FILE NOTATIONS

Entered in NID File ..✓.....
Location Map Pinned .....✓...
Card Indexed ..✓.....

Checked by Chief .....
Approval Letter .....
Disapproval Letter .....

COMPLETION DATA:

Date Well Completed 3-4-78

Location Inspected .....

Bond released
State or Fee Land .....

OW..... WW..... TA.....
GW..... OS..... PA..✓...

LOGS FILED

Driller's Log.....✓
Electric Logs (No.) ..✓.....
E..... I..... Dual I Lat..... GR-N..... Micro.....
BHC Sonic GR..... Lat..... Mi-L..... Sonic.....

Union Oil and Gas Division: Central Region
Southern Rocky Mc ain District

Union Oil Company of California
P.O. Box 3279, Casper, Wyoming 82601
Telephone: (307) 234-1563

union

August 17, 1977

District Oil and Gas Engineer
U. S. Geological Survey
Conservation Division
8440 Federal Building
125 South State Street
Salt Lake City, Utah 84138

Re: Stipulation

Dear Sir:

Union Oil Company of California is the record owner of Federal Oil and Gas Lease U-12107 and proposes to drill a well on the Leased premises to test for Oil and Gas at a location in the SW¼NE¼ of Section 9, Township 11 South, Range 4 East, S.L.M., County of Utah, State of Utah and said location is 2515 feet from the North line and 1865 feet from the east line of said section 9.

Section 221.20 of the Federal Oil and Gas Regulations requires that no well will be drilled less than 200 feet from the boundary of any legal subdivision without the written consent of the Supervisor, U.S.G.S.

The proposed location is approximately 125 feet from the North boundary of the NW¼ SE¼ of said section 9, but is considered to be necessary because of topographical conditions.

Therefore, Union Oil Company of California, Lessee, requests consent of the Supervisor to the drilling of the proposed well at the above described location.

In consideration of such consent, Union Oil Company of California, Lessee, hereby expressly covenants and agrees that it will make no separate assignments on the SW¼NE¼ and NW¼SE¼ of Section 9, Township 11 South, Range 4 East, S.L.M., and that it will keep the two described subdivisions under joint assignment until the above mentioned well has been plugged and abandoned with the approval of the Supervisor.

Very truly yours,

Union Oil Company of California

By John Hansen
Attorney-in-Fact

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal

9. WELL NO.: 1-J9

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2515' FNL, 1865' FEL
At proposed prod. zone:

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 7½ miles southeast of Birdseye, Utah

12. COUNTY OR PARISH: Utah

13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1865' FEL

16. NO. OF ACRES IN LEASE: 2560

17. NO. OF ACRES ASSIGNED TO THIS WELL: 640

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: N.A.

19. PROPOSED DEPTH: 8,000

20. ROTARY OR CABLE TOOLS: 0 - T.D.

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

22. APPROX. DATE WORK WILL START*: 11-1-77

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8-5/8"	12-1/4"	8.6#	1,800'	1500 Sx. (Calculated to Circ.)
5-1/2"	7-7/8"	8.6-9.4#	8,000'	To be calculated from Caliper Log)

PROPOSED PROGRAM:

Drill 12-1/4" hole to 1800'. Run and cement 8-5/8" casing at 1800'. Cement calculated to circulate. Drill 7-7/8" hole to 8000' with possible DST in the Nugget and Twin Creek. Run logs and if production is indicated, run and cement 5-1/2" casing. Perforate, treat, and complete with 2-7/8" tubing.

The B.O.P. will be operationally tested daily and each test will be logged.

RECEIVED AUG 19 1977 GAS, & MINING

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: R. G. Ladd Jr. (R. G. Ladd, Jr.) TITLE: District Drilling Supt. DATE: 8-16-77

(This space for Federal or State office use)

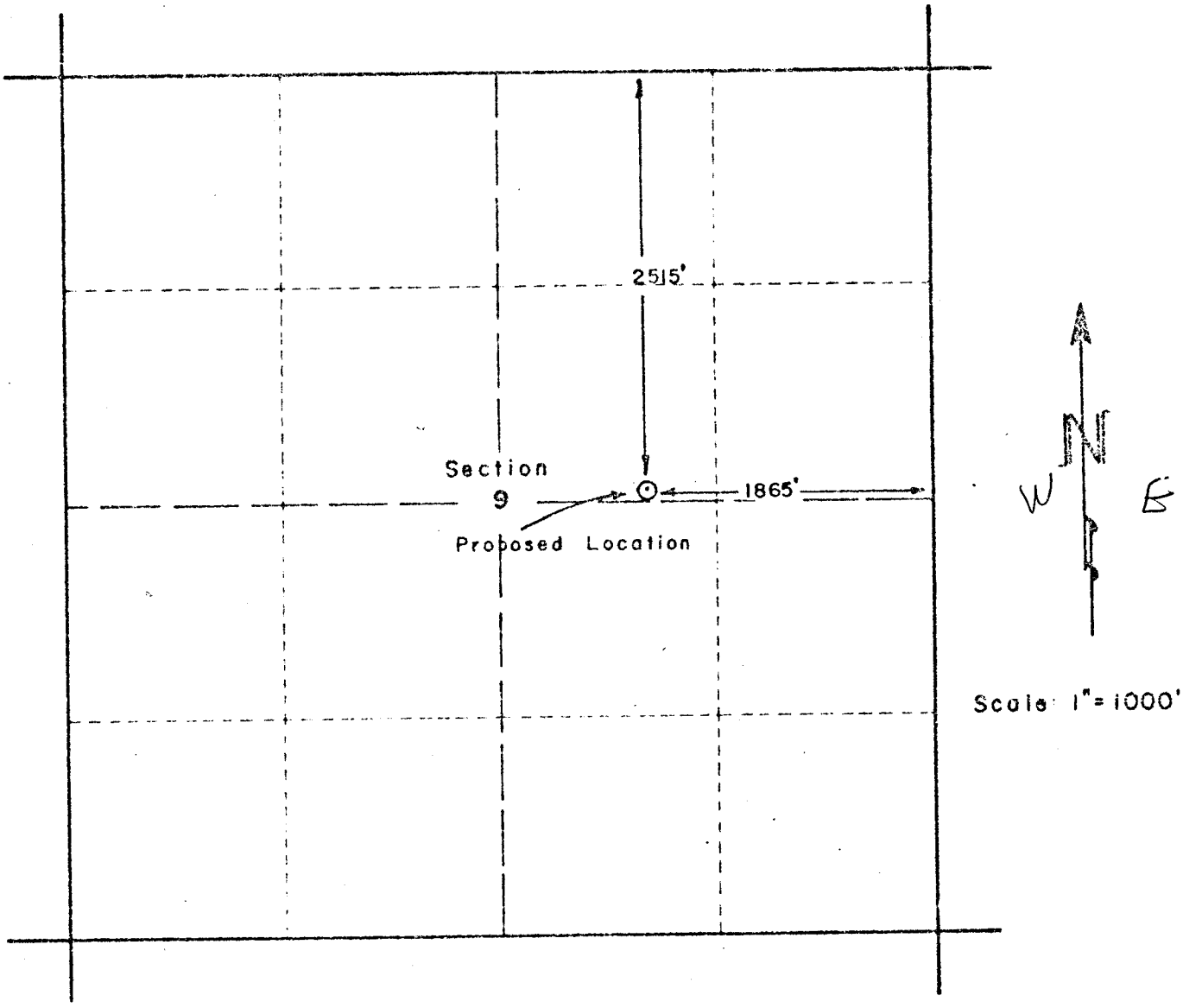
PERMIT NO. 43-049-30005 APPROVAL DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

304-234-1823

*See Instructions On Reverse Side



WELL LOCATION: UNION OIL CO. No. 1-J9-4

Located 2515 feet South of the North line and 1865 feet West of the East line of Section 9
Township 11 South Range 4 East, Salt Lake Base and Meridian
Utah Co., Utah.
Existing ground elevation determined at 6640 feet based on U.S.G.S. Datum

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

Frederick H Reed

FREDERICK H. REED
Registered Land Surveyor

UNION OIL CO.
Casper, Wyoming

WELL LOCATION
Sec. 9, T11S, R4E
Utah County, Utah.

CLARK-REED & ASSOC.
Durango, Colorado

DATE July 15, 1977
FILE NO 77053

STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING

** FILE NOTATIONS **

Date: Aug. 25

Operator: Union Oil Co of Calif.

Well No: Federal #1-J9

Location: Sec. 9 T. 11S R. 4E County: Utah

File Prepared [ ] Entered on N.I.D. [ ]

Card Indexed [ ] Completion Sheet [ ]

CHECKED BY:

Administrative Assistant

Remarks: No other wells in Township

Petroleum Engineer

Remarks: Topo. Exception O.K.

Director

Remarks:

INCLUDE WITHIN APPROVAL LETTER:

Bond Required [ ] Survey Plat Required [ ]

Order No. [ ] Surface Casing Change to

Rule C-3(c), Topographic exception/company owns or controls acreage within a 660' radius of proposed site [X]

O.K. Rule C-3 [ ] O.K. In Unit [ ]

Other:

[ ] Letter Written/~~Approved~~

43-049-30005

Union Oil and Gas D ion: Central Region

Union Oil Company o California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563

union

RECEIVED
NOV 4 1977
DIV. OF OIL, GAS & MINING

September 2, 1977

U.S. Geological Survey
8426 Federal Bldg.
125 South State Street
Salt Lake City, UT 84138

Attn: Mr. Ed Guynn

Re: Application to Drill
Federal Well No. 1-J9
Utah County, Utah

Gentlemen:

In regard to obtaining approval of the Application for Permit to Drill Union Oil Company's Federal Well No. 1-J9, Utah County, Utah, as previously discussed with Mr. Bill Martins, Assistant District Engineer, U.S.G.S., Salt Lake City, Utah, we are attaching a letter of stipulation. The application with NTL-6 was sent to your office on August 17, 1977.

Thank you for your consideration in this matter.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

M. E. Dill

For: R. G. Ladd, Jr.
District Drilling Superintendent

RGL:pd
Attach.

cc: Utah Oil & Gas Conservation Commission

ok 1400

union

TO	R NO / LOCATION
Scheree Wilcox	
Div. of Oil, Gas & Mining	
SLC, UT	

02

☐ FOR YOUR INFORMATION ☐ PLEASE HANDLE ☐ SEE ME ☐ YOUR FILE ☐ FOR YOUR APPROVAL

As requested by phone conversation 11-1-77,
we are re-sending 2 copies of attached.

☐ RETURN

FROM R. G. Ladd, Jr.-Union Oil Co.
Casper, Wy

FORM 1-0F01 (REV. 6-72) PRINTED IN U.S.A.

NOV 4 1977 DIV. OF OIL GAS & MINING

Attn: Mr. Ed Guynn

Re: Application to Drill
Federal Well No. 1-J9
Utah County, Utah

Gentlemen:

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Thank you for your consideration in this matter.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

M. E. Dill

For: R. G. Ladd, Jr.
District Drilling Superintendent

RGL:pd
Attach.

cc: Utah Oil & Gas Conservation Commission

OK 1/50

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2515' FNL, 1865' FEL
At proposed prod. zone:

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal

9. WELL NO.: 1-J9

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 7½ miles southeast of Birdseye, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1865' FEL

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20. ROTARY OR CABLE TOOLS: 0 - T.D.

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

22. APPROX. DATE WORK WILL START*: 11-1-77

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The B.O.P. will be operationally tested daily and each test will be logged.

RECEIVED
NOV 3 1977
DIVISION OF OIL, GAS, & MINING

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 R. G. Ladd Jr. R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 8-16-77

(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE

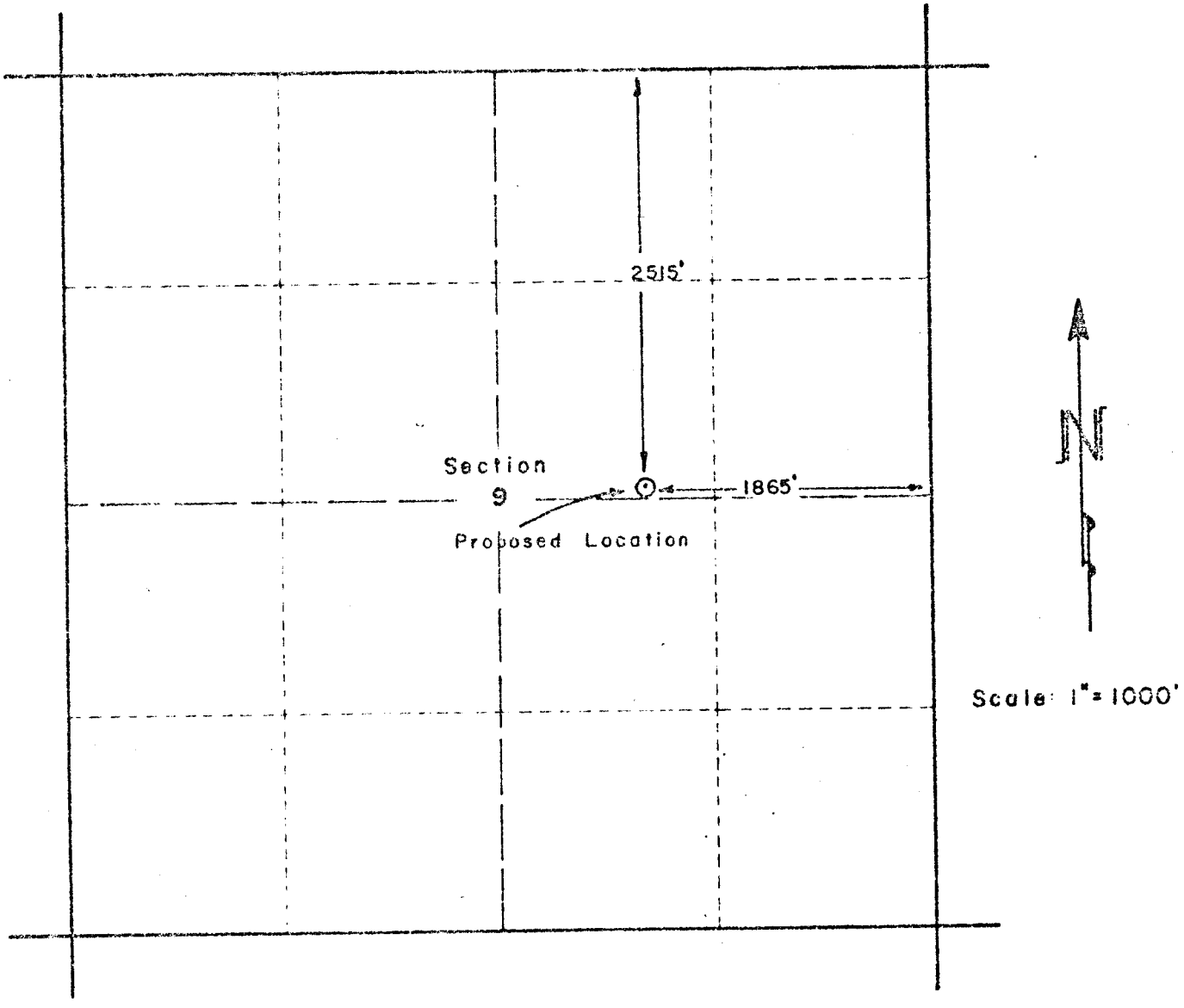
APPROVED BY (ORIG. SGD.) W P MARTENS TITLE ACTING DISTRICT ENGINEER DATE NOV 02 1977

CONDITIONS OF APPROVAL, IF ANY:

NOTICE OF APPROVAL

*See Instructions On Reverse Side

State of Utah, Department of Natural Resources
Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116



WELL LOCATION: UNION OIL CO. No. 1-J9-4

Located 2515 feet South of the North line and 1865 feet West of the East line of Section 9
Township 11 South Range 4 East, Salt Lake Base and Meridian
Utah Co., Utah.
Existing ground elevation determined at 6640 feet based on U.S.G.S. Datum

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

Frederick H Reed

FREDERICK H. REED
Registered Land Surveyor

UNION OIL CO.
Casper, Wyoming

WELL LOCATION
Sec. 9, T11S, R4E
Utah County, Utah.

CLARK-REED & ASSOC.
Durango, Colorado

DATE July 15, 1977
FILE NO 77053

ATTACHMENT 2-A

SUMMARY OF ENVIRONMENTAL IMPACT EVALUATION

EIA NO. 681

DATE 9-21-77

OPERATOR Union Oil Calif
LEASE # U-12107
WELL NO. 1-J9
LOC. ¼SW¼NE SEC. 9
T. 11S R. 4E
COUNTY UTAH STATE UT.
FIELD W/C
USGS JOHN DENNIS
F.S. ~~BLM~~ IRA ~~RIGGS~~ HATCH
REP:
DIRT

[O] ENHANCES
[ ] NO IMPACT
[/] MINOR IMPACT
[X] MAJOR IMPACT

		Construction				Pollution				Drilling Production						Transport Operations			Accidents		Others
		Roads, bridges, airports	Transmission lines, pipelines	Dams & impoundments	Others (pump stations, compressor stations, etc.)	Burning, noise, junk disposal	Liquid effluent discharge	Subsurface disposal	Others (toxic gases, noxious gas, etc.)	Well drilling	Fluid removal (Prod. wells, facilities)	Secondary Recovery	Noise or obstruction of scenic views	Mineral processing (ext. facilities)	Others	Trucks	Pipelines	Others	Spills and leaks	Operational failure	
Land Use	Forestry ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Grazing ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Wilderness N/A																				
	Agriculture N/A																				
	Residential-Commercial N/A																				
	Mineral Extraction ✓	O	O							O						O	O				
	Recreation ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Scenic Views ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Parks, Reserves, Monuments ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Historical Sites N/A																				
	Unique Physical Feature N/A																				
Flora & Fauna	Birds ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Land Animals ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Fish ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Endangered Species N/A				NONE			KNOWN													
	Trees, Grass, Etc. ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
Phy. Charact.	Surface Water ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Underground Water ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Air Quality ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Erosion ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Other																				
	Effect On Local Economy ✓	O	O	✓		✓	✓		✓	O			✓	✓		O	O		✓	✓	
	Safety & Health ✓	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓	✓	
	Others																				

EIA NO. 681

LEASE U-12107 DATE 9-21-77

WELL NO. 1-T9

LOCATION: SW ¼ NE ¼, SEC. 9, T. 11S, R. 4E,

FIELD W/C COUNTY UTAH STATE UTAH

ENVIRONMENTAL IMPACT ANALYSIS - ATTACHMENT 2-B

I. PROPOSED ACTION

Union Oil Co. of California (COMPANY) PROPOSES TO DRILL AN OIL AND GAS TEST WELL WITH ROTARY TOOLS TO ABOUT 8000 FT. TD. 2) TO CONSTRUCT A DRILL PAD 150 FT. X 270 FT. AND A RESERVE PIT 100 FT. X 150 FT. 3) TO CONSTRUCT 18 FT. WIDE X .4 MILES ACCESS ROAD AND UPGRADE 18 FT. WIDE X 1.8 MILES ACCESS ROAD FROM AN EXISTING AND IMPROVED ROAD. TO [X] GAS [X] OIL PRODUCTION FACILITIES ON THE DISTURBED AREA FOR THE DRILL PAD ~~AND [ ] TRUCK [ ] TRANSPORT THE PRODUCTION THROUGH A PIPELINE TO A TIE-IN IN SECTION , T. , R. ,~~

2. LOCATION AND NATURAL SETTING (EXISTING ENVIRONMENTAL SITUATION).

(1) TOPOGRAPHY: [ ] ROLLING HILLS [ ] DISSECTED TOPOGRAPHY [ ] DESSERT OR PLAINS [X] STEEP CANYON SIDES [X] NARROW CANYON FLOORS [X] DEEP DRAINAGE IN AREA [ ] SURFACE WATER

THE EXACT LOCATION OF THE NEW ACCESS ROAD will be determined by F.S. - They will have a man PRESENT During the construction of The Road & Drill Pad & Clean up.

