₂O in 15 min. Calc 3.585 MCFD. Chgd to 1/4" plate, had 6" H₂O 3.19 MCFD. Calc used Pb 14.65 psia, SG = 1.0, Tb = 60°F, Fpb @ 15.025 = 0.97504. Left well flwg to pit thru 1/4" plate. SDON.</p>
5/27/82	7794	<p>Day-34. TD - RU to set BP Swbg well. 600' fluid in am. Last run @ 4 pm was dry. Made 13 runs in 8-1/2 hrs. Rec'd 8.36 BF w/avg of .76 BPH. Rel'd pkr & circ'd hole. TOH to set BP.</p>

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5/28/82	7794	<p>Day-35. TD - Prep to TIH w/pkr to acidize. RU Schl to set CIBP Bkr Mod "F" set @ 7656' - Dresser opn hole log & 7668' - Schl cased hole log. Tstd BOP & plugs to 3000# f/15 min - OK. ND BOP stack & W0 5000# tbg hd - on loc @ 1400. NU & tstd blind rams to 5000# f/15 min - OK. TIH w/ 2-3/8" tbg. Tag plug & PU to spt acid. TOH & RU Schl to perf w/ 3-3/8" select fire perfs. Perfs correlated w/opn hole log - 8' correction f/opn hole to cased hole. Perfs 7627', 32', 37', 41', 45', 48', 51', 54' (8 shots). RD Schl & SI @ 2130.</p>
5/29/82	7794	<p>Day-36. TD - Prep to swb. RU to run tbg & pkr. Mtn States Mod "R" pkr. RIH to 7000'. Displ acid w/5 bbls. Pipe rams tstd to 2000 psi - OK. Attempt to rel pkr. POH. RIH w/CS-1. Set pkr @ 7602'. RU Western to acidize. Pmp 3 bbls pad 744 gal HCl acid & 30 bbls 1% KCl. Tbg vol 29-1/2 bbls. Total load 79-1/2 bbls. Press on csg was 1800 psi during trtmnt. Press to 5000 psi while acidizing. No ball off. Rel press to allow balls to drop. Pmpd remaining acid. ISIP 3800 psi, 5 min 1800 psi, 15 min 1600 psi. SI f/1 hr. Opnd to flw f/20 min, rec'd 7.45 bbls. RU swb & made six runs, rec'd Total 43.7 bbls. SD @ 2030 hrs. Swbd to tk f/fld measurement.</p>
5/30/82	7794	<p>Day-37. TD - Prep to rel pkr & spt acid. SITP 1250 psi, SICP 1500 psi. Well flwd 9.45 bbls. Made 8 runs, rec'd 13.23 bbls. Hooked up orifice tstr. Tstd gas f/ 1-1/2 hrs w/avg of 65 MCFD. High of 140 MCFD, low of 34 MCFD. Made last swb run rec'd 0.95 BF. Total rec'd 66.34 bbls. SI & SDON.</p>
5/31/82	7794	<p>Day-38. TD - Cont swbg. SITP 1650#, SICP 1500#. Bled well dn f/15 min. Rel'd pkr. TIH 1 jt to 7639'. Brk circ w/32 bbls KCl wtr. RU Western & sptd 200 bbls 15% HCl w/XR-2, LT-22 & clay master add. POH. RU Schl & perf'd Dakota w/ 3-3/8" select fire gun .37" perfs @ 7440', 42', 44', 48', 50', 52', 7530', 33', 36', 38'. Correl'd +8' to Schl. CBL-VD logs. Displ'd acid to fm w/28 bbls KCl wtr @ 5-1/2 BPM, 2200 psi. ISIP 1900#, 5 min SIP 900#. Bled press to 0. GIH w/pkr, set @ 7343'. Estab rate of 4.8 BPM @ 3800#. Pmp 3 bbls HCl, then dropped 3 balls/two bbls. Initial rate 4-1/2 BPM @ 3600#. Press dropped to 3000#, then rose to 5000# as balls closed off perfs. Gd ball action. Total dropped 35 balls, pmpd 28 bbls HCl. ISIP 2100#, 1 min SIP 2000#, 5 min 1800#, 15 min 1500#. Bled press to 0. SI f/45 min. Pmpd 64.5 bbls KCl wtr & HCl + 28 bbls tbg capacity = 98 bbls to be swbd back. Made 12 swb runs. Rec'd 60.5 bbls KCl wtr & acid. SION @ 8:00 pm.</p>

