

old gas application

Beren Corporation

601 DENVER CENTER BUILDING
1776 LINCOLN STREET, DENVER, COLORADO 80203 (303) 892-6541

May 19, 1975

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

Re: Oil & Gas Lease Bond
Township 5 South Range 23 East
Section 20 SENE
Uintah County, Utah

Gentlemen:

Enclosed please find bond covering drilling operations to begin in the SENE of Section 20, Township 5 South, Range 23 East, Uintah County, Utah.

We also enclose in duplicate Division of Oil and Gas Conservation Designation of Agent form, along with our authority to do business in the State of Utah.

Should you have any questions, please do not hesitate contacting me.

Very truly yours,

BEREN CORPORATION



R. L. Harris

Encls
RLH:lh

File in Duplicate

APPLICATION FOR CERTIFICATE OF AUTHORITY

BEREN CORPORATION

(exact corporate name)

A corporation of the state of Delaware incorporated February 28, 1969 hereby applies for: Certificate of Authority (date)

The period of duration is perpetual

65193

The address of the corporation in the state of incorporation is 100 West 10th Street, Wilmington, Delaware

The registered agent in Utah and the street of the registered office in Utah is C T Corporation System, 414 Walker Bank Building, Salt Lake City, Utah

List the business purposes which you intend to pursue in Utah: Ownership and operation of oil and gas properties

List the names and address of your directors and officers:

- Director Sheldon K. Beren, 1776 Lincoln St., Denver, Colo. 80203
Director Robert M. Beren, 970 Fourth Financial Center, Wichita, KS 67202
Director D. L. Fist, 525 South Main, Tulsa, Oklahoma 74103
President Robert M. Beren, 970 Fourth Financial Center, Wichita, KS 67202
Vice President Douglas Bendell, 970 Fourth Financial Center, Wichita, KS 67202
Secretary Robert M. Beren, 970 Fourth Financial Center, Wichita, Ks. 67202
Treasurer Sheldon K. Beren, 1776 Lincoln St., Denver, Colorado 80203

List the aggregate number of shares you have authority to issue. Itemize by class or series if applicable.

Table with 4 columns: Number of Shares, Class, Series, Par Value. Row 1: 100,000, Common, \$1.00

List the aggregate number of issued shares. Itemize by classes.

Table with 4 columns: Number of Shares, Class, Series, Par Value. Row 1: \$10,000, Common, \$1.00

Stated Capital: \$ 10,000 (see section 16-10-2 [j] for definition)

Give estimate of value of all assets corporation will own during next year. \$ 6,650,000

Give estimate of value of all assets in Utah next year. \$ 3,700

Give estimate of gross business you will transact next year everywhere. \$ 4,350,000

Give estimate of gross business you will transact next year in Utah. \$ -0-

Attach a copy of Articles of Incorporation and all amendments certified by the custodian thereof of the state of incorporation.

The corporation will use BEREN CORPORATION as its name in Utah.

(over)

FILED in the office of the Secretary of State of the State of Utah, on the 23rd day of March, A.D. 1975. CLYDE L. MILLER Secretary of State

Filing Fee: \$25.00

Filing Clerk

RECEIVED OFFICE OF SECRETARY OF STATE

SENATE OF UTAH



Office of Secretary of State

Certificate of Authority
of

BEREN CORPORATION

I, Clyde L. Miller, as Secretary of State of Utah, hereby certify that duplicate originals of an Application of

BEREN CORPORATION

for a Certificate of Authority to transact business in this State, duly signed and verified pursuant to the provisions of the Utah Business Corporation Act, have been received in this office and are found to conform to law.

Accordingly, the undersigned, as such Secretary of State, and by virtue of the authority vested in him by law, hereby issues this Certificate of Authority to

BEREN CORPORATION

to transact business in this State and attaches hereto a duplicate original of Application for such Certificate. File # 65193

In Testimony Whereof, I have hereunto set my hand and affixed the Great Seal of the State of Utah at Salt Lake City, Utah, this 24th day of March A.D. 1975.

Clyde L. Miller
SECRETARY OF STATE

By Harold R. Hinton
DEPUTY



File In Duplicate

DIVISION OF OIL AND GAS CONSERVATION
OF THE STATE OF UTAH

DESIGNATION OF AGENT

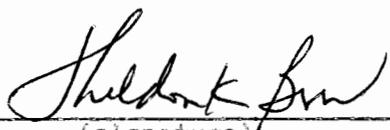
* * * * *

The undersigned producer, operator, transporter, refiner, gasoline or initial purchaser who is conducting oil and/or gas operations in the State of Utah, does, pursuant to the Rules and Regulations and Rules of Practice and Procedure of the Division of Oil and Gas Conservation of the State of Utah, hereby appoint CT Corporation, whose address is 414 Walker Bank Building, Salt Lake City, Utah, (his, her or its) designated agent to accept and to be served with notices from said Board, or from other persons authorized under the Oil and Gas Conservation Act of the State of Utah.

The undersigned further agrees to immediately report in writing, all changes of address of the agent, and any termination of the agent's authority, and in the latter case, the designation of a new agent or agents shall be immediately made. This designation of agent, however, shall remain in full force and effect until and unless a new designation agent is filed in accordance with said statute and said regulations.

Effective date of designation March 24, 1975

Company Beren Corporation Address 1776 Lincoln Street #601
Denver, Colorado 80203

By  Title Chairman
(signature)
Sheldon K. Beren

NOTE: Agent must be a resident of the State of Utah

Beren Corporation

601 DENVER CENTER BUILDING
1776 LINCOLN STREET, DENVER, COLORADO 80203 (303) 892-6541

May 30, 1975

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

Re: Application For Exception Location
Dudley Estate Well No. 1
Uintah County, Utah

Gentlemen:

Enclosed please find Form DOGC-1a "Application for Permit to Drill" for the subject well. Although the surveyed location complies with state regulations as to quarter-quarter section, the existence of small parcels within the designated 40-acres necessitates the location being closer than 500 feet to property lines.

This letter, therefore, with the attached plat is being submitted in six copies and constitutes our request for approval without hearing for the location of the subject well. The following information is presented in support of this application.

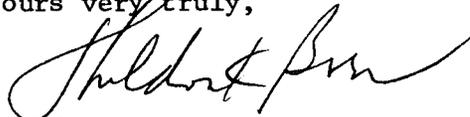
- √ (1) Geological interpretation indicates the proposed location to be the most favorable for potential hydrocarbon discovery;
- ∩ (2) Existence of numerous small parcels as shown on the attached plat make it impossible to choose a location which will be 500 feet from all property lines within the designated 40-acres;
- ∩ (3) Beren Corporation is the owner of oil and gas leases within the entire designated 40-acres; therefore, approval of other owners within 660 feet of the proposed location is not necessary; and
- ∩ (4) If the proposed test is successful in discovering economic hydrocarbon production, the entire designated 40-acres will be communitized as per Commission Rules and Regulations.

Based on the above, Beren Corporation respectfully requests administrative approval of the proposed exception location and Form DOGC-1a. We have been

State of Utah
Department of Natural Resources
Division of Oil and Gas Conservation
May 30, 1975
Page 2

successful in obtaining a contractor for the drilling of this well and await only the Commission's approval prior to commencement. Your earliest consideration of this request will, therefore, be sincerely appreciated.

Yours very truly,

A handwritten signature in cursive script, appearing to read "Sheldon K. Beren".

Sheldon K. Beren
Chairman

SKB/JRW/cn

Enclosure

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS

5. Lease Designation and Serial No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

6. If Indian, Allottee or Tribe Name

1a. Type of Work

DRILL

DEEPEN

PLUG BACK

7. Unit Agreement Name

b. Type of Well

Oil Well

Gas Well

Other

Single Zone

Multiple Zone

8. Farm or Lease Name

2. Name of Operator

Beren Corporation

Dudley Estate

3. Address of Operator

2160 First of Denver Plaza, 633 17th St., Denver, Colo.

80202

9. Well No.

1

4. Location of Well (Report location clearly and in accordance with any State requirements.)*
At surface

1980' FNL and 660' FEL, Section 20, T5S, R23E

At proposed prod. zone

Same

10. Field and Pool, or Wildcat

Wildcat

11. Sec., T., R., M., or Blk. and Survey or Area

20-5S-23E Salt Lake Meridian

14. Distance in miles and direction from nearest town or post office*

One mile west of Jensen, Utah

12. County or Parrish 13. State

Uintah

Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

150

16. No. of acres in lease

32.4

17. No. of acres assigned to this well

40

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.

None

19. Proposed depth

± 2800'

20. Rotary or cable tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc.)

4761' GR

22. Approx. date work will start*

June 7, 1975

23.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12 1/4"	8 5/8"	20#	± 200'	Circ. to surface
7 7/8"	4 1/2" or 5 1/2"	9.5# or 14#	± 2800'	+ 150 sxs.

1. Drill surface to TD with rotary tools.
2. Test all shows of oil and/or gas.
3. Run 4 1/2" or 5 1/2" casing if productive.
4. Plug and abandon in accordance with state regulations if a dry hole.

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

24.