(2) VEGETATION: [X] SAGEBRUSH [X] PINION-JUNIPER [X] PINE/FIR [ ] FARMLAND (CULTIVATED) [X] NATIVE GRASSES [ ] OTHER

(3) WILDLIFE: [X] DEER [ ] ANTELOPE [X] ELK [X] BEAR [X] SMALL MAMMAL [X] BIRDS [ ] ENDANGERED SPECIES [ ] OTHER _____

(4) LAND USE: [X] RECREATION [X] LIVESTOCK GRAZING [ ] AGRICULTURE [ ] MINING [ ] INDUSTRIAL [ ] RESIDENTIAL [X] OIL & GAS OPERATIONS

REF: BLM UMBRELLA EAR
USFS EAR
OTHER ENVIRONMENTAL ANALYSIS

3. Effects on Environment by Proposed Action (potential impact)

1) EXHAUST EMISSIONS FROM THE DRILLING RIG POWER UNITS AND SUPPORT TRAFFIC ENGINES WOULD ADD MINOR POLLUTION TO THE ATMOSPHERE IN THE LOCAL VICINITY.

2) MINOR INDUCED AND ACCELERATED EROSION POTENTIAL DUE TO SURFACE DISTURBANCE AND SUPPORT TRAFFIC USE.

3) MINOR VISUAL IMPACTS FOR A SHORT TERM DUE TO OPERATIONAL EQUIPMENT AND SURFACE DISTURBANCE.

4) TEMPORARY DISTURBANCE OF WILDLIFE AND LIVESTOCK.

5) MINOR DISTRACTION FROM AESTHETICS FOR SHORT TERM.

6)

4. Alternatives to the Proposed Action

1) NOT APPROVING THE PROPOSED PERMIT -- THE OIL AND GAS LEASE GRANTS THE LESSEE EXCLUSIVE RIGHT TO DRILL FOR, MINE, EXTRACT, REMOVE AND DISPOSE OF ALL OIL AND GAS DEPOSITS.

2) DENY THE PROPOSED PERMIT AND SUGGEST AN ALTERNATE LOCATION TO MINIMIZE ENVIRONMENTAL IMPACTS. [X] NO ALTERNATE LOCATION ON THIS LEASE WOULD JUSTIFY THIS ACTION.

3) LOCATION WAS MOVED N/A TO AVOID

[ ] LARGE SIDEHILL CUTS [ ] NATURAL DRAINAGE [ ] OTHER

4)

5. Adverse Environmental Effects Which Cannot Be Avoided

1) MINOR AIR POLLUTION DUE TO EXHAUST EMISSIONS FROM RIG ENGINES AND SUPPORT TRAFFIC ENGINES.

2) MINOR INDUCED AND ACCELERATED EROSION POTENTIAL DUE TO SURFACE DISTURBANCE AND SUPPORT TRAFFIC USE.

3) MINOR AND TEMPORARY DISTURBANCE OF WILDLIFE.

4) TEMPORARY DISTURBANCE OF LIVESTOCK.

5) MINOR AND SHORT-TERM VISUAL IMPACTS.

6)

6. DETERMINATION:

(THIS REQUESTED ACTION ([redacted]) (DOES NOT) CONSTITUTE A MAJOR FEDERAL ACTION SIGNIFICANTLY AFFECTING THE ENVIRONMENT IN THE SENSE OF NEPA, SECTION 102(2) (C).

DATE INSPECTED 9-21-1977

INSPECTOR Dave Ennis

U. S. GEOLOGICAL SURVEY
CONSERVATION DIVISION - OIL & GAS OPERATIONS
SALT LAKE CITY DISTRICT

U.S. GEOLOGICAL SURVEY, CONSERVATION DIVISION

FROM: DISTRICT GEOLOGIST, SALT LAKE CITY, UTAH

TO: DISTRICT ENGINEER, SALT LAKE CITY, UTAH

Well	Location	Lease No.
UNION OIL CO. of Calif. 1-59	2515' FNL, 1865' FEL, S9 T11S R4E SLM UTAH Co, UTAH, GREL 6640'	U-12107

1. Stratigraphy and Potential Oil and Gas Horizons. Surface rocks are of the Indianola Formation. Chiefly red conglomerate sandstone and siltstone (Upper Cret.) The estimated tops by company's report are adequate.

2. Fresh Water Sands.

None anticipated.

3. Other Mineral Bearing Formations. (Coal, Oil Shale, Potash, Etc.) Within lands prospectively valuable for coal. However the major coal beds occur in the Blackhawk Formation which is stratigraphically higher than the Indianola.

4. Possible Lost Circulation Zones.

None anticipated by operator.

5. Other Horizons Which May Need Special Mud, Casing, or Cementing Programs.

Unknown.

6. Possible Abnormal Pressure Zones and Temperature Gradients.

Unknown.

7. Competency of Beds at Proposed Casing Setting Points.

Probably adequate.

8. Additional Logs or Samples Needed.

None.

9. References and Remarks

None.

Date: 8-23-77 Signed: emp

November 7, 1977

Union Oil Company of California
P.O. Box 2620
Casper, Wyoming 82602

Re: Well No. Federal 1-J9
Sec. 9, T. 11 S, R. 4 E,
Utah County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3(c), 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:

PATRICK L. DRISCOLL - Chief Petroleum Engineer
HOME: 582-7247
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-049-30004.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT
Director

cc: U.S. Geological Survey

Form 9-331
(May 1963)

Confidential

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Federal

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

9. WELL NO.: 1-J9

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL, 1865' FEL

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

RECEIVED DEC 5 1977

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[X]	(Other)			
(Other)				(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.)*

Due to the topography, location, and fill, it will be necessary to set approximately 100' of 13-3/8" conductor pipe in the 17-1/4" hole and cement to surface. Verbal approval has been received from Mr. Martin, U.S.G.S., Salt Lake City, Utah, on December 2, 1977, regarding this change.

APPROVED BY THE DIVISION OF
OIL, GAS, AND MINING
DATE: Dec 5, 1977
BY: Pin L Arnall

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

SIGNED: R. G. Ladd, JR. TITLE: District Drilling Supt. DATE: 12-2-77

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Federal

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

9. WELL NO.: 1-J9

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL, 1865' FEL

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Supplementary Well History			[X]
(Other)				(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.)*

MIRU rotary rig. Spudded 12-1/4" hole at 5:30 a.m., 12-4-77. Drilling ahead.

RECEIVED
DEC 7 1977
DIVISION OF OIL, GAS, & MINING

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

SIGNED R. G. Ladd, JR. TITLE District Drilling Supt. DATE 12-5-77

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

RECEIVED
DEC 8 1977
DIVISION OF OIL, GAS, & MINING

1. OIL WELL [XX] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL, 1865' FEL

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal

9. WELL NO.: 1-J9

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
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FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Supplementary Well History			[X]
(Other)			[ ]	(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 12-1/4" hole to 175'. Opened 12-1/4" hole to 17-1/4" hole to 156'. POOH. Ran and cemented 3 joints and 1 piece (134.89') of 13-3/8", 54#, K-55, 8RD, ST&C, new casing at 152.89' with 200 sacks regular class "G" cement with 2% Calcium Chloride in all cement and 50# celloflakes in last 125 sacks, mixed at 15.8#/gallon. Cement circulated to surface. C.I.P. & J.C. at 3:00 p.m., 12-5-77. W.O.C.

CONFIDENTIAL

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

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 12-6-77

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Union Oil and Gas D ion: Central Region

Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563

union 76

December 7, 1977

Utah Oil & Gas Conservation Commission
1588 West North Temple
Salt Lake City, UT 84116

Attn: Mr. Cleon Feight

RECEIVED
DEC 12 1977
GAS, & MINING

Re: Federal Well No. 1-J9
2515' FNL & 1865' FEL
Sec. 9, T.11S., R.4E.
Utah County, Utah

Gentlemen:

Union Oil Company of California requests that information regarding the above captioned well be kept confidential and withheld from open file until twelve months from spud date.

Your cooperation in this matter will be appreciated.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

R. G. Ladd, Jr.
District Drilling Superintendent

RGL:pd

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Federal

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

9. WELL NO.: 1-J9

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL, 1865' FEL

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Supplementary Well History			[X]
(Other)			[ ]	(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.)*

CONTRACTOR: Loffland Brothers Company
Rig No. 236

Drilled to 1,773'. Ran BHC-Sonic & DIL Logs. Circulated and conditioned hole. Rigged up and ran 42 joints and 1 piece (1,759') of 8-5/8", 24#, J-55, ST&C casing to 1773', with float collar at 1727'. Cemented casing with 930 sacks cement. J.C. & C.P. at 9:00 p.m., 12-17-77. W.O.C. & N.U. Installed BOPE. Tested BOPE to 1700 psi, O.K.

CONFIDENTIAL

RECEIVED DEC 23 1977 GAS, & MINING

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

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 12-20-77

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

Cont

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Federal

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

9. WELL NO.: 1-J9

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL, 1865' FEL

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
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(Other)				(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 to 4640'. Stuck drill pipe. Fishing. Incomplete.

ok P

RECEIVED JAN 19 1978 DIVISION OF OIL, GAS, & MINING

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

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 1-17-78

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Federal

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

9. WELL NO.: 1-J9

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL & 1865' FEL

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
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(Other)			[ ]	(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.) *

Attempted to wash over and fish D.P. & D.C. without success. Top of fish at 3934'. Left 7-7/8" bit, 2 - 6-1/4" D.C's, rubber boot stabilizer body, 20 - 6-1/4" D.C's, screw-in sub, bumper sub, jars, and 1 - 6-1/4" D.C. in hole. Spotted 125-sack cement plug, 3927-3575'. Dressed off hard cement to 3621'. Ran 2-1/2° bent sub with a Dyna Drill and sidetracked hole at 3621'. Now drilling ahead at 4940'.

Please check rule C-8-i and A-2

APPROVED BY THE DIVISION OF OIL, GAS, AND MINING
DATE: Feb 23, 1978
BY: P. L. Murrell

RECEIVED FEB 23 1978 GAS, &

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

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 2-21-78

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNION OIL COMPANY
OF
CALIFORNIA

LOG NO

NET FOOTAGE

SPOT SEC. 9 T. 11S R. 4E

TEST Union #1J9 Federal

STATE UTAH

COUNTY UTAH

TEST UNION #1J9 FEDERAL

SPOT 2515'S 1865'W SEC. 9 T. 11S. R. 4E.

Area Indianola

Commenced 12-4-77

Completed 3-7-78

Initial Prodution D&A

Producing Formation

Producing Intervals

Elevation 6654.5 KB

Total Depth 6625

Fm Penetrated Jn

Casing 13 3/8" @ 156' 8 5/8" @ 1773'

Electric Log

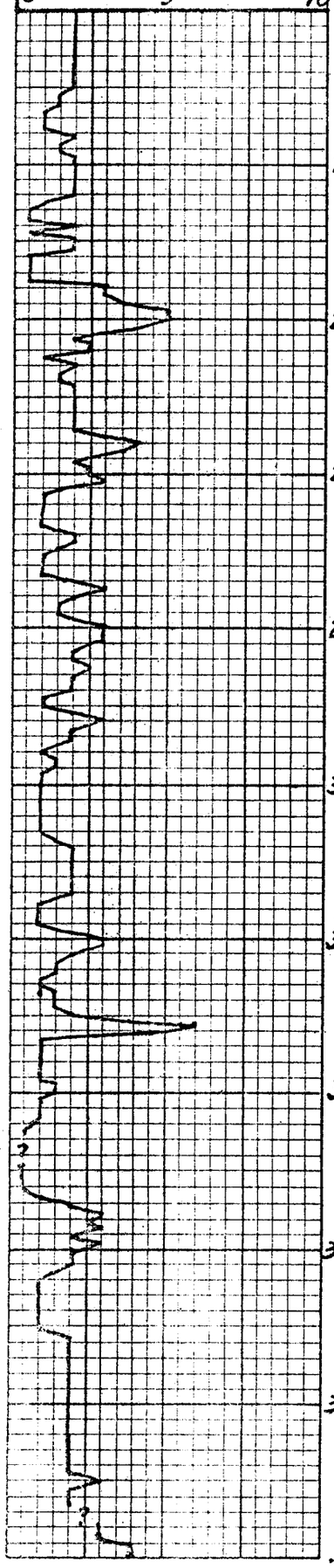
Radioactivity Log

SAMPLE QUALITY

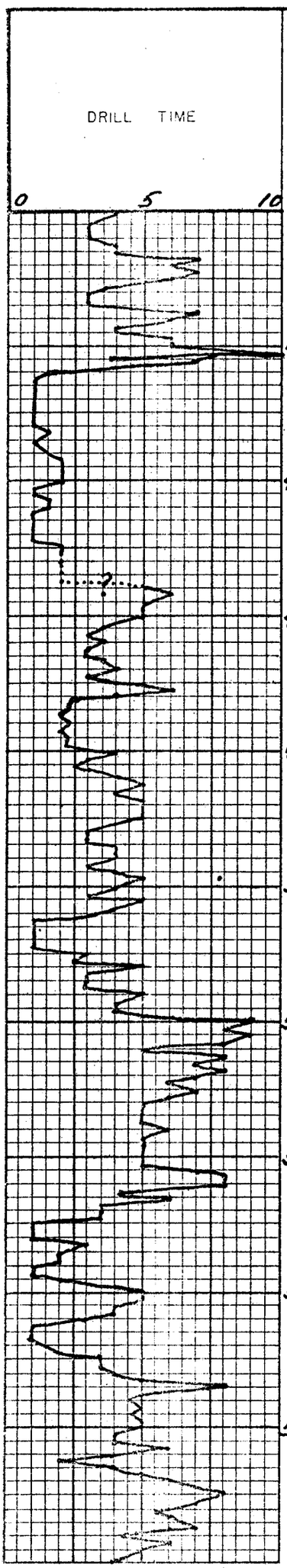
CONFIDENTIAL

REMARKS Ground Elev. 6640'

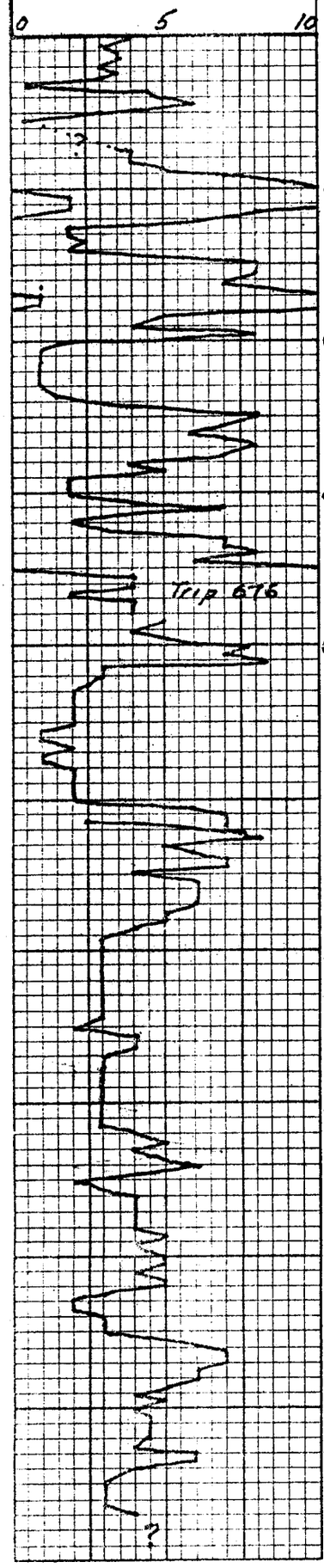
DRILL TIME (0 – 5 – 10)	FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
0										
20										
40										
60										
80										
100										
120										
140										
160									red brn silty mudstone calc. & lt gry v.fn.gr.ss	
180									red brn sltst w/minor gry. calc	
									cgl. quartzite, minor ls, red mud	



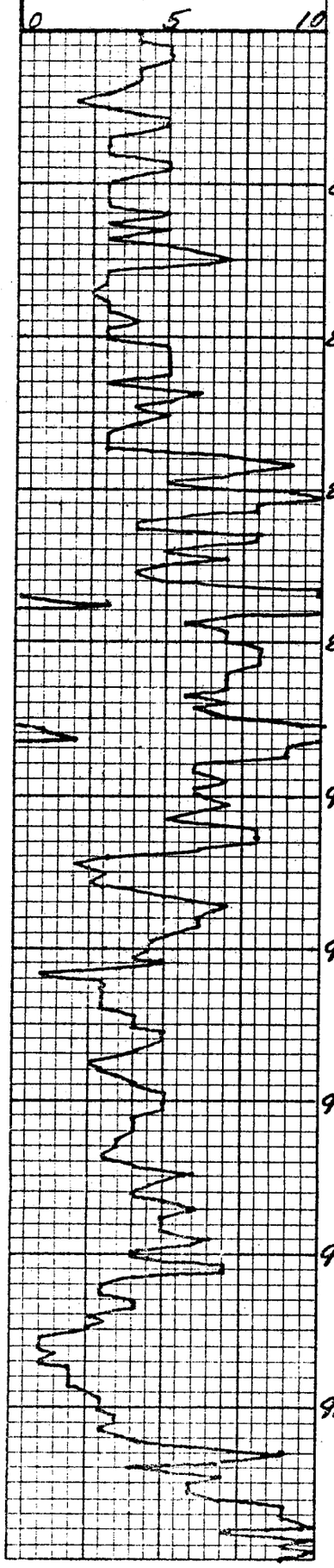
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
					r	p	9	200-210 No 210-220 sple 220-230 } lge sple pieces		
220										
					r	M	8	Lt. grey w/ red clay filled bd-lite		
240								grey, minor red w/ 10% ss as above		
					r	M	7	lt. grey clay filled		
260								red brick		
					r	M	7	grey clay filled		
					r		4	w/ grey mudstone abund.		
					r	M	7			
280								Fr. grey mudstone w/ stks ss		
					r	M	5			
300					r	p	7	cgl, wb-cl. qtz w/ blk access. calc. -no lge clasts		
							4	w/ inc. grey mudstone		
					r	p	7	as above		
320										
					r	M	7	lt. grey w/ interbed red mudstone ss & ss		
340								-inc. red siltstone		
			No Sple							
360								red siltstone, sandstone, fr. grey ss poor sple		
380								lt. grey clay filled w/ some brick red silty ss. -tr. pyrite		



FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
								red silty mudstone, lt. gry mudstone, tr. dyk, w/ sts med. gr. cgl. ss., calc	Lith. bk
								brick red	
					c	P	6	maroon clay filled calc	
					c	M	3	red-yellow clay filled calc	
					c	H	9	wh-pink w/ lge qtz frag ang cgl ??	
								as above, but more cgl. (Cgl. is predom. pink-wh-yell. purple quartzite)	
								yellow dec. dom.	
								brick-red mudstone	Lith bk
					c	M	9	brick-red mudstone, ss as above and lt. gry ss	
								gry mudstone, tr. blk. coal, w/ lt. gry. ss.	Lith bk
	x				c	D	7	brick-red clay filled, but porous dec	
	x				c	W	7	brick red lite w/ siltstone, calc v. clean - drilled hard ??	
								brick red	
								brick red No spls caught 560-90	
					c	M	9	lt. gry minor clay filled sl. calc.	? Lith bk
								lt. gry. calc	



FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
								Lt. gry calc	
				r	P		6	Lt. gry ss. w/ mudstone as above	Lith Sa
								brick red calc.	
	x			r	P		7	lt. gry calc clay filled - sl. cgl.	
								brick red calc. w/ tr. ss as above - tr gry. calc. mud	
				r	P		6		
				r	P		7	brick red - purp. lite w/ red brick mudstone - tr. cgl	
								brick red calc	
				r	P		7	brick red calc clay filled w/ brick-red mudstone	
				r	P		6	gry-red clay filled w/ minor gryite and red-brick mudstone	
	x			r	P		8	gry calc clay filled cgl. minor access. minerals	
								Cgl. is principally wh-gry quartzite	
				r	P		7	gry-pink clay filled calc w/ brick red mudstone, gry-brn micrite-dse	
				r	P		7	gry, pink, yell, brn qtz. cgl w/ gry ss med-cse gr	
								Cgl. is principally wh-gry quartzite	
	x			r	W		9	brick red well-sort calc	
								gry-pink calc. sl. cgl., ss as above, brick-red siltstone, and mudstone interbed	
				r	M		7		
								as above	
								Drlg. reports anhydrite - gy gsum 775-800	
				r	M		7	as above which affected mud.	



