

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

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—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. NM - 18321	
2. NAME OF OPERATOR Continental Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR 152 North Durbin St., Casper, Wyo. 82601		7. UNIT AGREEMENT NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 1720' FSL, 1510' FWL		8. FARM OR LEASE NAME Conoco 29-4	
14. PERMIT NO.		9. WELL NO. 1	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 7130' GR, 7143' KB		10. FIELD AND POOL, OR WILDCAT Mesaverde	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA E. San Juan - Pictured C.	
		12. COUNTY OR PARISH Rio Arriba	
		13. STATE New Mexico	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>Well Progress 3-15-74</u> <input checked="" type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

See attached Drilling Report.



Vertical text on the right side of the page, likely a filing or processing stamp, partially legible as "RECEIVED" and "MAR 28 1974".

USGS (5) NMOCC (2) File

18. I hereby certify that the foregoing is true and correct

SIGNED J. A. Whelan

TITLE Administrative Supervisor

DATE 3/18/74

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

12-5-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Well shut in for gel to break.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

12-6-73
TD 7298', PBTD 6275'. 12-5: CP 500 psi, TP 530 psi. Fluid level at the surface. Flowed back condensate to frac tank. Flowed 10 bbls. in 15 min. Flowed 5 bbls. in next 45 min. Started making gas cut emulsified gelled condensate with some sand. Well was shut in for Western Co. to test samples of the fluid. Resumed flowing later in the day. Swabbed fluid down to 2800' from the surface. Ran swab to seating nipple. Gas increased to weak blow and condensate in the fluid increased to 93% later in the day. Flowed and swabbed 115 BF. SDON.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

12-7-73
TD 7298', PBTD 6275'. 12-6: TP 155 psi, CP 50 psi. Flowed 5 bbls. to tank and died. Resumed swabbing. Bled casing down and lowered tubing 29'. Flowed and swabbed 70 BF, 75 to 95% condensate. SDON.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

12-10-73
TD 7298', PBTD 6275'. 12-7: CP 75 psig, TP 60 psig. Fluid level 2300' from surface. Bled well down and swabbed. Rec. 30 bbls. fluid - 80-90% muddy water. SDON.

12-8: CP 225 psig, TP 85 psig. Fluid level 3000' from surface. Well bled down. Swabbed and flowed. Gas flow was approx. 8.5 MCF/D after well was swabbed down. Casing bled down to 35 psig. Rec. 16 BF - 70-90% muddy water. Left tubing open to tank and casing open thru 1/8" orifice to atmosphere overnight.

12-9: FCP 5 psig thru 1/8" orifice at rate of 5 MCF/D. TP 0. Fluid level 3100' from the surface. Swabbed and rec. 18 BF - 70-90% muddy water. Left tubing open to tank and casing open thru 1/8" orifice to atmosphere overnight.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

12-11-73
TD 7298', PBTD 6275'. 12-10: TP 0, CP 4 psig. Opened thru 1/8" orifice. Fluid level at 3500'. Swabbed 16 bbls. of fluid - 80-95% muddy water. Shut down to move out completion unit. Drop from report pending evaluation.



11-23 13 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBDT 6275'. Waiting on completion unit.

11-24 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBDT 6275'. Waiting on completion unit.

11-27-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBDT 6275'. 11-26: Rigged up Big "A" Well Service. Picked up and ran 163 jts. of new 2 3/8" EUE tubing to 5143'. Rigged up to swab. Swabbed load water to 4250'. SDON.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

11-28-73 TD 7298', PBDT 6271'. 11-27: Pulled tubing out of hole. Rigged up GO-International to correlate and perforate. Ran GR-CCL-Correlation Log from 6271' PBDT to 5850' KB and 4150-3650'. Perforated with 2 SPF plus 1 shot from 5938' to 5946'. Rigged down perforators. Ran in hole with "Retrievamatic" packer and seating nipple on 187 jts. 2 3/8" tubing. Set packer at 5910' KB with 15,000# on packer. Rigged up Western Company to break down formation. Pressure tested line to 4000 psig. Held okay. Pumped 21 bbls. condensate to fill the tubing. Injected 68 bbls. condensate at average rate of 7.4 B/M at avg. press. of 4200 psig. Dropped 6 balls/min. for 4 min. with 100 psi to 200 psi. Temporarily increased pressure. ISIP 1100 psi; 15 min. SIP 500 psi. SDON.

11-29-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBDT 6275'. 11-28: TP 0. Fluid level at the surface. Swabbed back 27 bbls. condensate to tank before the well started swabbing slightly gas cut muddy water with traces of condensate and LCM. Swabbed about 15 bbls. muddy water. Swabbing from seating nipple at about 3 bbls./hr. SDON.

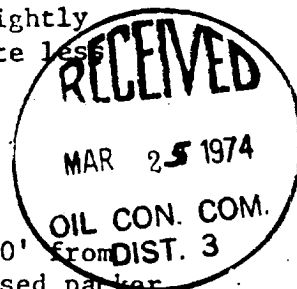
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

11-30-73 TD 7298', PBDT 6275'. 11-29: TP 30 psig. Fluid level in tubing at 3200'. Swabbed well down to seating nipple and continued swabbing - very slightly gas cut, slightly muddy water with trace of condensate. Swabbing rate less than 1 bbl./hr. Swabbed 17 BW. SDON.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

12-4-73 TD 7298', PBDT 6275'. 11-30: TP 60 psig. Fluid level in tubing 4200' from surface. Swabbing slightly muddy water to the seating nipple. Released packer and pulled tubing. Shut down for weekend.

