



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

5. LEASE DESIGNATION AND SERIAL NO.  
14-20-603-373

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
Navajo

7. UNIT AGREEMENT NAME  
-----

8. FARM OR LEASE NAME  
-----

9. WELL NO.  
116-4 Navajo

10. FIELD AND POOL, OR WILDCAT  
Big Wash *Dist.*

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
31-41S-25E

12. COUNTY OR PARISH  
San Juan

13. STATE  
Utah

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
Walter Duncan

3. ADDRESS OF OPERATOR  
1800 Security Life Building, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface  
SE NW 31; 2024' FNL, 2130' FWL  
At proposed prod. zone  
Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
3 miles south - Aneth, Utah

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
2100' south

16. NO. OF ACRES IN LEASE  
2522

17. NO. OF ACRES ASSIGNED TO THIS WELL  
80

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
1700'

19. PROPOSED DEPTH  
5550'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
4664 GR

22. APPROX. DATE WORK WILL START\*  
November 25, 1973

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SITTING DEPTH	QUANTITY OF CEMENT
12-1/4	8-5/8"	24#	1400'	500 SX.
7-7/8	4" str. line	11#	5300'	150 SX.

Blowout preventers and derrick escape line provided.

Estimated Formation Tops:

Surface	Morrison
Navajo	550 ?
Chinle	1360
DeChelly	2410
Hermosa	4275
Ismay	5190
Desert Creek	5355
Base Desert Creek	5525

*check spacing*

Test all significant shows.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

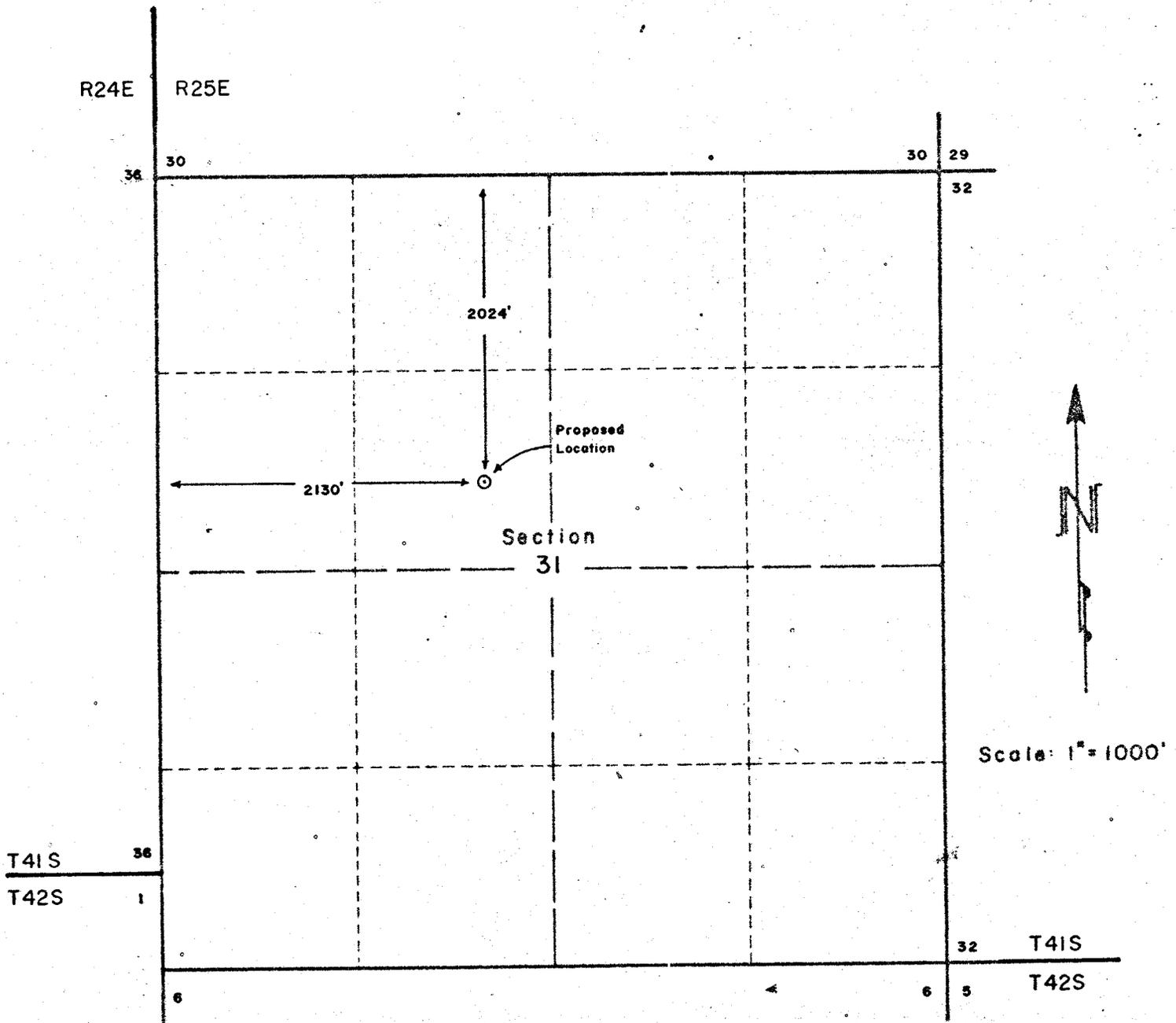
24. SIGNED *[Signature]* TITLE Geologist DATE 11/15/73

