

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE\*  
(Other instructions on reverse 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 <input type="checkbox"/>		3. LEASE DESIGNATION AND SERIAL NO. <b>NM - 18327</b>	
2. NAME OF OPERATOR <b>Continental Oil Company</b>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR <b>152 North Durbin St., Casper, Wyo. 82601</b>		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 <b>1820' FSL, 970' FWL</b>		8. FARM OR LEASE NAME <b>Coroco 29-4</b>	
14. PERMIT NO.		9. WELL NO. <b>3</b>	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>7403' GR, 7415' KB</b>		10. FIELD AND POOL, OR WILDCAT <b>E. San Juan - Gallup</b>	
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data:		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <b>Sec. 28, T29N, R4W</b>	
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.)		12. COUNTY OR PARISH <b>Rio Arriba</b>	
		13. STATE <b>New Mexico</b>	

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

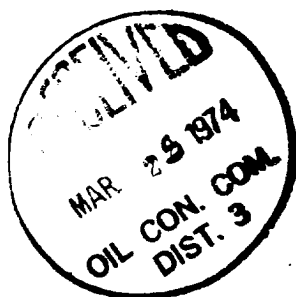
SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input checked="" type="checkbox"/> <b>Well Progress 3-15-74</b>	

(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.



USGS(5) NMOCC(2) File

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

SIGNED J. A. Uhlen

TITLE Administrative Supervisor

DATE 3/18/74

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

4-6-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136'. 3-5: CP 250 psi. Cleaning well up to pit. Flowing gas cut load water.

5-7-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

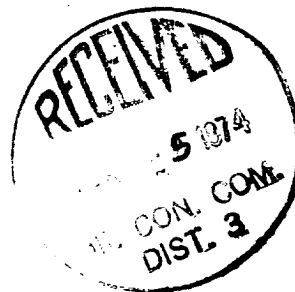
TD 8136'. 3-6: CP 1050 psi. Well dead. Rigged over to swab. Fluid level 1000' from surface. Swabbed from 6000'. Rec. gas cut load water. CP down to 800 psi and leveled off. Fluid level remaining 2000' from surface. SDON.

5-8-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136'. 3-7: CP 1050 psi, TP 450 psi. Rigged over to swab. Fluid level 3200' from surface. Kicked well off. Flowed gas cut load water. Flowed for 4 hrs. Cannot lift water. CP down to 300 psi. Increased to 375 psi. Went in hole with swab. Scattered fluid throughout. Pulled approx. 2000' fluid from bottom. Well unloaded gas cut load water. CP 300 psi. Flowed gas cut load water to pit overnight.

5-11-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136'. 3-8: CP 550 psi. Well logged off. Went in hole with swab. Kicked well off. Unloaded gas cut load water. Bled casing down to 400 psi. Unloaded light mist. Shut well in and hooked up differential controller. Rigged down and moved off. Drop from report until well cleans up to pit.



Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

84-1-1  
x  
TD 8136', PBTD 7300'. 2-28: Rigged up to frac. Loaded hole with 254 bbls. "WF-25." Broke down perfs at 4000 psi and established rate at 25 B/M. Frac'd Gallup perfs 8006-09' and 8012-39' down annulus with 830 bbls. "WF-25" and 34,000# 20-40 sand at 1#/gal. Could not increase sand concentration during frac due to high frac pressures. Spotted 1000# sand plug at tail end of frac. Flushed with 252 bbls. 1% KCl water. Max. press. 4000 psi, avg. press. 3300 psi, avg. rate 23 B/M. ISDP 2000 psi; 1800 psi after 15 min.; 1650 psi after 2 hrs. Frac fluid consisted of 1% KCl water, 25#/1000 gal. "J-133", 25#/1000 gal. "Adomite Aqua", and 2 gal./1000 gal. "Adofoam." SION. 1326 BLW to recover.

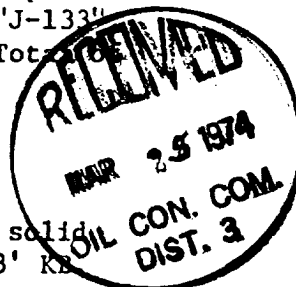
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

3-1: TP 1350 psi. Opened tubing to pit. Flowed back KCl water in steady stream. Rigged up Blue Jet Perforators. Ran sinker bar and tagged sand plug at 8039' KB. Sand plug did not cover bottom perfs. Pulled out of hole with sinker bar and well unloaded thru tubing. Cannot spot sand plug or acid with well flowing. Rigged down perforators. Hooked up Dowell to kill tubing. Pumped 30 bbls. KCl water down tubing. Pulled out of hole with tubing. Rigged up perforators. Perforated Gallup 7847-67' with 4 JSPF - 3 1/8" Densijet X - total of 80 holes. Hooked up Dowell to casing to frac. Pumped 450# 20-40 sand plug and 258 bbls. "WF-25" at 4 B/M and 3300 psi. Press. increased to 3600 psi. Shtu down for 1 1/2 hrs. to allow sand to fall and cover perfs 8006-39'. Started pumping "WF-25" to break down and establish rate. Could not break down. Max. press. 4500 psi. SDON.