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6/1/82	7794	<p>Day-39. TD - Prep to GIH & CO. Cont swbg back acid wtr. Rec'd 30 bbls in 4 runs. Total fld rec'd = 90 bbls in 16 runs. Lowered pkr thru perfs. POH to frac. RU Western to frac dn 4-1/2" csg w/mini-max 3 w/40#/1000 gals gel, 1 gal/1000 gals Aqua-Flow w/2% hydrocarbon, 1 gal/1000 gals frac-side 1, 1/2 gal/1000 gals clay master. Frac'd 18 Dakota perfs 7538-7440' Schl CBL-VD depth, w/ 2657 bbls mini-max 3 - 40 gel as foll: 888 bbls pad, 164.3 bbls w/1# sd, 178.5 bbls w/2# sd, 207.1 bbls w/3# sd, 233 bbls w/4# sd, 312 bbls w/5# sd, 310 bbls w/6# sd. Avg trtg press 3900#, avg rate 55 BPM. Press began to incr w/6# sd to perfs. Sanded off w/2 bbls 6# sd remaining in csg. Blw pop-off valve @ 5500 psi. Injected total 230,796# sd out of possible 302,700# sd & total 2541.5 bbls out of 2979 bbls thru perfs. Tagged all sd w/radio-active tracer f/post frac survey. SION @ 3 pm to allow sd to settle & gel to brk.</p>
6/2/82	7794	<p>Day-40. TD - Prep to cont CO sd. SICP 1000#. Repair rig. Chg diaphragm on throttle. TIH w/notched clr & SN on btm of tbg. Brk circ every 12 stds. Gel not brkn inside csg. Circ'g out sd. Tag sd @ 4847' w/90 jts out. CO sd f/42 jts (1502-6349'). Shut well in O/N @ 8:30 pm.</p>
6/3/82	7794	<p>Day-41. TD - Prep to tst. SICP 500#, SITP 500#. Oil flwg back frac fld. Gel is completely brkn dn. Making approx 5 bbls sd/hr. Little to no gas. TIH to CO plug back TD. Well flwg on connections. Sd content dropping to 1 BPH. Circ out sd f/last 4 jts - 7531-7664'. Circ 1/2 hr on btm w/no sd on returns. Pld out 5 stds to 7343', 100' above top perf. Circ 1/2 hr, vy little sd in returns. SION @ 5:00 pm.</p>
6/4/82	7794	<p>Day-42. TD - Flwg well to rig pits. SICP 300#, SITP 300#. TIH w/5 stds to 7664'. Revrs'd circ; no sd. Ran Schl GR log inside tbg 7300-7657'. Showed frac went into perfs. Pld 9 jts. Put Bkr retrieve & RI 1 jt & set pkr 30' dn. Stripped 5000# tbg hd & BOP. Stripped on 3000# tbg hd & BOP. Tstd to 1000# - held OK. Pld pkr & set 236 jts of tbg in slips. Length 7406.93', set @ 7412' RKB. Strtd flwg. Flwd 3-1/2 hrs. Made 62 BF or 17 BPH. Est 1/4 was gas. 25# CP when SI @ 7:00 pm.</p>
6/5/82	7794	<p>Day-43. TD - Prep to resume swbg and/or flw well. 7 am 6/4/82 SITP was 0 psi, CP 25 psi. Opnd well to pit & blew sml amt f/1 min & died. Swbd well making a total of 43 runs w/FL @ surf on 1st run. After 4th run FL held @ $\pm 2000'$. Pld swb runs f/4000'. CP @ 7 pm was 10 psi. SDON. Total fld rec'd to rig pit was 274 BGCFW.</p>

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6/6/82	7794	Day-44. TD - Well flwg frac wtr & some gas to pits. 7 am 6/5/82 SITP 550 psi, SICP 350 psi. Opnd well & blew dn to 0 in 5 min. RU swb. FL @ 1800'. Made 13 swb runs to 5000' rec'g 137 bbls gassy frac wtr. Well began flwg. Flwd well 2-1/2 hrs to rig tks @ 37 BPH of GCFF. Put well on 3/4" tbg chk & flwd well to pits. FTP 50 psi, CP 400 psi. Left well flwg to pit 0/N.