12-3: CP 0. Rigged up GO-International to set bridge plug and perforate Pictured Cliffs. Set bridge plug with wireline at 3887' KB. Perforated with 35 shots - DML - 23 - 2 JSPF - 3829-3846' KB. Ran a seating nipple on 120 jts. of 2 3/8" tubing with a 10' blast jt. landed in the donut. Tubing was set at 3808' KB. Rigged down well servicing unit and moved off location. Rigged up Western Co. to frac. Tested lines to 4000 psig. Loaded the hole with condensate and broke down formation at 1300 psig. Frac'd down annulus and tubing with 24 bbls. with 20-40 sand at 1#/gal.; 90 bbls. with 20-40 sand with 2#/gal.; 14 bbls. with 20-40 sand at 2 1/2#/gal.; 80 bbls. with 10-20 sand at 1 1/2#/gal. Avg. inj. press.



11-2-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-5-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-8-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-7-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-8-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-9-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-12-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-13-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-14-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-15-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-16-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

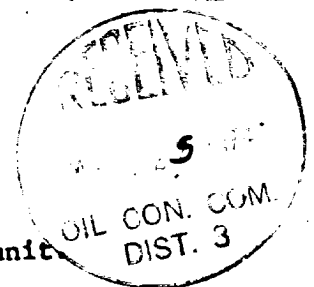
TD 7298', PBTD 6275'. Waiting on completion unit.

11-19-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. 11-17 thru 11-20: Waiting on completion unit.

1-21-73 Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.



Conoco 29-4 #1 (Cont.)

10-22
Laid down jars. Picked up overshot and started in hole. 4½" x 15" pump; 24 SPM; 70 GPM; PP 2-00#; ann. vel. 110; BHA: overshot, 14 drill collars (fish: 15 drill collars and 4½" bit). Gel-Chem - Wt. 10.0#; Vis. 87; WL 1.8 cc; FC 2/32; pH 10.2; gel strength ini./10 min. 4 / 10; 16% oil; 4% solids; trace of sand; trace of LCM; salinity 250 ppm PV 37; Yp 47. Cum. mud costs: \$55,827. Arapahoe 18½/26/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-23-73
Laying down 2 7/8" drill pipe. Depth 7298' - sand and shale. 7 7/8" hole. Tripped in with overshot. Caught fish. Ran 1 1/8" sinker bar. Would not go into fish. Tried manual back-off. Backed off in drill pipe. Waited on orders. Tripped out of hole. Laid down wash pipe and drill collars. Ran Baker Model "K" retainer set at 6275'. Cemented thru retainer with 50 sax of Class "G" at 1600#. Ran Baker casing scraper on drill pipe to top of retainer at 6275'. Displaced mud with water. Displaced water with KCl water. Laying down drill pipe. 23 3½" drill collars; WOB 20,000#; 4½" x 15" pump; 24 SPM; 84 GPM; PP 1275#; ann. vel. 142; BHA: overshot and 14 drill collars. Gel-Chem - Wt. 10.0#; Vis. 87; WL 1.8 cc; FC 2/32; pH 10.2; gel strength ini./10 min. 4 / 10; 16% oil; 4% solids; trace of sand; trace of LCM; salinity 250 ppm; PV 37; Yp 47. Cum. mud costs: \$5482. Arapahoe 18½/27/0.

10-24-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

MORT. TD 7298', PBTD 6275'. Finished laying down drill pipe. Nippled down. Installed casing head. Released rig at 9:30 a.m. 10-23-73. Arapahoe 18½/27½/0.

10-25-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

10-26-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

10-29-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

10-30-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

10-31-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298', PBTD 6275'. Waiting on completion unit.

11-1-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

TD 7298'. PBTD 6275'. Waiting on completion unit.



10-18-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

Spotting diesel around fish. Depth 7298'. 7 7/8" hole. Finished trip out of hole with wash pipe. Picked up safety sub, bumper jars, hydraulic jars and 12 drill collars and tripped in to top of fish at 6380'. Screwed into fish and jarred on fish. Picked up 7000# additional weight. Tripped out. Recovered 3 drill collars. Laid down. Picked up overshot and tripped in hole. Circ. over top of fish at 6465'. Jarred and circulated 7 hrs. No movement. Mixed and pumped 40 bbls. diesel with 70 gals. "Skot-Free." Will let soak for 2 hrs. 23 3 1/2" drill collars; WOB 20,000#; 4 1/2" x 15" pump; 29 SPM; 84 GPM; PP 1275#; ann. vel. 142; BHA: overshot, bumper jars, hydraulic jars, 14 drill collars, accelerator. Gel-Chem - Wt. 10.2#; Vis. 170; WL 3.8 cc; FC 2/32; pH 9.0; gel strength ini./10 min. 18 / 40; 18% oil; 3.2% solids; trace of sand; trace of LCM; salinity 250 ppm; PV 35; Yp 52. Cum. mud costs: \$53,242. Arapahoe 18 1/2/22/0.

10-19-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

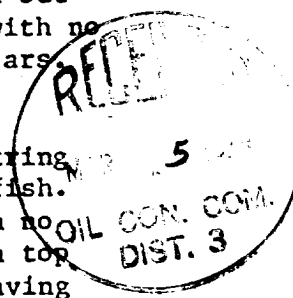
Washing over fish at 6495'. Present TD 7298'. 7 7/8" hole. Waited on diesel soak around fish 2 hrs. Jarred up and down on fish for 11 1/2 hrs. No movement. No rotation. Circ. 2 hrs. Ran McCullough free point tool. Tool (1 1/8") would not go thru (1 1/2" I.D.) jars. Backed off overshot. Picked up 7 jts. washover pipe and tripped in. 23 3 1/2" drill collars; WOB 20,000#; 4 1/2" x 15" pump; 29 SPM; 84 GPM; PP 1275#; ann. vel. 142; BHA: 200' 4 1/2" washover pipe, bumper jars, hydraulic jars, and 14 drill collar. Top of fish 6465' (15 drill collars). Gel-Chem - Wt. 10.2#; Vis. 170; WL 2.4 cc; FC 2/32; pH 9.0; gel strength ini./10 min. 18 / 40; 18% oil; 3.2% solids; trace of sand; trace of LCM; salinity 250 ppm; PV 35; Yp 52. Cum. mud costs: \$53,604. Arapahoe 18 1/2/23/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-20: Running string shot. Depth 7298'. 7 7/8" hole. Washed over fish 6465-6600'. Hit hard spot at 6600'. Could not wash thru spot. Pulled out of hole. Shoe worn smooth. Ran overshot. Hooked onto fish. Jarred with no results. Rigged up McCullough. Ran string shot. Could not get thru jars. Running string shot #2. Gel-Chem - Wt. 10.2#.