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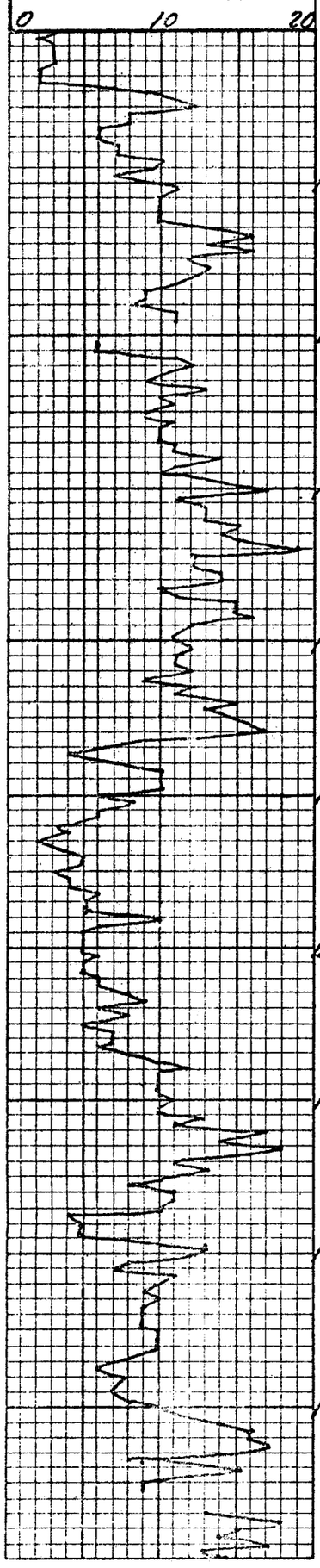
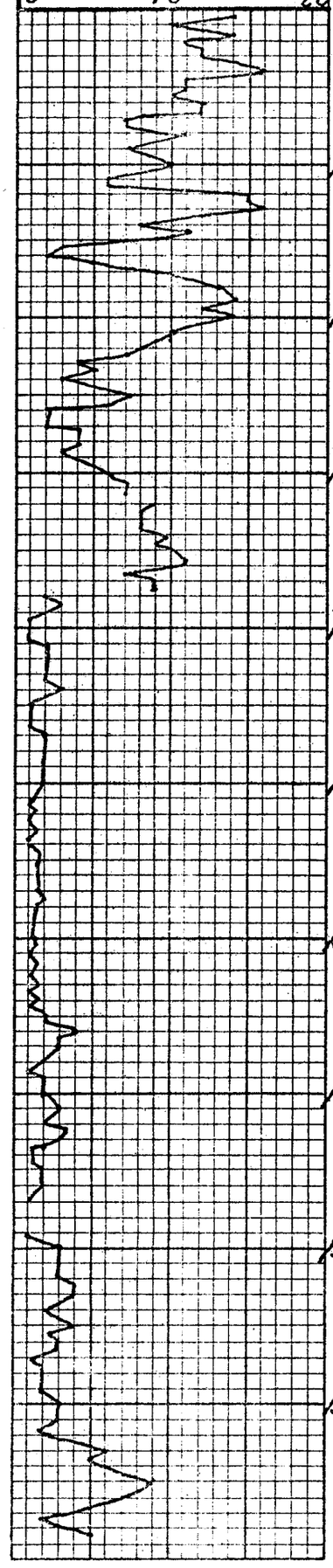
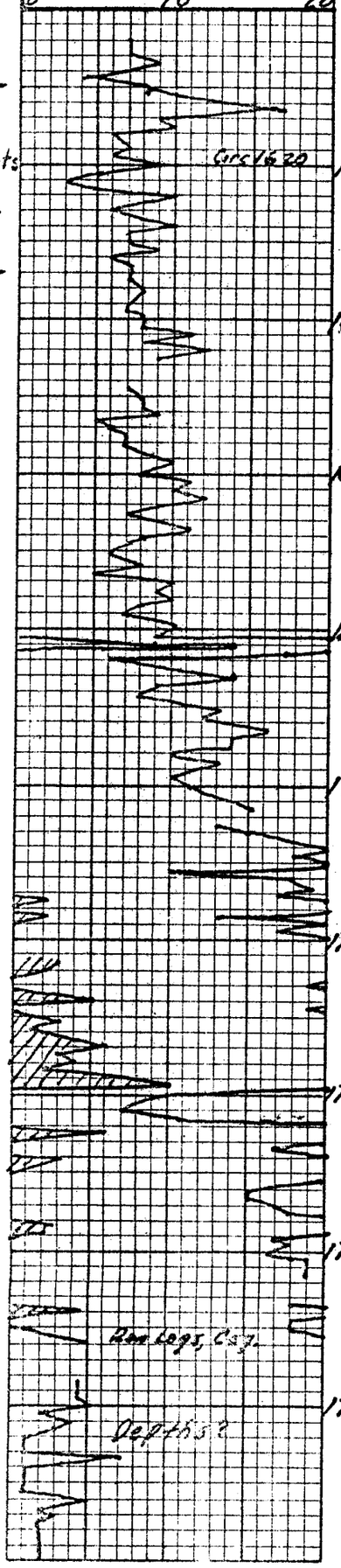
				r	M	7		brick red calc sltst, mudstone w/ pink red calc clay filled ss		
				r	M	7				
				r	P	7		brick red ss w/ cgl wh-gry quartzite w/ red siltstone		
								Interbed brick red siltstone, pink-gry-red ss, brick red mudstone - sl. cgl - qtzite		
				r	P	7				
				r	V	7		dk brn-gry ls frag - prob a conglomerate boulder or two - w/ mudstone, ss, siltstone as above		
				r	M	8		Brick red well-sort ss w/ tr. cgl principally quartzite, some ls. - some brick-red mudstone		
				r	M	8				
				r	P	9		cgl. quartzite - gry, wh, yell, pink w/ csc pink-gry ss, clay filled some ls also in cgl.		
				r	P	9		aa		
				r	P	9		as		
				r	W	8		pink calcareous lime		
				r	P	7		cgl. quartzite incr. ls, wh-yell, orn, gry, pink		
				r	P	8		Pink-red-wh. v. csc ss in cgl as above		



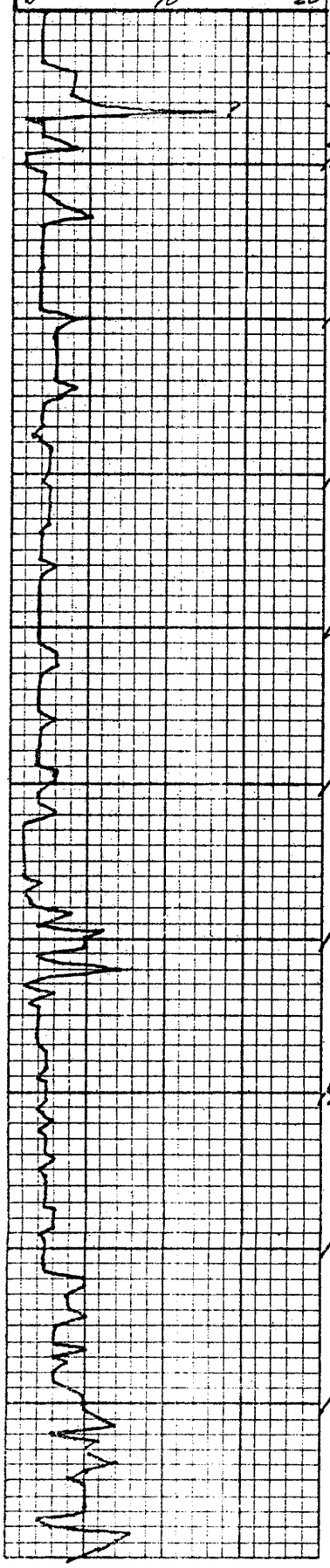
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
								Brick-red siltstone, ss.		
								as above		
							0	Pucp-gry ls w/minor mudstone and 50% brick red siltstone		
					r	M	b	Brick-red sandstone w/ siltstone cals.		
								as above w/minor purp. ss, silt		
								as above		Lith. Ek
					r	P	7	wh.-gry cgl. w/wh. calc. matrix		
								as above w/wh-gry dsn quartzite and cht.		
								as above w/mo. gtzite, cht		
								as above		
								as above w/minor crmls		
								Brick-red mudstone-siltstone		
								Cgl. ss wh-pink w/wh-lt gry dse ls., dcn-cim gtzite: cht.		
								as above		
								as above		



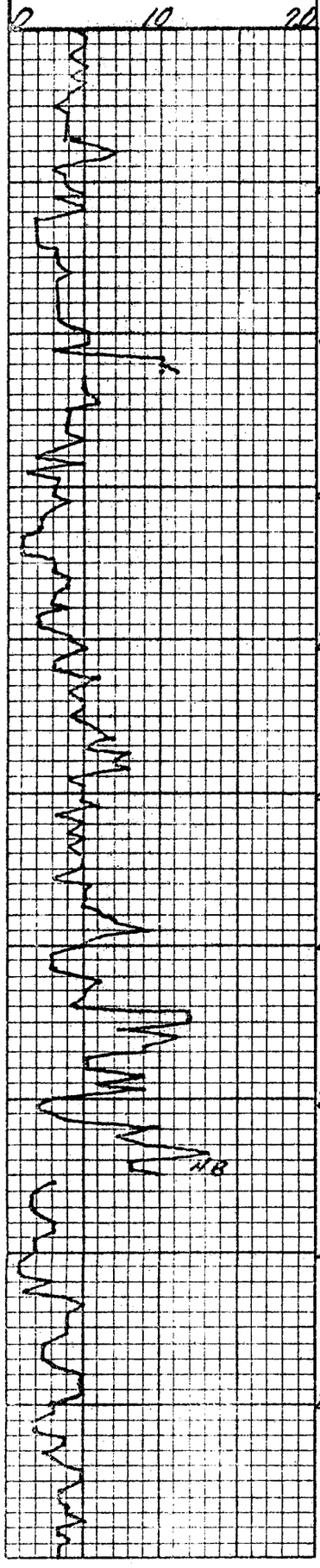
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
								Gry-buff-wh. quartzite-cht, cgl. ss cse w/ wh. calc. cmt, red-gry cse lS.		Lith Bk
								Brick-red mudstone, sltst, calc.		
1420								Mudstone as above w/ red-pk ss and lS.		
				CP			8	Qtzite, wh-yell-w/ cse ss cgl. matrix calc, w/ minor lS.		
1440								Brick-red mudstone sltstone w/ minor qtzite, crm lS.		
								inc. quartzite		
1460								as above		
										Lith Bk
1480								as above w/ gry lS, purple mudstone		
1500								Purple mudstone calc. w/ some brick-red mudstone and tr lt. gry sdy mudstone		
1520										
1540								w/ gry cgl. ss. w/ crm-wh. calc. matrix.		
				CP			9	Gry cgl. ss w/ ash matrix calc gry mudstone, purple mudstone, gry lS.		
1560								as above		
1580								as above		



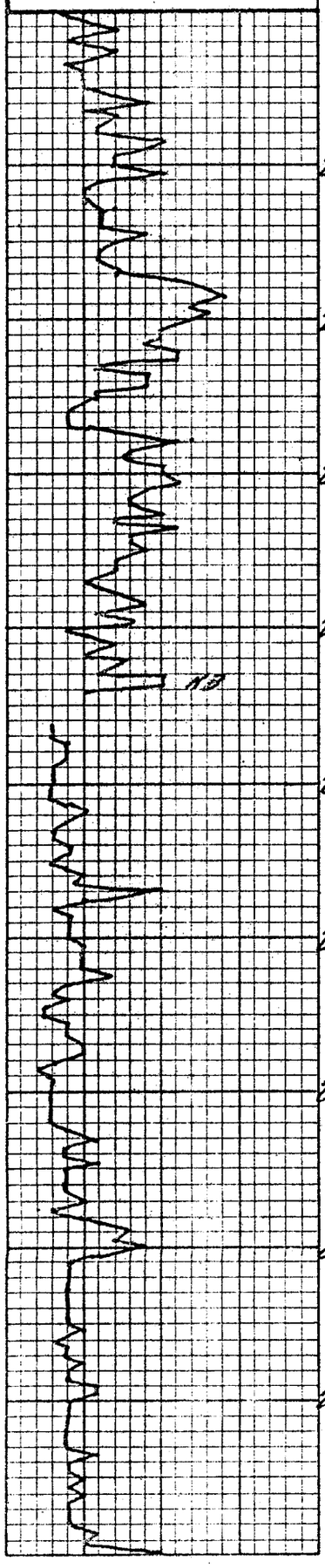
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
							0	Gry-purple silty mudstone, gry LS, wh-gry SS., purp-red mudstone	
							0	Purple-red siltstone, tan-brn LS., arg.	
					0	3	1	LS tan-lt.gry-crm, sl.dolo.	Lith Bk
								as above w/ red siltstone, purp cgl. SS calc	
								as above	
							0	Gry-bf pell, sl.sdy w/ purp sl.sdy mudstone - some fn.gr.SS.	Lith Bk
							0		
								as above	
							0		
							0	crm-wh-gry pell, sl.sdy w/ purp calc siltstone, sl.sdy	
								as above w/ wh-gry-yell ch?	
								- inc. red calc mudstone	
							6	crm-gry-wh pell. sl.sdy LS w/ wh-yell-brn ch?	
					0	8	6	Bf-brn ch?cgl w/ wh-crm LS.	Lith Bk
					1	4	7	Gry calc sl.sdy	Ja?
								Gry calc mudstone w/ thin SS & LS SS.	
								as above	



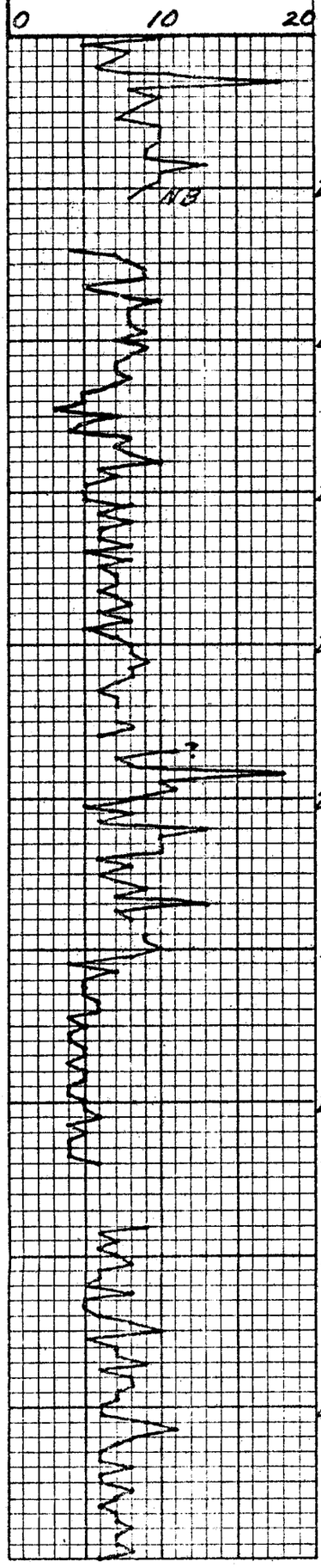
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
								Gry calc. mudstone w/ trace silts fr. grass & silt		
					CM	7				
1820					CM	7				
					CM	7		as above		
1840										
								as above		
1860										
								as above Perf. 50%		
1880										
								as above		
1900										
								tr. pyrite		
								as above		
1920								silty		
								as above		
1940										
								as above		
1960								Perf. 7°		
					CM	6		as above w/ silts gry fr. gr. tite ss.		
								as above w/ minor brick red siltstone		
1980								- inc brick red mudstone & siltstone		
								- inc to 50%		



