WELL INSPECTION / SCOUT REPORTS

Permit No. 382

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted 7/1/66

Owner Superior Oil Company

Designation of well #1 Peterson (44-15)

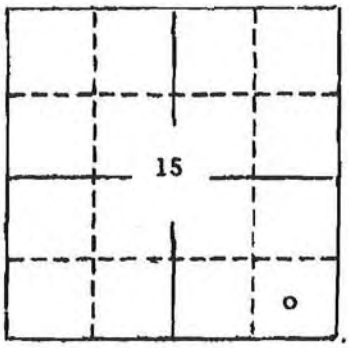
Location: Sec. 15 T. 7 N. S. R. 1 E. W.

Fall River County, S. D. Total depth 2264 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None

Developments since last visit:

None

Remarks and recommendations:

Pits not filled

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor

Duncan J. McGregor, State Geologist

Permit No. 382

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted July 30, 1965

Owner Superior Oil Company

Designation of well #1 Peterson (44-15)

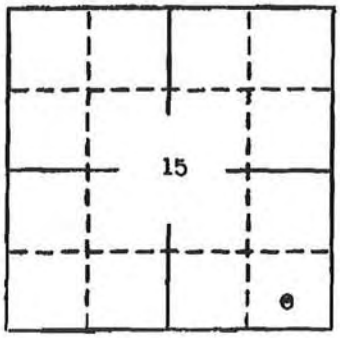
Location: Sec. 15 T. 7 M. S. R. 1 E.W.

Fall River County, S. D. Total depth 2264 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None

Developments since last visit:

None

Remarks and recommendations:

Pits not filled

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor, State Geologist

Permit No. 12 of 83 382

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted May 25, 1965

Owner Superior Oil Company

Designation of well #1 Peterson (44-15)

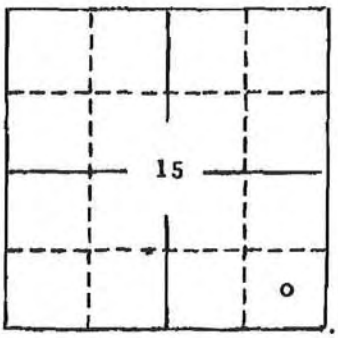
Location: Sec. 15 T. 7 M. S. R. 1 E. W.

Fall River County, S. D. Total depth 2,264 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None

Developments since last visit:

Rig moved from location

Remarks and recommendations:

Mud pits not filled

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor, State Geologist

Hydro ID 4

Permit No. 13 of 63 382

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted April 9, 1965

Owner Superior Oil Company

Designation of well #1 Petersen (44-15)

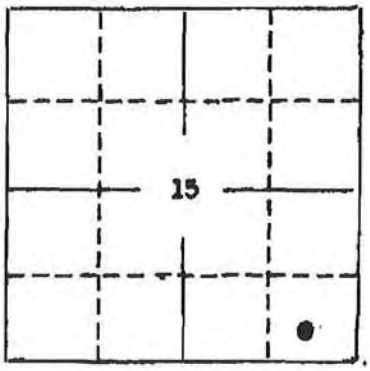
Location: Sec. 15 T. 7 N. S. R. 1 E. W.

Fall River County, S. D. Total depth 2264 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None, well is flowing at about 10 gpm

Developments since last visit:

A three-inch control valve is in place on the well head.

Remarks and recommendations:

Pits have not been filled.
Rig is still over location.

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor
Duncan J. McGregor, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted March 5, 1965

Owner Superior Oil Company

Designation of well #1 Peterson (44 - 15)

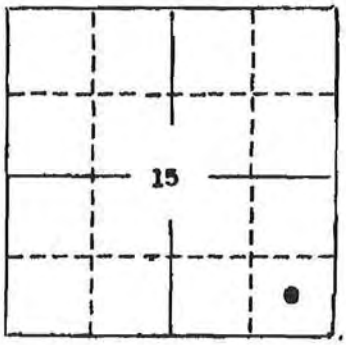
Location: Sec. 15 T. 7 N. S. R. 1 E. W.

Fall River County, S. D. Total depth 2264 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

An artesian flow at the base of the surface casing flushed out the top of the cement plug resulting in a 20-30 gpm flow of fresh water.