3-2: CP 1600 psi. Opened well to pit. Flowed back solid stream of "WF-25." Bled off pressure. Well still flowing. Went in hole with 251 jts. 2 3/8" tubing and spotted 300 gal. 15% HCl. Pulled tubing up to 7341' KB and landed in donut with 10' blast jt. on top. Hooked Dowell to annulus to frac 7847-67'. Broke down perfs with "WF-25" at 3900 psi and 6 B/M. Press. decreased to 3000 psi. Increased rate to 18 B/M to establish rate when press. increased to 4000 psi. Perfs will not take fluid. Bled back press. Well still flowing. Lowered tubing to spot 300 gal. 15% HCl. Pulled out of hole with tubing. Rigged up Blue Jet Perforators. Perforated Gallup 7799-7814' with 4 JSPF - 3 1/8" Densijet X - total of 60 holes. Rigged down perforators. Rigged up Dowell to casing. Broke down perfs at 3950 psi at 10 B/M after pumping 36 bbls. "WF-25" before acid hit. Frac'd Gallup down casing as follows: 383 bbls. "WF-25" pad volume, 197 bbls. "WF-25" with 1#/1000 gal. 20-40 sand, 360 bbls. "WF-25" with 1 1/2#/gal. 20-40 sand, 120 bbls. "WF-25" with 2#/gal. 20-40 sand. Flushed with 283 bbls. 1% KCl water containing 2 gal./1000 gal. "Adofoam." Max. press. 4000 psi, avg. 2200 psi, avg. rate 25 B/M. Dowell blender lost prime before 2#/gal. 20-40 sand was on formation. Last 180 bbls. pumped at 6 B/M. Could not get ISDP. Final press. 3300 psi when blender lost prime on flush. Frac fluid consisted of 1% KCl water containing 25#/1000 gal. "J-133", 25#/1000 gal. "Adomite Aqua", and 2 gal./1000 gal. "Adofoam." SDON. Total 2942 bbls. load water to recover from all treatments.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

3-4: CP 1350 psi. Opened well to pit. Flowed solid stream of water. Went in hole with 2 3/8" tubing. Tagged sand at 7313' KB. Did not put any of 2#/gal. sand concentration into formation. Hooked up Dowell pump truck to reverse circulate out sand. Cleaned out total of 772' sand to 8085' KB. Well flowing thru tubing. Have to kill tubing to make connections. Landed tubing at 8023' KB with Baker "F" nipple on bottom. Total of 256 jts. tubing. Nippled down BOP's. Nippled up wellhead. Opened tubing to pit. Well



2-5-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

2-11-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-12-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

2-13-77  
TD 8136', PBTD 7300'. Waiting on completion.

2-14-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-18-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-21-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-21-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-22-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-25-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-26-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-27-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. Waiting on completion.

2-28-77  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - CONFIDENTIAL

TD 8136', PBTD 7300'. 2-27: Moved on and rigged up Big "A" Well Service. TP 50 psi, CP 200 psi. Bled off tubing. Nippled up BOP's. Raised 2 3/8" tubing to 7341' KB and landed in donut with 10' blast jt. on top. SDON.



1-22-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. 1-21: GO-International ran GR-CCL from 8110' to 7650'. Perforated 8006-8009' and 8012-39' with 4 JSPF. Ran 256 jts. 2 3/8" tubing and two 8' subs to 8038'. Rigged down BOP and rigged up Christmas tree. Swabbed to 1800'. Rec. 60 bbls. KCl water. SDON.

1-23-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. 1-22: Swabbed from 1800' to 5400'. Rec. 135 bbls. KCl water. Total recovered 195 bbls. SDON.

1-24-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. 1-23: TP 0, CP 25 psi. Swabbed from 5200' to 7700'. Rec. 40 bbls. KCl water. Total recovered 235 bbls. SDON.

1-25-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. 1-24: TP 0, CP 60 psi. Hit fluid at 7500'. Swabbed to 8000'. Rec. 6 bbls. KCl water. Total recovered 241 bbls. Rigged down and moved to Conoco 29-4 #5.