6/7/82	7794	Day-44. TD - Prep to resume swbg. Rig SD f/Sunday. Well quit flwg @ 1:00 am 6/7/82. Flwd approx 150 BGCFW in 12 hrs prior to shut off. SDON.
6/8/82	7794	Day-45. TD - Cont to flw prior to tst. Well flwg to pit 0/N. Quit flwg, making vy lite blw w/gas f/4 hrs w/350# CP. SI 1 hr. CP 450#, TP 110#. Opnd to pit & flwd 1 hr & 15 min. CP fell to 360# & well quit flwg fld. Making vy lite blw of gas. SI 1 hr. CP rose to 460#, TP rose to 100#. Opnd well to pit. Flwd 50% fld, 50% gas. Flwd 1 hr & died. Incr'd SI time to 2-1/2 hrs. CP rose to 480#, TP to 180#. Well KO immediately & flwd 1-1/2 hrs, 50% fld & 50% gas. CP fell to 320# & well died. Making vy lite blw of gas. Repeated procedure 3 times 0/N. CP rose to 480#, TP to 300#. Well dies when CP falls to 320#. Making sli less fld & more gas.
6/9/82	7794	Day-46. TD - Prep to repeat tst. SICP 400#, SITP 300#. Opnd well to pit. Flwg 50% fld & 50% gas f/1st half hr. Then clnd up to 10% fld & 90% gas. Decr'd to lite flw after 1 hr, 50 min w/CP 280#, TP 20#. SI 2 hrs. SICP 420#, SITP 320#. Flwd 1 hr. SI 2 hrs prior to tstg. Tst results thru 3/4" chk. SICP 655#, SITP 343# (new gauges): 5 min, CP 650#, TP 0#; 10 min, CP 635#, TP 0#; 15 min, CP 620#, TP 0#; 20 min, CP 590#, TP 130#; 25 min, 70" wtr, 1150 MCFG, CP 570#, TP 75#; 30 min, CP 520#, TP 85#; 35 min, CP 470#, TP 75#; 40 min, 55" wtr, 1027 MCFG, CP 430#, TP 50#; 50 min, 28" wtr, 747 MCFG, CP 365#, TP 35#; 60 min, 14" wtr, 519 MCFG, CP 330#, TP 20#; 70 min, <3" wtr, <240 MCFG, CP 310#, TP 10#; 75 min instl orifice tstg plate w/1-1/4" plate; 80 min, 6" wtr, 107 MCFG, CP 305#, TP 0#; 85 min, <3" wtr, <76 MCFG, CP 315#, TP 0#. 1/2 half hr, blw was too wet f/pitot tube, making 10% fld thruout tst. SI 2-1/2 hrs after tst. Flwd until blw decr'd. SI 2-1/2 hrs. Repeated process 0/N. Rec'd 1000 bbls total fld.
6/10/82	7794	Day-47. TD - Prep to swb. SICP 500#, SITP 275#. Bled CP to 0#, killed well w/235 bbls KCl wtr. TLH w/8 jts tbg. Tag sd @ 7640'. CO to BP @ 7664'. POH 7 stds. Landed 237 jts 2-3/8", 4.7#, 8rd, EUE tbg w/notched clr & SN on btm jt. Landed @ 7434.06' & SN @ 7433.06'. NU 3000# Xmas tree. RU to swb. Made 17 runs. Rec'd 82 bbls KCl wtr. Total fld rec'd 1100 bbls. Fld left to recover 1594 bbls.

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6/11/82	7794	Day-48. TD - To cont swbg. SICP 20#, SITP 125#. Made 33 swb runs. Rec'd 142 BF. Total fld rec'd 1242 bbls - left to recover 1452 bbls. CP rose to 520# by 8:00 pm. Swbg f/btm. FL approx 4500'. Gas cut thruout. SDON.
6/12/82	7794	Day-49. TD - Prep to flw or swb to cln up. In am SICP 900, SITP 450. Bled TP dn. Made 2 swb runs, well kicked off & flwd 1-1/2 hrs. CP decr'd to 450 psi & well died. SI 1-1/2 hrs. CP 700, but tbg would not flw. Made 2 swb runs & well kicked off w/700 psi CP. Flwd 1-1/2 hrs & died w/CP 400 psi. SI 1-1/2 hrs & CP 520 psi. Opnd to pit blew gas, but no fld. Made 1 swb run. Unloaded fld f/15 min, then sml gas blw. Repeated this 7 times w/same results. Est total fld rec'd since frac 1350 bbls. Left to recover 1350 bbls. SI well.