Developments since last visit:

Remarks and recommendations:

The flow is contained by a valve at the surface and it is planned to convert the test to a water well.

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor

Duncan J. McGregor, State Geologist

Permit No. 15 of 63 382

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted March 4, 1965

Owner Superior Oil Company

Designation of well #1 Peterson (44 - 15)

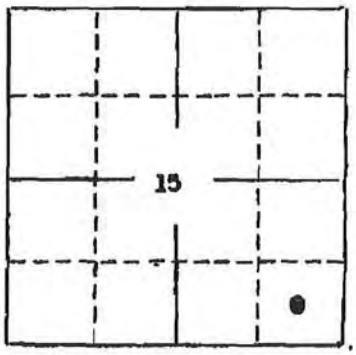
Location: Sec. 15 T. 7 N. S. R. 1 E. W.

Fall River County, S. D. Total depth 2264 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:
Plugged as follows:

25 sacks 1970-1920 3rd Converse sand
35 sacks 1715-1645 Top Minnelusa
30 sacks Base surface casing 1020-950

Developments since last visit:
Core #1 2175-2221 anhydrite, Core #2 2221-22644, anhydrite essentially. Leo Sand very tight. No permeability or porosity. Run sonic-gamma ray log and dual induction laterolog (971-T.D.). Run E-log and micro-log prior to setting surface casing. Water flow of about 40 gpm at 890-905 and also a flow after drilling out from under surface casing.

Remarks and recommendations:

Tentative log tops:

Minnekahta	- 1518	3rd converse	- 1942
Opeche	- 1557	Red marker	- 2108
Minnelusa	- 1645	Base of 1st Leo	- 2254
2nd Converse	- 1777	T. D.	- 2264

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor
Duncan J. McGregor, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted March 2, 1965 ?

Owner Superior Oil Co.

Designation of well #1 Peterson

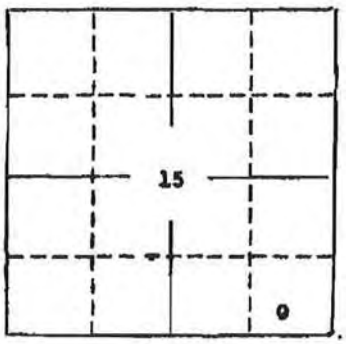
Location: Sec. 15 T. 7 M. S. R. 1 E. W

Fall River County, S. D. Total depth 2179 feet

Casing Record:

8 5/8 971 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Coring at 2179 (1st Leo Sand)

Developments since last visit:

Set 971' of 8 5/8" surface casing with 575 sacks.
Drilled from 974-2175.
Cored from 2175-2179.

Artesian flows were encountered in the Lakota and Sundance.

Remarks and recommendations:

E log tops:
Dakota - 185
Lakota - 371
Morrison - 471
Sundance - 670
Top Sundance Sand - 771

Sample Tops:
Minnekahta - 1527
Minnelusa - 1652

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor
Duncan J. McGregor, State Geologist

Elevations: 3576 gd; 3585 K.B.

Hydro ID 4

Permit No. 382

STATE GEOLOGICAL SURVEY

Scout Report

Date Scouted Feb. 24, 1965

Owner Superior Oil Co.

Designation of well #1 Peterson (44-15)

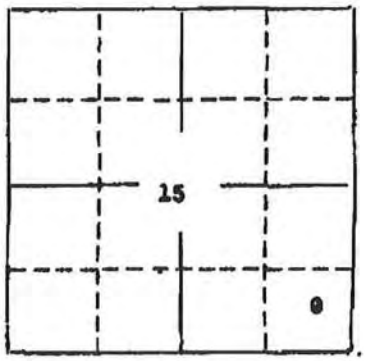
Location: Sec. 15 T. 7 ~~N~~. S. R. 1 E. ~~W~~.

Fall River County, S. D. Total depth 974 feet

Casing Record:

_____ Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Drilling at 974'.

Developments since last visit:

Spudded 2-20-65.
Drilled from 0 - 974.
Run electric log to locate water sands.

Remarks and recommendations:

Over 900 feet of surface casing will be set to case off artesian flows.