1-28-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

1-29-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

1-30-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

1-31-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

2-1-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

2-4-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

2-5-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

2-6-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PBTD 7300'. Waiting on completion.

2-7-  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'



- 8-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-9-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-10-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-11-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-14-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-15-14  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-16-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

1-17-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PSTD 7300'. 1-16: Big "A" rigged up. Pulled Christmas tree at lowest flange. Cut and dressed 7" stub and installed secondary pack-off. Ran 6 1/8" bit to 4011'. Circ. out casing with fresh water. SDON.

1-18-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136', PSTD 7300'. 1-17: Finished running 6 1/8" bit to 7313', top of cement plug. Circ. casing with fresh water. Drilled cement plug from 7313' to top of liner at 7364'. Picked up 315'. SDON.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

1-21-74  
TD 8136', PSTD 7300'. 1-18: Pulled tubing and laid down 6 1/8" bit. Ran tubing back in with 3 7/8" bit. Tagged cement 6' below top of liner. Drilled and circ. 4 1/2" liner to 8110'. Displaced casing with KCl water. Pulled tubing and laid down drill collars. SDON.

1-19 and 1-20: No report.



Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling sand and shale at 8083'. Made 148'. 6 1/8" hole. Sanostee 8009' from mud logger. 20' high to prognosis. Planned TD 8137'. Bit #23 - HTC OWV - 7828' to 7935'. 21 4 1/2" drill collars; WOB 20,000#; 60 RPM; 4 1/2" x 15" and 5 1/2" x 15" pumps; 50 SPM: 208 GPM; PP 1200#; ann. vel. 201; BHA: bit, 21 drill collars and sub. Gel-Chem - Wt. 10.2#; Vis. 56; WL 5.1 cc; FC 2/32; pH 9.5; gel strength ini./10 min. 2 / 7; 12% solids; 1/4 of 1% sand; salinity 100 ppm; PV 29; Yp 19. Arapahoe 0/34 1/2/0.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

12-22: Logging. Depth 8136' - sand and shale. 6 1/8" hole. Made 53'. Bit #24 HTC OC1G - 7935-8087'. Bit #25 - HTC OS1g - 8037' to 8136'. Ran in hole with IES to 8000'. Tool failure. Pulled out of hole. Ran in hole with CNL-FDC. TD 8145'. Logged - FDC-Caliper - 8144-7532'; CNL 8129-7532'. Gamma Ray 8120-7532'. Now going in hole with new IES tool. Gel-Chem - Wt. 10.2#.

12-23: Laying down drill pipe. TD 8136' - driller, 8145' - logger. Ran IES Log from 8142' to 7532'. BHC-Sonic-GR from 8143' to 7532'. Top of Gallup 7592'. Picked up 25 jts. 4 1/2", 11.6#, K-55, ST&C casing, shoe, diff. float collar, Burns liner hanger and setting tool - 774', total 769' left in hole. Hung liner with shoe at 8133' (d.p. meas. - 8142' logger meas.). Diff. fill collar at 8110' (Logger). Top of liner at 7373' (logger). Sand blasted casing 7626-7378'. Mixed 150 sax Dowell Class "A" cement blended with .02% "D-13R" retarder, 18% salt, 1.2% "D-65" at 16.1 ppg. Pumped plug down with mud at 2.5 B/M. Bumped plug at 2300 psi at 12:50 a.m. 12-23-73. Picked up 75'. Did not set packoff. Reversed out 15 bbls. cement. Returns throughout the job.

12-24: MORT. TD 8136', PBTD 7300'. Rig released at 4 p.m. 12-23-73. Cum. mud costs: \$41,336. Arapahoe 0/36 1/2/0.

12-25 thru 12-27: Waiting on completion unit.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

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TD 8136'. Waiting on completion unit.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

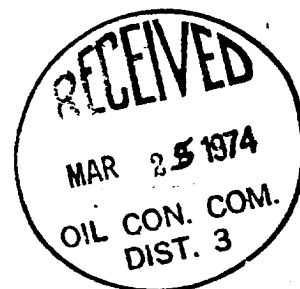
TD 8136'. Waiting on completion unit.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

TD 8136'. Waiting on completion unit.



12-17-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

12-15: Mixing mud. Depth 7530'. 8 3/4" hole. Rigged down Schlumberger. Tripped in hole. Tagged bottom 40' above TD (7490'). Lost 150 bbls. mud while tripping in. Had lost approx. 100 bbls. mud while logging. Pulled up 200' above tagged bottom (7290'). Mixed mud. Circ. and mixed mud at 7290'. Circ. and mixed mud and lost 300 bbls. before full returns. Ran 2 stands and washed 60' to bottom. Circ. and mixed mud for 3 hrs. with full returns. Presently pulling out of hole. Laying down. Prep. to run 7". Will mix mud before running. Gel-Chem - Wt. 8.7#.