(This space for Federal or State office use)

PERMIT NO. *43-037-30140* APPROVAL DATE

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:



**WELL LOCATION: WALTER DUNCAN NAVAJO NO. 116 - 4**

Located 2024 feet South of the North line and 2130 feet East of the West line of Section 31,  
 Township 41 South, Range 25 East, Salt Lake Base and Meridian,  
 San Juan County, Utah  
 Existing ground elevation determined at 4664 feet based on U. S. G. S.

I hereby certify the above plat represents a survey made under my supervision and that it is accurate to the best of my knowledge and belief.

*Frederick H. Reed*

FREDERICK H. REED  
 Registered Land Surveyor  
 Reg. No. 2689

RAYMOND T. DUNCAN Denver, Colorado	
WELL LOCATION PLAT	
Section 31, T. 41 S., R. 25 E., San Juan County, Utah	
CLARK REED & ASSOC Durango, Colorado	DATE August 10, 1973 FILE NO. 73080

November 15, 1973

U. S. G. S.  
Box 959  
Farmington, New Mexico 87401

Attention: Mr. P. T. McGrath

Re: Navajo #116-4 --  
Section 31-T41S-R25E  
San Juan County, Utah

Dear Sir:

Enclosed is our Application for Permit to Drill (in duplicate) on the above captioned well, along with two copies of the Survey Plat. Our bond obligations in the amount of \$15,000 is in effect, Policy #13-297-65.

We plan to spud this well on or about November 25th, therefore your prompt approval would be appreciated.

Yours very truly,

WALTER DUNCAN OIL PROPERTIES

  
L. R. Lysinger

LRL:med

Attachments

cc: State of Utah w/Attachments. ✓

NOV 19 1973

November 21, 1973

Walter Duncan  
1800 Security Life Building  
Denver, Colorado 80202

Re: Well No. Navajo 116-4  
Sec. 31, T. 41 S, R. 25 E,  
San Juan County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with the General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL - Chief Petroleum Engineer  
HOME: 277-2890  
OFFICE: 328-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation relative to the above will be greatly appreciated.

The API number assigned to this well is 43-037-30140.

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

CLEON B. FEIGHT  
DIRECTOR

CBF:sd  
cc: U.S. Geological Survey

3/11/74

Go to Montazuma Creek & across bridge  
Go East on south side about 9 miles.

Lyndel Breneman

Walter Duncan

~~116~~ 116 - 4 Napsi

SE NW sec 31 T41S R25E

U.S.G.S.