Signed..... *[Signature]* Title..... Division Engineer Date..... May 30, 1975

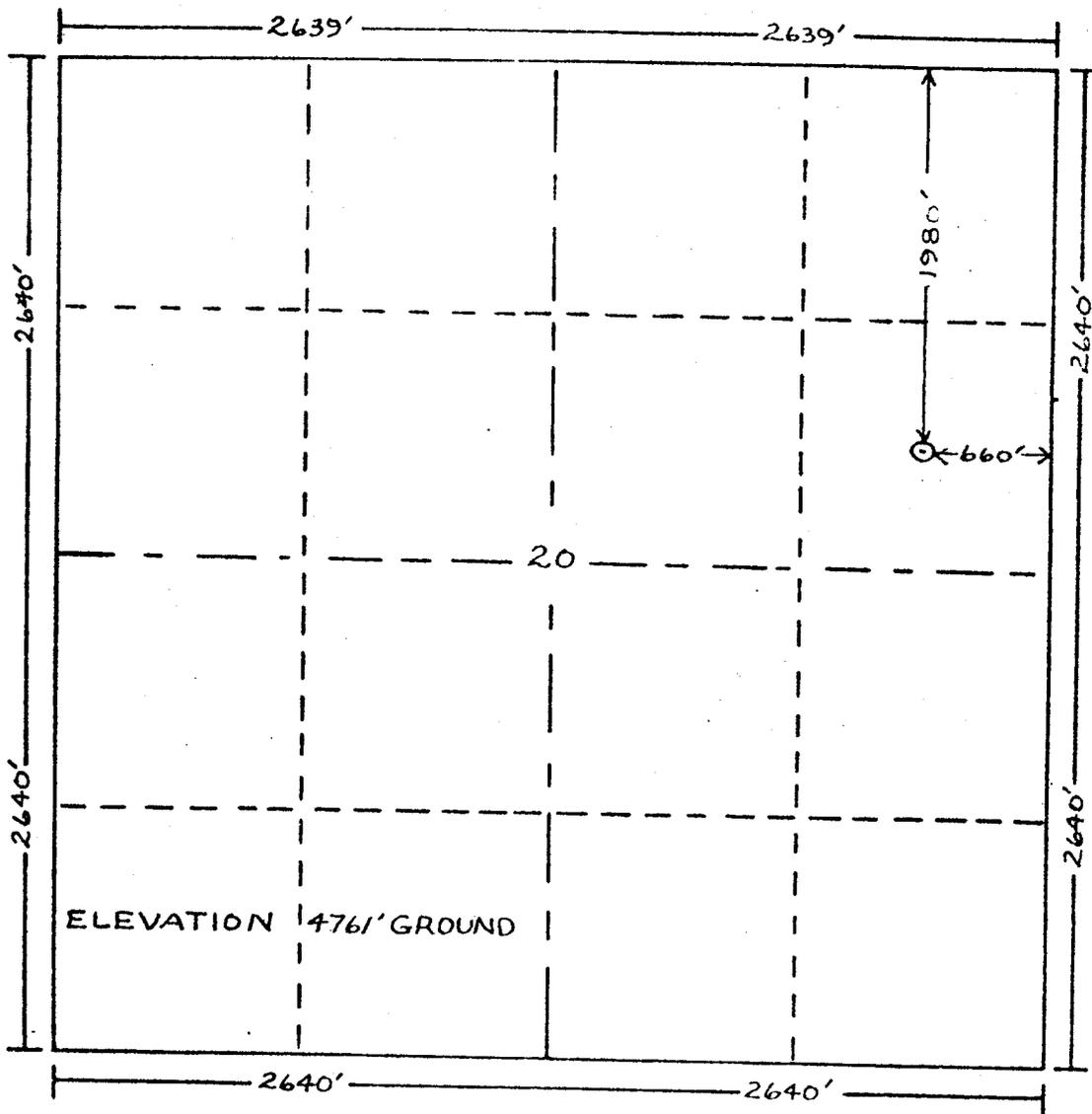
(This space for Federal or State office use)

Permit No..... Approval Date

Approved by..... Title..... Date.....
Conditions of approval, if any:



R. 23 E.



S. 5. T.



Scale... 1" = 1000'

Powers Elevation Company, Inc. of Denver, Colorado has in accordance with a request from JIM MURPHY for BEREN CORP

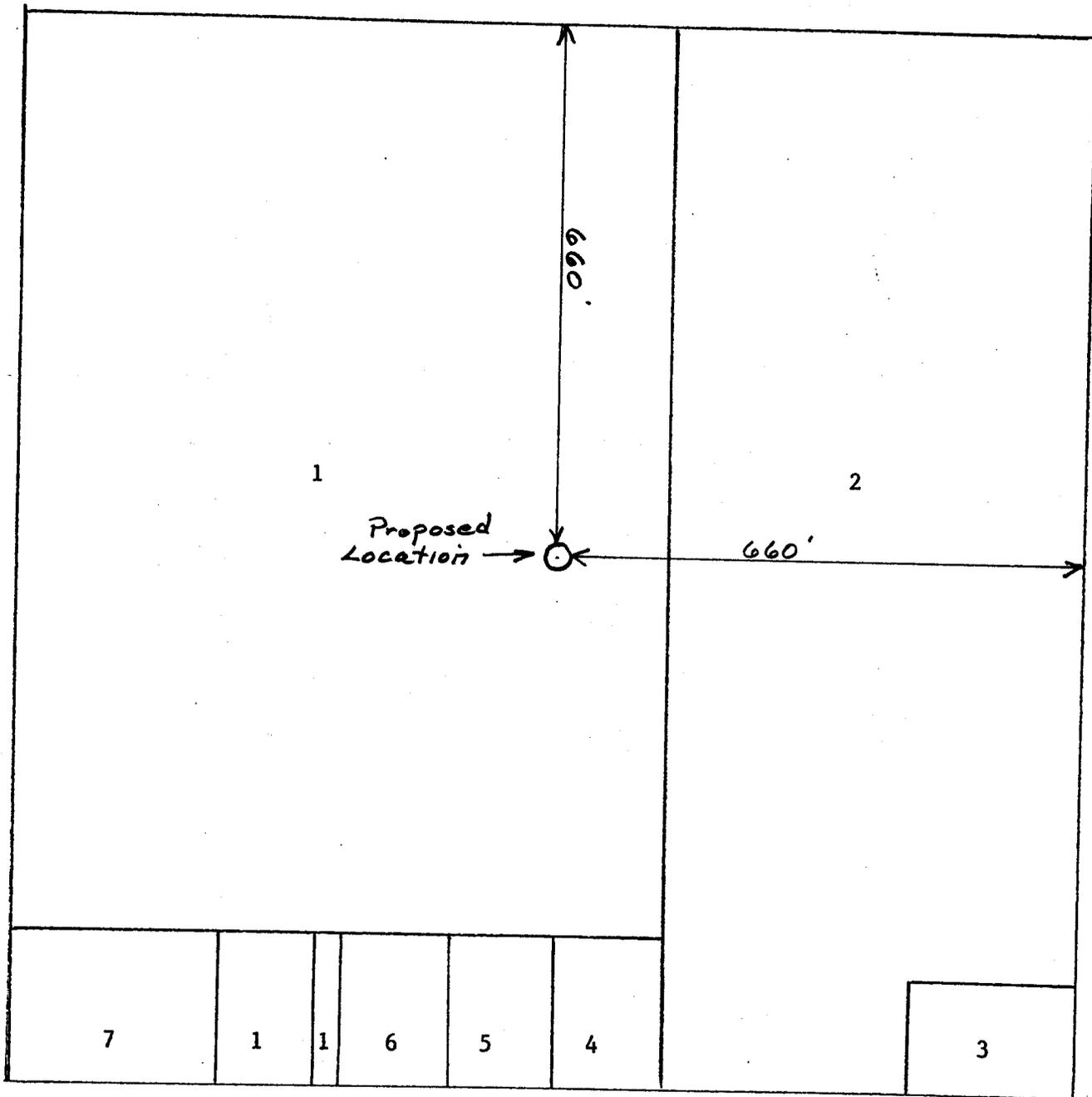
determined the location of #1-DUDLEY to be 1980' FN & 660' FE Section 20 Township 5 S. Range 23 E. OF THE SALT LAKE Meridian UTAH County, UTAH

I hereby certify that this plat is an accurate representation of a correct survey showing the location of #1-DUDLEY

Date: 5-24-75

White
Licensed Land Surveyor No. 2658 P.E.
State of UTAH

± 40 acres, SENE, Sec. 20, T5S, R23E



<u>Parcel</u>	<u>Lessor</u>	<u>Lessee</u>
1	Dudley Estate	Beren Corp.
2	Lynne H. & Naomi Dudley	" "
3	Curtis D. Dudley	" "
4	C.D. Ross	" "
5	Mary D. Robertson	" "
6	Iona Dudley	" "
7	Joseph S. Dudley	" "

APPLICATION FOR EXCEPTION LOCATION
 BEREN CORPORATION
 DUDLEY ESTATE WELL NO. 1
 C SE/4 NE/4 SEC 20, T5S, R23E
 Uintah County, Wyoming
 Scale 1"=200' 5-30-75

BEREN CORPORATION
&
OKMAR OIL COMPANY

announce
the relocation of
their Denver offices to
2160 First of Denver Plaza
633 17th Street
Denver, Colorado 80202
(303) 892-6541
effective June 2, 1975

DIVISION OF OIL, GAS, AND MINING

FILE NOTATIONS

Date: June 3, 1975
 Operator: Piper Corp.
 Well No: Dudley Estate #1
 Location: Sec. 10 T. 58 R. 23E County: Unitah

 File Prepared Entered on N.I.D.
 Card Indexed Completion Sheet

Checked By:
 Administrative Assistant: SW
 Remarks:
 Petroleum Engineer/Mined Land Coordinator: [Signature]
 Remarks:
 Director: _____
 Remarks:

Include Within Approval Letter:
 Bond Required Survey Plat Required
 Order No. _____ Blowout Prevention Equipment
 Rule C-3(c) Topographical exception/company owns or controls acreage
 within a 660' radius of proposed site
 O.K. Rule C-3 O.K. In _____ Unit
 Other:

Letter Written

June 3, 1975

Beren Corporation
2160 First of Denver Plaza
633 17th Street
Denver, Colorado 80202

Re: Well No. Dudley Estate #1
Sec. 20, T. 5 S, R. 23 E,
Uintah County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with the provisions of 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:

CLEON B. FEIGHT - Director
HOME: 466-4455
OFFICE: 328-5771

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

The API number assigned to this well is 43-047-30218.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT
DIRECTOR

CBF:sw

PP 21

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPPLICATE*
(Other instructions on reverse side)

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.)

<p>1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER</p> <p>2. NAME OF OPERATOR Beren Corporation, c/o Minerals Management Inc.</p> <p>3. ADDRESS OF OPERATOR P. O. Box 3440, Casper, Wyoming, 82601</p> <p>4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL, 660' FEL, Section 20, T5S-R23E</p>		<p>5. LEASE DESIGNATION AND SERIAL NO.</p> <p>6. IF INDIAN, ALLOTTEE OR TRIBE NAME</p> <p>7. UNIT AGREEMENT NAME</p> <p>8. FARM OR LEASE NAME Dudley Estate</p> <p>9. WELL NO. 1</p> <p>10. FIELD AND POOL, OR WILDCAT Wildcat</p> <p>11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 20-5S-23E Salt Lake Mer.</p>
<p>14. PERMIT NO.</p>	<p>15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4761' Gr.</p>	<p>12. COUNTY OR PARISH Uintah</p> <p>13. STATE Utah</p>

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

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

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

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

Spudded at 6:00 A.M., 6-15-75.

Ran 5 joints, 205', of 8-5/8" casing equipped with centralizer at 200' and guide shoe. Landed at 213' K.B. Cemented with 160 sxs Class "G" cement with 2% CaCl. Displaced with 13 bbls. water. Plug down at 5:30 A.M., 6-17-75. Good returns but lacked 12' of having cement to top. Ran 1" pipe and cemented with 7± sxs cement.