12-16: WOC and mixing barite. Depth 7530'. 8 3/4" hole. Ran 177 jts. 7", K-55, 26#, ST&C casing with guide shoe, diff. float collar 1 jt. up. Centralizers located at 10' and 70' above shoe, 12 centralizers, one every 2 jts., 1 centralizer 10' above stage collar, one 70' above stage collar, and 4 centralizers spaced 1 per 2 jts. Stage collar at 4574'. Cement basket at 4617'. Nine jts. "Ruff-Cote" from 6667' to 6287' and 2 jts. "Ruff-Cote" 4235-4149'. Guide shoe set at 7530'. Cemented. Broke circ. with full returns. Pumped 200 sax cement. Bumped plug with 111 BW and 176 bbls. mud. Opened stage collar. Circ. 2 hrs. after bumping plug. Pumped 80 sax cement. Bumped plug with 176 BW. Full returns throughout job. Job complete at 6:45 p.m. 12-15-73.

12-17: Picking up drill pipe. Depth 7530'. 8 3/4" hole. 21 4 1/2" drill collars; 5 1/2" x 15" pump; 56 SPM; 270 GPM; PP 1200#; BHA: bit, shock sub, and drill collars. Gel-Chem - Wt. 9.7#; Vis. 45; WL 7.0 cc; FC 2/32; Arapahoe 0/30 1/2/0.

12-18-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling sand and shale at 7632'. Made 102'. 6 1/8" hole. Drilled cement and shoe - 39' formation. Shut down at 7569'. Closed rams. Pressured to 350 psi with 10.0#/gal. mud, equivalent to 10.8#/gal. Held 15 min. Bit #21 - HTC OWV - 7530-7629'. 21 4 1/2" drill collars; WOB 22,000#; 60 RPM; 5 1/2" x 15" pump; 40 SPM; 197 GPM; PP 1200#; ann. vel. 190; BHA: bit, shock sub, and drill collars. Gel-Chem - Wt. 10.2#; Vis. 50; WL 6.2 cc; FC 2/32; pH 9.5; gel strength ini./10 min. 3 / 8; salinity 100 ppm; PV 30; Yp 15. Cum. mud costs: \$39,311. Arapahoe 0/31 1/2/0.

12-19-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Tripping in sand and shale at 7828'. Made 196'. 6 1/8" hole. Bit #22 - Smith DGJ - 7629-7828'. 21 4 1/2" drill collars; WOB 20,000#; 60 RPM; 4 1/2" x 15" and 5 1/2" x 15" pump; 50 SPM; 208 GPM; PP 1200#; ann. vel. 201; BHA: dia. bit, near bit stabilizer, one 30' drill collar, string stabilizer, 20 drill collars and sub. Gel-Chem - Wt. 10.2#; Vis. 47; WL 6.2. Cum. mud costs: \$39,846. Arapahoe 0/32 1/2/0.

12-20-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Tripping in sand and shale at 7935'. Made 107'. 6 1/8" hole. Ran diamond bit with BHA in hole. While changing out elevators, dropped nut from elevators in hole. Pulled diamond bit. Ran tooth-type bit. Dev.: 1 1/2 deg. at 7828'. 21 4 1/2" drill collars; WOB 20,000#; 60 RPM; 4 1/2" x 15" and 5 1/2" x 15" pumps; 50 SPM; 208 GPM; PP 1200#; ann. vel. 201; BHA: bit, 21 drill collars, and sub. Gel-Chem - Wt. 10.3#; Vis. 53; WL 7.4 cc; FC 2/32; pH 9.0; gel strength ini./10 min. 3 / 9; 1/2 of 1% sand; salinity 100 ppm; PV 31; Yp 20. Cum. mud costs: \$40,591. Arapahoe 0/33 1/2/0.



12-12-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Washing bridges at 6923'. TD 7178'. 8 3/4" hole. Mixed 175 bbls. 30% LCM mud to flush pipe and 125 bbls. "Diacel D" salt gel plug and 100 bbls. 20% LCM mud to displace pipe. Pumped plug and mud. No returns. Lost 400 bbls. Picked up to 5039'. Mixed pit of 45% LCM mud while waiting on squeeze. After 7 hrs. filled annulus with 80 bbls. Pumped down drill pipe with no returns at start, then partial returns. Lost 320 bbls. Shut down to mix new pit of 45% LCM mud. Filled annulus with 20 bbls. Broke circ. thru drill pipe. No returns at start, then increased to full returns. Lost 80 bbls. mud. Circ. 1 hr. Full returns. Ran 10 stands in hole. Circ. 30 min. Ran 8 stands to 6510'. Circ. 30 min. Washed bridges 6550' to 6932'. Lost 80 bbls. mud in 2 1/2 hrs. Washing from 6550' to 6932'. Total mud lost in 24 hrs. = 880 bbls. Non-dispersed mud - Wt. 8.9#; Vis. 62; WL 8.6 cc; FC 1/32; pH 9.0. Cum. mud costs: \$28,229. Arapahoe 0/25 1/2/0.