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor

Duncan J. McGregor, State Geologist

Hydro ID 4

Permit No. 16 of 63 382

STATE GEOLOGICAL SURVEY

FIRST REPORT

Scout Report

Date Scouted Feb. 19, 1965

Owner Superior

Designation of well #1 (44-15) Peterson

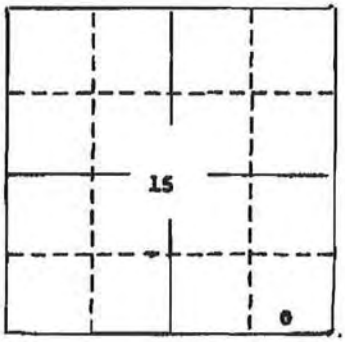
Location: Sec. 15 T. 7 ~~N~~ S. R. 1 E. ~~W~~.

Fall River County, S. D. Total depth 0 feet

Casing Record:

_____ Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Petroleum Information informed me by phone that Barnhart Drilling Company was the contractor and they were on location.

Developments since last visit:

Remarks and recommendations:

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor, State Geologist

Hydro ID 4 8:45 AM

March 4, 1965

Don Braune Called. Had Reached 2264 & found the sand very tite & no Shows. Plan to log & then plug

[illegible] phone 662-6222

Sonic log - gamma Ray Run 105 & Microlog or caliper, [illegible] induction Laterolog.

Tentative log tops

mk - 1518

[illegible] - 1557

mel - 1645

2nd Canyon 1777

3rd " 1942

Red marker - 2108

Base of [illegible] 2254

T.D. 2264

3rd Canyon 1970 - 1920

3rd Canc. 1970-1920 25 sx

T. mel 1715-1645 35 sx

Kir surface 1020-950 30 sx

90. sx

7:30 - 8:00 7:45 A.M to Check plug.

462-7244

Room 7.

Don Braune

Core #1 2175-2228

only [illegible]. Rec 44'

Core #2 2228-2264

[illegible] essentially

Good water at 890-905 or 925 at flow 1 bbl/min

plug

[illegible] Surface Csg

30 sx - 1020 - 950

25 sx 3rd Canyon 1970 - 1920

35 sx top mel 1645 - 1715

970 Cm start will process Samples

March 5, 1965

Braune called at 10:00 AM I finally got hold of him at about 7:00 P.M. Had got a flow of water flowing a 2" stream & an estimated 20 g/m. Had put value at surface & shut in

A sand zone immediately below surface had apparently broke loose. (A flow was [illegible] when drilled out from under surface) Rig had been torn down & part hauled off for repair. We decided to put steel Baker plug at base of Casing & put 10' Cement on top of it.

March 6, 19[illegible]

Called Brown @ 8:30 am. He said he was quite sure water was coming from base of surface. Said possible want to [illegible] plug. I said couldn't be done but would see McGregor about it. Brown said an alternate that would save them money would be to pump 60 sx down hole and shut in after reaching the sand. This would leave about 100' of cement in casing & rancher would have to drill it out. I said this would be a satisfactory alternative, and would be done in week or 10 days after they evaluate [illegible].

Apr 19, 19[illegible]

Most load down. Nothing moved. Pits not filled or fenced. Head - valve was on wellhead + was flowing about 5-10 gPM

May 25, 1965

Rig gone from location. Pits not filled

July 30, 1965

no change

Sept. 2, 1965

no change. Water from well running into mud pits.

July 1, 1966

no change

9-9-66

no change

using cement would cost about 500.# Using steel plug about 1000.!

Dujka - pronounced Dika

3-8-65

Called McGregor, Don [illegible], Francis Peterson, and Mr Dujka and all agreed to contact plan to a water well of receipt of letter from Peterson that he request a conversion

3-17-65

Called Peterson as he had not sent back signed letter saying he wants to convert to a water well. He said had reduced [illegible] + put valve on & ran it for a week + then had dropped to 6 gPM. He was going to sign letter & return.

Hydro ID 4 Pennington 382 [21 of 66]

Superior #1 Peterson

SE 1/4 SE 1/4, sec 15, T 7S, R. 1E
Fall River Co

Geological
spudded
Elev - 3576, 3[illegible] KB
Contractor - Burkhart Drill Co

2-1965

P I told Earl that Driller moved in site.