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

SIGNED [Signature] TITLE Agent DATE 6-17-75

(This space for Federal or State office use)

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



SURFACE INFORMATION

Description (Rate of Flow)	Time	Pressure (P.S.I.G.)	Surface Choke
Opened Tool	0811	-	1/4"
BLOW, 1" IN WATER SLOWLY INCREASING			
BLOW OFF BOTTOM OF BUCKET	0821	-	"
CLOSED FOR INITIAL SHUT-IN	0826	-	"
FINISHED SHUT-IN	0926	-	"
RE-OPENED TOOL	0929	-	"
BLOW, 1" IN WATER SLOWLY INCREASING			
BLOW OFF BOTTOM OF BUCKET	0939	-	"
BLOW REMAINED STEADY FOR BALANCE OF TEST.			
CLOSED FOR FINAL SHUT-IN	1059	-	"
FINISHED SHUT-IN	1259	-	"
PULLED PACKER LOOSE	1302	-	-

Cushion Type	Amount	Pressure	Bottom Choke Size
	-		15/16"

MUD DATA

Mud Type	CHEMICAL - GEL	Wt.	10.3
Viscosity	65	Water Loss	7.6 C.C.
Resist: of Mud	1.5 @ 52 °F	of Filtrate	3.5 @ 58 °F
Chloride Content	2100		PPM

EQUIPMENT & HOLE DATA

Type Test	M. F. E. OPEN HOLE
Formation Tested	CHINARUMP
Elevation	4768 Ft.
Net Productive Interval	8 Ft.
Estimated Porosity	20 %
All Depths Measured From	KELLY BUSHING
Total Depth	2705 Ft.
Main Hole/Casing Size	7 7/8"
Rat Hole/Liner Size	-
Drill Collar Length	276' I.D. 2 1/4"
Drill Pipe Length	2240' I.D. 3.24"
Packer Depth(s)	2546' & 2550' Ft.

MULTI-FLOW EVALUATOR FLUID SAMPLE DATA

Sampler Pressure	20 P.S.I.G. at Surface
Recovery: Cu. Ft. Gas	.01
cc. Oil	450
cc. Water	1940
cc. Mud	- (TRACE)
Tot. Liquid cc.	2390
Gravity	33.2 °API @ 60 °F.
Gas/Oil Ratio	4 cu. ft./bbl.

RESISTIVITY CHLORIDE CONTENT

Recovery Water	- @ - °F.	- ppm
Recovery Mud	.87 @ 92 °F.	
Recovery Mud Filtrate	.7 @ 94 °F.	2000 ppm
Mud Pit Sample	1.5 @ 52 °F.	
Mud Pit Sample Filtrate	3.5 @ 58 °F.	2100 ppm

RECOVERY DESCRIPTION	FEET	BARRELS	% OIL	% WATER	% OTHERS	API GRAVITY	RESISTIVITY	CHL. PPM
OIL AND WATER CUT MUD	720	6.84				@ °F.	1.0 @ 89 °F.	2400
MUD AND OIL CUT WATER	180	0.88				@ °F.	1.1 @ 90 °F.	2000
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	

Remarks: _____

Address P. O. BOX 2919; CASPER, WYOMING 82601

Company MINERAL MANAGEMENT, INC. Field WILD CAT

Well DUDLEY ESTATES # 1 Location SEC. 20-TWP5S-RGE23E

Test Interval 2550' TO 2705' Test # 1 Date 6-26-75

County UINTAH State UTAH Field Report No. 09207 C

Technician TAYLOR (VERNAL) Test Approved By MR. L. JOHNSON No. Reports Requested 5 XX



P.O. BOX 36369 • HOUSTON, TEXAS

CONFIRMATION OF TECHNICAL REPORT DISTRIBUTION

CUSTOMER MINERAL MANAGEMENT, INC, FIELD REPORT NO. 09207 C DATE 6-26-75
COMPANY SAME LEASE DUDLEY ESTATES WELL NO. 1
COUNTY UINTAH STATE UTAH FIELD WILD CAT

JOHNSTON TESTERS HAS BEEN REQUESTED TO FURNISH THE FOLLOWING COMPANIES WITH TECHNICAL REPORTS.
THIS DISTRIBUTION OF TECHNICAL REPORTS WILL BE USED FOR: [X] ALL TESTS ON THIS WELL, UNLESS OTHERWISE NOTIFIED. [] THIS ONE TEST ONLY,

2 TECHNICAL REPORT (S)
MINERAL MANAGEMENT, INC.
P. O. BOX 2919
CASPER, WYOMING 82601

TECHNICAL REPORT (S)

2 TECHNICAL REPORT (S)
BEREN CORPORATION
2160 FIRST OF DNVR PLAZA
633 17TH. STREET
DENVER, COLORADO 80202

TECHNICAL REPORT (S)

1 TECHNICAL REPORT (S)
OIL AND GAS COMMISSION
STATE OF UTAH
1588 WEST, NORTH TEMPLE
SALT LAKE CITY, UTAH 84116

TECHNICAL REPORT (S)

It is our pleasure to be of service.

JOHNSTON

FIELD REPORT NO.: 09207 C

INSTRUMENT NO.: J-029

CAPACITY: 2800#

NO. OF REPORTS: 5-

PRESSURE DATA FROM THIS CHART IS PRESENTED ON NEXT PAGE



BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-029 CAPACITY(P.S.I.): 2800 DEPTH: 2645 FT.
 PORT OPENING: OUTSIDE BOTTOM HOLE TEMP.: 94 PAGE 1 OF 2

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	1463.8		
INITIAL FLOW(1)	2	120.8		
INITIAL FLOW(2)	3	241.3	15	15
INITIAL SHUT-IN	4	1321.3	60	61
FINAL FLOW(1)	5	264.0		
FINAL FLOW(2)	6	500.4	90	90
FINAL SHUT-IN	7	1254.5	120	119
FINAL HYDROSTATIC MUD	8	1451.9		

INCREMENTAL READINGS

LABEL POINT	DELTA TIME	PRESSURE (P.S.I.)	T + DT/DT	LOG	PW - PF (P.S.I.)	COMMENTS
1		1463.8				HYDROSTATIC MUD
2	0	120.8				INITIAL FLOW(1)
	5	190.4				
	10	218.7				
3	15	241.3				INITIAL FLOW(2)
3	0	241.3				STARTED SHUT-IN
	5	945.1	4.000	0.602	703.7	
	10	1086.5	2.500	0.398	845.2	
	15	1157.2	2.000	0.301	915.9	
	20	1200.8	1.750	0.243	959.4	
	25	1230.7	1.600	0.204	989.4	
	30	1252.2	1.500	0.176	1010.9	
	35	1269.8	1.429	0.155	1028.4	
	40	1283.9	1.375	0.138	1042.6	
	45	1294.7	1.333	0.125	1053.3	
	50	1304.3	1.300	0.114	1063.0	
	55	1312.2	1.273	0.105	1070.9	
	60	1319.6	1.250	0.097	1078.2	
4	61	1321.3	1.246	0.095	1079.9	INITIAL SHUT-IN
5	0	264.0				FINAL FLOW(1)
	5	302.4				
	10	330.1				
	15	352.8				
	20	371.4				
	25	382.8				
	30	393.5				
	35	403.7				
	40	413.9				
	45	423.5				
	50	433.1				
	55	441.6				
	60	450.1				
	65	458.6				
	70	467.0				
	75	475.5				

LABEL POINT	DELTA TIME	PRESSURE (P.S.I.)	T + DT/DT	LOG	PW - PF (P.S.I.)	COMMENTS
	80	484.0				
	85	492.5				
6	90	500.4				FINAL FLOW(2) STARTED SHUT-IN
6	0	500.4				
	1	809.9	106.000	2.025	309.4	
	2	841.0	53.500	1.728	340.6	
	3	867.6	36.000	1.556	367.1	
	4	889.6	27.250	1.435	389.2	
	5	909.4	22.000	1.342	409.0	
	6	926.4	18.500	1.267	426.0	
	7	941.7	16.000	1.204	441.2	
	8	954.1	14.125	1.150	453.7	
	9	967.1	12.667	1.103	466.7	
	10	977.9	11.500	1.061	477.5	
	12	997.1	9.750	0.989	496.7	
	14	1013.5	8.500	0.929	513.1	
	16	1027.7	7.562	0.879	527.2	
	18	1041.2	6.833	0.835	540.8	
	20	1053.1	6.250	0.796	552.7	
	22	1063.3	5.773	0.761	562.9	
	24	1073.5	5.375	0.730	573.1	
	26	1082.5	5.038	0.702	582.1	
	28	1091.0	4.750	0.677	590.6	
	30	1098.9	4.500	0.653	598.5	
	35	1116.5	4.000	0.602	616.0	
	40	1131.7	3.625	0.559	631.3	
	45	1144.8	3.333	0.523	644.3	
	50	1157.2	3.100	0.491	656.8	
	55	1167.9	2.909	0.464	667.5	
	60	1178.1	2.750	0.439	677.7	
	65	1187.2	2.615	0.418	686.8	
	70	1195.7	2.500	0.398	695.2	
	75	1203.6	2.400	0.380	703.2	
	80	1210.9	2.313	0.364	710.5	
	85	1217.7	2.235	0.349	717.3	
	90	1224.0	2.167	0.336	723.5	
	95	1230.2	2.105	0.323	729.8	
	100	1235.8	2.050	0.312	735.4	
	105	1241.5	2.000	0.301	741.1	
	110	1246.6	1.955	0.291	746.2	
	115	1251.7	1.913	0.282	751.2	
7	119	1254.5	1.882	0.275	754.1	FINAL SHUT-IN HYDROSTATIC MUD
8		1451.9				

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

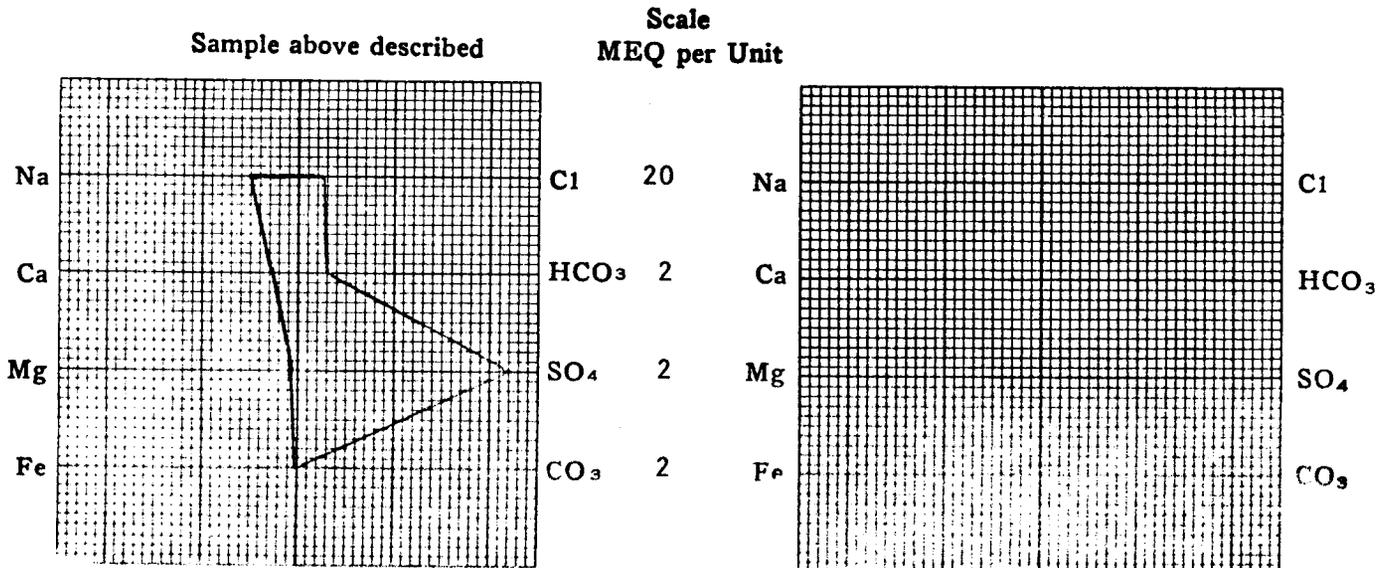
OPERATOR <u>The Beren Corporation</u>	DATE <u>June 30, 1975</u>	LAB NO. <u>16663-2</u>
WELL NO. <u>Dudley Estates No. 1</u>	LOCATION <u>Sec. 20-5S-23E</u>	
FIELD <u>Wildcat</u>	FORMATION <u>Shinarump</u>	
COUNTY <u>Uintah</u>	INTERVAL <u>2550-2705</u>	
STATE <u>Utah</u>	SAMPLE FROM <u>DST No. 1 (MFE)</u>	

REMARKS & CONCLUSIONS: Oil content - - - - - 25% by volume.
Muddy water, clear filtrate.
Major differences between this sampled top sample (mud) indicates
this is probably formation water.