12-12-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling sand and shale at 7308'. Made 130'. 8 3/4" hole. Washed to 7178'. Drilled to 7234'. Circ. and cond. hole 3 hrs. Made 6-stand short trip. 30' fill. Pulled out of hole. Ran Schlumberger IES-SP from 7195' to surface casing. Tops: Mesaverde 6270'; Point Lookout 6530'; Mancos 6640'. Bit #19 - Sec. S4GT - 7178' to 7234'. 18 6 1/2" drill collars; WOB 50,000#; 75 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 500#; ann. vel. 118; jet vel. 260. Gel-Chem - Wt. 8.7#; Vis. 52; WL 8.5 cc; FC 2/32; pH 8.0; gel strength ini./10 min. 2 / 5; 30% LCM; salinity 300 ppm; PV 15; Yp 5. Cum. mud costs: \$28,718. Arapahoe 0/26 1/2/0.

12-12-74  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Logging. Depth 7530' - sand and shale. Made 222'. 8 3/4" hole. Lost 70 bbls. mud 7465-70'. Drilled to 7530'. Circ. 2 hrs. Pulled out of hole. Ran Schlumberger IES-SP 6900' to 7494', logger's TD. Tight hole on second trip. Ran CNL-FDC - 3700' to 4550', 6250-6750', and 7350-7450'; BHC-Sonic 7494' to surface. Tops: Fruitland 3866'; Pictured Cliffs 4187'; Mesaverde 6270'; Point Lookout 6530'; Mancos 6640'. Gallup est. at 7594'. Bit #20 - Smith DGTH - 7234-7530'. 18 6 1/2" drill collars; WOB 50,000#; 75 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 500#; ann. vel. 118; jet vel. 260. Gel-Chem - Wt. 9.0#; Vis. 60; WL 6.2 cc; FC 2/32; pH 9.5; gel strength ini./10 min. 2 / 6; 36% LCM; chlorides 100 ppm; PV 20; Yp 10. Cum. mud costs: \$29,607. Arapahoe 0/27 1/2/0. 3" new snow and snowing.



12-7-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling sand and shale at 6679'. Made 257'. 8 3/4" hole. No mud loss in last 24 hrs. Bit #18 - HTC J-33 - 6171' to 6679'. 18 6 1/2" drill collars; WOB 40,000#; 45 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 900#; ann. vel. 118; jet vel. 260. Low solids mud - Wt. 9.0#; Vis. 50; WL 10.0 cc; FC 1/32; pH 8.5; gel strength ini./10 min. 3 / 14; 1/2 of 1% sand; 18% LCM; salinity 200 ppm; PV 23; Yp 13. Cum. mud costs: \$17,860. Arapahoe 0/20 1/2/0.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drig. Foreman: Feaster

12-8: Drilling sand and shale at 6920'. Made 241'. 8 3/4" hole. No mud loss. Low solids mud - Wt. 9.0#.

12-9: Drilling sand and shale at 7162'. Made 242'. 8 3/4" hole. Low solids mud - Wt. 9.0#.

12-10: Mixing mud. Depth 7178' - shale. Made 16'. 8 3/4" hole. Lost returns while drilling at 7178'. Picked up. Encountered drag. Filled hole thru annulus. Could not break circulation. Pulled out of hole. Attempted to circ. with 30% LCM at various intervals. Could not circ. until reaching 540'. Circ. and mixed new pit of mud. Pulled out of hole. Changed bits. Ran in to 540'. Broke circulation. Ran in to 1300'. Worked thru bridges from 1300' to 1750'. Lost circulation at 1750'. Pumped 150 bbls. No returns. Mixed 350 bbls. 35% LCM. Pumped same down drill pipe. No returns. Now mixing new pit of mud with 45% LCM. (Total mud lost 1050 bbls.) Bit #18 - HTC J-33 - 6171' to 7178'. 18 6 1/2" drill collars; WOB 40,000#; 45 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 900#; ann. vel. 118; jet vel. 260. Low solids mud - Wt. 8.9#; Vis. 50; WL 7.0 cc; 35% LCM. Cum. mud costs: \$20,715. Arapahoe 0/23 1/2/0.