2-24-65

Spudded [illegible]. Drilled to 474 [illegible] to locate [illegible] sand. [illegible] of surface csg will be set to case off artesian flow

3-2-65

Set 471 feet of 8 5/8 surface with 5[illegible] sacks & drilled to 2175 Cored from 2175 2179 (1st [illegible]). Flow [illegible] [illegible] in K1 & [illegible]

(over)

POWERTECH (USA) INC.

[illegible] Hydro 16 [illegible] 18 [illegible], [illegible] 23 of 63 [illegible]
471 [illegible] 670,
sample tops [illegible] Minnelusa 15[illegible]
Minnelusa – 1652

3 – 4 – 6[illegible]

Plugged: Core #1 [illegible] 2211
Core #2 : 2221 – 2264 anhydrite
[illegible] essentially [illegible]
no [illegible] [illegible]
[illegible] (971 TD) [illegible]
[illegible]
at the flow of about 4[illegible] gpm at 870 –
905 + also a flow after drilling out
from under surface csg

Tops

Minnelusa	1515	3rd Converse 1892
Opeche	– 1557	red marker 2103
Minnelusa	– 1645	[illegible] 1st Leo 22[illegible]
2nd Converse	– 1777	TD 2264

3 – [illegible]

artesian flow at base of surface csg [illegible] cement plug resulting in a flow of [illegible] gpm. Flow contained by valve + well converted to water well.

3 – 10 – [illegible]

Letter from [illegible] to [illegible] to convert to water well

Received 2 copies of letter from Warren Peterson with [illegible] before plug out of hole [illegible] could [illegible] attempted to [illegible] well. Also 2 copies of core analyses

4-9-65

Well flowing at about 10 gpm. Control valve in place. Pits are filled & rig in still on location

5-10-65

Letter from [illegible] saying don't release bond because pits not filled even though [illegible] has assumed responsibility for well.

5-25-65

Rig moved from location. Pits not filled.

7-30-65

Pits not filled

10-[illegible]-65

Letter from [illegible] to [illegible] saying [illegible] water [illegible] pits

Letter from Earl [illegible] saying a release from Peterson is needed
Pits not filled 7-1-66

9-28-66
Received release signed by Peterson for pits 9-30-66

Letter from Earl saying OK to release bond

WELL: [illegible]

LOCATION:

LOGS RECD:
TOPS:

GEOLOGIC: 2 copies [illegible]

ELECTRIC, FIELD:
FINAL: [illegible]

RADIO, FIELD:
FINAL: [illegible]

OTHERS: 3 copies [illegible]

CUTTINGS RECD: 5/10/66

CORES RECD: 2 copies of core chips 5-10-66

DRILL STEM DATA RECD: ~~[illegible]~~

CAP PLUG CHECKED: [illegible]

MUD PITS FILLED: [illegible]

PLUGGING AFFIDAVIT SIGNED:
1 photocopy each of form [illegible]

BOND RELEASED: [illegible]
10-21-66

OPERATOR'S TECHNICAL REPORTS / MAPS

Preliminary Report

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

THE SUPERIOR OIL COMPANY

MAR 11 1965

ENGINEERING
CASPER

Page No. .....

CORE ANALYSIS RESULTS

Company SUPERIOR OIL COMPANY Formation MINNELUSA File RP-4-1363
Well NO. 1 PETERSON Core Type DIAMOND CONV. Date Report 3-4-65
Field WILDCAT Drilling Fluid WATER BASE Analysts JMM
County FALL RIVER State S. DAKOTA 3576 GR Location SE SE 15-7S-1E

Lithological Abbreviations

SAND-SD SHALE-SH LIME-LM	DOLOMITE-DOL F-ENT CH GYPSUM-GYP	ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SDY SHALY-SHY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-CSE	CRYSTALLINE-XLN GRAIN-GRN GRANULAR-GRNL	BROWN-BRN GRAY-GY MUDDY-MDY	FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY	SLIGHTLY-SL/ VERY V/ WITH W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE OIL	RESIDUAL SATURATION PER CENT PORE TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS
1	2217-18	0.16	2.7	7.4	63.1	SD, GRY, V/FN-FN, CALC.
2	18-19	0.24	2.6	0.0	65.5	SD, GRY, V/FN-FN, CALC.
3	2183	0.10	2.2	0.0	77.2	SD, GRY, V/FN-FN, SL/DOL.
4	2212	0.10	1.3	0.0	84.5	SD, GRY, V/FN-FN, SL/DOL.
5	2221	<0.1	0.5	0.0	40.0	SD, GRY, V/FN-FN, SL/CALC.
6	2239	0.10	2.8	0.0	68.0	SD, GRY, FN-MED, SL/CALC.
7	2249	0.10	1.9	0.0	47.3	SD, GRY, FN-MED, SL/CALC.