<u>Cations</u>	<u>mg/l</u>	<u>meq/l</u>	<u>Anions</u>	<u>mg/l</u>	<u>meq/l</u>
Sodium - - - - -	<u>2146</u>	<u>93.37</u>	Sulfate - - - - -	<u>2100</u>	<u>43.68</u>
Potassium - - - - -	<u>37</u>	<u>0.95</u>	Chloride - - - - -	<u>1780</u>	<u>50.20</u>
Lithium - - - - -	<u> </u>	<u> </u>	Carbonate - - - - -	<u> </u>	<u> </u>
Calcium - - - - -	<u>98</u>	<u>4.89</u>	Bicarbonate - - - - -	<u>390</u>	<u>6.40</u>
Magnesium - - - - -	<u>13</u>	<u>1.07</u>	Hydroxide - - - - -	<u> </u>	<u> </u>
Iron - - - - -	<u>absent</u>	<u> </u>	Hydrogen sulfide - - - - -	<u>absent</u>	<u> </u>
Total Cations - - - - -			Total Anions - - - - -		
<u>100.28</u>			<u>100.28</u>		

Total dissolved solids, mg/l - - - - - <u>6366</u>	Specific resistance @ 68°F.:
NaCl equivalent, mg/l - - - - - <u>5337</u>	Observed - - - - - <u>1.10</u> ohm-meters
Observed pH - - - - - <u>8.1</u>	Calculated - - - - - <u>1.15</u> ohm-meters

WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter
 Sodium chloride equivalent by Dupont & Hawthorne calculation from components

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming 82601

CRUDE OIL ANALYSIS REPORT

<u>Company</u>	The Beren Corporation	<u>Date</u>	June 30, 1975	<u>Lab. No.</u>	16663-3
<u>Well No.</u>	Dudley Estates Fee No. 1	<u>Location</u>	Sec. 20-5S-23E		
<u>Field</u>	Wildcat	<u>Formation</u>	Shinarump		
<u>County</u>	Uintah	<u>Depth</u>	2550-2705		
<u>State</u>	Utah	<u>Analyzed by</u>	Staff		

DST No. 1 (MFE)

GENERAL CHARACTERISTICS

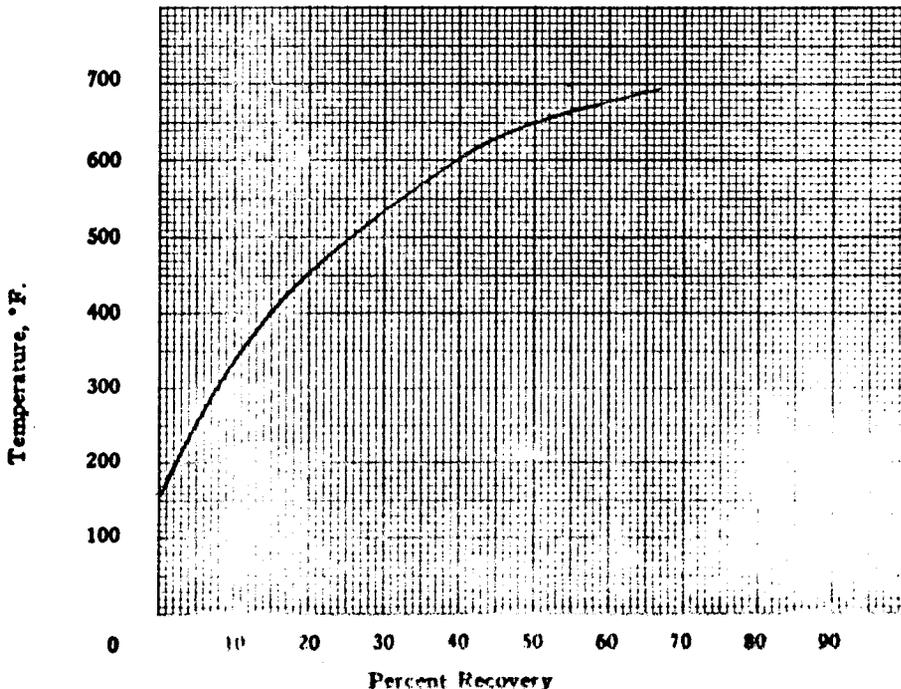
Specific gravity @ 60/60 °F.....	0.9017
A.P.I. gravity @ 60 °F.....	25.4
Saybolt Universal Viscosity @ 70°F., seconds.....	608.5
Saybolt Universal Viscosity @ 100°F., seconds.....	247.5
B. s. and water, % by volume.....	75.0
Pour point, °F.....	40
Total sulphur, % by weight.....	1.32

REMARKS: Above tests were made on water-free oil

ENGLER DISTILLATION

Recovery, %	Temperature, °F.
IBP	162
5	245
10	322
15	402
20	456
25	493
30	528
35	568
40	600
45	630
50	652
55	666
60	675
65	686
70	_____
75	_____
80	_____
85	_____
90	_____
95	_____
E.P.	_____

DISTILLATION GRAPH



Recovery, %	70.0
Residue, %	30.0
Loss, %	0

Approximate Recovery

300 BP gasoline, %	7.5
170 BP gasoline, %	14.0
95 BP distillate, %	11.5

Wally Johnson
Minerals Management
Casper.

STATE OF UTAH
DIVISION OF OIL & GAS CONSERVATION
DEPARTMENT OF NATURAL RESOURCES

PLUGGING PROGRAM

ok

NAME OF COMPANY *Seren Corporation*

WELL NAME *Duality Estate #1* API NO: _____

Sec. *40* Township *58* Range *23E* County *Uintah Co.*

Verbal Approval Given to Plug the Above Referred to Well in the Following Manner:

Total Depth: *2705'*

Casing Program:

8 5/8" @ 205'
Surface Casing

Formation Tops:

Dakota @ 432'
Morrison @ 520'
Curtis @ 1445'
Entrada @ 1550'
Carroll @ 1680'
Navajo @ 1785'
Chinle @ 2480'
Shinarump @ 2636'

Plugs Set as Follows:

2700' - 2600'
36 sacks

1700' - 1600'
34 sacks

50' in 2 drut
250' - 150' 36 sacks
10 sacks/marker

1 DST - 720' w/cm
100' water

water @ Navajo

Date: *6-26-75* Signed: *D. Seren*

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL GAS WELL OTHER Dry

2. NAME OF OPERATOR
Beren Corporation

3. ADDRESS OF OPERATOR
633 17th Street
2160 First of Denver Plaza, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1980' FNL, 660' FEL, Section 20, T5S-R23E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, CR, etc.)
4761' Gr.

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Dudley Estate

8. FARM OR LEASE NAME
Dudley Estate

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
20-5S-23E Salt Lake Mer.

12. COUNTY OR PARISH
Uintah

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 <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(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.)*

Total Depth: 2705'

Request permission to plug as follows:

- 2705'-2700' heavy drilling mud
- 2700'-2600' 35 sxs cement
- 2600'-1700' heavy drilling mud
- 1700'-1600' 34 sxs cement
- 1600'- 250' heavy drilling mud
- 250'- 150' 36 sxs cement
- 150'-surface heavy drilling mud
- Top of surface 10 sxs cement with dry hole marker

Location will be cleaned up and restored to original condition.

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

SIGNED *[Signature]* TITLE Division Engineer DATE 6-30-75

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Caru Book file 8/10

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____
 b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESVR. Other D & A

2. NAME OF OPERATOR
Beren Corporation

3. ADDRESS OF OPERATOR
2160 First of Denver Plaza, 633 17th Street, Denver, Colorado

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
 At surface C SE NE Sec. 20-T5S-R23E
 At top prod. interval reported below Same
 At total depth Same

14. PERMIT NO. API #43-047-30218 DATE ISSUED 6-3-75

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Dudley Estate

9. WELL NO.
One

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
20-5S-23E Salt Lake Mer.

12. COUNTY OR PARISH
Uintah 13. STATE
Utah

15. DATE SPUDDED 6-15-75 16. DATE T.D. REACHED 6-26-75 17. DATE COMPL. (Ready-to-prod.) 6-27-75 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 4768' KB 19. ELEV. CASINGHEAD 4761' GL

20. TOTAL DEPTH, MD & TVD 2705 21. PLUG, BACK T.D., MD & TVD ----- 22. IF MULTIPLE COMPL., HOW MANY* ----- 23. INTERVALS DRILLED BY ----- ROTARY TOOLS X CABLE TOOLS _____

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
None 25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
DIL - BHC - SGRC 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
<u>8 5/8"</u>		<u>213'</u>		<u>w/160 sx</u>	<u>None</u>

29. LINER RECORD 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number) 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

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) _____

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
Survey Plats

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

SIGNED [Signature] TITLE Division Engineer DATE July 3, 1975

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

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Dry		5. LEASE DESIGNATION AND SERIAL NO.
2. NAME OF OPERATOR Beren Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 2160 First of Denver Plaza, 633 17th Street, Denver, Colorado		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL & 660' FEL Section 20-T5S-R23E		8. FARM OR LEASE NAME Dudley Estate
14. PERMIT NO. API #43-047-30218		9. WELL NO. One
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4761' GR		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 20-5S-23E Salt Lake Mer.
		12. COUNTY OR PARISH UINTAH
		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 <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(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.)*

Plugging Procedure: Plug # 1 2700-2600 37 Sacks
 Plug # 2 1700-1600 36 Sacks
 Plug # 3 250-150 37 Sacks
 10 sack plug in top of surface pipe. Installed marker.
 Remainder of hole filled with heavy mud.