10-21: Tripping in with wash pipe. Depth 7298'. 7 7/8" hole. Ran string shot with Collar Locator in hole. Had difficulty getting into top of fish. Able to get to only 6720'. Shot string shot at 6579'. Backed off with no additional wt. on pick up. Ran Collar Locator. Stopped at overshot on top of fish. Pulled out of hole. Found backed off at top of overshot, leaving overshot in hole. Laid down jars. Tripped in and screwed into overshot. Attempted to run free point. Would not go thru drill collars. Attempted to run second string shot. Hit obstruction in fish at 6520'. Obstruction followed string shot uphole while pulling. Could not get back down. Tripped out hole with drill pipe. Rec. overshot. Cut drilling line. Gel-Chem - Wt. 10.2#.

10-22: Tripping in with overshot. Depth 7298' - sand and shale. 7 7/8" hole. 4 3/4" bit. Tripped in with wash pipe. Washed over top of fish at 6465'. Had difficulty in getting over fish - circ. out gas cut mud - 2 3/4 hrs. Washed over fish to 6589'. Pressure and torque increased from 2000# to 2300#. Pulled 3 stands. Spent 4 hrs. getting back over fish with wash pipe. Washed over fish to 6640'. Torque increasing, pressure increasing. Pulled out of hole.



Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-13: Waiting on cement. Depth 7298' - sand and shale. 7 7/8" hole. Attempted to circulate after salt gel-squeeze. No returns. Pulled out of hole. Went back in open ended. Well kicked during trip. Cement squeezed w/100 sax 50-50 Poz, 25# Gilsonite/sack at 7260' with rams closed. Pulled to 6366'. WOC 8 hrs. Cement squeeze #2 - 100 sax 50-50 poz and 25# Gilsonite/sack with rams closed. Pressure 1000 psi on each job. SIP 400 psi. Bled off. Pulled 10 stands. WOC. Cement in place at 4:30 p.m. Gel-Chem - Wt. 10.1#.

10-14: Working stuck drill pipe. Depth 7298' - sand and shale. 7 7/8" hole. WOC total of 19 1/2 hrs. Tripped out of hole. Tripped in and tagged cement top at 6484'. Attempted to break circulation with 1200 psi. Could not break circulation, but no loss of mud. Pulled up to 4166'. Broke circulation. Tripped in to 5220'. Broke circulation to 6484' and circulated. Drilled cement from 6484' to 6587'. No cement 6587' to 6866'. Pipe hung up. Cannot rotate, move up or down, or circulate. Gel-Chem - Wt. 10.1#.

10-15: Pulling out of hole. Depth 7298' - sand and shale. 7 7/8" hole. Worked stuck drill pipe for 8 hrs. No motion, rotation, or circulation. No tools available for taking free point. Ran 4 string shots. Backed off high, one misfired; final back off at 6380'. Pulled out of hole with all of drill pipe and 5 drill collars, leaving 18 drill collars in hole. Gel-Chem - Wt. 10.2#.

10-16: Changing pump liners. Depth 7298' - sand and shale. 7 7/8" hole. Tripped in with safety jt., bumper sub, hydraulic jars, accelerator, and 12 drill collars. Screwed into fish and jarred 1 hr. with no circulation. Backed off fish and circ. and cond. mud. Screwed back into fish and gained circulation thru bit. Jarred on fish with circulation for 8 1/2 hrs. (Added detergent to mud while circulating.) Backed off fish and tripped out of hole. Changing liners in pump preparatory to running in hole with wash pipe.

Bit #23 - Smith T-2 - drilling cement. 23 3 1/2" drill collars; WOB 20,000#; 5 1/2" x 15" pump; 24 SPM; 112 GPM; PP 800#; ann. vel. 190; BHA: safety jt., bumper jars, hydraulic jars, accelerator, and 12 drill collars. Gel-Chem - Wt. 9.8#; Vis. 42; WL 7.8 cc; FC 3/32; pH 9.0; gel strength ini./10 min. 2 / 8; 3.2% solids; trace of LCM; salinity 250 ppm; PV 24; Yp 20. Cum. mud costs: \$51,113. Arapahoe 18 1/2/20/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-17: Pulling out of hole with wash pipe. Depth 7298' - sand and shale. 7 7/8" hole. Fish - 18 drill collars from 6380' to 6866'. Picked up 250' wash pipe. Tripped in. Circ. gas cut mud out of hole. - 1 1/2 hrs. Raised mud wt. to 10.2#/gal. Washed over fish from 6392' to 6507'. Stuck wash pipe at 6470' while making connection. Worked stuck pipe for 7 hrs. with hydraulic jars and bumper sub. Mixed 40 bbls. diesel and "Skot-Free" and spotted over wash pipe. Shut down 2 1/2 hrs. Jarred wash pipe free and pulled back into 5 1/2" casing. Tripping out with wash pipe. Bit #23 drilling cement. 23 3 1/2" drill collars; WOB 20,000#; 64 RPM; 4 1/2" x 15" pump; 29 SPM; 84 GPM; PP 1275#; ann. vel. 142; BHA: 250' 4 1/2" wash pipe, safety jt., bumper sub, and hydraulic jars. Gel-Chem - Wt. 10.2#; Vis. 75; WL 6.0 cc; FC 2/32; pH 9.0; gel strength ini./10 min. 10 / 26; 9% oil; 3.8% solids; trace of sand; trace of LCM; salinity 200 ppm; PV 38; Yp 21. Cum. mud costs: \$52,242. Arapahoe 18 1/2/21/0.