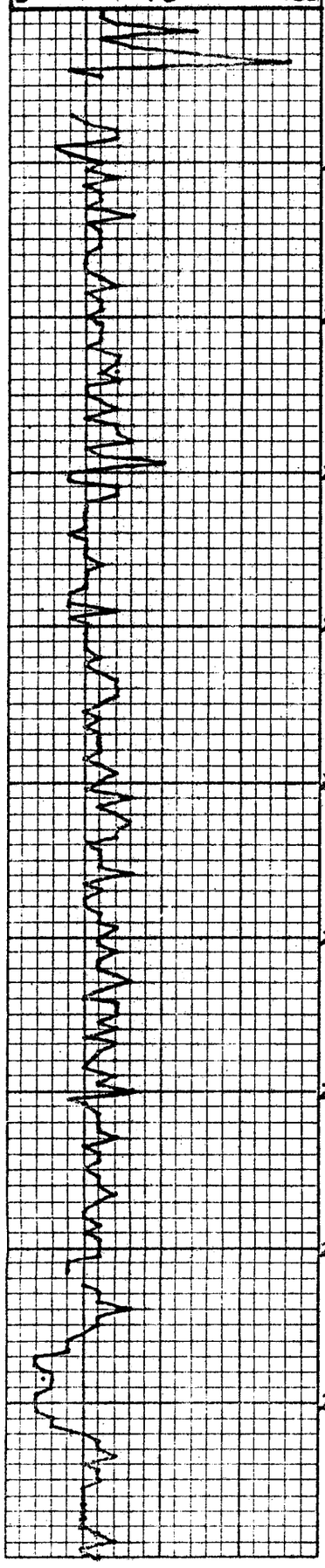
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
								Gry calc mudstone silty in strks w/ minor brick-red mudstone and siltstone (up to 20%)	
								as above	
								Dev. 7½°	
								w/ tr. crm-lt.gry ss	
								as above Change in sple size due to change to long teeth bit Note 2180-2220	
								as above Stray black peels ??	
								as above	
								as above w/ tr. gry. frag. ss	
								Dev. 7¼°	
				r	M	7		Tan-pink calc interbed w/ mudstone as above	
				r	M	7			
				r	M	8		wh + red clay filled calc w/ brick red mudstone, slst.	
				r	M	7			
								as above	
								Brick-red & gry calc mudstone, some silty - tr ss	
								Gry calc mudstone w/ tr. red	



DRILL TIME	FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
									Grey calc mudstone w/10% red		
		x				r M	T		Lt-grey fri calc sshly w/grey calc mudstone		
2220											
		x				r M	T		as above		
2240											
		x							Grey & red calc sshly some fri w/grey calc mudstone - 10% red		
2260									Grey calc calc mudstone w/ 5-10% red mudstone & tr. grey fn-gr ss		
		x							Grey calc mudstone w/grey arg. ls, tan-grey fn-gr ss		
2280											
									Grey calc mudstone w/stks grey fn-gr dirty ss & wh-con soft chalky ls		
2300											
2320									Grey calc mudstone w/10% brick red - stk. with soft ls w/ brn siltstone		
2340									as above . Dev. 7 1/2°		
2360									as above		
2380									as above		
	x ?	x				r H	9		wh-cl. fri base		

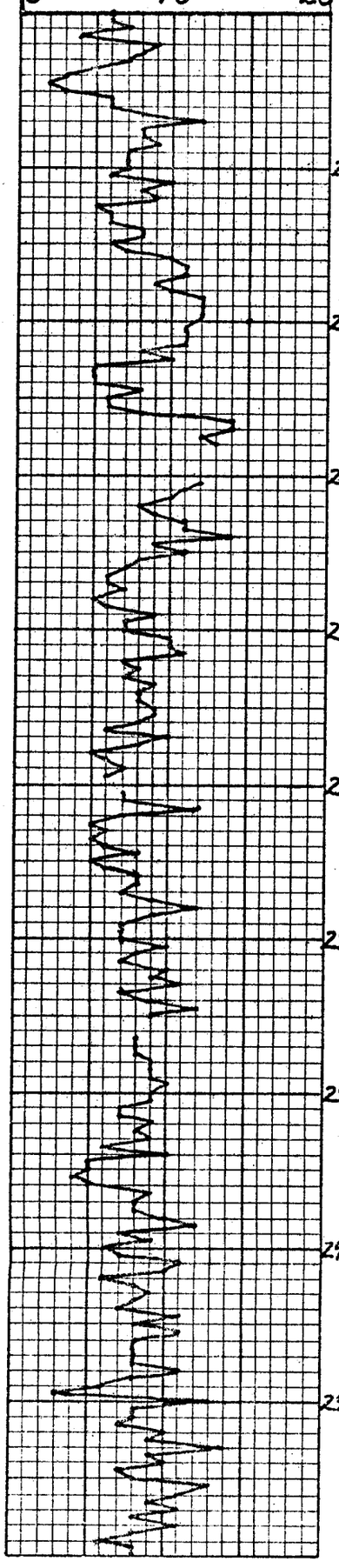


Depth	Formation Tops / Footnotes, Shows	Porosity Type	Porosity Grade	Lithology	Crystalline Grain or Fragment Size	Rounding-Diag. Type	Sorting-Diag. Degree	Percent of Framework	Description	Suggested Environment	Engineering Data
		x ?				r	M	9	wh-cl. loose fra		
									Sh, gry, rd-brn, calc.		
2420											
2440											
		x				r	M	6	SS, clr, or, m-g		
								4	Sltst, rd-brn, calc		
									Sh, gry, rd-brn, calc		
		x				r	M	9			
		x				r	M	9			
2460						r	M	5			
		x				r	M	5			
		x				r	M	9			
		x				r	M	5			
						r	M	5			
								0			
		x				r	M	5			
		x				r	M	5			
		x				r	M	9			
		x				r	M	9			
2480									Sh, gry, rd-brn, sli calc		
									Sltst, as above		
		x				r	M	9	SS, as above		
						r	M	5			
								0			
									DEV. 8°		
2500						r	M	3	Sltst, as above		
						r	M	3	SS, or, rd, wh, argill., calc. cement		
						r	M	3			
						r	M	3			
						r	M	3			
						r	M	3			
2520						r	M	3	Sh, rd-brn, sli calc		
									Sltst, rd-brn, calc grading to		
									SS, as above		
						r	M	6			
						r	M	3			
						r	M	3			
2540						r	M	3	DEV. 8°		
						r	M	3			
						r	M	3			
						r	M	3			
						r	M	6	SS, or, rd, wh, vf to f, argill, calc cement		
						r	M	6	Sh, rd-brn, gry, sli calc		
						r	M	3			
						r	M	6			
2560						r	M	6			
						r	M	6			
						r	M	3			
						r	M	6			
						r	M	6			
		x				r	M	7	SS, as above & SS, clr, or, m-g		
						r	M	3	Sltst, rd-brn, calc.		
		x				r	M	6	Sh, rd-brn, gry, sli calc.		
		x				r	M	7			
2580						r	M	6			
		x				r	M	9			
						r	M	6			
		x				r	M	9			
		x				r	M	9			
						r	M	6			
						r	M	3			

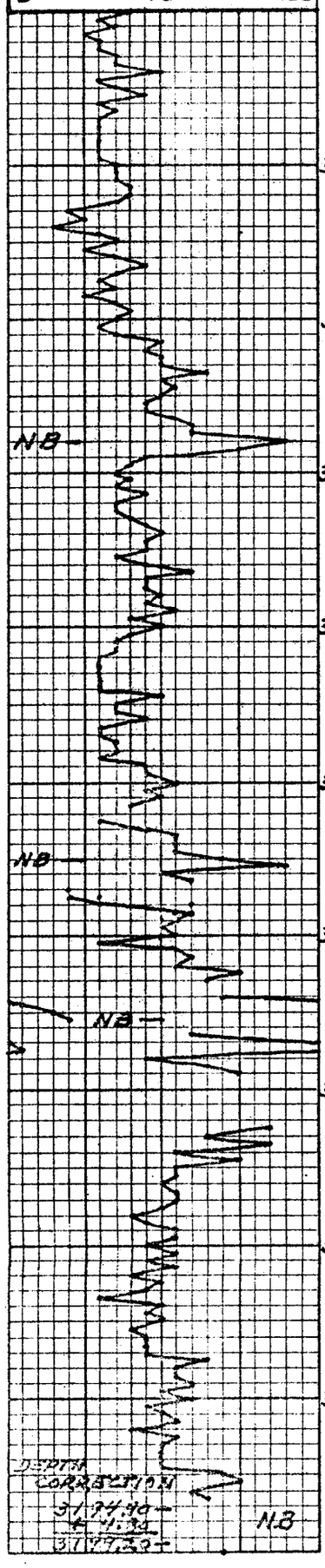


Depth	Porosity Type	Rounding-Diag. Type	Sorting-Diag. Degree	Percent of Framework	Description
		r	M	6	ss, or, rd, wh, argill, calc. cement
	X	r	M	5	& ss, clr, or, m-g
		r	M	5	slt-st, rd-brn, calc.
					sh, rd-brn, gry
		r	M	3	
	X	r	M	5	
		r	M	5	
		r	M	3	
		r	M	3	· DEV. 8°
2620		r	M	6	ss, wh, or, rd, f-g, argill, calc cement
		r	M	6	grading to slt-st, rd-brn, calc
					slt-st, as above
		r	M	6	ss, as above
					sh, rd-brn, gry, calc.
2640		r	M	6	ss, clr, or & as above
	X	r	M	9	slt-st, as above
					sh, as above
	X	r	M	9	
		r	M	5	
2660	X	r	M	9	
		r	M	6	
		r	M	6	
		r	M	3	
	X	r	M	7	
		r	M	5	· DEV. 8½°
2680		r	M	6	
		r	M	6	
	X	r	M	9	
		r	M	6	
	X	r	M	9	
2700					
		r	M	5	
		r	M	6	ss, wh, or, rd, argill, calc cement grading
		r	M	6	to slt-st, rd-brn, calc
		r	M	6	sh, rd, brn, gry, calc.
		r	M	6	
2720					
		r	M	3	
		r	M	6	
		r	M	3	
		r	M	3	
2740		r	M	6	
		r	M	3	· DEV. 8½°
		r	M	6	
		r	M	6	
		r	M	6	
2760		r	M	3	
		r	M	6	
		r	M	3	
2780		r	M	6	
		r	M	6	
		r	M	3	
		r	M	6	
		r	M	3	

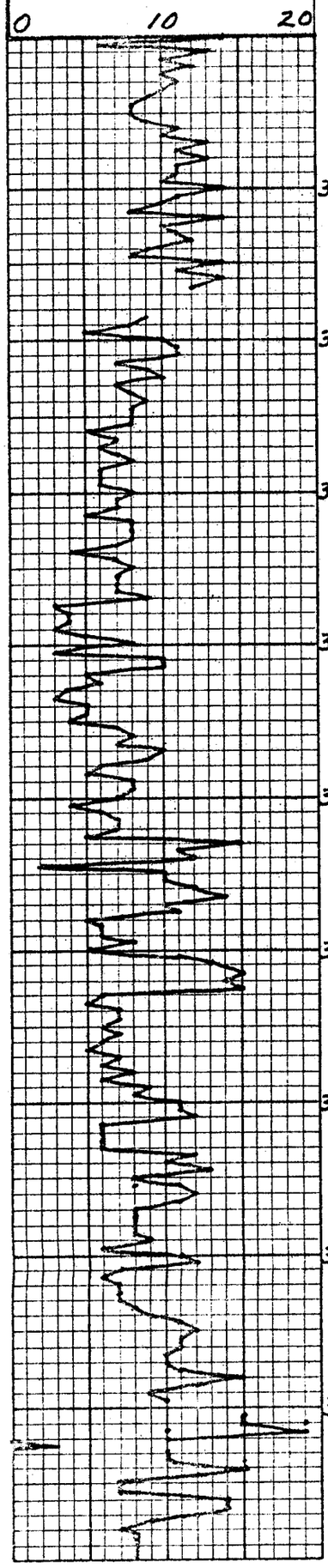
Formation tops, footnotes, shows; porosity grade; lithology; crystalline grain or fragment size; suggested environment; engineering data.



Depth	Formation Tops / Footnotes, Shows	Porosity Type	Porosity Grade	Lithology	Crystalline Grain or Fragment Size	Rounding-Diag. Type	Sorting-Diag. Degree	Percent of Framework	Description	Suggested Environment / Engineering Data
									SS, wh, or, rd, argill, calc cement	
									Sltst, rd-brn, calc	
						r	M	3	Sh, rd, brn, gry, calc · DEV. 10°	
						r	M	6		
						r	M	6		
						r	M	6		
2820						r	M	6		
						r	M	3		
						r	M	6		
						r	M	3		
						r	M	6		
						r	M	3		
2840										
						r	M	3		
						r	M	6		
						r	M	3		
						r	M	6	Sltst, rd-brn, calc	
									SS, wh, or, calc. cement	
									Sh, rd-brn, gr, calc	
2860						r	M	6		
									· DEV. 10°	
						r	M	6		
						r	M	3		
2880										
						r	M	3		
						r	M	6		
						r	M	3		
						r	M	3		
						r	M	3		
2900						r	M	6		
						r	M	6		
						r	M	6		
						r	M	6		
						r	M	3		
2920						r	M	6	· DEV. 10°	
						r	M	6		
						r	M	3		
2940										
						r	M	6		
						r	M	3		
						r	M	3		
						r	M	3		
						r	M	6		
						r	M	6		
2960	x					r	M	5	SS, wh, gr, vf to f-g, calc cement &	
	x					r	M	4	SS, clr, or, m-g	
						r	M	4	Sltst, rd-brn, calc	
						r	M	6	Sh, rd-brn, gr, calc	
	x									
2980										
	x					r	M	4		
						r	M	4		
						r	M	4		
	x					r	M	8		
						r	M	6	· DEV. 10°	
						r	M	6		
	x					r	M	8		
						r	M	8		



FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
					R	M	6	SS, wh, or, calc. cement		
					R	M	3	Sltst, rd-brn, calc.		
								Sh, rd-brn, gry, calc.		
								abundant vein filling ✓		
								anhy & calcite, wh, or		
								✓		
					r	M	6			
					r	M	3			
					r	M	6			
					r	M	6	✓		
					r	M	6			
					r	M	3			
					r	M	6	✓		
					r	M	6	• DEV. 10°		
					r	M	6			
								✓		
								✓		
					r	M	6			
					r	M	6			
								Tr. Ls, gr, f, ?		
					r	M	6	✓		
					r	M	3			
								✓		
					r	M	6			
					r	M	6	✓		
								✓		
								✓		
								• DEV. 10°		
								• DEV. 10¼°		
								✓		
					r	M	6			
								✓		
					r	M	3			
								✓		
								✓		
								✓		
								pyrite lining frac in gry sh		
								• DEV. 9¾°		
	x				r	M	9	SS, wh, or, calc cement &		
					r	M	6	SS, clr, or, (loose grains), m-g		
								Sh, gry, rd-brn, calc.		
								Sltst, rd-brn, gry, calc.		
								Selenite gypsum vein filling		
								Sh, as above		
					r	M	3	Sltst as above		
								SS, or, wh, vf to f-g, calc. cement		
								abundant gyp/anhy frac filling		
								Missing sample (bypassed shaker)		