*of to
Verbal Approval*

18. I hereby certify that the foregoing is true and correct
 SIGNED *[Signature]* TITLE Division Engineer DATE July 3, 1975

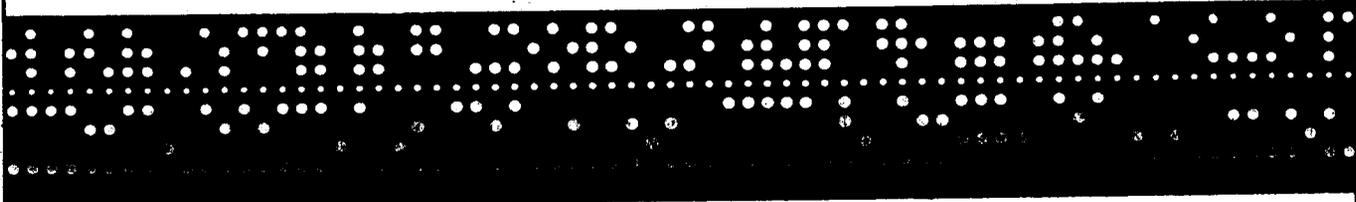
(This space for Federal or State office use)

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

COMPANY MINERAL MANAGEMENT WELL DUDLEY ESTATES # 1 TEST NO. 1 COUNTY UINTAH STATE UTAH
INC.

JOHNSTON
Schlumberger

computerized
data
analysis



COMPUTERIZED DATA ANALYSIS

JULY 2, 1975

GENTLEMEN:

THE ENCLOSED TEST APPEARS TO BE A GOOD MECHANICAL DRILL STEM TEST DURING WHICH THE TOOLS DID FUNCTION PROPERLY. THE FORMATION PRODUCED ENOUGH RESERVOIR FLUID FOR PROPER IDENTIFICATION. RESERVOIR PRESSURE DRAWDOWN WAS SUFFICIENT BUT ADEQUATE SHUT-IN BUILD-UPS DID NOT OCCUR FOR RELIABLE QUANTITATIVE ANALYSIS USING THE HORNER METHOD. AFTERFLOW WAS STILL IN EFFECT ON THE INITIAL AND FINAL SHUT-IN BUILD-UPS TO THE EXTENT THAT THE PLOTS ARE CONSIDERED UNRELIABLE FOR ANALYSIS. DUE TO THE DOMINANCE OF AFTERFLOW, THE MCKINLEY METHOD WAS EMPLOYED TO CALCULATE RESERVOIR PARAMETERS.

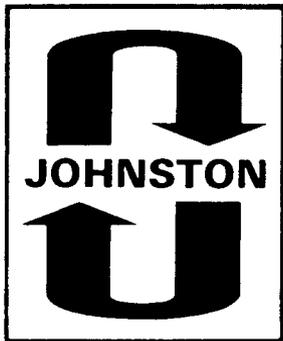
1. FLOW RATE: A FLOW RATE OF 106 BBL/DAY OF LIQUID WAS NOTED DURING THIS TEST.
2. RESERVOIR PRESSURE: EXTRAPOLATION OF THE INITIAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 1406 P.S.I.G. AT RECORDER DEPTH. EXTRAPOLATION OF THE FINAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 1394 P.S.I.G. AT RECORDER DEPTH. THE DIFFERENCE BETWEEN THE INITIAL AND FINAL SHUT-IN PRESSURE OF 12 P.S.I.G. IS INDICATIVE OF DEPLETION. A LIMITED RESERVOIR IS INDICATED IF DEPLETION IS ACTUALLY TAKING PLACE.
3. PERMEABILITY: THE CALCULATED TRANSMISSIBILITY FACTOR OF 71.7 MD.-FT./CP. INDICATES AN AVERAGE EFFECTIVE PERMEABILITY TO LIQUID OF 49.3 MD. FOR THE REPORTED 8 FOOT TEST INTERVAL. THE CALCULATIONS WERE BASED ON THE INDICATED TRANSMISSIBILITY OBTAINED FROM THE MCKINLEY PLOT. IT WAS ASSUMED FOR THESE CALCULATIONS: (A) THE 33.2°API AT 60°F. OIL CONTAINED 50 CU.FT./BBL. OF ORIGINAL DISSOLVED GAS (B) VISCOSITY 5.5 CP., (C) FORMATION VOLUME FACTOR 1.03 BBL/BBL. THESE FIGURES WERE OBTAINED FROM THE AVAILABLE TECHNICAL LITERATURE.
4. WELL BORE DAMAGE: THE CALCULATED ESTIMATED DAMAGE RATIO OF .78 INDICATES THAT NO WELL BORE DAMAGE IS PRESENT AT THE TIME AND CONDITIONS OF THIS TEST.
5. RADIUS OF INVESTIGATION: THE CALCULATED RADIUS OF INVESTIGATION OF THIS TEST IS 143 FEET BASED ON AN ASSUMED POROSITY OF 20%, COMPRESSIBILITY OF 4.0×10^{-6} , AND OTHER ASSUMPTIONS MADE IN NUMBER 3 ABOVE.
6. GENERAL COMMENTS: THE FORMATION EXHIBITS THE CHARACTERISTICS OF RELATIVELY HIGH PERMEABILITY EFFECTIVE TO THE RESERVOIR FLUID AND INDICATES THE ABSENCE OF WELL BORE DAMAGE.

THE MCKINLEY PLOT INDICATES A STIMULATED WELL BORE. THE PRESENCE OF A FRACTURE SYSTEM APPEARS LIKELY. IF FRACTURES ARE PRESENT, THEN THE DECREASE IN TRANSMISSIBILITY WOULD DICTATE A SUSTAINED RATE TO BE APPROXIMATELY 6 BBL/DAY. IN ADDITION, THE DOMINANCE OF WATER PRODUCTION WOULD APPEAR TO MAKE COMPLETION CHANCES POOR.

MINERAL MANAGEMENT, INC.
DUDLEY ESTATES # 1; UINTAH COUNTY, UTAH
TEST # 1; 2550' TO 2705'
SECTION: 20-TWP5S-RGE23E


JOHN F. VISCARDE
INTERPRETATION AND
EVALUATION DEPARTMENT

FIELD REPORT # 09207 C



PRESSURE LOG*

Field Report No. 09207C

Instrument:
Number J-029

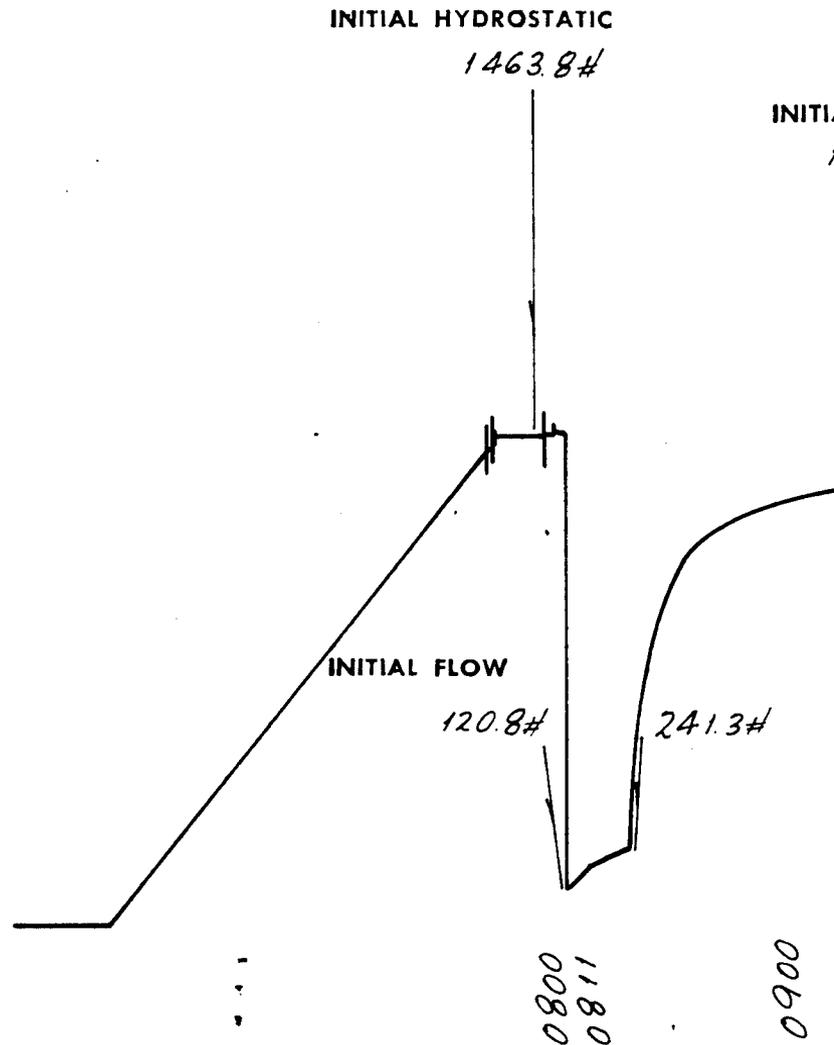
Capacity 2800 p.s.i.

Depth 2645 ft.