- (1) 5300 to T.D. - 70' - across Larry Deak Creek
- (2) 4300 - 4450 - 40' - across Hermon
- (3) 2400 - 2700 - 105' - across De Chilly
- (4) 100' in & out of surface pipe
- (5) 20' (mud) / mud between all plugs.

AOK

PMB

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved,  
Budget Bureau No. 42-R355.5.

6

WELL COMPLETION OR RECOMPLETION REPORT AND LOG\*

1. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other Water Well

b. TYPE OF COMPLETION:  
NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. RESVR.  Other \_\_\_\_\_

2. NAME OF OPERATOR  
Walter Duncan

3. ADDRESS OF OPERATOR  
1800 Security Life Building, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface SE NW 31; 2024' FNL, 2130' FWL  
At top prod. interval reported below  
At total depth

14. PERMIT NO. \_\_\_\_\_ DATE ISSUED 12-14-73

5. LEASE DESIGNATION AND SERIAL NO.  
12-20-603-373

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
Navajo

7. UNIT AGREEMENT NAME  
---

8. FARM OR LEASE NAME  
Navajo 116

9. WELL NO.  
4

10. FIELD AND POOL, OR WILDCAT  
Big Wash

11. SEC. T. R. M. OR BLOCK AND SURVEY OR AREA  
31-41S-25E

12. COUNTY OR PARISH San Juan 13. STATE Utah

15. DATE SPUDDED 2/16/74 16. DATE T.D. REACHED 3/9/74 17. DATE COMPL. (Ready to prod.) 3/12/74 18. ELEVATIONS (DF, REB, RT, GR, ETC.)\* 4664' GR 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 5597' 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL. HOW MANY\* 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* 25. WAS DIRECTIONAL SURVEY MADE? No

26. TYPE ELECTRIC AND OTHER LOGS RUN DIL, SNP-GR, F Log 27. WAS WELL CORDED? No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8	54.5	107'	7-7/8	130 SX	None
8-5/8	24#	1269'	7-7/8	200 SX	"
4-1/2	9 1/2#	5573'	7-7/8	150 SX 1st Stage	2364'
"	"	2741'	"	100 SX 2nd Stage	

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
INTERVAL	SIZE	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5436-46	4 jet shots/ft.	5492-96	1 jet shot/ft.
5448-52	2 jet shots/ft.	5436-5446	1000 gal 15% MCA
5470-74	1 jet shot/ft.	5448-5452	
5480-83	1 jet shot/ft.		

33. PRODUCTION  
DATE FIRST PRODUCTION \_\_\_\_\_ PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) \_\_\_\_\_ WELL STATUS (Producing or shut-in) \*See reverse side

DATE OF TEST	HOURS TESTED	CHOKER SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) \_\_\_\_\_ TEST WITNESSED BY \_\_\_\_\_

35. LIST OF ATTACHMENTS  
DIL, SNP-GR, F Log, Geological Report

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [Signature] TITLE Engineer DATE 5/3/74

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

# INSTRUCTIONS

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

If completed 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. Item 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool. Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

\* Dry hole - turned over to Navajo Water Board for their use. (Permission from USGS, Navajo Minerals & Water Dept's)

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
			DST #1 5435-5455' - Recovered 250' mud, 170' GCM, 115' O&GCM. Preflow 30", ISIP 60", Open 120", FSIP 120".	Chinle	1280	
			DST #2 5435-5481 (straddle test) Preflow 30", ISIP 90", Final: Open 90", FSIP 5 hours. Rec 70' drilling mud.	Shinarump	2048	
			CORES - None.	Moenkopi	2130	
				De Chelly	2430	
				Organ Rock	2680	
				Hermosa	4383	
				Ismay	5216	
				Desert Creek	5395	
				Akah'	5547	

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

GEOLOGIC MARKERS

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.  
14-20-603-373

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
Navajo

7. UNIT AGREEMENT NAME  
---

8. FARM OR LEASE NAME  
Navajo 116

9. WELL NO.  
4

10. FIELD AND POOL, OR WILDCAT  
Big Wash

11. SEC., T., E., M., OR BLK. AND SURVEY OR AREA  
31-41S-25E

1. OIL WELL  GAS WELL  OTHER  Water Well

2. NAME OF OPERATOR  
Walter Duncan

3. ADDRESS OF OPERATOR  
1800 Security Life Building, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\* See also space 17 below.)  
At surface

SE NW 31; 2024' FNL, 2130' FWL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, CR, etc.)