12-11-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Prep. to salt-gel squeeze. Depth 7178'. 8 3/4" hole. Finished mixing pit of 45% LCM mud. Filled hole thru annulus. Pumped thru drill pipe with partial returns. Mixed second pit of 45% LCM mud. Regained full returns. Lost total of 500 bbls. at 1700'. Ran in hole. Broke circulation every 15 stands. Hit hard bridge at 6520'. Drilled thru bridge. Lost complete returns. Mixed 350 bbls. mud - 40% LCM. Pumped 125 bbls. on annulus, 14 bbls. down drill pipe. Circ. with full returns. Lost 240 bbls. at this point. Washed 23' of salt bridges. Lost complete returns at 6550'. Mixed third pit of mud and attempted to fill annulus. Pumping slowly and still losing complete returns. Lost 210 bbls. at 6550'. Prep. to mix salt-gel squeeze. Total mud lost in 24 hrs. - 950 bbls. Drilling with non-dispersed mud - Wt. 8.9#; Vis. 56; WL 6.4 cc; FC 1/32; 48% LCM. Cum. mud costs: \$24,880. Arapahoe 0/24 1/2/0.



11-30-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Unplugging drill collar. Depth 5137' - shale. Made 291'. 8 3/4" hole. Dev. 1/2 deg. at 5137'. Ran in hole with bit. Broke circulation. Float plugged. Pulled out of hole to unplug. Bit #12 - Smith DGTH - 4569' to 5137'. 18 6 1/2" drill collars; WOB 40,000#; 60 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 900#; ann. vel. 118; jet vel. 260. Low solids mud - Wt. 8.8#; Vis. 44; WL 7.0 cc; FC 2/32; pH 8.7; gel strength ini./10 min. 2 / 8; 22% LCM; salinity 200 ppm; PV 24; Yp 14. Cum. mud costs: \$9547. Arapahoe 0/13 1/2/0.

12-4-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

12-1: Washing to bottom. Depth 5311' - shale. Made 174'. 8 3/4" hole. Unplugged float and drill collar. Ran back to TD. Began drilling lost returns while drillin at 5311' with 9.0#/gal. - 20% LCM. Lost 150 bbls. Pulled up to drill collars. Built mud volume with 40% LCM - 45 Vis. Pumped mud down annulus. Fluid level rose from 300' to surface. Mixed mud. Finished pulling out of hole. Changed bit. Ran in hole. Breaking circ. every 20 stands. Lost total of 500 bbls. mud. Washing to bottom. 150' fill. Bit #13 - Sec. S4T - 5137' to 5311'. Gel-Chem - Wt. 8.8#.

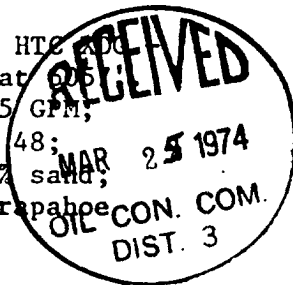
12-2: Tripping in sand and shale at 5572'. Made 261'. 8 3/4" hole. Dev.: 1 deg. at 5572'. Lost 100 bbls. mud while washing to bottom at 5311', 75 bbls. while drilling at 5465-5560'. Total 175 bbls. lost. Broke circulation at 3500' while going in hole. Bit #14 - HTC X1G - 5311-5573'. Low solids mud - Wt. 8.9#.

12-3: Drilling shale and sand at 5816'. Made 244'. 8 3/4" hole. Lost 200 bbls. mud while drilling. Partial returns during entire 24 hrs. Mixed 160 sax LCM while drilling. Low solids mud - Wt. 8.9#. Bit #15 - Smith SDGH - 5572' to 5816'.

12-4: Drilling sand and shale at 6052'. Made 236'. 8 3/4" hole. Lost 50 bbls. mud while drilling at 5995' to 6025'. Added 70 sax LCM. Regained full returns. 18 6 1/2" drill collars; WOB 50,000#; 80 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 900#; ann. vel. 118; jet vel. 260. Low solids mud - Wt. 9.0#; Vis. 50; WL 15.0 cc; FC 2/32; pH 8.5; gel strength ini./10 min. 4 / 8; 1/4 of 1% sand; 15% LCM; salinity 200 ppm; PV 27; Yp 13. Cum. mud costs: \$14,566. Arapahoe 0/17 1/2/0.