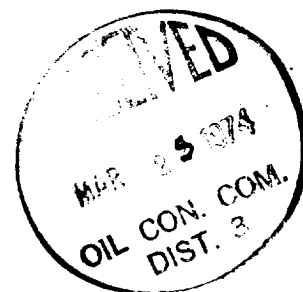


10-11-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

Circulating at 7260' thru choke. Present TD 7298' - sand and shale. 7 7/8" hole, 4 3/4" bit. Finished circulating gas cut mud at 6588'. Went in to TD (7298'). Began circulating and raising mud wt. from 9.9 to 10.2#. When got to 10.1#, lost 80 bbls. Pulled out to 6366'. Mixed and spotted 40 bbls. 12#/gal. salt gel at 6366'. Pulled up to 4767'. Closed rams and displaced gel with 9.9#/gal. mud. Initial PP 250 psi to 375 psi while pumping. SI at 250 psi. Bled to 225 psi in 30 min. Final 180 psi at end of 2 hrs. Waited on squeeze additional 3 hrs. Went in with drill pipe. When got to 7260', well kicked with 9.9# mud. Closed rams and presently circulating thru choke. Weighting mud up to 10.2#/gal. 23 3 1/2" drill collars; WOB 20,000#; 10-40 RPM; 5 1/2" x 15"; 24 SPM; 112 GPM; PP 800#; ann. vel. 190; BHA: bit and 23 drill collars. Gel-Chem - Wt. 9.9#; Vis. 60; WL 6 cc; FC 2/32; pH 10; 12% LCM. Cum. mud costs: \$43,941. Arapahoe 18 1/2/15/0.

10-12-73
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

Waiting on squeeze. Depth 7298' - sand and shale. 7 7/8" hole. Circulated out gas kick at 7260'. Weighted up to 10#/gal. Could not circulate. Spotted 75 bbls. 14#/gal. salt gel at 7298'. Pulled out of hole to 6366'. Closed rams and pumped 75 bbls. Pump pressure 200 psi, SIP 0. Mixed 40 bbls. 14# salt gel. Squeezed and pumped out at 6366'. Pulled out of hole to 5409'. Closed rams and displaced with 40 bbls. Pump press. 200 psi, SIP 100 psi. At 6:30 a.m. tried to break circulation at 5409' with 10# mud. Circ. for 3 min., then quit. Losing only when pumping. 23 3 1/2" drill collars; WOB 20,000#; 10-40 RPM; 5 1/2" x 15" pump; 24 SPM; 112 GPM; PP 800#; ann. vel. 190; BHA: bit and 23 drill collars. Gel-Chem - Wt. 10#; Vis. 60; WL 8 cc; FC 2/32; pH 10; 8% LCM. Cum. mud costs: \$47,207. Arapahoe 18 1/2/16/0.



Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-6: Circulating at 2396'. Circulated at 4106'. Tripped in to 6360'. Circ. at 6360'. Washed 32' fill to PBTD at 6392'. Circ. at 6392' and cond. mud for logs. Began losing returns and then lost complete returns. (9.4#/gal. - 60 Vis.) Mixed LCM and gel. Pumped 600 bbls. with 30% LCM. No returns. Pulled out of hole to 4666'. Mixed mud. Pulled out of hole to 3786'. Mixed and pumped 75 bbls. salt gel squeeze. Pulled out of hole. Waited on salt gel squeeze. Circ. at 2396' with full returns. Mixing mud and LCM. Gel-Chem - Wt. 9.1#.

10-8-13
10-7: Circulating at 6392' PBTD. Prep. to pull out of hole. Laying down drill pipe. Present TD 7298' - sand and shale. 7 7/8" hole. Circulating at 2396' while waiting on salt gel squeeze. Went to 3797' and circulated, also at 5205' and 6392'. Getting full returns so pulled out of hole to run logs. Ran logs and went back in hole. Presently circulating at 6392' preparatory to coming out, laying down drill pipe and running casing. Ran IES from base of surface pipe to 6392', Comp. Neutron-FDC-Caliper, Gamma Ray 6382-5900', 5250-5100', 4950-4750', and 4150-3650'. Log tops: Pictured Cliffs 3832'; Fruitland 3510'; Chacra 4773'; Mesaverde 5918'; Point Lookout 6146'. Gel-Chem - Wt. 9.1#. Bit #20 - HTC WD7 - drilled cement and bridges.

10-8: WOC and nipping up. Depth 7298' - sand and shale. Laid down drill pipe. Change rams and ran 5 1/2" casing to 6392': 0-254' - 5 1/2", 15.5#, K-55, LT&C; 254-1507' - 5 1/2", 15.5#, K-55, ST&C; 1507-5409' - 5 1/2", 14#, K-55, ST&C; 5409-6392' - 5 1/2", 15.5#, K-55, ST&C. Shoe at 6392', float collar at 6357'.