2644' GR

12. COUNTY OR PARISH  
San Juan

13. STATE  
Utah

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF   
FRACTURE TREAT   
SHOOT OR ACIDIZE   
REPAIR WELL   
(Other)

PULL OR ALTER CASING   
MULTIPLE COMPLETE   
ABANDON\*   
CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF   
FRACTURE TREATMENT   
SHOOTING OR ACIDIZING   
(Other)

REPAIRING WELL   
ALTERING CASING   
ABANDONMENT\*

(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.)\*

Drilled with rotary tools to a depth of 5597'. Drill Stem Test #1 was run from 5455-5475' (adjust interval 20' uphole) and recovered 250' mud, 170' GCM, 115' HO&GCM (10% oil). Drill Stem Test #2 was run from 5435 to 5481 and recovered 70' mud, no oil or gas shows. Perforated the Lower Desert Creek at the following intervals: 5470-74, 5480-83 & 5492-96, 1 jet shot per foot. 4 1/2" production casing was run on 3/12/74 (174 joints-9 1/2#) and set at 5573'. Well was acidized with 1000 gal 15% MCA, with initial injection rate of 1/2 bbl/min. After attempting to plug well, encountered 4" fresh water flow coming from between the 13-3/8" surface pipe and the 8-5/8" intermediate string.

Permission received from the USGS, Navajo Minerals & Water Departments to alter plugging procedures and weld the surface pipe to the 8-5/8" with attached bypass valve. Well was turned over to the Navajo Water Board (4/17/74) for their use, with Walter Duncan not liable for future well workover or water quality.

Well was plugged as follows: (Verbal approval from U. S. G. S.)

Surface pipe welded to the 8-5/8" with attached bypass valve.

30 sx @ base 8-5/8" (1269') -- half in & half out.

15 sx 2350-2500; 15 sx 4250-4400; 15 sx 5350-5500; 30 sx at 4 1/2" stub.

WELL LOCATION READY FOR INSPECTION AS OF 1974.

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

SIGNED \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

(This space for Federal or State office use)

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

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

GEOLOGICAL REPORT

WALTER DUNCAN - No. 116-4 NAVAJO

SE $\frac{1}{4}$ NW $\frac{1}{4}$  (2024' FNL, 2130' FWL) Section 31  
Township 41 South, Range 25 East, SLB

San Juan County, Utah

RESUME

Operator: Walter Duncan

Well: No. 116-4 Navajo

Location: SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> (2024' FNL, 2130' FWL) Section 31,  
Township 41 South, Range 25 East, SLB  
San Juan County, Utah

Field: Un-named

Elevations: 4664' G.L., 4677' K.B.

Casing: 13-3/8" @ 107' w/130 sacks, 8-5/8" @ 1269'  
with 200 sacks.

Hole Size: 7-7/8"

Total Depth: 5597' Driller (incorrect); 5574' Logger(correct)

Bottom Formation: Akah shale

Mud: Fresh gel.

Spud: February 16, 1974

Completed: Released to completion engineer March 12, 1974

Cores: None

Logs: Schlumberger - Dual Induction Lateralog with  
F log overlay from base surface to total depth.  
Sidewall Neutron with Gamma Ray and Caliper  
from total depth to 4100'.

Drill Stem Tests: DST No. 1: 5435-5455'; DST No. 2: 5435-5481'

Contractor: Arapahoe Drilling Rig 7, Ernie Penrod - Pusher

Production: Additional testing required.

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## DISCUSSION

Walter Duncan's No. 116-4 Navajo was drilled as a field development test offsetting the No. 116-1 Vincent Duncan-Navajo located 1600 feet to the southeast. Through November, 1973, the No. 116-1 had produced 507,743 barrels of oil and 668,419 mcf of gas from the upper portion of the Desert Creek.