12-5-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling sand and shale at 6187'. Made 135'. 8 3/4" hole. Bit #16 - HTC X1G - 5816' to 6056'. Bit #17 - Smith DGT - 6056' to 6171'. Dev.: 1/2 deg. at 6056'. 18 6 1/2" drill collars; WOB 40,000#; 45 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 900#; ann. vel. 118; jet vel. 260. Low solids mud - Wt. 9.0#; Vis. 48; WL 16.0 cc; FC 2/32; pH 8.5; gel strength ini./10 min. 3 / 8; 1/8 of 1% sand; 25% LCM; salinity 200 ppm; PV 23; Yp 13. Cum. mud costs: \$15,937. Arapahoe 0/18 1/2/0.



12-6-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling sand and shale at 6422'. Made 235'. 8 3/4" hole. Hole in good shape. No lost circulation problems. Bit #18 - HTC J-33 - 6171' to 6422'. 18 6 1/2" drill collars; WOB 40,000#; 45 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 900#; ann. vel. 118; jet vel. 260. Low solids mud - Wt. 8.9#; Vis. 42; WL 7.2 cc; FC 2/32; pH 8.5; gel strength ini./10 min. 4 / 10; 1/8 of 1% sand; 15% LCM; salinity 200 ppm; PV 22; Yp 13. Cum. mud costs: \$16,657. Arapahoe 0/19 1/2/0.

11-26-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

11-24: Drilling sand and shale at 3132'. Made 457'. 8 3/4" hole. Dev.: 1/4 deg. at 3094'. Non-dispersed mud - Wt. 8.3#. Bit #5 - Sec. S44 - 2294' to 2862'. Bit #6 - STC SCH - 2862' to 3094'.

11-25: Drilling sand and shale at 3561'. Made 429'. 8 3/4" hole. Dev.: 1/4 deg. at 3455'. Bit #7 - Sec. S4CH - 3094' to 3455'. Tight hole while drlg. with bit #7. Raised viscosity. No problems. Non-dispersed mud - Wt. 9.1#.

11-26: Tripping in sand and shale at 3940'. Made 379'. 8 3/4" hole. Bit #8 Smith DGT - 3455' to 3697'. Dev.: 1/2 deg. at 3697'. 18 6 1/2" drill collars; WOB 50,000#; 60 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 1000#; ann. vel. 118; jet vel. 300. Low solids mud - Wt. 9.1#; Vis. 39; WL 9.0 cc; FC 2/32. Cum. mud costs: \$3577. Arapahoe 0/9 1/2/0.

11-27-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster.

Drilling sand and shale at 4299'. Made 359'. 8 3/4" hole. Bit #10 - Smith DGTH - 3940' to 4252'. Bit #11 - HTC XVG - 4252-4299'. 18 6 1/8" drill collars; WOB 50,000#; 60 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 1000#; ann. vel. 118; jet vel. 275. Dev.: 1 3/4 deg. at 4252'. Low solids mud - Wt. 9.2#; Vis. 40; WL 8.0 cc; FC 2/32; pH 9.0. Cum. mud costs: \$4200. Arapahoe 0/10 1/2/0.

11-28-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Tripping for plugged bit. Depth 4569' - sand and shale. Made 270'. 8 3/4" hole. Drilled to 4569'. Lost returns while drilling with 9.0#/gal. mud. Picked up 6 stands. Mixed 70 bbls. 15% L.C.M. plug. Pumped down drill pipe. Plugged bit. Mixed volume. Pulled out of hole. Lost 100 bbls. mud. Bit #11 - HTC XVG - 4252' to 4569'. 18 6 1/8" drill collars; WOB 50,000#; 60 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 1000#; ann. vel. 118; jet vel. 275. Low solids mud - Wt. 9.0#; Vis. 38; WL 6.5 cc; FC 2/32; pH 9.5; gel strength ini./10 min. 2 / 4; 1% sand; 15% LCM; salinity 100 ppm; PV 15; Yp 7. Cum. mud costs: \$5343. Arapahoe 0/11 1/2/0.

11-29-73  
Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

Drilling shale at 4846'. Made 277'. 8 3/4" hole. While pulling out of hole, filled hole with 200 bbls. mud. Fluid level remained at approx. 200'. While unplugging bottom collar, mixed 320 bbls. 35% LCM. Pumped 270 bbls. in thru fillup line until hole stayed full. Ran collars in hole. Broke circ. with full returns. Lost 470 bbls. in last 24 hrs. Total loss in this interval 570 bbls. Bit #12 - STC DGTH - 4569' to 4846'. 18 6 1/8" drill collars; WOB 40,000#; 60 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 800#; ann. vel. 118; jet vel. 260. Non-dispersed starch - Wt. 9.0#; Vis. 50; WL 7.0 cc; FC 2/32; pH 8.6; gel strength ini./10 min. 2 / 5; 1/2 of 1% sand; 39% LCM; salinity 100 ppm; PV 24; Yp 14. Cum. mud costs: \$8992. Arapahoe 0/12 1/2/0.