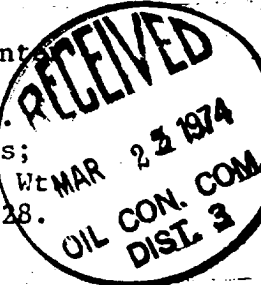
"Ruff-Cote" 3784-3942', 5799-6029', and 6328-92'. DV tool at 3975'. Cemented thru shoe with 290 sax 50-50 Pozmix, 2% gel, 6 1/4# "Kolite"/sack, and 1/2% "D-69" friction recucer. Preceded by 5 BW. Had full returns while pumping. Bumped plug with mud at 9:20 p.m. 10-7-73. Cemented second stage with 190 sax 50-50 Pozmix, 2% gel, 6 1/4# "Kolite"/sack and 1/2% "D-69." Preceded by 10 BW. Had full returns while cementing. In place at 10 p.m. 5 1/2" x 15" pump; 50 SPM; 235 GPM; PP 800#. Gel-Chem - Wt. 9.1#; Vis. 55; WL 6 cc; FC 2/32; pH 10; 15% LCM. Cum. mud costs: \$41,428. Arapahoe 18 1/2/12/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-9-23
Picking up 2 7/8" drill pipe. Depth 7298' - sand and shale. PBTD 6357'. 4 3/4" hole. Bit #21 - Smith T2 - 6357' to 7298'. 23 3 1/2" drill collars; WOB 20,000#; 5 1/2" x 15" pump; BHA: bit and 23 drill collars. Gel-Chem - Wt. 9.1#; Vis. 55; WL 6 cc; FC 2/32; pH 10; 15% LCM. Cum. mud costs: \$41,428. Arapahoe 18 1/2/13/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-10-23
Circulating gas cut mud at 6588'. Present TD 7298' - sand and shale. 4 3/4" hole. Drilled DV tool at 3975'. Pressured up to 500 psi for 15 min. Okay. Drilled float collar, cement, guide shoe, and 3' below shoe. Pressured up to 400 psi for 15 min. Held okay. (With 9.5# mud, this was equivalent to 10.7# test.) Started raising mud weight. When weight got to 10.1#/gal., lost 150 bbls. Added LCM and regained returns. Raised wt. to 10.5#/gal. Now circulating and conditioning gas cut mud at 6588'. Prep. to go back to original TD and resume drilling. 23 3 1/2" drill collars; WOB 20,000#; 40-50 RPM; 5 1/2" x 15" pump; 24 SPM; 112 GPM; PP 800#; ann. vel. 190; BHA: bit and 23 drill collars. Gel-Chem - Wt. 10.5#; Vis. 60; WL 8 cc; FC 2/32; pH 10; 12% LCM. Cum. mud costs: \$43,017. Arapahoe 18 1/2/14/0.



Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

10-4-73
Drilling out cement at 323'. Depth 7298' - sand and shale. 7 7/8" hole. Tagged top of cement plug at 3954' (142' fill above squeeze). Pressured to 125#. Pressure bled off to 0# immediately. Flowed back amt. greater than pumped. Trip out of hole. Rigged up Dowell for squeeze #2. Closed blind rams. Pumped 400 sax RFC cement thru kill line. Displaced with 94 bbls. mud. First 120 bbls. cement went in on vacuum for 40 min. Began pressuring up. Built to 200 psi and final pressure 300 psi at end of pumping. SIP 100 psi in 15 min. WOC 6 hrs. Picked up drilling assembly and hit cement in surface pipe. Drilling cement continuously. Bit #19 - Smith RR SDG - 7298' to 7298'. 24 6" drill collars; WOB 52,000#; 10-70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1200#; ann. vel. 165; jet vel. 290. Gel-Chem - Wt. 9.7#; Vis. 46; WL 4.8 cc; FC 2/32; pH 9.5; gel strength ini/.10 min. 5 / 12; 3.8% solids; trace of sand; 10% LCM; salinity 250 ppm; PV 19; Yp 30. Cum. mud costs: \$31,093. Arapahoe 18 1/2/8/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' - Foreman: Hassel Hunter

10-5-73
Circ. and cond. mud. Depth 7298'. Formation: cement. 7 7/8" hole. Drilled cement to 916' - shale bridge. Circulated on bridge 10 hrs. Caving in. Worked on thru bridge. Ran in to 3954'. Circulated hole. Drilled cement stringers. Hit firm cement at 4020'. Drilled out cement to 4106'. Now cleaning up mud for cement contamination. 24 6" drill collars; WOB 52,000#; 10-100 RPM; 5 1/2" x 15" pump; 52 SPM; 240 GPM; PP 800#; ann. vel. 135; jet vel. 132; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.5#; Vis. 60; WL 5.2 cc; FC 2/32; pH 10.5. Cum. mud costs: \$33,555. Arapahoe 18 1/2/9/0.



Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

9-29: Circulating at 3797'. Depth 7216' - sand and shale. 7 7/8" hole. Plug appears to be holding. Ran most of day with 10# mud. Now building to 10#. No lost circulation since set last plug. Now washing and reaming to bottom with full returns. Gel-Chem - Wt. 9.7#.

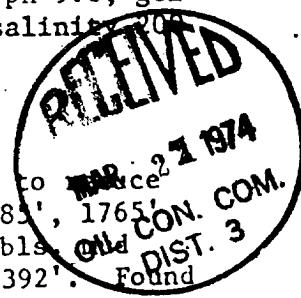
10-1-13
9-30: Mixing mud to drill ahead. Depth 7298' - sand and shale. 7 7/8" hole. Made 82'. Show of gas at 7272' to 7298' - 2000 units. At 9 p.m. well kicked mud from hole 30' up into derrick. Closed rams on open choke. Gained 80 bbls. mud - Wt. 9.8#/gal. Began mixing Barite. Brought mud wt. up to 10.2#. Mud returning at 9.3#/gal. Circ. 2 hrs. Opened rams. Continued to circulate hole. Gas units dropped to 150 to 300 units. (36 SPM at 400 psi. Well killed at 11:15 p.m.) Began losing some mud. Continued to mix mud. Lost 600 bbls. from 11:15 to 2:30 a.m. Out of Barite. Waited on Barite. Hole standing full. Loses only when begin circulating. Continued to add LCM to 25%. Gel-Chem - Wt. 9.8#.