The primary objectives in this test were the potential porous development in the Desert Creek, however, the entire Ismay, Desert Creek, and Akah samples were carefully examined for shows of oil and gas.

Two zones of porosity were encountered in the Desert Creek carbonates. The upper zone occurred from 5432' to 5452' including a 2' shale break from 5446' to 5448' leaving a net 18' of potential pay. During drilling this zone broke down to 2 - 3 minutes per foot. The lithology consisted of Dolomite, light tan, finely sucrosic to finely crystalline with pinpoint vugular porosity. All of the samples had good fluorescence, fair even light brown stain, good streaming cut, with a strong oil odor. The lower zone occurred from 5470 - 5474'. This zone also broke down during drilling to 2-3 minutes per foot. Lithology consisted of limestone, light gray, finely crystalline to micritic hard, dense dolomitic to dolomite, light tan, finely sucrosic, hard, with fair fluorescence, stain and cut.

The upper zone was tested on the way down with DST No. 1 and both zones were open during DST No. 2

Structurally, the Desert Creek was topped 47' low to the No. 116-1, however, water is rarely encountered in this area and structure is not critical.

Even though, the drill stem tests of these oil shows were not encouraging, similar tests in the area have resulted in commercial producers and running production casing for additional testing may be warranted.

DAILY DRILLING CHRONOLOGY

- 2-15-74 Moving in, rigging up.
- 2-16-74 Spudded. Set 13-3/8" @ 107' w/130 sacks, Class A cement, 2% CaCl, 5% floccel, plug down 4:00 A.M. 2-17-74.
- 2-17-74 Drilling @ 668'.
- 2-18-74 Drilled to 1280', set 8-5/8" @ 1269', 24# test w/200 sacks, Class B, 2% CaCl, plug down 5:00 A.M.
- 2-19-74 WOC.
- 2-20-74 1960' drilling, @ 6:00 A.M. Deviation 1° at 1402'.
- 2-21-74 2450' drilling. Made 490' in last 24 hrs. Dev. 1° at 2100'.
- 2-22-74 2870' drilling. Vis. 40, Mud wt. 9.9, WL 7.1, Dev. 3° at 2492'.
- 2-23-74 3120' drilling. Dev. 3° at 2853'.
- 2-24-74 3335' drilling. Dev. 1 1/4° at 3212'.
- 2-25-74 3620' drilling. (6 A.M. report).
- 2-26-74 3880' drilling. Made 260' in last 24 hrs. Vis. 39, Mud wt. 9.8.
- 2-27-74 4165' drilling. Made 285' in last 24 hrs. Vis. 40, Mud wt. 9.9.
- 2-28-74 4387' drilling. Made 222' last 24 hrs. Vis. 38, Mud wt. 9.8, WL 12.8, FC 2/32.
- 3-1-74 4552' drilling. Mud wt. 9.8, Vis. 38, WL 16.
- 3-2-74 4622' drilling.
- 3-3-74 4800' drilling.
- 3-4-74 4960' drilling in Hermosa with button bit. Top Hermost (DT) 4266'.
- 3-5-74 5130' in Hermosa. Sample tops: DeChelly 2440; Organ Rock 2690; Hermosa 4390', expect Ismay @ 5210' and Desert Creek at 5380', well is running 34' low to offset at top Hermosa.
- 3-6-74 5247' tripping in upper Ismay, made 117' in last 24 hrs. with button bit.
- 3-7-74 5310' drilling. Top Ismay @ 5218', hard, tight, no porosity, no shows, 34' low to offset. Anticipate Top Desert Creek @ 5380' (-705).