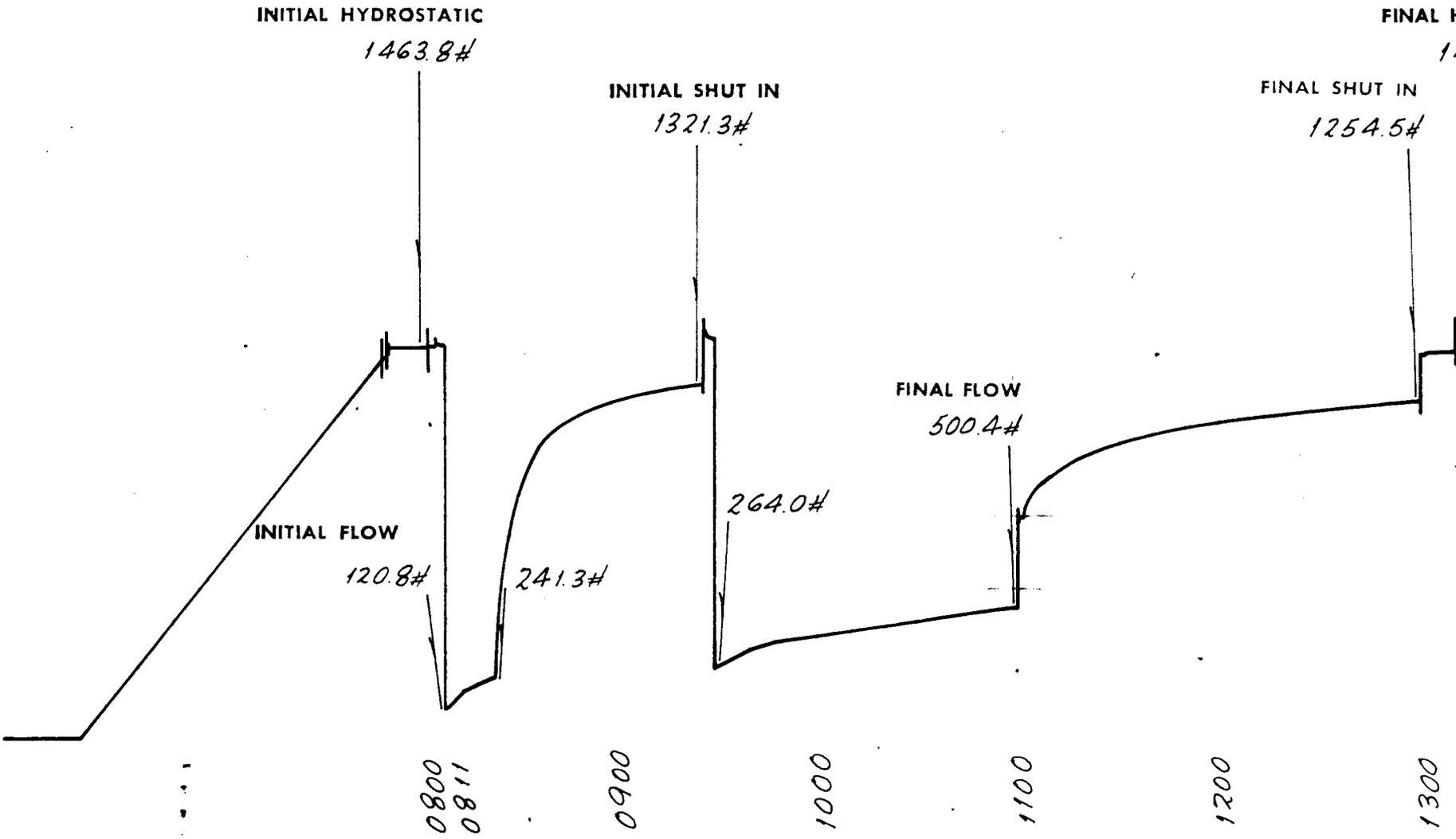
*a continuous tracing of the original chart

$\frac{1}{2}$ HOUR

TIME →



1/2 HOUR



UT IN
3#

FINAL HYDROSTATIC

1451.9#

FINAL SHUT IN

1254.5#

FINAL FLOW

500.4#

264.0#

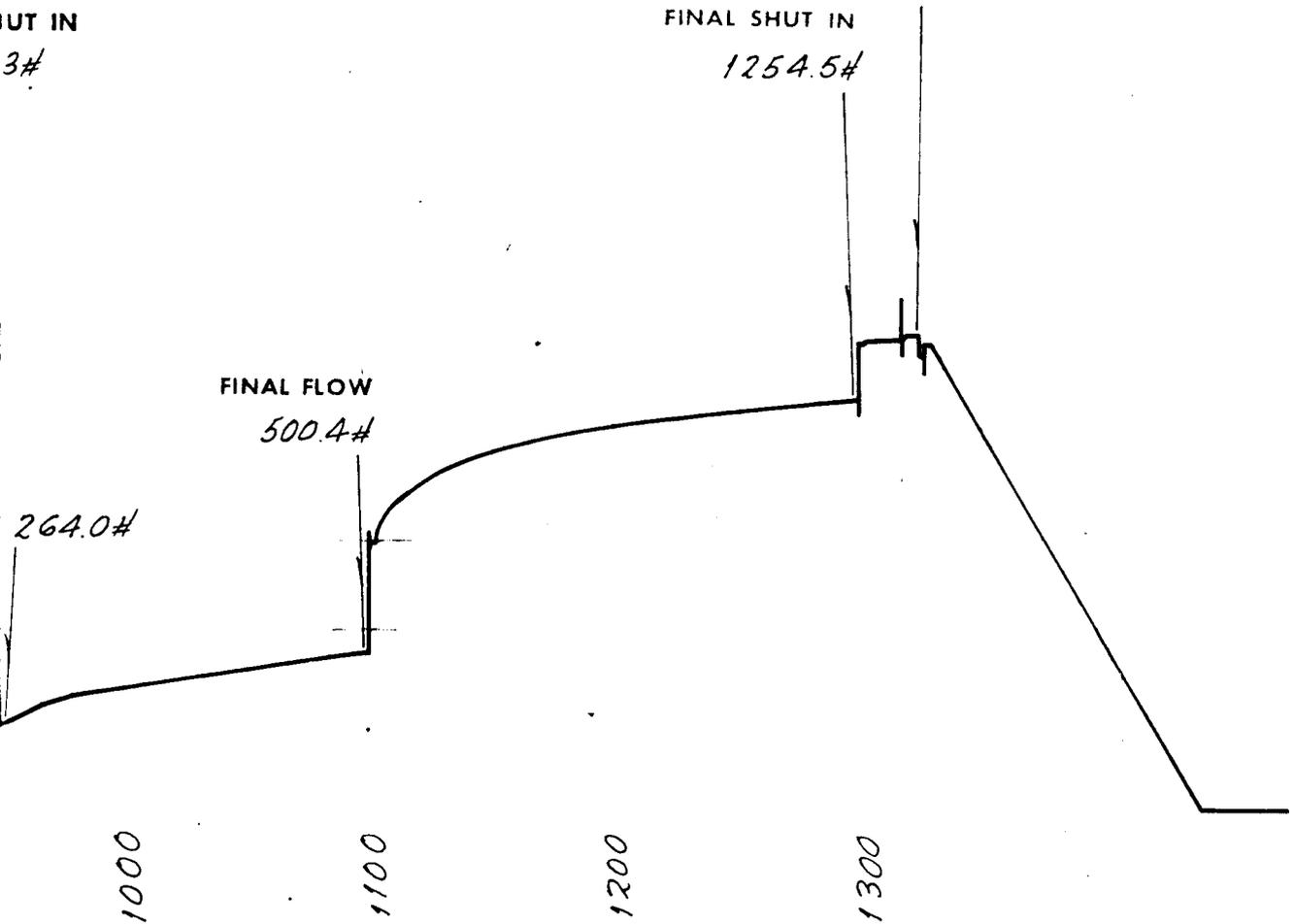
1000

1100

1200

1300

1/2 HO



Reservoir Engineering Data



Recorder No. J-029

Field Report No. 09207 C

Estimated Damage Ratio	EDR	.78		Effective Transmissibility LIQUID	$\frac{Kh}{\mu B}$	71.7	$\frac{Md-ft.}{Cp.}$
Maximum Reservoir Pressure INITIAL SHUT-IN	P_o	1406	P.S.I.G.	Effective Transmissibility	$\frac{Kh}{\mu B}$	-	$\frac{Md-ft.}{Cp.}$
Slope of Shut-in Curve CALCULATED	M	247	PSI/log cycle	Flow Rate LIQUID	Q	106	Bbl./day
Potentiometric Surface (Datum Plane, Sea Level)	PS	5369	ft.	Pressure Gradient		.532	PSI/ft.
Productivity Index	PI	.117	Bbl./day/PSI	Gas Oil Ratio ESTIMATED	GOR	50	CF/Bbl.
Radius of Investigation		143	ft.	K (Effective to LIQUID)		49.3	Md.

Assumptions made for Calculations for Liquid Recoveries

- Q is averaged at a constant rate.
- P_t is formation flowing pressure at a constant rate.
- Formation flow is taken as single phase flow.
If gas is produced at surface, phase separation is assumed to have occurred in drill pipe.
- Radial flow is assumed.
- For the purpose of calculating EDR where specific reservoir parameters are not available it is assumed that:

Effective permeability, K, will fall between	1 to 200 md
Formation porosity, ϕ , will fall between	0.1 to 0.3
Fluid compressibility, c, will fall between	10^{-6} to 10^{-4}
Fluid viscosity, μ , will fall between	0.05 to 50 cp.
Well bore radius, r_w , will fall between	3", to 4"

Which gives an average value for the function $\log \frac{K}{\phi \mu c r_w^2}$ of 5.5

- Other standard radial flow, equilibrium assumptions.

Empirical Equations:

$$1. \text{ EDR} = \frac{P_o - P_f}{M(\log T + 2.65)} \text{ where } M = \frac{P_i - P_{10}}{\text{Log Cycle}}$$

$$2. \text{ Transmissibility } \frac{Kh}{\mu \beta} = \frac{162.6 Q}{M}$$

$$3. \text{ DST } J = \frac{Q}{P_o - P_f} \quad \text{Theoretical } J = \frac{7.08 \times 10^{-3} Kh}{\mu \beta \ln(r_e/r_w)} \quad \text{Assumed } \ln(r_e/r_w) = 7.60$$

$$4. \text{ P.S.} = [P_o \times 2.309 \text{ ft./PSI}] - [\text{Recorder depth to sea level.}]$$

$$5. \text{ Radius of investigation, } r_i \cong \sqrt{\frac{Kt}{40\phi\mu c}} \quad \text{where } t = \text{time in days}$$