10-1: Circulating at 886'. Depth 7298' - sand and shale. 7 7/8" hole. Mixed LCM and mud. Broke circulation at TD. Lost 203 bbls. with 25% returns. Started out of hole. Circ. gas cut mud at 6051'. Installed rotating head and returns to TD. Mixed and spotted 75 bbls. 10.5#/gal. mud at TD. Background gas 200 to 1600 units with circ. at TD, 200-1600 at 6051'. Attempted to break circulation at 2300'. Would not circulate. Hole appears quiet while standing full. Circ. with full returns at 886'. Background gas = 40 units. Gel-Chem - Wt. 10.2#.

10-2: Dropping mud wt. to 9.5#/gal. Depth 7298' - sand and shale. 7 7/8" hole. Completed trip out of hole. Ran drill pipe open ended to 6556'. Hit solid bridge. Could not establish returns or break through bridge. Placed 100 sax Class "G" cement, 2% CaCl₂, and .4% turbulence reducer from 6212' to 6556'. Cement in place at 1 p.m. Pulled out of hole. Now reducing mud wt. to condition hole preparatory to cement squeezing apparent lost circulation zone at 4134'. Bit #18 - Smith SDG - 7206' to 7298'. 24 6" drill collars; WOB 52,000#; 10-70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1200#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Gel-Chem - Wt. 10.1#; Vis. 46; WL 5.2 cc; FC 2/32; pH 9.0; gel strength ini./10 min. 18 / 42; 13% solids; trace of sand; 8% LCM; salinity 200 ppm; PV 46; Yp 22. Cum. mud costs: \$29,774. Arapahoe 18 1/2/6/0.

10-3-13
Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

WOC. Depth 7298' - sand and shale. 7 7/8" hole. Circulated pits to mud wt. to 9.5#/gal. Tripped in with bit. Circulated at 883', 1883', 1765', 4079', 5433', and 6392'. Full returns - no bridges. Gained 300 bbls. while circulating at 4073', 100 bbls. at 5433', and 100 bbls. at 6392'. Found cement plug top at 6392'. Tripped out and ran back in with drill pipe open ended to 4096'. Began cement squeeze at 4 a.m. - 100 sax RFC type cement. Displaced cement in drill pipe with 52 bbls. Pulled 8 stands to 3515'. Calculated top of cement top at 3641'. Closed rams and pumped 27.5 bbls. of 9.5#/gal. mud at 250 psi. Top of squeeze calculates to be at 4096'. SIP 200 psi. Opened rams and circulated hole. 24 6" drill collars; WOB 52,000#; 10-70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1200#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.5#; Vis. 56; WL 4.8 cc; FC 2/32; pH 8.5; gel strength ini./10 min. 10 / 22; 12% solids; trace of sand; 20% LCM; salinity 200 ppm; PV 25; Yp 46. Cum. mud costs: \$30,583. Arapahoe 18 1/2/7/0.



Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

27-2
Circulating at 4362'. Depth 7206' - sand and shale. 7 7/8" hole. Spotted 75 bbls. salt gel at 4100'. Pulled drill pipe up to 2389'. Pumped 70 bbls. thru drill pipe and annulus to displace top of plug to 4040'. Drill pipe stuck at 1318'. Jarred loose. Went back in hole to 3515'. Raised mud wt. from 9.8# to 10#/gal. Lost 150 bbls. mud. Lowered weight to 9.8# and gained 150 bbls. Net loss zero. Ran 9 more stands in to 4362' and now circulating. Has not hit bridge yet. Bit #17 - HTC X1G - 6854' to 7206'. 24 6" drill collars; WOB 52,000#; 5 1/2" x 15" pump; 58 SPM; 275 GPM; PP 800#; ann. vel. 160; jet vel. 197; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.8#; Vis. 55; WL 5.6 cc; FC 2/32; pH 9.5; 20% LCM; salinity 250 ppm. Cum. mud costs: \$16,513. Arapahoe 18 1/2/10.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

8-28-13
Circulating at 886' with full returns. Depth 7216' - sand and shale. (Prog. 10') 7 7/8" hole. Pumped salt gel plug, 75 bbls., 13.7#/gal. Went in on vacuum. Bottom of drill pipe at 4079' when spotted plug. Now at 886'. Circ. and cond. hole. 24 6" drill collars; WOB 52,000#; 70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1200#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.6#; Vis. 40; WL 4.8 cc; FC 2/32; pH 9.5; 18% LCM. Cum. mud costs: \$19,657. Arapahoe 18 1/2/20.



29-4 #1
EAST SAN JUAN FIELD - Rio Arriba Co., New Mexico

9-21-73
Drilling sand and shale at 6190'. (Prog. 195') 7 7/8" hole. 40 units background gas; 280 units - 5955-65'; 240 units 5984-89'; and 500 units - 6000-6005'. Top of Mesaverde 5930'. Bit #13 - Sec. M4NG - 5933' to 6056'. 24 6" drill collars; WOB 52,000#; 70 RPM; 5 1/2" x 15" pump; 58 SPM; 275 GPM; PP 1200#; ann. vel. 160; jet vel. 300; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.4#; Vis. 46; WL 7.8 cc; FC 2/32; pH 9.5; gel strength ini./10 min. 8 / 22; 4.1% solids; trace of sand; 7% LCM; salinity 300 ppm; PV 24; Yp 5. Cum. mud costs: \$8574. Arapahoe 13 1/4/0.