- 3-8-74 Present TD 5475' -- prep to run DST #1. Will test approximately 5450' to 5475', which will include 11' drilling break in Desert Creek at 5457 to 5468', which was sucrosic dolomite with good oil stain odor and cut. Unable to pick Top Desert Creek from samples, believe porous zone is either base of porosity of offset, or new zone in Desert Creek. Will have results early Saturday A.M. and will notify by phone.
- 3-9-74 Ran DST #1 5455 - 5475'.
- 3-10-74 At TD 5597'.
- 3-11-74 Ran DST #2 5435 - 5481'.
- 3-12-74 At 6:00 A.M. starting running 4½" production casing @ 5597'.  
P.M. Report  
Ran 174 joints 4½" - 9½# test, set @ 5573', TD hole 5574'. Set Baker stage tool at 2741', cemented 1st stage with 150 sx class B cement with 7# salt per/sack, 6½# gilsonite per sack, 75/100# CFR-2, cement 2nd stage with 100 sacks Halliburton light with ½# per sack flocel. Plugged down at 11:00 A.M. 3-12-74.  
Rig released 3:00 P.M. 3-12-74.

FORMATION TOPS

Elevation 4677' K.B.

Chinle	1280 (+3397)
Shinarump	2048 (+2629)
Moenkopi	2130 (+2547)
De Chelly	2430 (+2247)
Organ Rock	2680 (+1997)
Hermosa	4383 (+ 294)
Ismay	5216 (- 539)
Desert Creek	5395 (- 718)
Akah	5547 (- 870)

BIT RECORD  
7-7/8" Hole

<u>No.</u>	<u>Make</u>	<u>Type</u>	<u>Depth Out</u>	<u>Footage</u>	<u>Hours</u>
1	12 1/4"	RT	125	125	5-1/2
2	Reamer		125		2
3	Smith 11"	DGJ	1259	1156	21-3/4
4	Smith	SDG	2100	319	20
5	Smith	SDGH	2492	392	18-3/4
6	Security	S44	2873	381	18-1/4
7	Security	S44	3212	339	26-1/4
8	Smith	F3	4612	1400	137
9	Smith	F4	5247	635	92-1/4
10	Smith	U24	5270	23	5-3/4
11	Smith	F4	5475	205	30-1/4
12	Smith	Rerun	5597 Drlr.TD	122	22

DEVIATION SURVEYS

<u>Depth</u>	<u>Deviation</u>
125	1/4
850	1
2100	1
2492	3
2823	3
3212	1-1/4
4612	1

MUD PROPERTIES

Milchem - Dan Linder, Engineer

<u>Date</u>	<u>Depth</u>	<u>Wt.</u>	<u>Vis.</u>	<u>Ph.</u>	<u>Water Loss</u>	<u>Cake</u>	<u>Solids</u>	<u>Chloride</u>
2-19-74	1402	-	Drilling with water.					
2-20-74	2200	9.7	50	10.5	6.8	2	9	1400
2-21-74	2492	9.8	40	10.5	8.8	2	10	1700
2-22-74	2963	10.0	36	11.0	8.8	2	12	3000
2-23-74	3212	9.9	35	10.5	10.4	2	11	2700
2-24-74	3458	9.7	44	8.5	14.6	2	10	2900
2-25-74	3723	9.8	38	9.0	16.0	2	11	3200
2-26-74	3975	10.0	40	9.0	14.6	2	12	3200
2-28-74	4377	9.8	34	8.0	16.0	2	10	2900
3-2-74	4644	10.1	45	11.5	12.0	2	13	3200
3-4-74	5035	9.7	36	11.0	16.4	2	10	3200
3-6-74	5247	9.9	37	11.5	9.0	2	11	3300
3-8-74	5475	9.8	48	10.5	9.6	2	11	3800

CORES

None

DRILL STEM TESTS

DST #1 5435 - 5455' (corrected depth)

Preflow 30", initial shut in 60", open 120", final shut in 120". Opened with weak blow increased to fair at end of test. Recovered 250' mud, 170' gas cut mud, 115' oil and gas cut mud.

CLP sample 160 cc. oil, 1700 cc water - Rw 1085 @ 60° F.  
75,787 RPM, Chloride, .27 cu. ft. of gas.  
HP 2717-2717, preflow 27-53, initial shut in 504,  
Final flow 80-186, final shut in 1162, BHT 114° F.