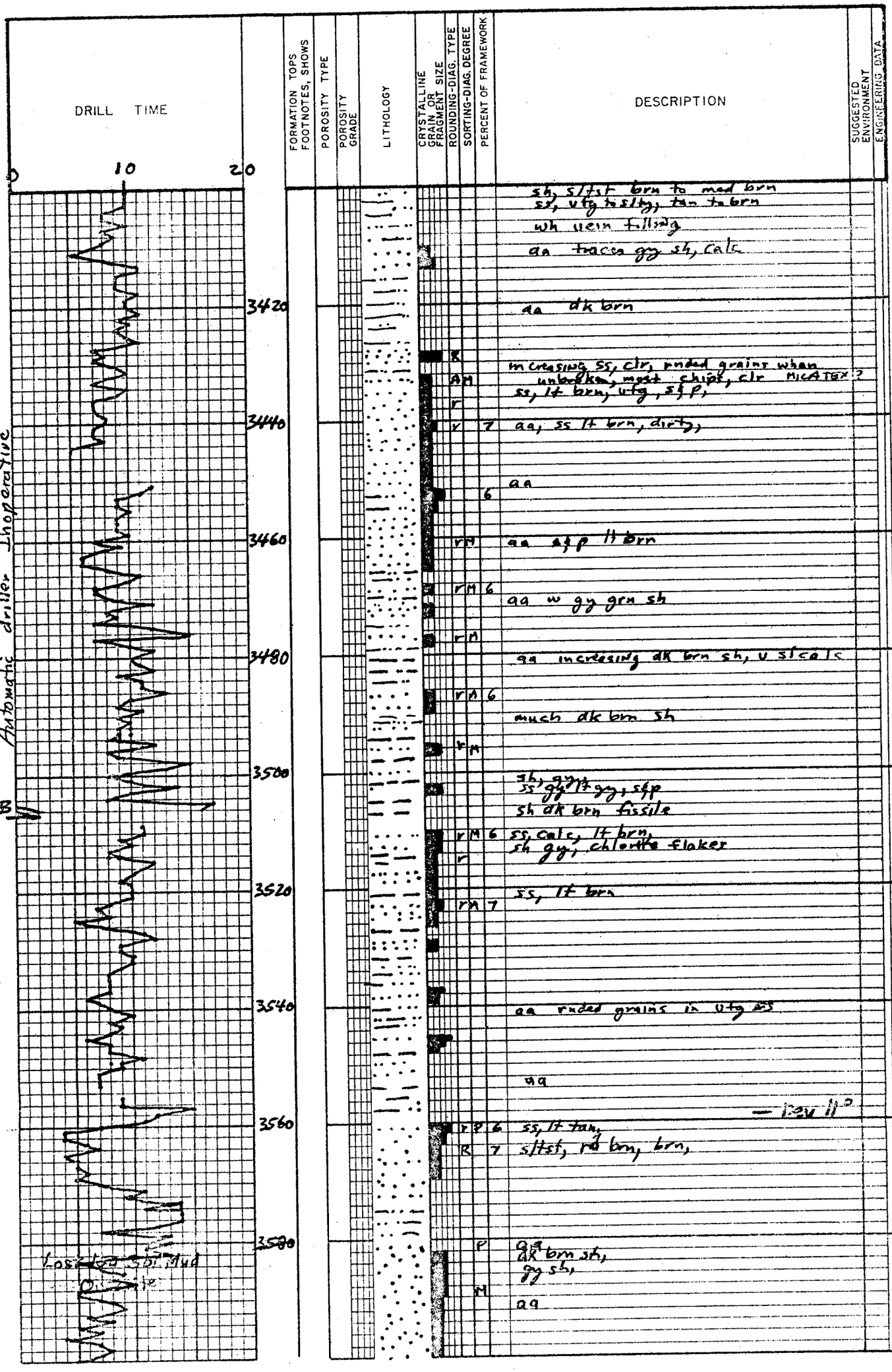


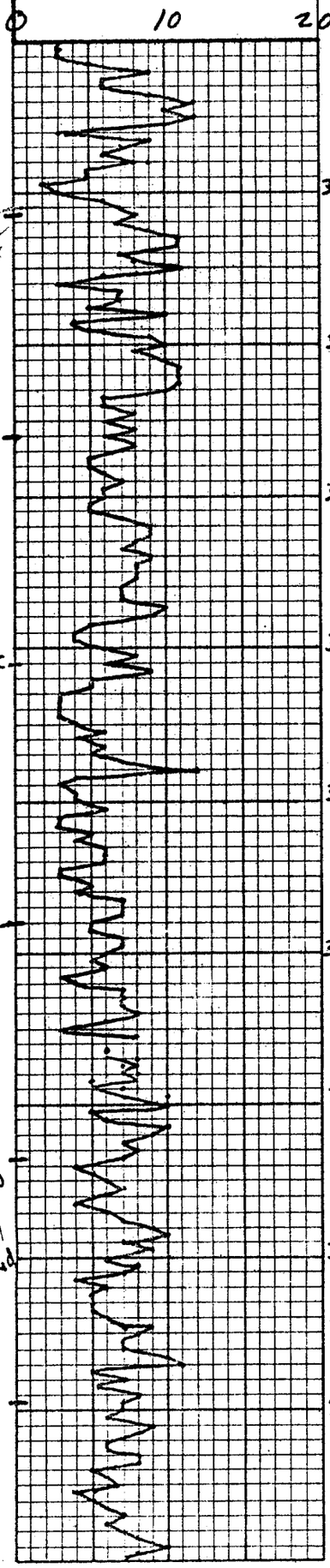
Depth	Porosity Type	Porosity Grade	Rounding-Diag. Type	Sorting-Diag. Degree	Percent of Framework	Description
			r	M	3	SS, or, wh, vf to f-g, calc. cement
						slst, rd-brn, gry, calc
						sh, gry, rd-brn, calc
			r	M	3	abundant gyp & anhy frac ✓
			r	M	6	filling - DEV. 10 1/4°
			r	M	3	trace ✓
			r	M	3	
3220			r	M	6	SS, as above & clr, or (loose grains) m-g
			r	M	3	slst, as above
						sh, as above
	x		r	M	9	trace anhy & calcite frac
			r	M	5	filling
						SS, wh, or, rd-brn, calc cem - DEV. 9 1/2°
						slst, as above
			r	M	3	sh, as above
			r	M	6	
3240			r	M	6	
			r	M	6	
			r	M	6	
			r	M	3	
			r	M	3	
			r	M	6	
			r	M	6	
3260			r	M	3	~~- DEV. 10°~~
			r	M	3	
			r	M	3	
			r	M	3	
						SS, as above & clr, or, m-g
			r	M	3	slst & sh, as above
	x		r	M	7	abundant frac filling
			r	M	7	(& nodules ?) anhy & calcite
	x		r	M	9	LOST CIRCULATION @ 3277'
3280						LOST 350 BBLS 9.1 LG MUD
			r	M	4	
	x		r	M	7	
			r	M	6	
	x		r	M	7	
			r	M	3	
			r	M	4	
	x		r	M	4	
			r	M	4	
3300			r	M	4	
	x					sh, rd-brn, gr, calc.
						slst, rd-brn, calc
						SS, or, wh, vf to f-g & or, vf to m-g, calc. cement
			r	M	3	DEV. 9 3/4°
3320			r	M	3	
			r	M	3	- DEV. 9 3/4°
	x		r	M	4	
			r	M	6	SS, or, wh, vf to f-g, calc. cement
			r	M	6	sh, as above
			r	M	6	slst, as above
3340						
			r	M	6	
			r	M	6	
			r	M	3	
			r	M	3	
			r	M	3	
			r	M	6	
			r	M	3	- DEV. 10 1/4°
3360			r	M	3	
			r	M	3	
			r	M	6	
			r	M	6	
			r	M	6	
			r	M	3	
3380			r	M	6	
						sh, brn, calc, med brn to brn, rd brn)
						slst, f brn
						slst, sdy, lt brn
						SS, wh, dirty vfg to fg dirty, calc

Formation tops / footnotes, shows: 3220, 3240, 3260, 3280, 3300, 3320, 3340, 3360, 3380

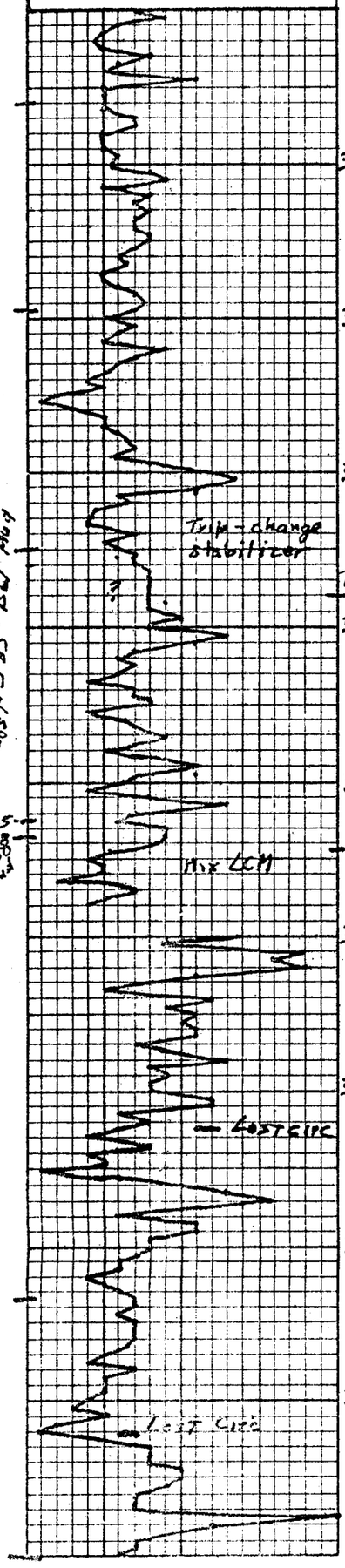
Crystalline grain or fragment size: 3300 (sh, rd-brn, gr, calc.); 3380 (sh, brn, calc, med brn to brn, rd brn)

Suggested environment / engineering data

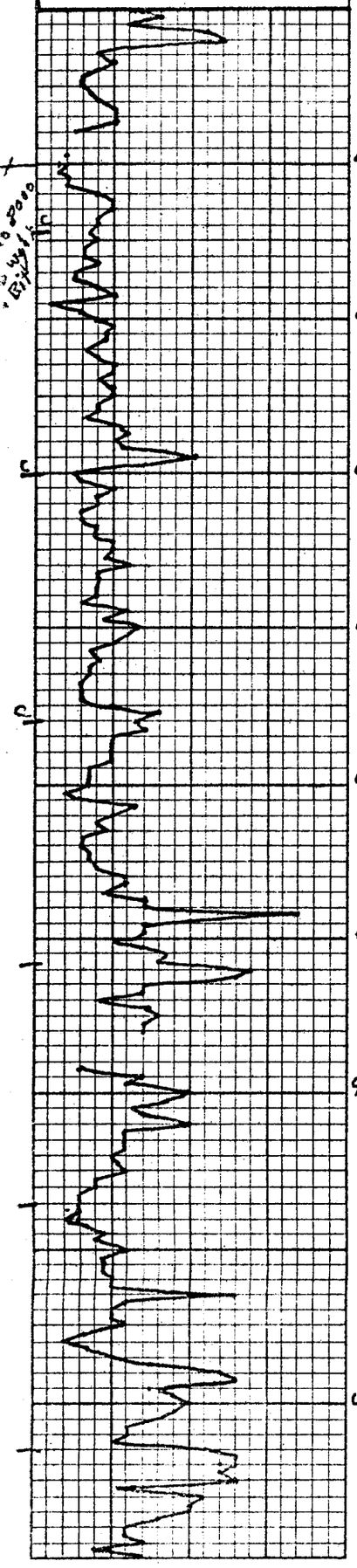

DRILL TIME
0
10
20
FORMATION TOPS FOOTNOTES, SHOWS
POROSITY TYPE
POROSITY GRADE
LITHOLOGY
CRYSTALLINE GRAIN OR FRAGMENT SIZE
ROUNDING-DIAG. TYPE
SORTING-DIAG. DEGREE
PERCENT OF FRAMEWORK
DESCRIPTION
SUGGESTED ENVIRONMENT
ENGINEERING DATA
3420
3440
3460
3480
3500
3520
3540
3560
3580
Automatic driller Inoperative
Lost 100 bbl Mud
sh, s/tst brn to med brn
ss, vfg to slty, tan to brn
wh vein filling
aa traces gy sh, calc
aa dk brn
increasing ss, clr, rnded grains when unbroken, most chips, clr MICATEX?
ss, lt brn, vfg, s&p,
aa, ss lt brn, dirty,
aa
aa s&p lt brn
aa w gy grn sh
aa increasing dk brn sh, v sl calc
much dk brn sh
sh, gy,
ss gy lt gy, s&p
sh dk brn fissile
ss, calc, lt brn,
sh gy, chlorite flakes
ss, lt brn
aa rnded grains in vfg ss
aa
ss, lt tan,
s/tst, rd brn, brn,
aa
dk brn sh,
gy sh,
aa
LCH
gy sh
ss gy
grn gy
Much gy sh
big chunks
cvg?
— Dev 11°



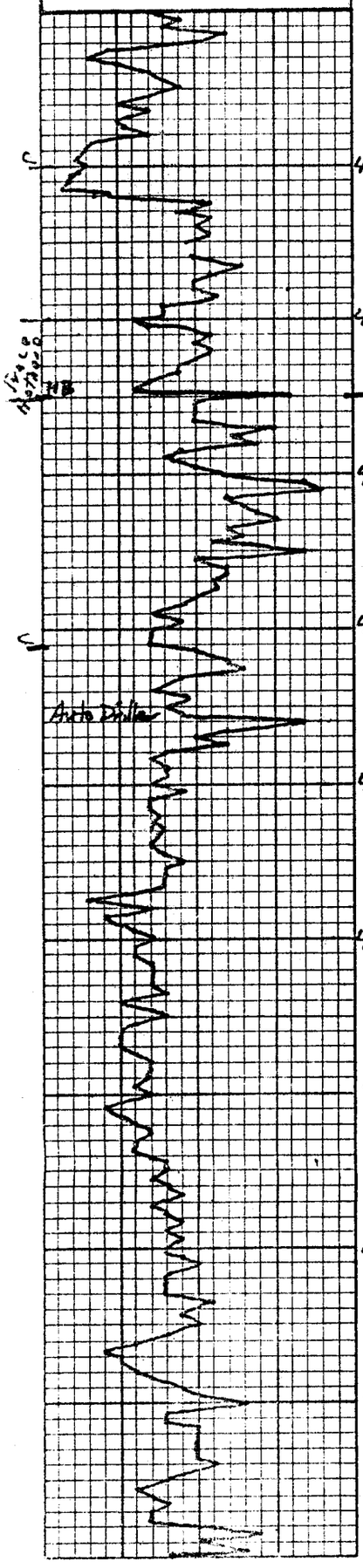
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
					r		3	sh, dk brn	
								sh, gy gra gy,	
								ss v dirty, red brn, dk red brn w rnded grns in matrix	
					A	P	3		
					r			aa incr lt brn vfg to fg ss	
						M	3	ss lt tan brn, calc, wh matrix	
					r			sh dk brn	
								sh dk brn to blk — 10 3/4	
								ss dk brn brn	
					r			ss, brn lt brn, vfg to fg	
					r				
					R	M	6 7	ss lse grns lt tan to wh tan, MICA? much matrix calc	
								aa much wh	
								tr coal	LCM
							7		
					r	M	7		
					r R	M	7	aa much lse grns MICA?	
					r	M	7		
							6	aa/ wh chips clay of some type?	
						M	7		
					r				
					r	M	7	sep ss becoming vfg to silty dk brn	
					r				
								aa fewer lse grns	
					r	M	7	ss, lt tan vfg to fg	
					r	P	6	aa increasing dk brn ss, vfg, dirty	
					r	P H	7	aa brn ss,	
						H	7	aa grn gy sh, chlorite flakes, ss tan to wh tan, sep mod calc	
								aa	
					r	M	7		
								aa	
								aa sh brn, dolo	



FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
					r	M	7 B	aa	
	X?			2			7	aa much lse sd grns rounded, lse grns to cg MICATEX	
					r	M	7	ss lt tan, wh matrix	
					r	M	7	ss, lt brn,	
X	X?				r		7		
								12 3/4	
					r	M	7		
					r	M			
								Lse grns MICATEX? LCM 13-15%	Lots gy sh cug?
	X?				r	M	7		
					r	M	7	Lse grns	
					r	M	7		
					r	M	7+	ss, lt tan, to Md maroon, sap soft cals	
								aa	
	XP				r	M	7+		
								aa inc lse grns MICATEX?	
					r	M	7		
					r	M	7	aa	
					r A	M	7	Drilling w/ limited returns	
								aa lse sd grns	
	X?				A	M	7+		
								aa more sltst brn, red brn	
					r	M	7+		
					r	M	7+	Traces gy crypto xlline ls, dolty	
						M			
	X?								
								Mostly lse grns	
					r	M	7+		
	X?								

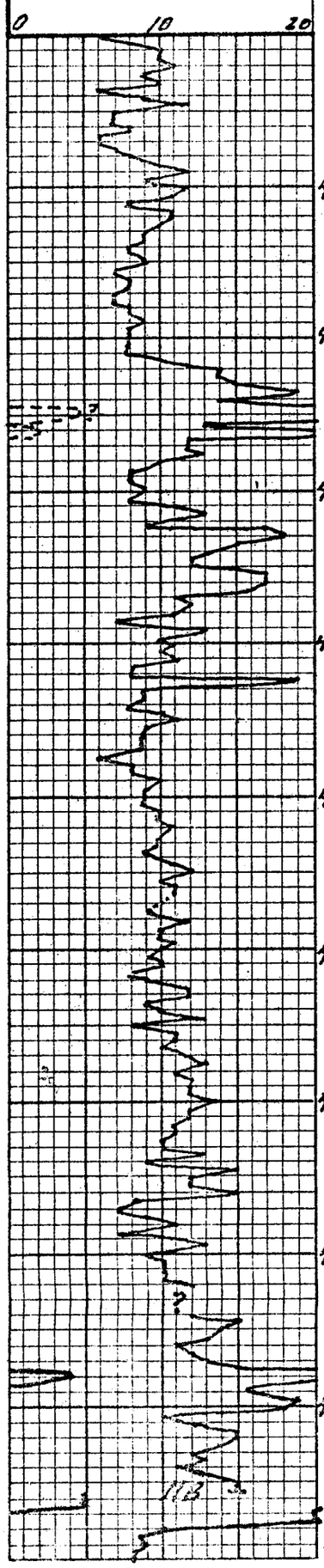


FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
					R	3	7+	DEV 12-84 LCM-15-1285 limited samples	
						M		Lse sd MICA TR	Bypass Shaker VPS: limited samples
			VPS						
4020			VPS					LSE SD MICA TR	
			VPS					orange qtz grns, euhedral, cavity filling	
4040			VPS					orange qtz	
			o o? VPS					orange qtz grains, xllnc chert or qtzite	20 ft smpl high visc
4060								11 3/4°	
4080			VPS						20 ft smpl high visc
			o o? o o?					orange grns to cg, euhedral qtz	
					VM	7			10 ft
4100								slt, tan, red brn, euhedral pieces of qtz,	
					VM	7		Tr ls	20 ft smp
4120								aa w/ rind like layers chalcedony	
								Trace pelletal ls	Smpls almost totally gy
4140								aa brn slt	
			VPS		VM	7+		aa ss, soft, calc, wh matrix lt tan ls, pelletal, fg ? Trace anhydrite	Lith Change ss, wh matrix dk grns calc-floating ss grns
4160			VPS					10°	
4180					R	3	6		20 ft
					R	3	6	ls, wh, dk grns calc, s/sdy, recrystallized wh calcite matrix gy ss caving	



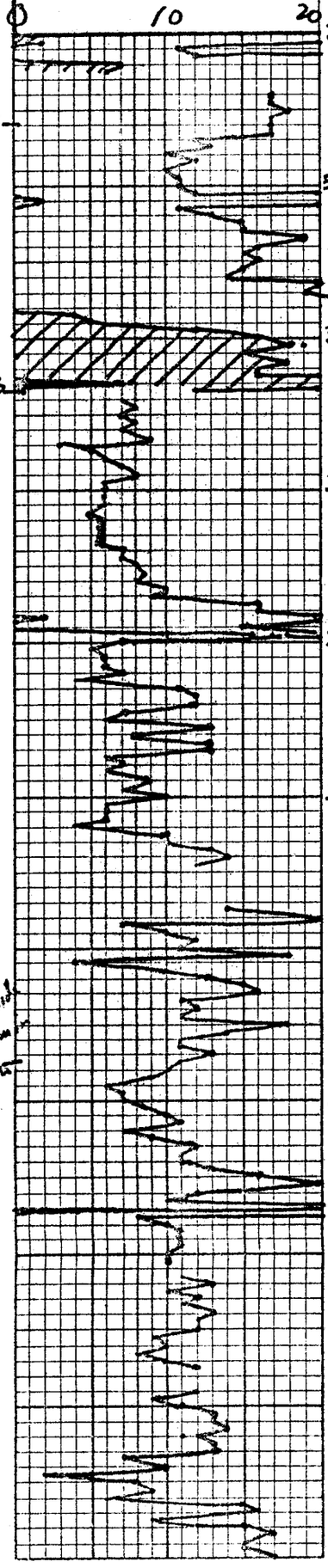
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
								ls, calc, wh matrix dk sd grns	
							6	ls gry, calc, ranges to ls micr	
								ls pelletal	
4220							6		
								ls pelletal	
								slfst red,	
								sh grn gry,	
								ls, gry,	
4240								slfst red brn	
								Dker sh is cooked from dryer	10½
								ls, silty,	
4260							0		
							6		
4280							0	ls, sdy, vfg to silty	Lag time 33 min.
4300								aa w/wh vein filling	
							6		
							0	as above sl. sdy	10 3/4
4320							0	Dk. gry-brn thin-bed w/ calc. Sh. sl. sdy	
							0	as above	
4340							0		
								as above	
4360							6	as above - csr. grains	
	x						7	tan-crm sl. sdy	
4380	x						5	Lt-med gry thin-bed, gry calc. sh.; sl. sdy tr pellet ed.	
	x								

gry sh caps sdy ls gry in place



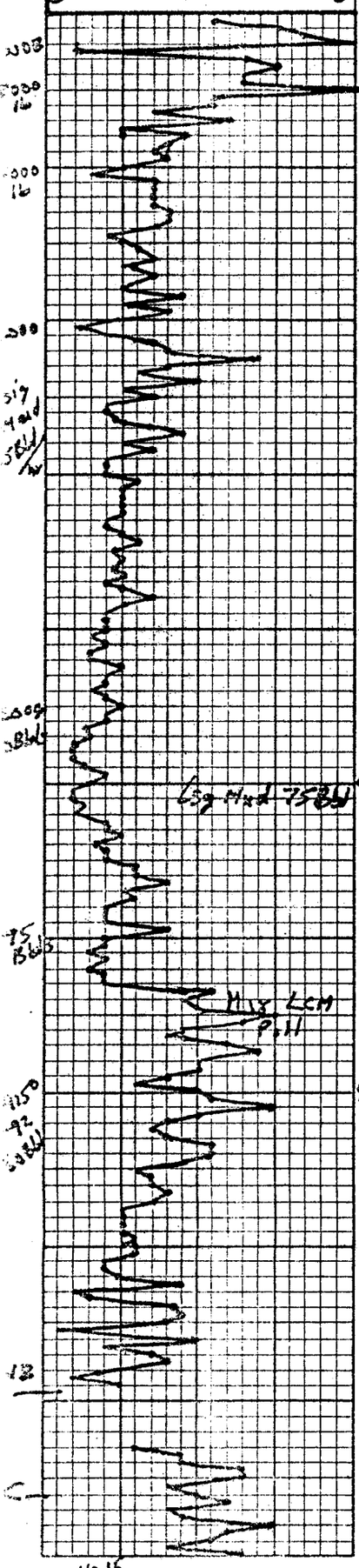
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
	X						3	Med+dk gry thin-bed gry sh. sl. sdy	
							0	Dk. gry dge pyrite sl. arg w/ interbed thin shales	
								as above	
								-tr. brick red mudstone L.C. - 60 deg	
					rM	7			
					rM	7		-stks brick-red silt & sh. gr. sd	
					rM	7		Dk gray calc. shale & ls	
								-stks brick-red silt (cegs?)	
							0	Dom. ls. w/ shale	
								Dk. gry calc sh. w/ minor ls.	
								-stks. brick-red silt.	
								ls is occas. pell or ool.	
							2	Med gry interbed ls & shale w/ minor brick red sh, silt (about 70% ls, 30% sh, 2% mi)	
								as above	
								as above	