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

1400 ISI
FR NO: 9207

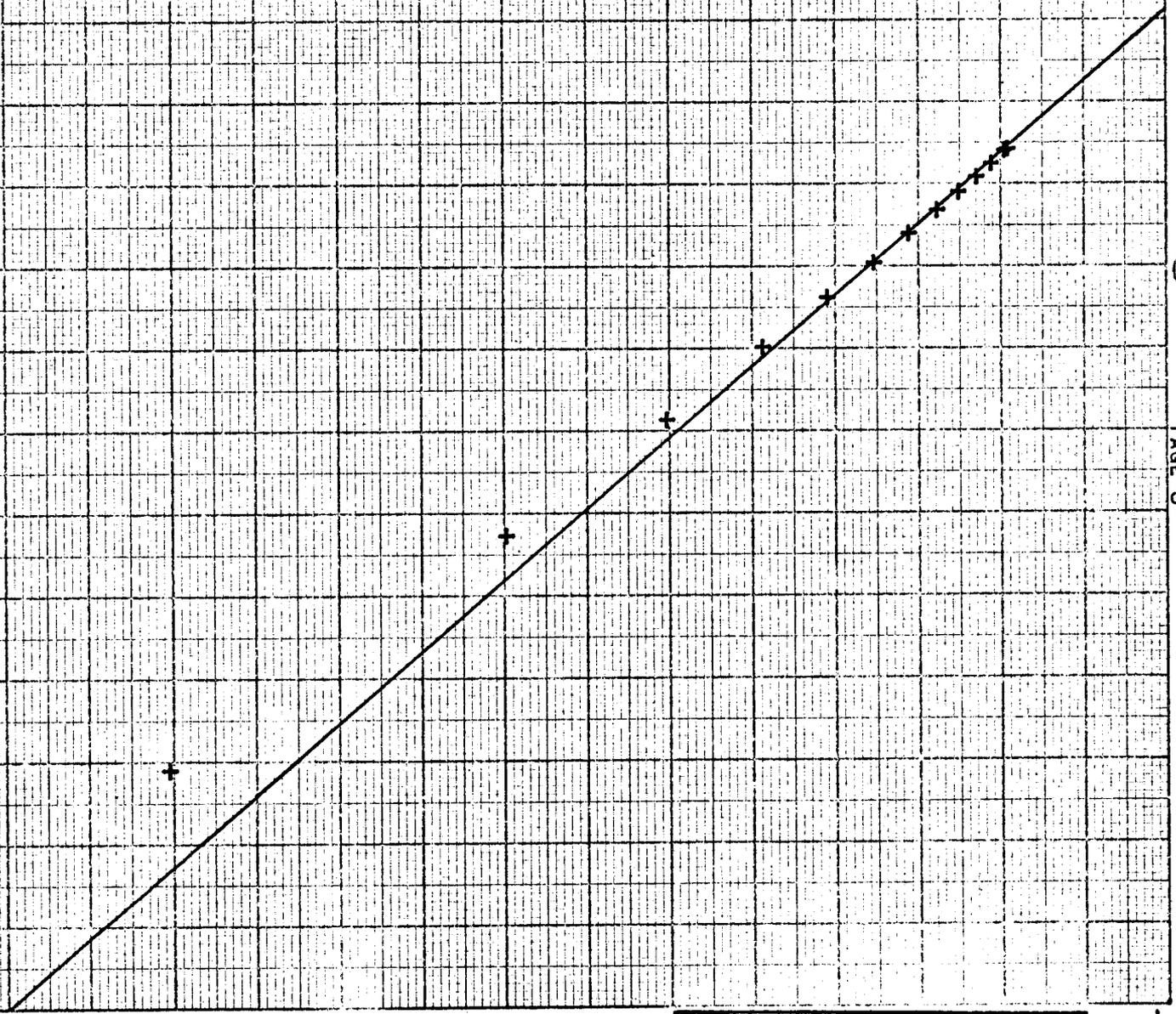
1300
1200
1100
1000
900
PRESSURE (P.S.I.G.)

1.0

0.5
LOG OF $\frac{T + \Delta T}{\Delta T}$

PAGE 3

0

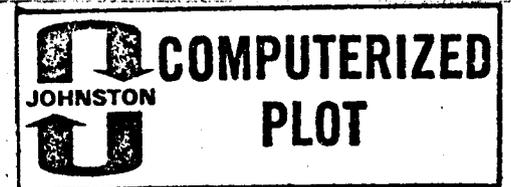
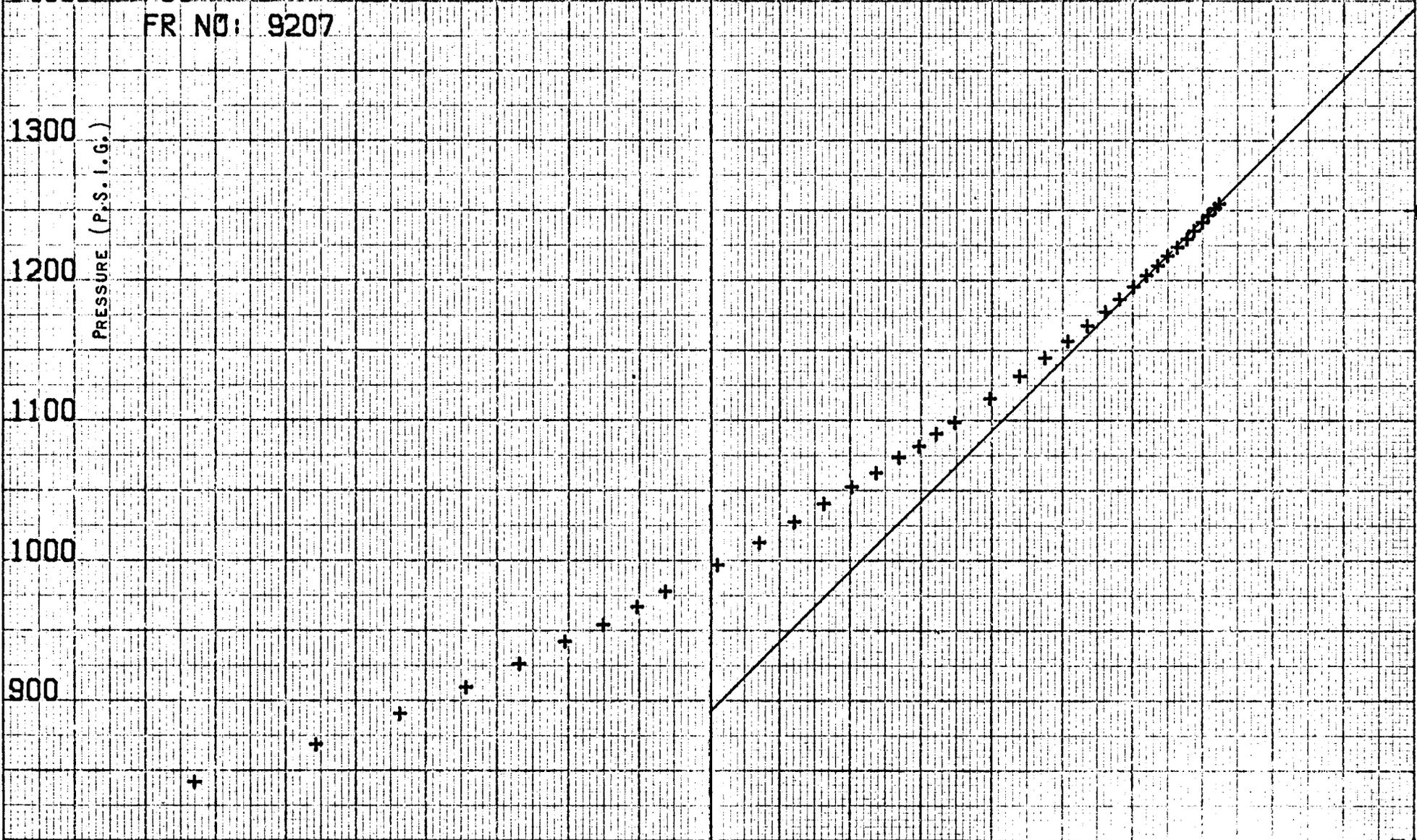


1400 FSI
FR NO: 9207

1300
1200
1100
1000
900
PRESSURE (P.S.I.G.)

2.0

1.0
LOG OF $\frac{I + \Delta T}{\Delta T}$





FSI

FR NO: 9207

MC KINLEY AFTERFLOW PLOT

SHUT-IN TIME
 ΔT , MINUTES

1000

100

10

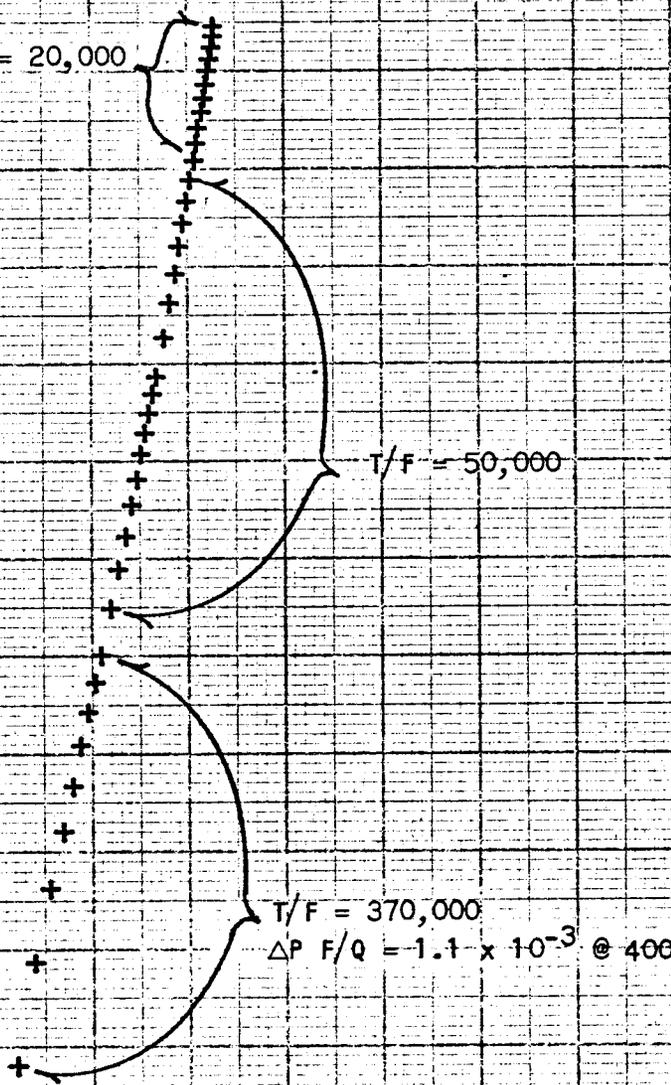
100

SHUT-IN PRESSURE (ΔP , P.S.I.) 1000

T/F = 20,000

T/F = 50,000

T/F = 370,000
 $\Delta P F/Q = 1.1 \times 10^{-3} @ 400$



CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

17
Rain

WATER ANALYSIS REPORT

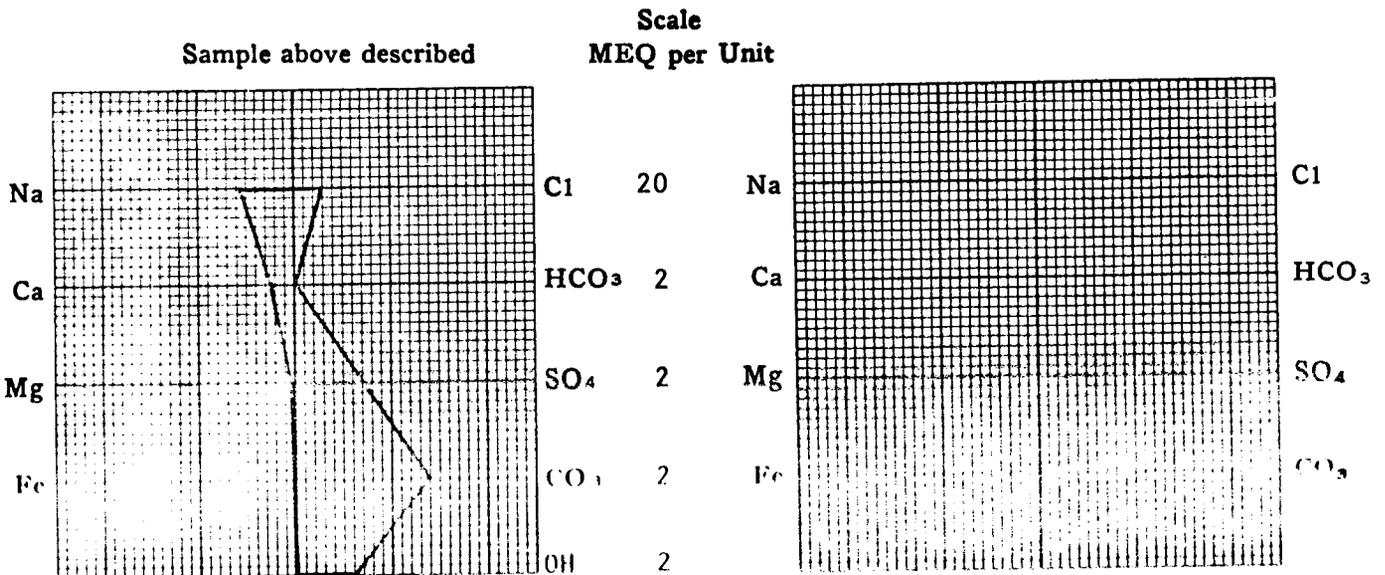
OPERATOR <u>The Beren Corporation</u>	DATE <u>July 7, 1975</u>	LAB NO. <u>16663-1</u>
WELL NO. <u>Dudley Estates Fee No. 1</u>	LOCATION <u>Sec. 20-5S-23E</u>	
FIELD <u>Wildcat</u>	FORMATION <u>Shinarump</u>	
COUNTY <u>Uintah</u>	INTERVAL <u>2550-2705</u>	
STATE <u>Utah</u>	SAMPLE FROM <u>DST No. 1 (Top)</u>	

REMARKS & CONCLUSIONS: Mud, low water-loss.
This is mud filtrate.