Conoco 29-4 #3 - Mesaverde - 6730' - Conoco 1.0000000

Location: 1820' FSL, 970' FWL, Sec. 28, T29N, R4W, Rio Arriba Co., New Mexico.  
AFE 12-61-2394. API Well No. to follow. Contractor: Arapahoe. Mud supplier:  
IMC. Elevations: GL 7403', KB 7415', RBM 12'.

11-19-73  
11-17: Mixing LCM and mud volume. Depth 190' sand and shale. 15" hole. Began rigging up at 8 a.m. Spudded at 7 p.m. 11-16-73. Lost circ. while drlg. with 8.8#/gal. mud at 73'. Mixed 70 bbls. 20% lost circ. plug. Regained returns. Resumed drilling. Lost circ. immediately. Built volume. Mixed 70 bbls. 30% lost circ. plug. Pumped down slowly. Regained circulation. Drilled to 190' with full returns. Lost circ. at 190' - no returns. Drilling with native mud and gel - Wt. 8.8#. Dev.:  $\frac{1}{4}$  deg. at 190'.

11-18: Waiting on cement. Depth 515' - sand and shale. 15" hole. Made 325'. Dev.:  $\frac{1}{2}$  deg. at 515'. Pumped 70 bbls. plug 20% lost circ. material in annulus with bit at 190'. Hole would not stay full. Dumped 40 sax dry fiber in annulus. Began circ. with 30% L.C. Material mud. Drilled to 515'. Full returns. Ran 12 jts. 10 3/4", 40.5#, ST&C casing, shoe, baffle plate, 1 jt. up, centralizers at 10', 30', 60', and 120' above shoe (499.0') set at 512'. Mixed 500 sax Class "A" and 2%  $\text{CaCl}_2$ . Pumped at  $3\frac{1}{2}$  B/M. Displaced with 48 bbls. water at  $3\frac{1}{2}$  B/M. (Full returns while circ. and mixing 490 sax. Partial returns on final 10 sax and while bumping plug. Bumped plug at 9:30 p.m. 11-17-73 with 800 psi.) No cement returns to surface. Cemented annulus with 100 sax Class "A" and 2%  $\text{CaCl}_2$  at 40' thru 1" tubing. Job complete at 3 a.m. 11-18-73. Full cement returns to surface. Drilling with gel and water - Wt. 8.8#. Bit #1 - HTC OSC3 - 0' to 500'.

11-19: Waiting on dozer to revamp pit for air drilling. Depth 520' - sand and shale. Made 5'. 8 3/4" hole.

11-20: Rigging up to mist drill. Depth 815' - sand and shale. Made 295'. 8 3/4" hole. Completed digging blow pit for air drilling and waited on diesel fuel 2 hrs. Blew hole dry. Began drilling with air. Drilled from 520' to 815' with air in 4 hrs. Hole got wet. Attempted to dry up hole for 2 3/4 hrs. No success. Began rigging up to mist drill. Arapahoe 0/3 1/2/0.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730'

1-21-73  
Rigging up to mud drill. Depth 1694' - sand and shale. Made 879'. 8 3/4" hole. Water flow continually increased from 815' to 1694' while air mist drilling. Mist finally overcome by water at rate of 20 BWPH, also heads of gas and finally full 7" stream of water. Could not circulate at 1694' with air pressure. Worked for 1 hr. to unload hole. No success. Hole getting tight. Bit #2 - Smith L4H - 515' to 1323'. Bit #3 - Smith V2H - 1323' to 1694'. 15 6 1/4" drill collars; 5 WOB 30,000#; 50 RPM. Arapahoe 0/4 1/2/0.

Conoco 29-4 #3 - Conoco 1.0000000 - Mesaverde - 6730' - Drlg. Foreman: Feaster

1-23-73  
11-22: Drilling sand and shale at 2030'. Made 336'. 8 3/4" hole. Non-dispersed mud - Wt. 9.2#.

11-23: Drilling sand and shale at 2675'. Made 645'. 8 3/4" hole. Bit #4 - HTC X16 - 1694' to 2294'. 18 6 1/4" drill collars; WOB 50,000#; 60 RPM; 5 1/2" x 15" pump; 56 SPM; 275 GPM; PP 1100#; ann. vel. 118; jet vel. 315. Dev.: 3/4 deg. at 2294'. Non-dispersed mud - Wt. 9.1#; Vis. 37; WL 13 cc. Cum. mud costs: \$2892. Arapahoe 0/6 1/2/0.