Superior Oil Company, 44-15 Petersen Description by: D. A. Bentzin
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota

Elevation: 3576G, 3585KB

974- 980	Shaly siltstone, dark reddish brown, calc, NS.
980- 990	Siltstone, aa, NS.
990-1000	Siltstone, aa, NS.
1000-1010	Siltstone, dark reddish brown, calc, NS.
1010-1020	Siltstone, dark reddish brown, calc, NS.
1020-1030	Siltstone, dark reddish brown, calc, NS.
1030-1040	Shaly siltstone, dark reddish brown, calc, NS.
1040-1050	Shaly siltstone, dark reddish brown, calc, NS.
1050-1060	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1060-1070	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1070-1080	Shaly siltstone, dark reddish brown, calc, NS.
1080-1090	Shaly siltstone, dark reddish brown, calc, NS.
1090-1100	Shaly siltstone, dark reddish brown, calc, NS.
1100-1110	Shaly siltstone, dark reddish brown, calc, NS.
1110-1120	Shaly siltstone, dark reddish brown, calc, NS.
1120-1130	Shaly siltstone, dark reddish brown, calc, NS.
1130-1140	Shaly siltstone, dark reddish brown, calc, NS.
1140-1150	Shaly siltstone, dark reddish brown, calc, NS.
1150-1160	Shaly siltstone, dark reddish brown, calc, NS.
1160-1170	Shaly siltstone, dark reddish brown, calc, NS.
1170-1180	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1180-1190	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1190-1200	Shaly siltstone, dark reddish brown, calc, NS.
1200-1210	Shaly siltstone, dark reddish brown, calc, NS.
1210-1220	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1220-1230	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1230-1240	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.
1240-1250	Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

Superior Oil Company, 44-15 Petersen
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota
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1250-1260 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1260-1270 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1270-1280 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1280-1290 Shaly siltstone, dark reddish brown, calc, with 10% anhydrite, NS.

1290-1300 Shaly siltstone, dark reddish brown, calc, with 10% anhydrite, NS.

1300-1310 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1310-1320 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1320-1330 Shaly siltstone, dark reddish brown, calc, with 25% anhydrite, NS.

1330-1340 Shaly siltstone, dark reddish brown, slightly calc, with 30% anhydrite, NS.

1340-1350 Anhydrite, white, crystalline with shaly siltstone aa, NS.

1350-1360 Anhydrite, white, crystalline with shaly siltstone aa, NS.

1360-1370 Anhydrite, white, crystalline, decreasing with siltstone as above, NS.

1370-1380 Shaly siltstone, dark reddish brown, calc, with 25% anhydrite, NS.

1380-1390 Shaly siltstone, dark reddish brown, calc, with 25% anhydrite, NS.

1390-1400 Shaly siltstone, dark reddish brown, calc, with 10% anhydrite, NS.

1400-1410 Anhydrite, white, crystalline with shaly siltstone aa, NS.

1410-1420 Anhydrite and shaly siltstone, aa, 50-50, NS.

1420-1430 Anhydrite and shaly siltstone, aa, 50-50, NS.

1430-1440 Shaly siltstone, dark reddish brown, slightly calc, with minor anhydrite, NS.

1440-1450 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1450-1460 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1460-1470 Shaly siltstone, dark reddish brown, slightly calc, with minor anhydrite, NS.

Superior Oil Company, 44-15 Petersen
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota
Page 3

1470-1480 Shaly siltstone, dark reddish brown, slightly calc, with minor anhydrite, NS.

1480-1490 Shaly siltstone, dark reddish brown, slightly calc, with minor anhydrite, NS.

1490-1500 Shaly siltstone, dark reddish brown, slightly calc, with minor anhydrite, NS.

1500-1510 Shaly siltstone, dark reddish brown, slightly calc, with minor anhydrite, NS.

1510-1520 Shaly siltstone, dark reddish brown, calc, with minor anhydrite, NS.