DST #2 5435 - 5481 (straddle test)

Preflow 30", initial shut in 90", final open 90", final shut in 5 hours. Opened with weak blow and remained weak. Recovered 70' of drilling mud.

CLP sample: Recovered 1900 cc. fluid - 0 pressure.  
Rw. 487 @ 60°, Ph 11, Cl. 6450, no oil-gas

HP 2814-2814, preflow 14-41, initial shut in 1311,  
final open 54-68, final shut in 1351, BHT 116° F.

LOST CIRCULATION ZONES

None

LOG ANALYSIS

<u>DEPTH</u>	<u>RT</u>	<u>RW*</u>	<u>LITHOLOGY</u>	<u>POROSITY</u>	<u>SW</u>
5435-40	7	0.05	Dolomite	12	60%
5440-48	2.2	0.05	Dolomite	17	78%
5448-53	4	0.05	Dolomite	11	95%
5470-74	27	0.05	ls. ?	13	32%

\*Rw = .05 from Schlumberger log analyst in Denver.

Prep to run DST#2 - will straddle Desert Creek porosity and keep tool open and SI for longer periods to evaluate pressure data.

SAMPLE DESCRIPTION

(Adjust 20' uphole to fit logs)

- 5210-5220' Shale, gray to dark gray, soft, very calcareous, with limestone, tan to gray, finely crystalline to micritic, soft, very argillaceous.
- 5220-5230' Limestone, as above, with pellets, and shale as above.
- 5230-5240' Limestone, gray to brown gray, hard, finely crystalline to micritic, argillaceous, with limestone, brown, hard, micritic, scattered pellets.
- 5240-5250' Limestone, gray to mottled tan and green, hard, finely crystalline, with abundant pellets and lumps, argillaceous, with limestone, light gray, finely crystalline, hard, clean.
- 5250-5260' Limestone, as above.
- 5260-5270' Limestone, as above, with limestone, brown, pelletal, silty, hard to soft.
- 5270-5280' Limestone, gray to brown, micritic, very argillaceous, abundant lumps and pellets with mudstone, brown, soft, very calcareous.
- 5280-5290' Limestone, light gray to gray to tan, hard, finely crystalline to micritic, splintery break with sharp edges, calcareous, filled frags, tight.
- 5290-5300' Limestone, as above, with some banding.
- 5300-5310' Limestone, as above, with some pellets.
- 5310-5320' Limestone, as above, with shale (trace), black, hard, splintery, calcareous.
- 5320-5330' Limestone, gray to tan, with occasional white and black inclusion, hard, finely crystalline, argillaceous, few pellets.
- 5330-5340' Limestone, light gray to light green gray, hard, finely crystalline to micritic, with trace medium crystalline with pellets, trace limestone, dark gray, hard, very argillaceous, with pinpoint vugs.
- 5340-5340' Limestone, as above.
- 5350-5360' Limestone, light gray with white calcareous banding - probably algal, hard, micritic, to finely crystalline, no porosity, with trace limestone, dark gray, hard, dense, micritic.
- 5360-5370' Limestone, light gray to medium gray, hard, dense, micritic, algal banding, tight, with trace shale, dark gray to black, fissile to block, soft, calcareous.