Conoco 29-4 #1 - Conoco 1.000000 - Dakota - 8400'

9-22: Drilling sand and shale at 6386'. (Prog. 196') 7 7/8" hole. Bit #14 - Sec. V2H - 6056-6316'. Dev.: 3/4 deg. at 6316'. Gel-Chem - Wt. 9.5#. Background gas - 40 units.

9-23: Drilling sand and shale at 6546'. (Prog. 160') 7 7/8" hole. Bit #15 - Smith DGTH - 6316-6492'. Tops from mud logger (samples not good): Point Lookout 6190'; Mancos Shale 6335'. Gel-Chem - Wt. 9.5#.

9-24: Drilling sand and shale at 6851'. (Prog. 305') 7 7/8" hole. 60 units background gas. 24 6" drill collars; WOB 52,000#; 70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1200#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.5#; Vis. 48; WL 10.2 cc; FC 3/32; pH 8.5; 8% LCM. Cum. mud costs: \$10,818. Arapahoe 16 1/2/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

9-25-73
Drilling sand and shale at 7084'. (Prog. 233') 7 7/8" hole. 80 units background gas. No lost circulation. Bit #16 - Sec. S-44 - 6492-6854'. 24 6" drill collars; WOB 52,000#; 70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1200#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Dev.: 1/2 deg. at 6854'. Gel-Chem - Wt. 9.5#; Vis. 43; WL 10.2 cc; FC 2/32; pH 8.5; 8% LCM. Cum. mud costs: \$12,531. Arapahoe 17 1/2/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

9-26-73
Pumping salt gel squeeze at 4100'. Depth 7206' - sand and shale. 7 7/8" hole. (Prog. 122') Background gas 80 units. At 6958', a show - 1000 units of gas. Lost 400 bbls. mud - 80 at 7030' and 320 at 7175' - while circulating and mixing LCM and "Barite." Tried to raise LCM to 20%, but only getting 7 to 8% back. Pulled up. Pumped 100 bbls. salt gel at 4100' and squeezed. Tripping out of hole now. 24 6" drill collars; WOB 52,000#; 70 RPM; 5 1/2" x 15" pump; 60 SPM; 282 GPM; PP 1100#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.7#; Vis. 48; WL 8.2 cc; FC 2/32; pH 8.5; 8% LCM. Cum. mud costs: \$14,817. Arapahoe 0/18 1/2/0.



9-14-73
San Juan 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

Drilling sand and shale at 4333'. (Prog. 403') 7 7/8" hole. Lost complete returns at 3842'. Added LCM. Healed up. Lost 780 bbls. 60 units background gas. Bit #7 - Smith S44 - 3527' to 4058'. 24 6" drill collars; WOB 52,000#; 80 RPM; 5 1/2" x 15" pump; 60 SPM; 285 GPM; PP 1200#; ann. vel. 165; jet vel. 305. Dev.: 3/4 deg. at 4058'. Gel-Chem - Wt. 8.9#; Vis. 35; WL 11.2 cc; FC 2/32; pH 9.5; 8% LCM. Cum. mud costs: \$3842. Arapahoe 6 1/2/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400' (Formerly San Juan 29-4 #1)

9-15: Drilling sand and shale at 4740'. (Prog. 407') 7 7/8" hole. 40 units background gas. Dev.: 3/4 deg. at 4597'. Sample top: Pictured Cliffs 3811'. Shows: 3730-50' - 200 units; 3760-70' - 240 units. 3795-3800' - 560 units; 3810-25' - 560 units; 3835-80' - 400 units; 3975-80' - 560 units; 4020-25' - 560 units; 4105-15' - 560 units. Bit #8 - Smith SDGH - 4058' to 4597'. Gel-Chem - Wt. 9.0#.

9-16: Drilling sand and shale at 5145'. (Prog. 405') 7 7/8" hole. 40 units background gas. Bit #9 - Smith SDGH - 4597' to 5058'. Dev.: 1 deg. at 5058'. Gel-Chem - Wt. 9.0#.

9-17: Drilling sand and shale at 5410'. (Prog. 265') 7 7/8" hole. 40 units background gas. 5169-90' - little gas show - 250 units. Lost 50 bbls. mud 5090-5120'. Bit #10 - Smith SDG - 5058' to 5256'. 24 6" drill collars; WOB 52,000#; 80 RPM; 5 1/2" x 15" pump; 60 SPM; 285 GPM; PP 1200#; ann. vel. 165; jet vel. 290; BHA: bit and 24 drill collars. Dev.: 1/2 deg. at 5256'. Gel-Chem - Wt. 9.1#; Vis. 38; WL 7.8 cc; FC 2/32; pH 8.5; gel strength ini./10 min. 2 / 18; 3.1% solids; trace of sand; 10% LCM; salinity 200 ppm; PV 10; Yp 2. Cum. mud costs: \$6233. Arapahoe 9 1/2/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

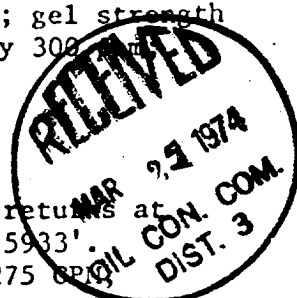
9-18-73
Drilling sand and shale at 5630'. (Prog. 210') 7 7/8" hole. 40 units background gas. Bit #11 - Smith DGTH - 5256' to 5558'. 24 6" drill collars; WOB 30,000#; 60 RPM; 5 1/2" x 15" pump; 50 SPM; 235 GPM; PP 1150#; ann. vel. 138; jet vel. 395; BHA: bit and 24 drill collars. Dev.: 1 deg. at 5558'. Gel-Chem - Wt. 9.1#; Vis. 35; WL 8.0 cc; FC 2/32; pH 9.5; 6% LCM. Cum. mud costs: \$6660. Arapahoe 10 1/2/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