DRILL TIME (0 – 10 – 20)		FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
									2	Gry med-lt. interbed. ls and shale w/10% brick red sh, silt, ss (Ls is approx. 70-80%)		
	4620											
										as above		
	4640											
	4660											
	4680											
	4700											
	4720											
	4740											
	4760											
	4780											



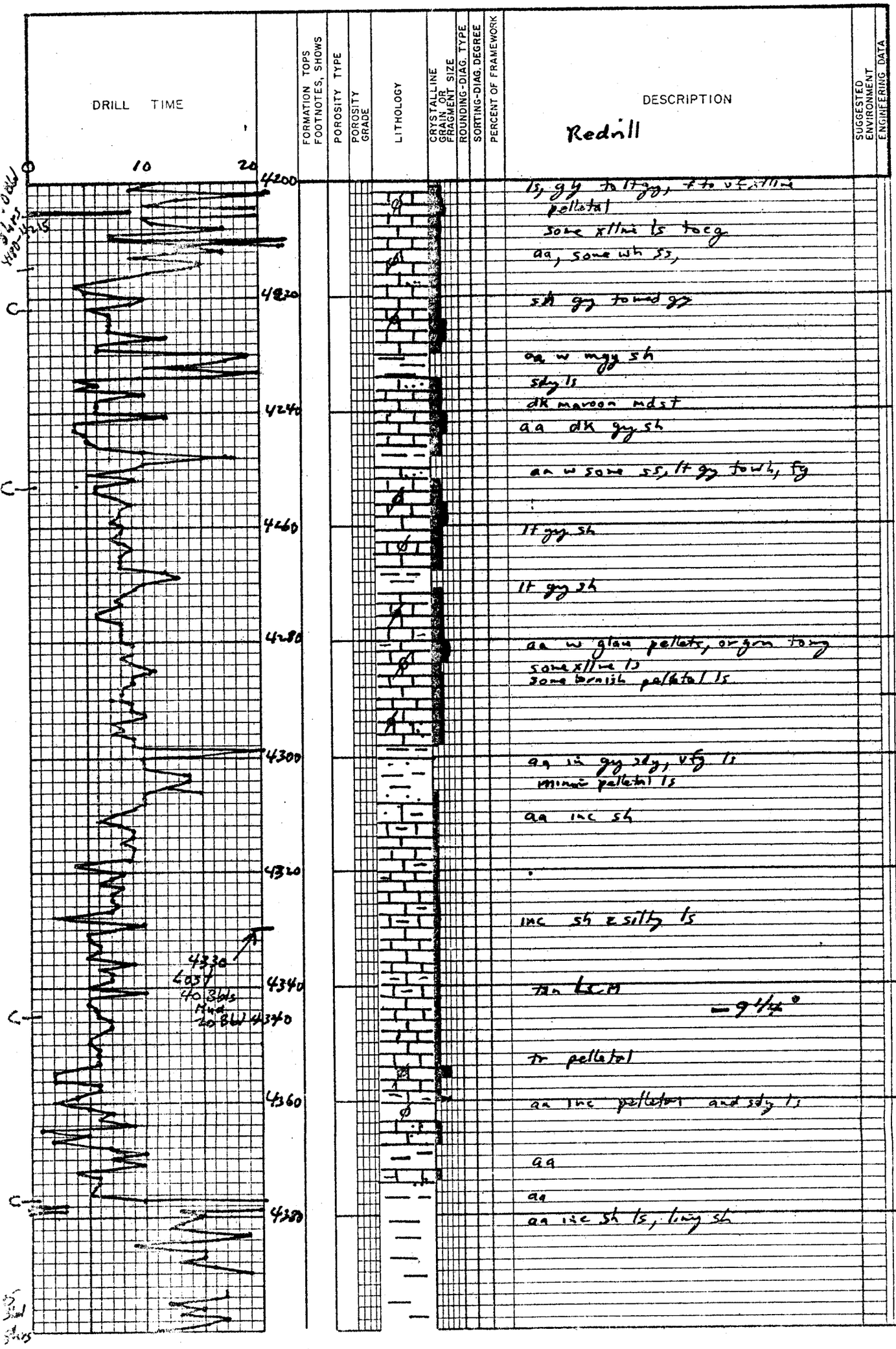
FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
								Redrill		
								ss, lt brn, red brn, tr some mg, wh cht		LCM
								Mdst, slitst, reddish brn		
								sh, gy grn, mica or chlorite,		
								aa		
					r	M	5			
					r		6	aa w dk brn sh,		
								aa lse rnd gh grns to cg		LCM
					r	M	6	aa lse gh grns LCM?		
					r	M	7	aa lots gy sh caving?		
					r	M	6	aa -9°		
								aa ssltrd brn,		
					r	M	6			
					r	M	6	aa slickensided surfaces w/ clayey material		
					r	M	6			
								ss, tg, ssgp, lt tan, red tan,		
								sh brn, inc ss		
								aa inc ss		
					r	M	6			
					r	M	6	aa inc mdst, slitst, maroon dk,		
					r	M	5			
								aa		
					r	M	6			
								aa vfg ss mdst		
								aa		
								aa hom brn sh		
								-10½		
					r	M	7			
								aa tr red cht lining pores		
					r	M	6	tr red cht pore lining		Lots LCM

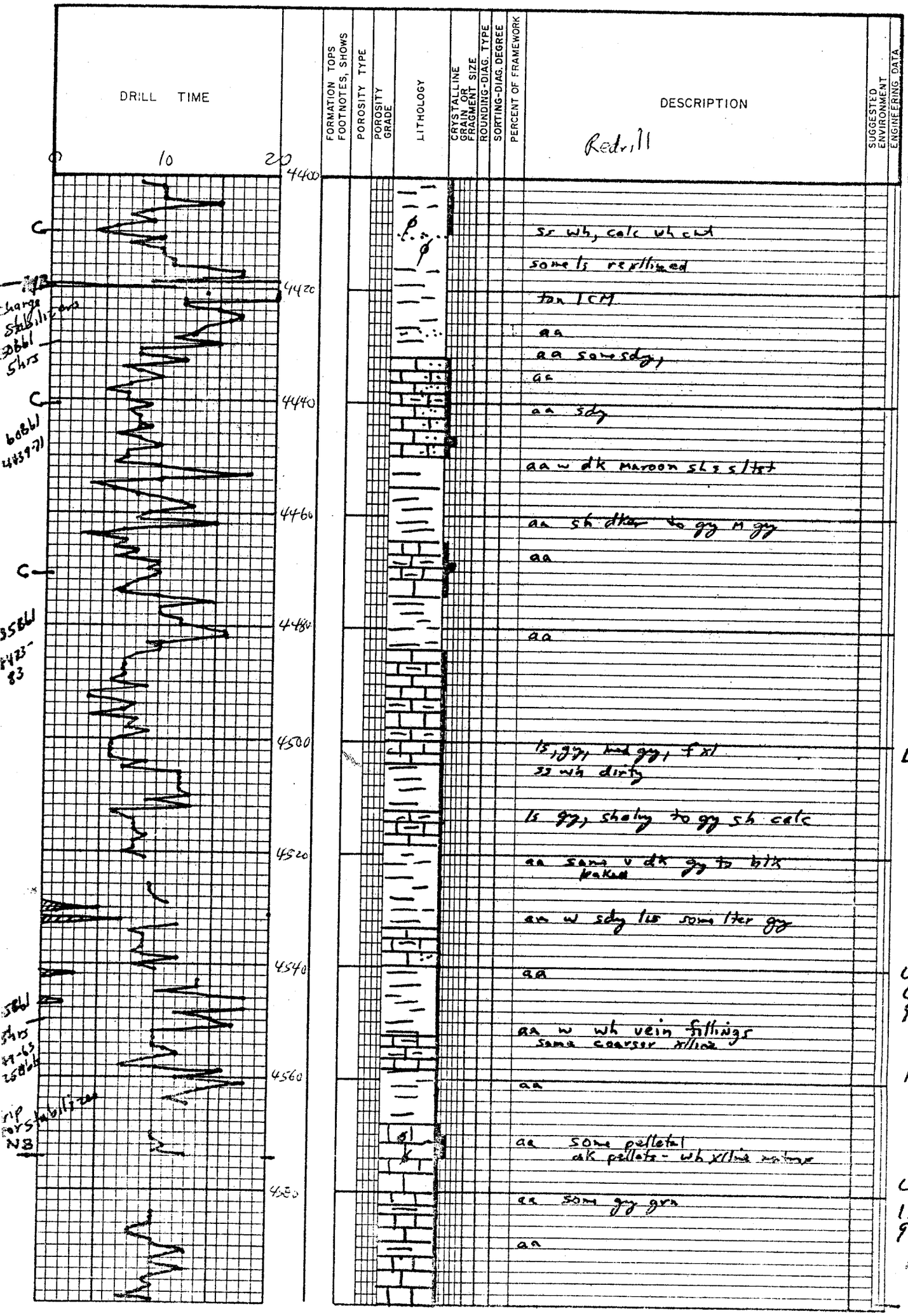
Mud 34 mm 30 cc



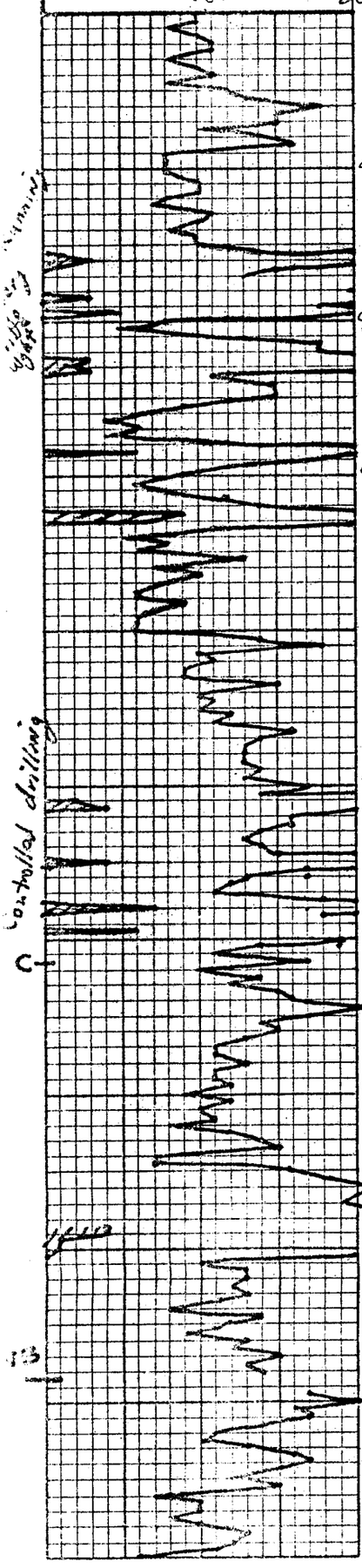
Depth	Formation Tops / Footnotes, Shows	Porosity Type	Porosity Grade	Lithology	Crystalline Grain or Fragment Size	Rounding-Diag. Type	Sorting-Diag. Degree	Percent of Framework	Description (Redrill)	Suggested Environment / Engineering Data
4000									aa	LCM
				ϕ					aa tr pelletal ls	
4020				ϕ					aa tr pelletal	
				ϕ					aa tr pelletal	
4040				ϕ					aa tr pelletal ls	
4060				VPS					LCM	
4080									LCM	MOSTLY LCM in smpl
				VPS					95% LCM ~9°	
4100									95% LCM	
									in dk maroon sh, sdy ls, gy; vein filling cht LCM 70% red, slim	
4120				VPS					90% LCM	
									gy ss, fg to vfg gy sh,	
4140				VPS					LCM	
									75% LCM	
4160				VPS					LCM	
									LCM	
4180									LCM in pelletal ls ~50% wh cmt - gy pellets wh, cmt ls wh pelletal, grns dk	

4183-4215
90BBl
74vs


DRILL TIME
0
10
20
FORMATION TOPS FOOTNOTES, SHOWS
POROSITY TYPE
POROSITY GRADE
LITHOLOGY
CRYSTALLINE GRAIN OR FRAGMENT SIZE
ROUNDING-DIAG. TYPE
SORTING-DIAG. DEGREE
PERCENT OF FRAMEWORK
DESCRIPTION
Redrill
SUGGESTED ENVIRONMENT
ENGINEERING DATA
4200
4220
4240
4260
4280
4300
4320
4340
4360
4380
ls, gy to lt gy, f to vf xline pelletal
some xline ls tocg
aa, some wh ss,
sh gy to md gy
aa w mgy sh
sdy ls
dk maroon mdst
aa dk gy sh
aa w some ss, lt gy to wh, fg
lt gy sh
lt gy sh
aa w glau pellets, organic tong
some xline ls
some brnish pelletal ls
aa in gy sdy, vfg ls
minor pelletal ls
aa inc sh
inc sh & silty ls
tan LCM
tr pelletal
aa inc pelletal and sdy ls
aa
aa
aa inc sh ls, tiny sh
H2S gas
Poor Rtns
4330
4034
40 Bbls
Mud
20 BW 4340

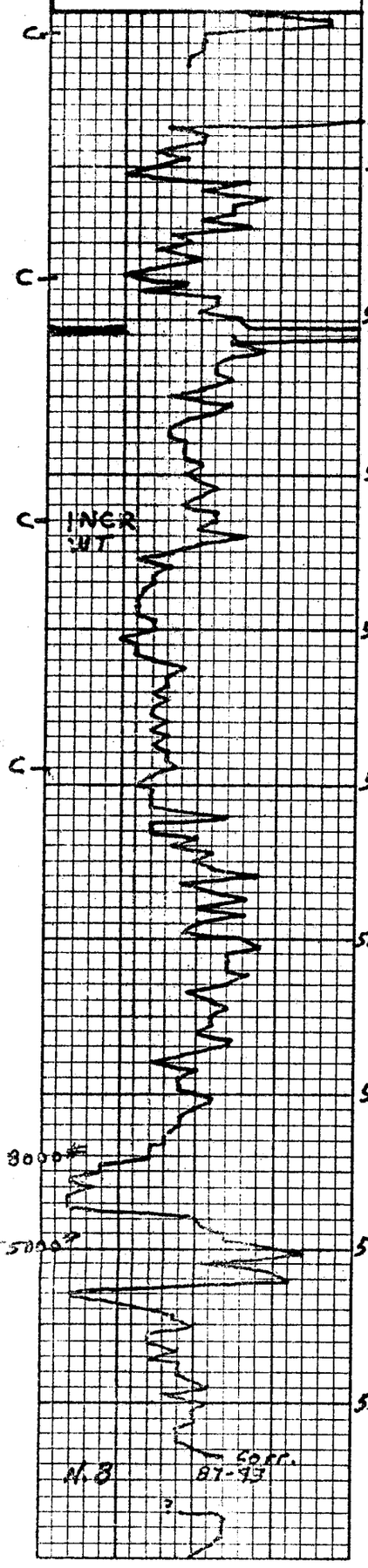


added caustic — wiped out H_2 and H_2S



FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION Redrill	SUGGESTED ENVIRONMENT	ENGINEERING DATA
								aa		
								aa but more wh calcite cont material		
								dkm sh, dk gy		
										New Hole
										LCM
								some dk brn sh sltst		LCM
								inc dk fissile sh dk gy to blk		LCM.
								some tan brn hd wh calc ss		
								wh vein filling material, gtz and calcite		
								ss, wh, calcite cont fg		
								incr wh calcite vein filling		
								incr wh calcite vein filling xline in part vfg, sl dolo		
								aa w wh vein filling calcite		
								aa much wh calcite vein filling material		
								sdy ls		
								aa w/ brn tan hd, non calc sltst or LCM		
								dk maroon sltst		
								aa w maroon sltst		
								ls aa sl larger xline vein still calcite		

DRILL TIME (0 10 20)	FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT ENGINEERING DATA
									Redrill	
									aa w maroon sltst	
									ls, shaly to shaly ls,	
									calcite vein filling	
									aa w maroon sltst	
4820										
100000#									aa tr pelletal ls	
									orange vein filling xls	
4840									aa tr maroon sltst	
C									tr wh soft chalky to f xline anhy?	
120000#									inc wh, soft chalky material	
4860									v calc	
									aa w/ calcite vein filling – orange red ppt to vein wh/ in middle	
C 4880									aa partially recrystallized some w/ dk mica	
									aa much wh calcite vein material	
4900									xtal lined veins, vfg to silt sized xtals in gy ls matrix porous	
DB-4899-04										
C									wh chalky material anhy?	
4920									ls becoming lithographic splintery pieces like chert, sl dolo	Lith change ?
									15	
C 4940									wh calcite rhombs	
									aa lots of wh calcite vein material	
4960									inc dkgy sl to calc ss	
C									aa w some tan tite gy sl calc, mica ss	
4980									aa w wh chalky calc, ls?	
Lost Rins Table locked									still chippy ls, microxline to lithographic	H2S 50-75ppm
									gy sl calc, s sst	