<u>Cations</u>	<u>mg/l</u>	<u>meq/l</u>	<u>Anions</u>	<u>mg/l</u>	<u>meq/l</u>
Sodium	2510	109.18	Sulfate	660	13.73
Potassium	36	0.92	Chloride	2200	62.04
Lithium	-	-	Carbonate	840	27.97
Calcium	100	4.99	Bicarbonate	-	-
Magnesium	15	1.23	Hydroxide	214	12.58
Iron	-	-	Hydrogen sulfide	-	-
Total Cations	116.32		Total Anions	116.32	

Total dissolved solids, mg/l	6575	Specific resistance @ 68°F.:	
NaCl equivalent, mg/l	6473	Observed	0.94 ohm-meters
Observed pH	10.2	Calculated	1.00 ohm-meters

WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)
NOTE: Mg/l Milligrams per liter Meq/l: Milligram equivalents per liter
Sodium chloride equivalent by Dunlop & Hawthorne calculation from components

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

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WATER ANALYSIS REPORT

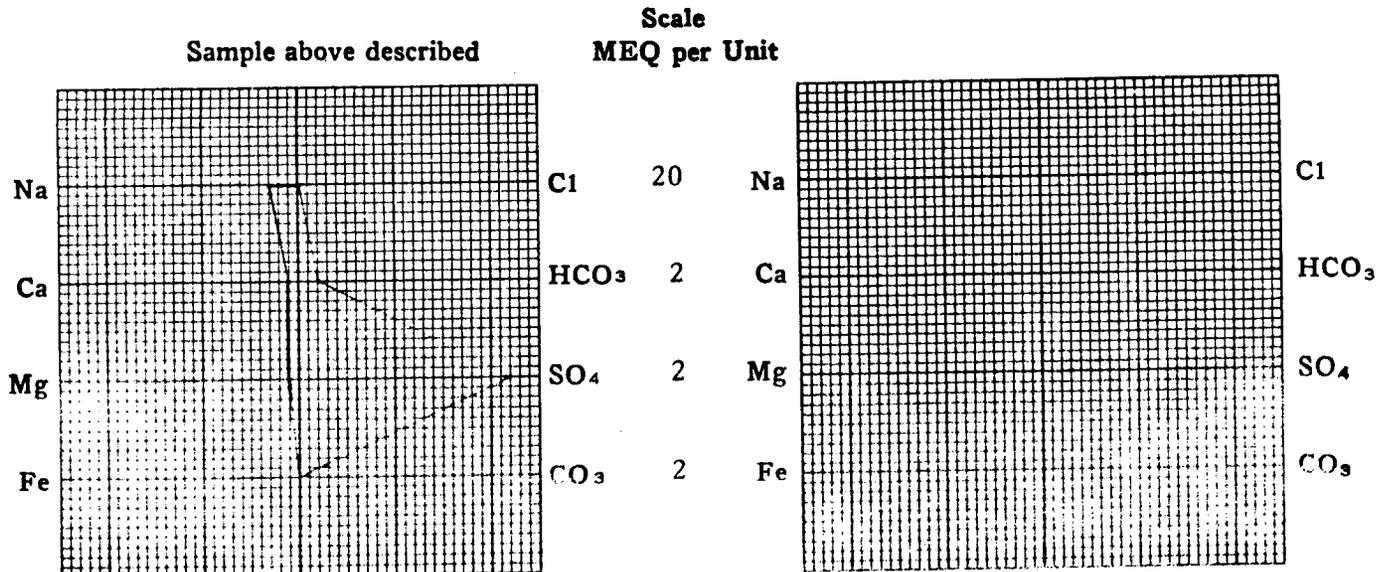
OPERATOR The Beren Corporation DATE July 8, 1975 LAB NO. 16723-1
 WELL NO. 1 Dudley Estates LOCATION SE NE 20-5S-23E
 FIELD Wildcat FORMATION _____
 COUNTY Uintah INTERVAL _____
 STATE Utah SAMPLE FROM Reserve Pit

REMARKS & CONCLUSIONS: Mud, low water loss.
Sampled as known mud filtrate.

<u>Cations</u>			<u>Anions</u>		
	<u>mg/l</u>	<u>meq/l</u>		<u>mg/l</u>	<u>meq/l</u>
Sodium	1254	54.53	Sulfate	2150	44.72
Potassium	14	0.36	Chloride	390	11.00
Lithium			Carbonate		
Calcium	55	2.74	Bicarbonate	207	3.39
Magnesium	18	1.48	Hydroxide		
Iron	absent		Hydrogen sulfide	absent	
Total Cations			Total Anions		
		59.11			59.11

Total dissolved solids, mg/l	3983	Specific resistance @ 68°F.:	
NaCl equivalent, mg/l	2877	Observed	1.75 ohm-meters
Observed pH	7.3	Calculated	1.90 ohm-meters

WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter
 Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components

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Casper, Wyoming

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WATER ANALYSIS REPORT

OPERATOR <u>The Beren Corporation</u>	DATE <u>July 8, 1975</u>	LAB NO. <u>16723-2</u>
WELL NO. <u>1 Dudley Estates</u>	LOCATION <u>SE NE 20-5S-23E</u>	
FIELD <u>Wildcat</u>	FORMATION _____	
COUNTY <u>Uintah</u>	INTERVAL _____	
STATE <u>Utah</u>	SAMPLE FROM <u>Rig water</u>	

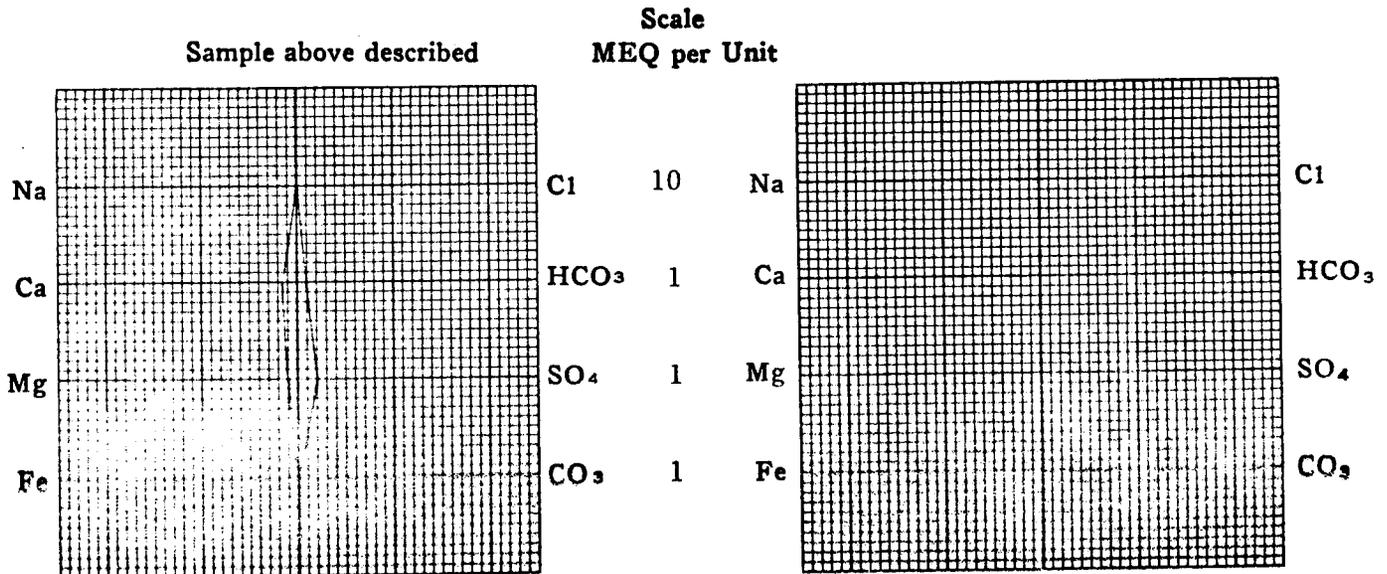
REMARKS & CONCLUSIONS: Clear water.

Sampled as known make-up water.

<u>Cations</u>	<u>mg/l</u>	<u>meq/l</u>	<u>Anions</u>	<u>mg/l</u>	<u>meq/l</u>
Sodium	21	0.91	Sulfate	100	2.08
Potassium	2	0.05	Chloride	4	0.11
Lithium			Carbonate	-	
Calcium	31	1.55	Bicarbonate	85	1.39
Magnesium	13	1.07	Hydroxide	-	
Iron	absent		Hydrogen sulfide	absent	
Total Cations			Total Anions		
3.58			3.58		

Total dissolved solids, mg/l	213	Specific resistance @ 68°F.:
NaCl equivalent, mg/l	155	Observed
Observed pH	6.7	Calculated
		32.5 ohm-meters
		37.0 ohm-meters

WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)
NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter
Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components

April 6, 1976

Insurance Management Associates, Inc.
714 Union Center
Wichita, Kansas 67202

Re: Beren Corporation
Drilling & Plugging Bond
No. \$5,000.00
May 19, 1975

Gentlemen:

The above referred to location was inspected on September 10, 1975, was found in a satisfactory condition, and has been properly identified. Therefore, liability under the above bond is hereby released.

Should you have any questions relative to this matter, please do not hesitate to call or write.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT
DIRECTOR

CBF:sw

cc: Beren Corporation
2160 First of Denver Plaza
633 17th Street
Denver, Colorado