6/13/82	7794	Day-50. TD - Well opn to pit, prep to SD f/Sunday. In am SITP 750, SICP 900 psi. Blew tbg dn, no fld rec'd. Made 1 swb run - FL 4000' - & well kicked off - gas & wtr in hds & decr'd @ 9:00 am to sml gas w/CP 400 psi. SI 45 min - CP 425. Opnd tbg & swbd periodically rest of day - total 11 runs. Rec'd approx 45 BW today. Total rec'd 1395 bbls. Left to recover 1305 bbls. CP decr'd to 225 psi. Had fld & gas scattered f/4500' to SN. Left opn to pit on 3/4" chk. SD till Mon.
6/14/82	7794	Day-50. TD - Prep to resume swbg. Well opn to pit. CU SD f/Sunday. Left well opn to pit on 3/4" chk. Well had wk gas blw w/occ hds wtr. CP 400-500 psi.
6/15/82	7794	Day-51. TD - Prep to blw dn & swb well. At 7:00 am 6/14 SICP 100 psi, FTP 0 psi - wk blw. RU to swb FL 6740' f/surf (700' above SN). Made 1 swb run & well kicked off. Flwd in hds to pit f/20 min, then decr'd to spray wtr & gas f/45 min, then decr'd to wk blw. Made 1 swb run/hr f/total 9 swb runs. FL 6940' to 6740'. Blew spray wtr f/20-30 min after ea swb run, then decr'd to wk blw. SICP 200 psi. Rec'd est 27 BW today. Total rec'd 1422 BW, lack 1278 BW. SI well.
6/16/82	7794	Day-52. TD - Prep to TIH & tag sd. At 8:30 am 6/15 SICP 1040#, SITP 1040#. Well SI approx 15 hrs. Instl'd 2" orifice well tstr & flw tstd well as foll: Used atmospheric press 12.0#, gas gvty .600 & press base of 15.025. Flwd well f/8:40 am to 5:00 pm thru orifice well tstr making slugs wtr & gas. Gas rate varies between 600 & 100 MCFD. RD orifice well tstr. Left well flwg to pit 0/N. SDON.

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6/17/82 7794 Day-53. TD - Cont to flw tst well.
At 7 am 6/16/82 SICP 250#, FTP 0# & well had wk blw. RU 2" blw dn line on
tbg hd. Blew csg dn to vy wk blw. ND Xmas tree. NU BOP w/stripping hd.
Instl 2-3/8" tbg flt. PU 7" jt 2-3/8", EUE, 8rd tbg. Tag sd @ 7653' KB.
Pld 7 jts 2-3/8", EUE, 8rd tbg. Removed tbg flt. Landed 237 jts 2-3/8" tbg
as foll: 1 O'Bannon API SN, B11-20, 2 N9R-12" w/ 1 25/32" bore w/notched
clr on btm 1', 237 jts 2-3/8", 4.7#, EUE, 8rd, J-55 tbg f/7433.06'. Total
pipe 7434.06'. RKB to top of tbg hd 12'. Pipe set 7446.06' RKB. ND BOP.
NU Xmas tree. NU to swb. No FL in tbg. Pld ±75' GCW w/swb. Waited 1 hr.
Made 2nd swb run & rec'd ±75' GCW. NU 2" orifice well tstr @ 11:50 am
6/16/82. Flw tstd well O/N. Avg flw rate thru 2" line w/ 20/64" chk & 1/2"
plate - 125 MCFD, hi rate 364 MCFD while unloading a lot of wtr, low rate
98 MCFD.

6/18/82 7794 Day-54. TD - FINAL REPORT - COMPLETED GAS WELL, 6/18/82, Dakota fm.
Cont'd flw tstg well f/Dakota perfs 7627', 32', 37', 41', 45', 48', 51',
54', 7440, 42', 44', 48', 50', 52', 7530', 33', 36', 38' (7440-7627' OA).
12 hr tst flwd @ rate of 131 MCFD w/intermittent spray wtr (frac), FTP 28
psi, FCP 300 psi on 1/4" chk. Tstd w/orifice well tstr. Rel'd CU 5:30 pm
6/17/82. LPP 7654'.