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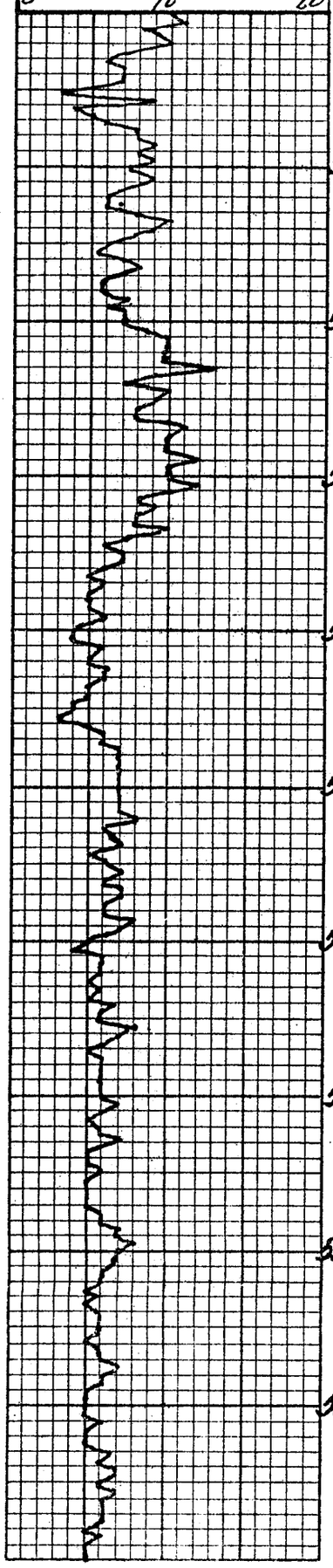
								Redrill		
								ls, gy, vfxlline to lithographic Lithographic is chippy ss, sup vfg, lt gy wh (brn. inclusions)		H_2S 8-10 ppm
								5020		
								aa much vein filling material		
								incr in oolites pellets, less distinct than above in 4 TC lt gy pellets in wh xline vf xline matrix to f tang sand		
								5040		
								aa tr oolites? pelletal only		
								5060		
								aa tr pelletal 13½		
								aa tr pelletal		
								5080		
								aa w/ anhy, micro xline non calc lt buff to gy wh		
								10% lt buff anhy		
								5100		
								20% lt buff anhy		
								anhy wh, w/ gy inclusions inclusions ls, sl dolo chicken wire		
								5120		
								aa tr red maroon s/ft		
								5140		
								mdst, maroon, wh vein material gy, poorly sorted, ls, pelletal, v poorly sorted vfg to		
								aa		
								5160		
								aa tr salmon ss, vfg, wh matrix in part hd tr broad calc		
								aa tr salmon ss vfg		
								ls dk gray - brn micrite		
								5180		
								ls aa < 5% sltst		



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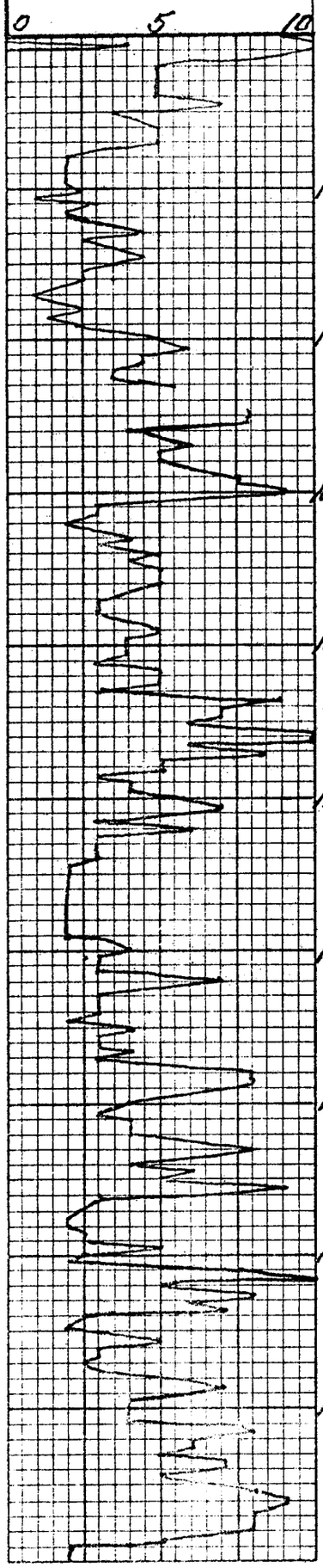
								lt. gry ool. pell.? arg.? ls.		
								inc pell-ool.		
5220										
								as above		
								crm - lt. gry - lt. ool. pell ls. w/ dk. gry. dse ls.		
5240										
								brn gry. fn. gr. v. sl. pell ls. tr. w/ anhydrite		
								brn - gry - dk. gry. micrite - occas tr anhydrite		
5260										
								as above		
								dk. gry - blk when wet fn. gran. w/ tr. lt. gry fn. gr. ls		
5280										
								as above		
5300										
								as above		
5320										
								as above		
5340										
								as above		
								— w/ calcite filled fractures & stks lt. gry calc. mudstone		
5360										
								as above w/ stks lt. gry grn soft ls & ool.		
5380										
								as above		
								as above		



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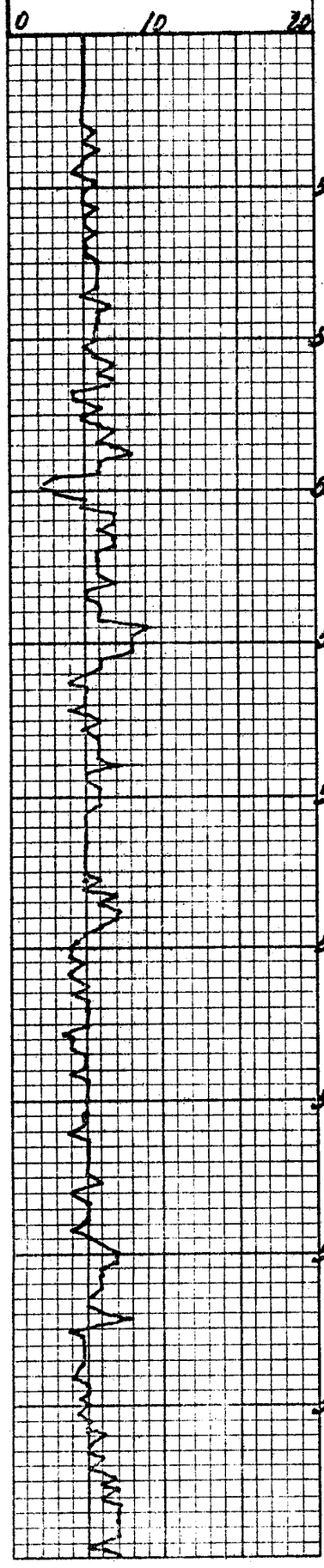
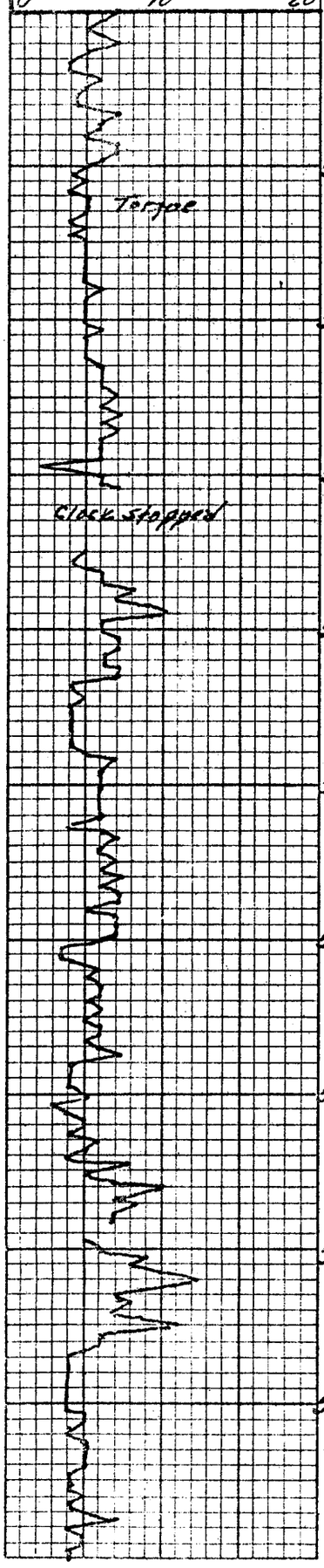
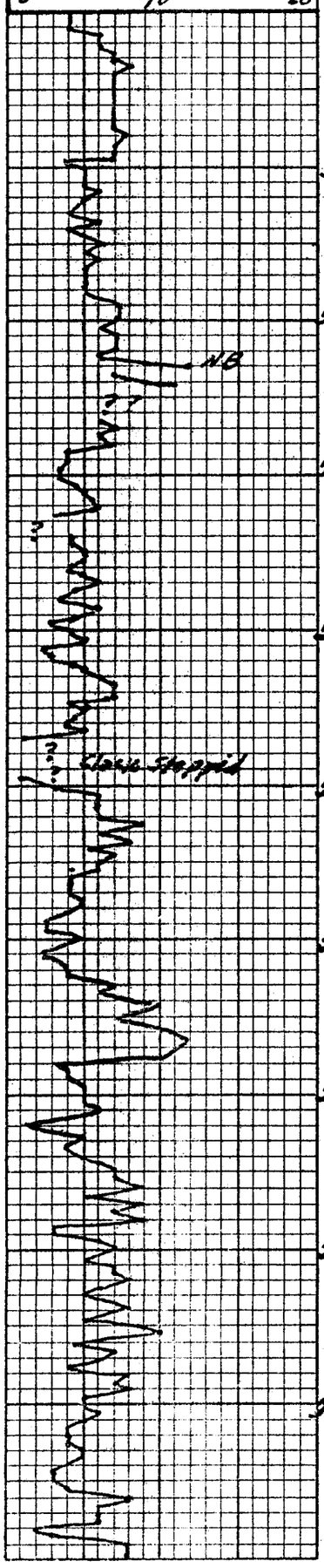
					r	p	8	cgl. quartzite & minor ls. tr. o. o grys, wh-yell-pink w/ v. csc angular grits (<5 mm) v. calc wh.		
								as above		
					r	p	6	as above w/ brick red calc. siltstone ss		
								as above		
							o	purp-gry. only sl. calc mudstone w/ wh. con. soft ls		
							o			
							o	lt. gry sg. calc mudstone and argil. ls. soft w/ red siltstone and shale w/ purple mudstone w/ gritty vesical. cgl.		
							o			
							o	wh-con. earthy m pt, sdy w/ csc wh. ss & purp. calc mudstone		
								wh-gry as above w/ purp. mudstone		
								as above		
							o			
								brick-red calc. siltstone		
								gry ls. w/ lt. gry mudstone		
								brick-red siltstone and mudstone		
							o	lt. gry ls and lt. gry mudstone		



FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
								DK. gry sl. pell dse ls w/ interbed 30% lt gry fr. grain ls.		
5420										
							4	-inc lt gry to 30-40% -fr. wh. chky ls 20-50		
5440								DK gry minor lt. w/ 0.5mm ool. in a fine gr. matrix -dec. ool in 40-50		
	V				D	S	5	Tan-brn. grain. ls. w/ micro-vug por. No fluor decay sl. dolomitic		
5460										
	V				D	S	6	Brn. grain. ls. w/ micro-vug por. No fluor decay sl. dolomitic -fr. red mudstone		
								Tan-brn. ls as above -fr. red mudstone		
5480					P	F	7	Maroon calc. silt-stone & sandstone argil. 2-3 clusters each wh. sand and salmon colored sandstone -fr. gray-grey mudstone		Nugget Ss. 5488 (+1166)
	X				W	F	9	wh. non-calc clean ss - contains silica - poor to no porosity. No shows. Abund. oil coated grains.		
5500	X				W	F	9	as - fr. salmon colored ss		
								as above		
5520	X				W	F	9	-some lt salmon colored 100-200 ppm methane 2 units total		
								as above		
5540					W	F	9			
								wh-tan ss as above		
5560					W	F	9	-fr. wh. non-calc silt (appears chky)		
5580					W	F	9			



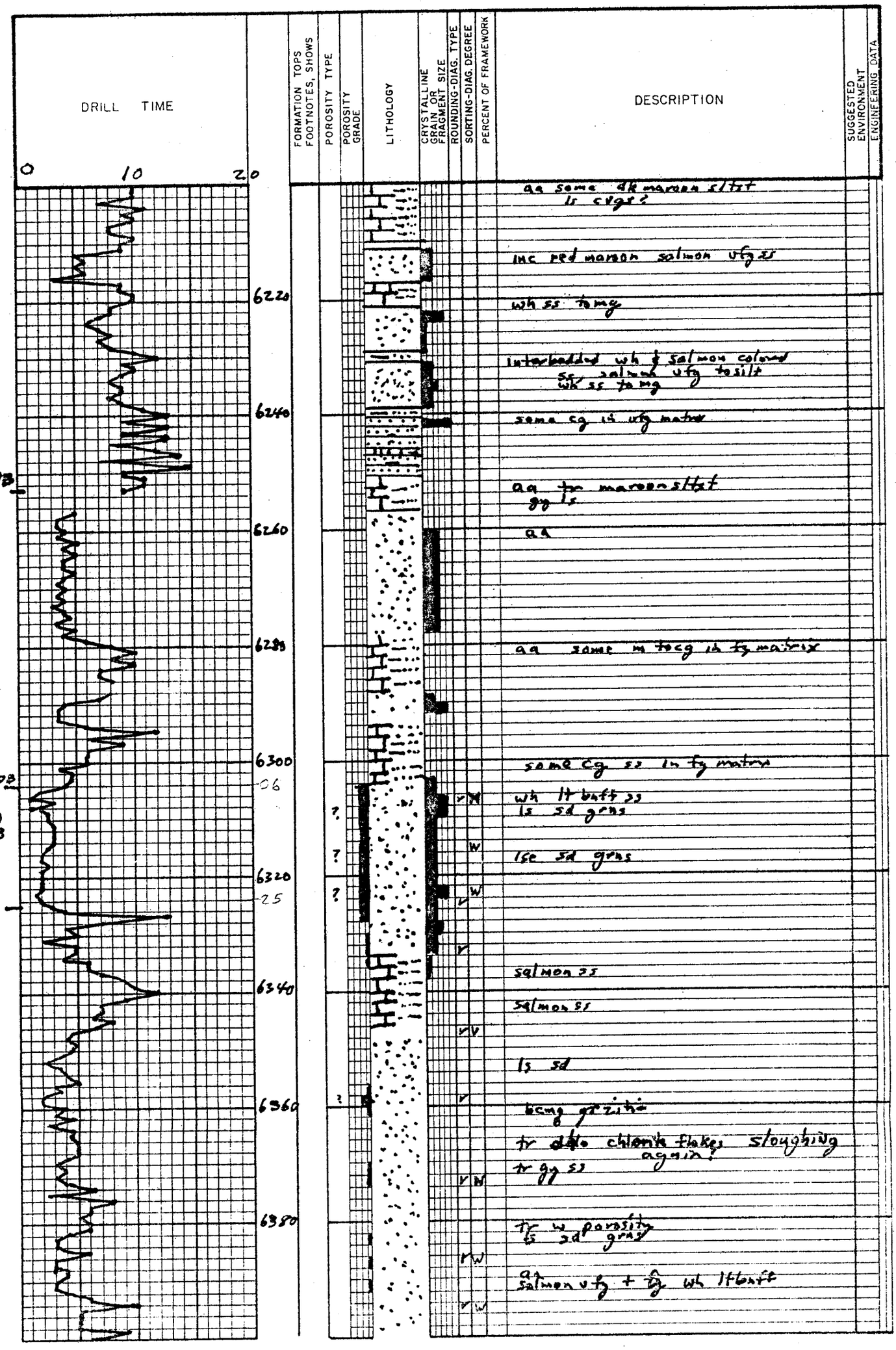
Depth	Formation Tops Footnotes, Shows	Porosity Type	Porosity Grade	Lithology	Crystalline Grain or Fragment Size	Rounding-Diag. Type	Sorting-Diag. Degree	Percent of Framework	Description	Suggested Environment Engineering Data
		x				W	r	9	Tan-white non-calc poor-no por. No shows - interbed w/ thin seds above - calc. siltstone, and lt gry calc mudstone Have 2 units total - 100 to 300 ppm	
5620		x				W	r	9		
						W	r	6	- inc. lt grey mudstone and brick red silt & mudstone	
5640										
								3	Lt-gry. calc. mudstone, brick red silt and mudstone w/ ss as above	
5660										
								0	DK-med v. calc mudstone & ang. ss w/ some brick red mudstone	
5680										
									as above w/ some sand as above	
		x				W	r	7	Tan non-calc well sort clean ss f-c No shows, fines out w/ interbed with med-calc silt - thin beds	
5700						W	r	6	as above w/ inc. wh silt w/ blk. seds	
								2	Brick red silt ss, mud w/ abund gry. calc mudstone sdy	
5720	x	x				W	r	8	Tan non-calc well-sort ss w/ some brick red silt, sand, lt gry calc. mudstone, and wh silt	
5740	x	x				W	r	7	wh-tan-pk well-sort non-calc ss w/ tan gry mudstone, wh silt - bec more pink-red	
		x				W	r	7	Pink-salmon-red clay filled red shale ss - little to no porosity	
5760										
5780						M	r	6	Pink-salmon-red clay filled shale ss. - no porosity lt calc.	