- 5370-5380' Limestone and trace shale, as above.
- 5380-5390' Limestone, as above, with finely crystalline limestone, spotty fluorescence, no stain, weak cut.
- 5390-5400' Limestone, light gray, finely crystalline, hard, tight, spotty fluorescence, one piece with spotty stain, shale, black, hard, carbonaceous (10%)
- 5400-5420' Limestone, same as above with few pellets, shale and anhydrite as above (trace).
- 5420-5430' Limestone, light gray to medium gray, hard, dense, micritic, argillaceous, trace with fluorescence and pinpoint stain (50%), Shale, black, soft, blocky, carbonaceous (50%).
- 5430-5440' Limestone, light gray to green gray, hard, dense-micritic, to finely crystalline (70%), shale as above (30%), Trace anhydrite, white, soft, crystalline.
- 5440-5450' Limestone, light green gray to medium gray, hard, dense to micritic to finely crystalline, very argillaceous with shale as above.
- 5450-5460' Limestone and shale as above with abundant anhydrite, white, soft, crystalline to gummy.
- 5460-5470' Limestone and shale as above with anhydrite as above.
- Drilling break 5457-5468' dolomite, light tan, finely crystalline to fine sucrosic with pinpoint vugs, hard, calcareous inclusions, good fluorescence, fair even stain, good streaming cut, good odor.
- 5470-5480' Limestone, light gray to light gray tan, finely crystalline to micritic and dense, some banding with few pellets, with dolomite, as above, poor spotty fluorescence, uneven stain, good cut, no odor.
- 5480-5490' Limestone, as above, no shows.
- 5490-5500' Limestone, as above, hard, dense, no show.
- 5500-5510' Limestone, light gray to light green gray, micritic to very fine crystalline, hard, dense, dolomitic scattered pellets with traces of dolomite, light tan, finely sucrosic, hard, with fair fluorescence, stain and cut.
- 5510-5520' Limestone, as above, with pellets and lumps, scattered pieces with spotty fluorescence, no stain, weak cut.
- 5520-5530' Limestone, medium gray, to dark green gray, finely crystalline, to micritic, hard, tight, argillaceous, with limestone, brown, finely crystalline, very argillaceous, trace chert, light green, hard, brittle.

- 5530-5540' Limestone, light green gray, micritic, hard, dense, no texture, with anhydrite, white, finely crystalline, soft (10%).
- 5540-5550' Limestone, light green gray mottled with dark green gray as above, abundant anhydrite as above.
- 5550-5560' Limestone, cream, very finely crystalline to micritic, hard, dense, with trace limestone, light green, medium crystalline oolitic and pelletal, soft with argillaceous matrix. Anhydrite, light green, soft, gummy (30%).
- 5560-5570' Limestone, light green to medium green gray, finely crystalline to micritic, hard, dense, scattered anhydrite, white to tan, soft, gummy, trace shale, black, hard, brittle.
- 5570-5580' Limestone, light green gray, hard, dense, finely crystalline to micritic, with dolomite, light tan, finely sucrosic, hard, tight, fair fluorescence, weak stain, poor cut (5% of sample. trace anhydrite as above.
- 5580-5590' Limestone, as above, with abundant shale, black, hard, fissile, very brittle, slightly calcareous.
- 5590-5597' Dolomite, gray, finely crystalline to dense, hard, uniform texture, trace pinpoint porosity. No show oil.



SCOTT M. MATHESON  
Governor

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August 24, 1978

Walter Duncan  
1800 Security Life Bldg.  
Denver, Colorado 80202

Re: Well No. Navajo 116-4  
Sec. 31, T. 41S, R. 25E,  
San Juan County, Utah

Gentlemen:

In the process of updating this Division's Water Well files, it was noted that we have not received any recent status notification on the above mentioned well(s).

In order to keep our records accurate and up-to-date, please complete the enclosed form OGC-1b, and forward them to this office as soon as possible.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

KATHY AVILA  
RECORDS CLERK



1300 WRITERS' CENTER IV • 1720 SOUTH BELLAIRE STREET  
AREA CODE 303 TEL. 759-3303 • DENVER, COLORADO 80222

August 29, 1978

STATE OF UTAH  
Department of Natural Resources  
Division of Oil, Gas, And Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

*More file 4 cards*

Re: Well No. Navajo 116-4  
Sec. 31, T41S-R25E,  
San Juan County, Utah

Dear Miss Avila:

In regard to your letter to Walter Duncan dated August 24, 1978, I telephoned your office as of this date and spoke with Penny. It was decided that I send in the Well Completion Forms which were previously sent to your office, but must have somehow been misplaced.

Should you have any questions pertaining to the information on the Subsequent Form of Abandonment or the Well Completion forms, feel free to call our geologist in charge of this area, Mr. Bob Garvin, at the above telephone number.

Also note our new address change.

Yours truly,

WALTER DUNCAN OIL PROPERTIES

Ms. Paula Chavez

/pc

enclosures