9-19-73
Drilling sand and shale at 5823'. (Prog. 193') 7 7/8" hole. 40 units background gas. 24 6" drill collars; WOB 35,000#; 60 RPM; 5 1/2" x 15" pump; 50 SPM; 235 GPM; PP 1150#; ann. vel. 138; jet vel. 395; BHA: bit and 24 drill collars. Gel-Chem - Wt. 9.1#; Vis. 38; WL 6.8 cc; FC 2/32; pH 9.5; gel strength ini./10 min. 10 / 32; 5.2% solids; trace of sand; 10% LCM; salinity 300. PV 16p Yp 13. Cum. mud costs: \$7020. Arapahoe 11 1/2/0.

Conoco 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

9-20-73
Drilling sand and shale at 5995'. (Prog. 172') 7 7/8" hole. Lost returns at 5972' (60 bbls.). Gaining back mud. Bit #12 - Sec. S-5 - 5558' to 5933'. 24 6" drill collars; WOB 52,000#; 70 RPM; 5 1/2" x 15" pump; 58 SPM; 275 GPM; PP 1200#; ann. vel. 160; jet vel. 300; BHA: bit and 24 drill collars. Dev.: 1 1/2 deg. at 5933'. Gel-Chem - Wt. 9.3#; Vis. 36; WL 8.0 cc; FC 2/32; pH 5.0; 8.0% LCM. Cum. mud costs: \$7516. Arapahoe 12 1/2/0.



EAST SAN JUAN FIELD

San Juan 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

Location: 1720' FSL, 1510' FWL, Sec. 22, T29N, R4W, Rio Arriba Co., New Mexico. AFE 12-61-2392. API Well No. to follow. Contractor: Arapahoe. Mud supplier: Baroid. Elevations: GL 7130', KB 7143', RBM 13'.

7-10-73
9-8: WOC. Depth 240' - sandstone. 12 1/4" hole. Spudded at 9:30 p.m. 9-7-73. Ran 7 jts. (223') 8 5/8" casing landed at 235' KB. Cemented with 150 sax Class "A" and 2% CaCl₂. Centralizers at 10', 30', 60', and 120' above shoe. Dowell Cementers. Good cement returns to surface. PD 9:15 a.m. 9-8-73. Dev. 1/2 deg. at 240'. Bit #1 - Smith DG - 0' to 240'. Drilling with spud mud.

9-9: Drilling sand and shale at 1205'. (Prog. 965') 7 7/8" hole. Dev.: 1 1/4 deg. at 640'; 2 deg. at 1040'. Gel-Chem - Wt. 8.8#.

9-10: Drilling sand and shale at 2209'. (Prog. 1004') 7 7/8" hole. Bit #2 - Smith SDGT - 240' to 1440'; bit #3 - Sec. S4TG - 1440' to 2096'. 24 6" drill collars; WOB 50,000#; 80 RPM; 5 1/2" x 15" pump; 60 SPM; 285 GPM; PP 1200#; ann. vel. 165; jet vel. 280. Dev.: 2 deg. at 1440', 1720', and 1927'. Gel-Chem Wt. 8.5#; Vis. 29; WL 10.4 cc; FC 1/32; pH 9.0. Cum. mud costs: \$1096. Two units background gas. Arapahoe 2 1/2/0.

San Juan 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

2-11-73
Drilling sand and shale at 2900'. (Prog. 691') 7 7/8" hole. Bit #4 - Smith DGTH - 2196' to 2792'. 5 units background gas. 24 6" drill collars; WOB 50,000#; 80 RPM; 5 1/2" x 15" pump; 60 SPM; 285 GPM; PP 1200#; ann. vel. 165; jet vel. 290. Dev.: 2 deg. at 2196' and 2620'. Gel-Chem - Wt. 8.8#; Vis. 30; WL 12.2 cc; FC 2/32; pH 8.5; gel strength ini./10 min. 0 / 6; 3% solids; trace of sand; salinity 250 ppm; PV 5; Yp 2. Cum. mud costs: \$1645. Raining extremely hard. Roads almost impassible. Arapahoe 3 1/2/0.

San Juan 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

8-12-73
Drilling sand and shale at 3370'. (Prog. 470') 7 7/8" hole. 5 units background gas. Bit #5 - Sec. S4TG - 2792' to 3206'. 24 6" drill collars; WOB 50,000#; 80 RPM; 5 1/2" x 15" pump; 60 SPM; 285 GPM; PP 1200#; ann. vel. 165; jet vel. 280; BHA: bit and 24 drill collars. Dev.: 1 3/4 deg. at 3100'; 1 1/2 deg. at 3206'. Gel-Chem - Wt. 8.8#; Vis. 29; WL 6.8 cc; FC 2/32; pH 10.5. Cum. mud costs: \$2002. Arapahoe 4 1/2/0.

San Juan 29-4 #1 - Conoco 1.0000000 - Dakota - 8400'

2-13-73
Drilling sand and shale at 3930'. (Prog. 560') 7 7/8" hole. Bit #6 - Smith DGTH - 3206' to 3527'. 60 units background gas. 24 6" drill collars; WOB 50,000#; 80 RPM; 5 1/2" x 15" pump; 60 SPM; 285 GPM; PP 1200#; ann. vel. 165; jet vel. 290. Dev.: 1 3/4 deg. at 3527'. Gel-Chem - Wt. 9.0#; Vis. 30; WL 9.8 cc; FC 2/32; pH 8.0. Cum. mud costs: \$2630. Arapahoe 5 1/2/0.