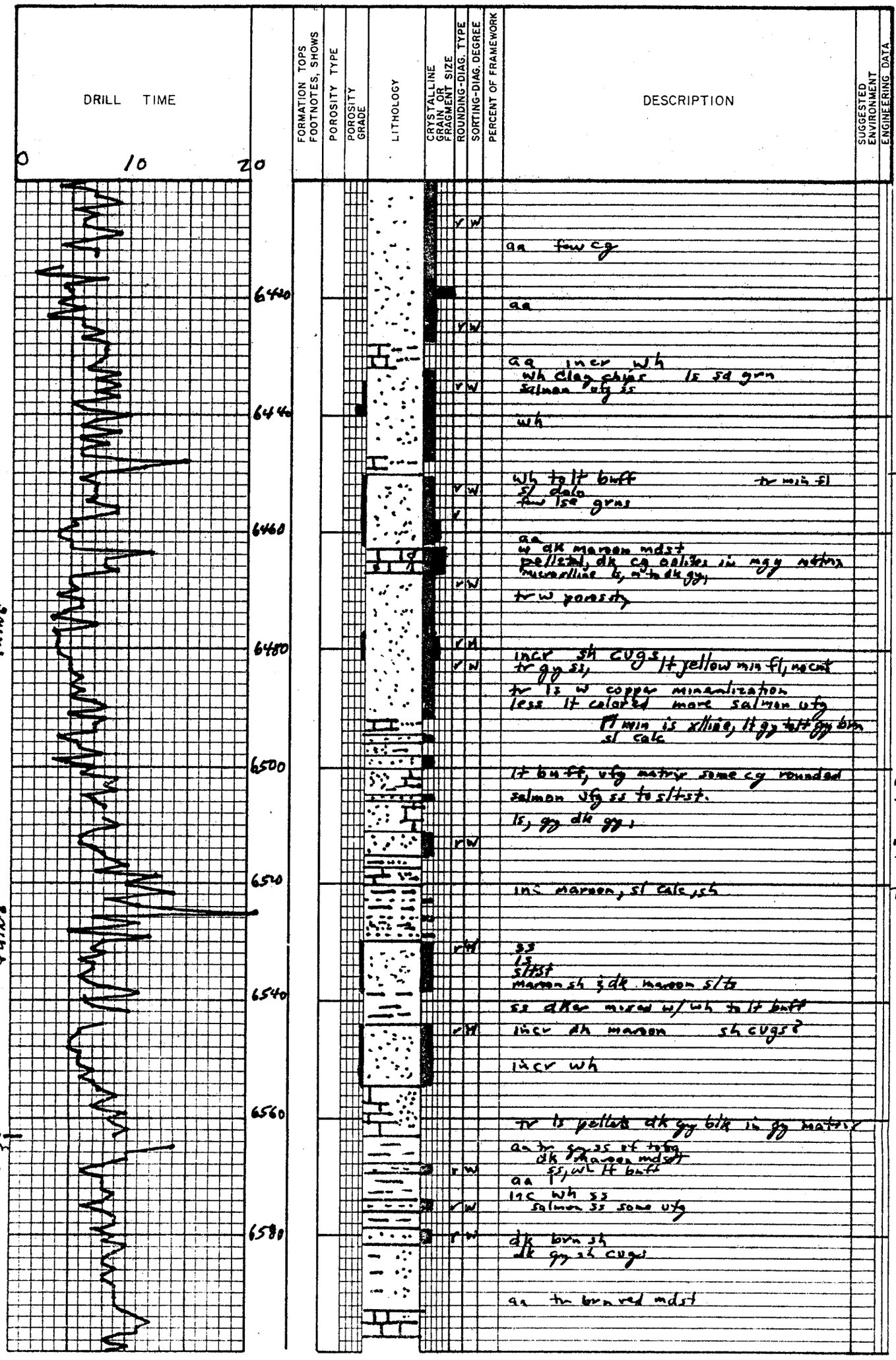


FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
	x				MC		6	Salmon-pink-brnish red clay filled SS - no perm. shale.		
						3		w/lt. gry calc sh		
5820					MC		6			
						3		w/lt. gry calc sh		
					MC		6			
5840						3		w/lt. gry calc sh		
								Torqueing since 5745 ft		
	x				MC		8	wh-tan		
5860										
	x							tan-pink-salmon well sort sl. fr. SS, sl clay filled, sl. calc.		
5880					MC		8			
	x							as above		
5900										
	x						2	Lt. gry sl. calc shale Brnish-red-brn non-calc mudstone - sh? (hard silt?)		
								Gry. dse ls. w/SS as above, v. brnish-red v. hard silt		
5920							0	Gry-brn. dse ls. v. hard Torque decreased at 23		
	x				MC		7	Salmon-brnish red clay-filled SS w/gry dse ls		
5940							0	Gry dse ls		
5960										
	x									
5980										
	x				MC		7	Tan clay filled SS		
								Gry dse ls w/interbed tan SS		

DRILL TIME (0 – 10 – 20)	FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
		x				W	r	9	wh-brwn red-tan ss -clay filled Per.		
						W	r	7	Tan w/ stks brwn red -clay filled ss -stks wh. non-calc. silt (chalky looking)		
6020		x									
						W	r	8	Tan-brwn red ss -clay filled (wh non-calc cont) Good por. & perm.		
6040		x									
						W	r	6	Tan & brick red ss clay filled non-calc. hard.		
6060		x				W	r	6	-Dom. brick red ss. hard Torque began 6067		
6080		x				W	r	6	-Dom. brick red ss		
6100									-Dom brick red ss Dev. 6¼° @ 6108		
		x				W	r	8	wh-brick red non-calc. -clay filled		
6120											
		x							-stks gry dse. ls. DK gry dse ls		
6140											
						W	r	8	Wh-tan-brick red non-calc. clay filled		
6160											
									incr red mdst, maroon, mdst incr wh clay filling pieces ls dk brn gry gry ss some gry, some tn few flakes cg		
Geolograph 6180											
									Dev. 6¼° @ 6188		

234-197


DRILL TIME
0
10
20
FORMATION TOPS FOOTNOTES, SHOWS
POROSITY TYPE
POROSITY GRADE
LITHOLOGY
CRYSTALLINE GRAIN OR FRAGMENT SIZE
ROUNDING-DIAG. TYPE
SORTING-DIAG. DEGREE
PERCENT OF FRAMEWORK
DESCRIPTION
SUGGESTED ENVIRONMENT
ENGINEERING DATA
6220
6240
6260
6280
6300
6320
6340
6360
6380
NB
DB
aa some dk maroon siltst
ls cgst?
inc red maroon salmon vfg ss
wh ss tang
interbedded wh & salmon colored
ss salmon vfg to silt
wh ss tang
some cg is vfg matrix
aa tr maroon siltst
gy ls
aa
aa some m to cg in fg matrix
some cg ss in fg matrix
wh lt buff ss
ls sd grns
lsc sd grns
salmon ss
salmon ss
ls sd
bcmg grzitic
tr dkb chlorite flakes sloughing again?
tr gy ss
tr w porosity
ls sd grns
aa
salmon vfg + fg wh lt buff


DRILL TIME
0
10
20
FORMATION TOPS FOOTNOTES, SHOWS
POROSITY TYPE
POROSITY GRADE
LITHOLOGY
CRYSTALLINE GRAIN, OR FRAGMENT SIZE
ROUNDING-DIAG. TYPE
SORTING-DIAG. DEGREE
PERCENT OF FRAMEWORK
DESCRIPTION
SUGGESTED ENVIRONMENT
ENGINEERING DATA
6420
6440
6460
6480
6500
6520
6540
6560
6580
Bit Torquing
Bit Torquing
aa few cg
aa
aa incr wh
wh clay chips lt sd grn
salmon ufg ss
wh
wh to lt buff
sl dolo
few lse grns
aa
w dk maroon mdst
pellets, dk cg oolites in mgy matrix
microcrystalline ls, m to dk gy,
tr w porosity
incr sh cvgs
tr gy ss, lt yellow min fl, no cut
tr ls w copper mineralization
less lt colored more salmon ufg
fl min is xlline, lt gy to lt gy brn
sl calc
lt buff, vfg matrix some cg rounded
salmon ufg ss to s/t st.
ls, gy dk gy,
incs maroon, sl calc, sh
ss
ls
s/t st
maroon sh & dk maroon s/ts
ss dkr mixed w/ wh to lt buff
incr dk maroon sh cvgs?
incr wh
tr ls pellets dk gy blk in gy matrix
aa tr gy ss lt tan
dk maroon mdst
ss, wh lt buff
aa
incr wh ss
salmon ss some ufg
dk brn sh
dk gy sh cvgs
aa tr brn red mdst
Min ft
Min fl
Min ft
Min fl
Min ft
Min fl
Min ft
Min fl
Tr Min fl
Tr Min fl

DRILL TIME 0 10 20	FORMATION TOPS FOOTNOTES, SHOWS	POROSITY TYPE	POROSITY GRADE	LITHOLOGY	CRYSTALLINE GRAIN OR FRAGMENT SIZE	ROUNDING-DIAG. TYPE	SORTING-DIAG. DEGREE	PERCENT OF FRAMEWORK	DESCRIPTION	SUGGESTED ENVIRONMENT	ENGINEERING DATA
DTD 6620 DTD									Incr red mdst dk brn sh, mdst incr red dk brn mdst		

March 8, 1978

MEMO TO FILE:

Cont

Re: Union Oil Company
Well No. Federal 1-J9
SW NE Sec. 9, T. 11S., R. 4E.
Utah County, Utah

Union Oil company has apparently reached a Total Depth on the above named well and are preparing to run logs prior to plugging. This Office was notified and since no zones of porosity were encountered; the plugging program was defered to the U.S.G.S.

Patrick L. Driscoll

PATRICK L. DRISCOLL
CHIEF PETROLEUM ENGINEER

PLD/ksw

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal

9. WELL NO.: 1-J9

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL & 1865' FEL

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF		PULL OR ALTER CASING		WATER SHUT-OFF		REPAIRING WELL	
FRACTURE TREAT		MULTIPLE COMPLETE		FRACTURE TREATMENT		ALTERING CASING	
SHOOT OR ACIDIZE		ABANDON*	X	SHOOTING OR ACIDIZING		ABANDONMENT*	
REPAIR WELL		CHANGE PLANS		(Other) Supplementary Well History			X
(Other)				(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 to 6625' T.D. at 4:00 p.m., 3-6-78. Circulated. Schlumberger ran Dual Induction, Sonic, CNL Density, Dipmeter, and Sidewall Core Logs.

Propose to plug and abandon subject well as follows:

It is proposed to spot plugs as follows:

Plug #1: 35 sx. @ 6625-6525'
Plug #2: 50 sx. @ 5520-5370'
Plug #3: 35 sx. @ 4190-4090'
Plug #4: 70 sx. @ 1870-1670' across 8-5/8" casing shoe
Plug #5: 10 sx. in top of casing at surface.

APPROVED BY THE DIVISION OF OIL, GAS, AND MINING
DATE: March 20, 1978
BY: P. L. Driscoll

RECEIVED MAR 15 1978 DIV. OF OIL, GAS, & MINING

Have 8.8#/gallon mud between plugs. Cut casing off 3' below ground level and weld plate on 8-5/8" casing.

Request was received from Roger Thomas, of the Forest Service, Price, Utah, on 3-8-78, to waive installation of the dry hole marker.

NOTE; Above abandonment procedure approved verbally by Mr. Edgar W. Guynn, of the USGS, Salt Lake City, Utah, on 3-8-78.

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

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 3-9-78

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(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.)

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Federal

3. ADDRESS OF OPERATOR: P. O. Bcx 2620 - Casper, WY 82602

9. WELL NO.: 1-J9

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL & 1865' FEL

CONFIDENTIAL

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(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.)*

RECEIVED MAR 16 1978 DIVISION OF OIL, GAS, & MINING

6625' T.D.

Plugged and abandoned subject well as follows:

Plug #1: 35 sx. @ 6625-6525'
Plug #2: 50 sx. @ 5520-5370'
Plug #3: 35 sx. @ 4190-4090'
Plug #4: 70 sx. @ 1870-1670' across 8-5/8" casing shoe
Plug #5: 10 sx. in top of casing at surface.

Placed 8.8#/gallon mud between plugs. Cut casing off 3' below ground level and welded plate on 8-5/8" casing. Released rig at midnight, 3-9-78. Presently moving rotary rig off location. (Request was received from Roger Thomas, Forest Service, Price, Utah, on 3-8-78, to waive installation of the dry hole marker.)

NOTE: The pits will be fenced and the Forest Service boundary fence repaired after the rig has moved out. Due to the snow cover and run-off conditions, the pit and location cleanups will be postponed until the Forest Service and conditions permit the cleanups and road repairs.

Union Oil Company of California will notify the U.S.G.S. upon completion of this work. (Abandonment procedure approved verbally by Mr. Guynn, USGS, on 3-8-78.)

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

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 3-13-78

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

FORM OGC-8-X
FINLE IN QUADRUPLICATE

RECEIVED
MAR 16 1978
DIVISION OF OIL, GAS, & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116

REPORT OF WATER ENCOUNTERED DURING DRILLING

WELL NAME & NUMBER Federal Well No. 1-J9

OPERATOR Union Oil Company of California

Address P. O. Box 2620, Casper, WY 82602

CONTRACTOR Loffland Brothers Company

Address P. O. Box 688, Farmington, NM 87401

CONFIDENTIAL

LOCATION SW ¼ NE ¼; Sec. 9 ; T. 11 ~~N~~ S; R. 4 E ~~W~~

COUNTY Utah County

WATER SANDS: NO WATER ENCOUNTERED DURING DRILLING.

	DEPTH From - to-	VOLUME: Flow Rate or Head -	QUALITY: Fresh or Salty -
1.	- - -	- - -	- - -
2.			
3.			
4.			
5.			

(Continue on Reverse Side if Necessary)

FORMATION TOPS:

Arapien	1768'
Twin Creek	4138'
Nugget	5468'

NOTE: Still in Nugget @ 6625' T.D.

NOTE:

(a) Upon diminishing supply of forms, please inform this office.
(b) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.
(c) If a water quality analysis has been made of the above reported zone, please forward a copy along with this form.

Release date: 10-9-78

7

Form 9-330
(Rev. 5-63)

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.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal

9. WELL NO.: 1-J9

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 9, T.11S., R.4E.

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [X] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements.*)
At surface: 2515' FNL & 1865' FEL
At top prod. interval reported below
At total depth: 3256' FNL & 2205' FEL
(In relationship to reference point at 1773')

CONFIDENTIAL

RECEIVED
MAR 27 1978
DIVISION OF OIL, GAS, & MINING

14. PERMIT NO.:
DATE ISSUED:

12. COUNTY OR PARISH: Utah
13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
12-4-77	3-6-78	P & A 3-9-78	6640' G.L.	6640'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
6625'	- - -	- - -	→	0 - T.D.	- -

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: NONE

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: Schlumberger BH-Sonic, DIL, CNL Density, Dipmeter, & Sidewall Core Logs

27. WAS WELL CORED: 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#	153'	17-1/4"	200 sx.	- - -
8-5/8"	24#	1773'	12-1/4"	930 sx.	- - -

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
- - -	- - -	- - -	- - -	- - -

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
- - -	- - -	- - -

31. PERFORATION RECORD (*Interval, size and number*): NO PERFS.

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
- - -	- - -

33.* PRODUCTION

DATE FIRST PRODUCTION: - - -
PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*): - - - -
WELL STATUS (*Producing or shut-in*): Plugged & Abandoned

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

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
- - -	- - -	→	- - -	- - -	- - -	- - -

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY: - - -

35. LIST OF ATTACHMENTS
(1) Directional Survey

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

SIGNED [signature] TITLE District Drilling Supt. DATE 3-23-78

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

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.
If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.
Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.
Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.
Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.
Item 29: *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.
Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

NOTE: Blowout Preventers tested daily in accordance with Union Oil Company policy and reported by Drilling Contractor personnel on tour sheets.

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

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
			NO CORES. NO DST'S. NO WATER ENCOUNTERED DURING DRILLING. Plugged & Abandoned as follows: Plug #1: 35 sx. @ 6625-6525' Plug #2: 50 sx. @ 5520-5370' Plug #3: 35 sx. @ 4190-4090' Plug #4: 70 sx. @ 1870-1670' across 8-5/8" casing shoe Plug #5: 10 sx. in top of csg. @ surface 8.8#/gal. mud between plugs. Cut casing off 3' below G.L. & welded plate on 8-5/8" casing. Dry hole marker installation waived by request of Forest Service. Plugged & Abandoned on 3-9-78.

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Arapien	1768'	
Twin Creek	4138'	
Nugget	5468'	
Logger's T.D.	6624'	
Driller's T.D.	6625'	
NOTE: Still in Nugget at 6625' T.D.		

Union Oil and Gas I ion: Central Region

Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563

union 76

May 3, 1978

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MAY 5 1978
DIVISION OF OIL, GAS, & MINING

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah
84116

Gentlemen

Enclosed please find one copy of each of the following logs on the Union No. 1-J9 Federal in Section 9, T11S - R4E, Utah County, Utah.

Dual Induction Laterolog	152 - 6620'
Borehole Compensated Sonic	152 - 6612'
Compensated Neutron-Formation Density	1968 - 6623'
Continuous Dipmeter	1780 -5905' and 3450 - 6622'
Directional Log	1780 - 5905' and 3450 - 6622'
Sample Description	Surface - 6625

We request that this data be kept confidential as long as State regulations permit.

Sincerely,

Willard J. Guy

Willard J. Guy

WJK:bp
Encls.

RECEIVED
MAY 5 1978
DIVISION OF
GAS & MINING

SIDE WALL CORE ANALYSIS DATA

UNION OIL COMPANY

FEDERAL NO. 1-J-9

WILDCAT

UTAH COUNTY, UTAH

CONFIDENTIAL

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY	UNION OIL COMPANY		DATE ON 3-14-78	FILE NO.	RP-4-4542
WELL	FEDERAL 1-J-9		DATE OFF 3-15-78	ENGRS.	BOWEN
FIELD	WILDCAT		FORMATION NUGGET	ELEV.	6654.5 KB
COUNTY	UTAH	STATE UTAH	DRLG FLD.	CORES	
LOCATION	SW NE SEC 9 T11S - R4E		REMARKS		

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Side Wall Core Analysis Data

IN. REC.	DEPTH, FEET	PERM., Md.	POR., %	% POR. SAT. OIL	% POR. SAT. TOTAL WATER	PROB. PROD.	% OIL VOL.		°API	DESCRIPTION
	5645	.42	8.8							
	5764	2.3	11.7							
	5770	1.6	12.4							
	5812	1.1	12.6							
	6025	2.9	12.7							
	6306	1.4	12.5							
	6308	5.2	15.4							

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*                       *
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*-----------------------*
*------SCHLUMBERGER-----*
*-----------------------*
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SCHLUMBERGER DIRECTIONAL SURVEY

UNION OIL CO. OF CALIF.

INDIANOLA FED.#1-J-9

WILDCAT

UTAH COUNTY,UTAH

RUN NO. 1	1773 -	3476	2-FEB-78	4046
RUN NO. 2	3478 -	6622	7-MAR-78	4123

START OF SURVEY IS CASING AT 1773 FT.

TANGENTIAL METHOD

REFERENCE JOB 4123.

BOTTOM HOLE LOCATION

COURSE LENGTH:	815.4	FEET
COURSE AZIMUTH:	155.3	DEGREES
MEASURED DEPTH:	6622.0	FEET
TRUE VERTICAL DEPTH:	6545.8	FEET
DISTANCE SOUTH:	741.0	FEET
DISTANCE EAST:	340.3	FEET

TANGENTIAL METHOD

Form 9-331
(May 1963)

U. ED STATES
DEPARTME... OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRI ATE*
(Other instructio
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.)

CONFIDENTIAL

1. OIL WELL ☐ GAS WELL ☐ OTHER Plugged & Abandoned

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 8260

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2515' FNL & 1865' FEL

5. LEASE DESIGNATION AND SERIAL NO.: U-12107

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal

9. WELL NO.: 1-J9

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T.11S.,R.4E.

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6640' G.L.

12. COUNTY OR PARISH: Utah

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) CLEAN-UP & RESEEDING			X
(Other)			☐	(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.)*

The new road and old existing road have been reseeded and fertilized to the Forest Service boundary. The well has been cleaned up and reseeded in accordance with Forest Service recommendations.

Received on-site approval of the restoration work from Mr. Barry Johnson, of the Forest Service.

RECEIVED AUG 30 1978 GAS, & MINING

(Plugged & abandoned 3-9-78)

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

SIGNED R. G. Ladd Jr. TITLE District Drilling Supt. DATE 8-28-78

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side