1520-1530 40% Shaly siltstone, aa, with 10% white anhydrite and 20% dolomite, pink, very fine granular to dense, slow effervescence, NS.

1530-1540 Shaly siltstone, anhydrite and dolomite, aa, in equal parts. The dolomite is variocolored - white, pink, tan, NS.

1540-1550 Sample aa, with minor calcareous purple shale, NS.

1550-1560 Sample aa, with minor calcareous purple shale, NS.

1560-1570 Sample aa, with no purple shale, NS.

1570-1580 Sample aa, NS.

1580-1590 Sample aa, NS.

1590-1600 Sample aa, NS.

1600-1610 Silty shale to siltstone, reddish brown, slightly calc, with minor anhydrite, NS.

1610-1620 Silty shale to siltstone, reddish brown, slightly calc, with minor anhydrite, NS.

1620-1630 Silty shale to siltstone, reddish brown, slightly calc, with minor anhydrite, NS.

Note The Opeche lithology is similar to the pre-Minnekahta with the exception that the silt grains seem generally smaller.

1630-1640 Shaly siltstone, reddish brown, calc, with minor anhydrite, NS.

1640-1650 Sample aa, with sandy siltstone, reddish brown, slightly calc, soft and sandstone, gray to pink, fine grained, non-calc poor porosity, NS.

1650-1660 Sample aa, with sandstone, pink to white, fine to medium grained, fair sorting, slightly calc, poor porosity, grains appear to have secondary overgrowths, NS.

1660-1670 Sandy siltstone, reddish brown, and sandstone aa, NS.

1670-1680 Sample aa, with sandy siltstone predominant, NS.

1680-1690 Sample aa, with sandstone increasing to 30%, NS.

Superior Oil Company, 44-15 Petersen
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota
Page 4

1690-1700 Sample aa, with sandstone increasing to 30%, with minor anhydrite, NS.

1700-1710 Sample aa, with sandstone increasing to 30%, with minor anhydrite, NS.

1710-1720 Sample aa, with sandstone increasing to 30%, with minor anhydrite, NS.

1720-1730 60% Anhydrite, white, crystalline with silty shale, reddish brown and minor sandstone, NS.

1730-1740 Sample aa, NS.

1740-1750 Dolomite, white to pink, dense, with anhydrite aa, NS.

1750-1760 Dolomite, white to pink to gray, dense, with anhydrite aa, NS.

1760-1770 Sandy siltstone, reddish brown, calc, with minor anhydrite, NS.

1770-1780 Sandy siltstone, reddish brown, calc, with minor anhydrite, NS.

1780-1790 Sandy siltstone, reddish brown, calc, with minor sandstone, white to pink, fine grained, angular, well sorted, poor porosity anhydrite cement, NS.

1790-1800 Sandy siltstone and sandstone aa, with anhydrite, NS.

1800-1810 Shale, reddish brown with siltstone and anhydrite aa, NS.

1810-1820 Limestone, mottled gray, dense, with lithology aa, NS.

1820-1830 Limestone, mottled gray, dense, with lithology aa, NS.

1830-1840 Shaly siltstone, reddish brown, slightly calc, with limestone and anhydrite aa, NS.

1840-1850 Sample aa, NS.

1850-1860 Sample aa, with minor white sandstone, fine grained, poor porosity, NS.

1860-1870 Limestone aa, with shaly siltstone and anhydrite aa, NS.

1870-1880 Limestone aa, with shaly siltstone and anhydrite aa, NS.

1880-1890 Limestone aa, with shaly siltstone and anhydrite aa, NS.

1890-1900 Shaly siltstone increasing in proportion to limestone and anhydrite with minor sandstone, white very fine grained, angular, no porosity, grains are anhydrite encased, NS.

1900-1910 Sample aa, NS.

1910-1920 Shaly siltstone to silty shale, reddish brown, soft calc, and anhydrite, white, granular with minor limestone, pink, dense, NS.

1920-1930 60% Shaly siltstone aa, 30% anhydrite aa, 10% limestone aa, NS.

Superior Oil Company, 44-15 Petersen
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota
Page 5

1930-1940	Sample aa, NS.
1940-1950	Silty shale, reddish brown, slightly calc, soft with minor anhydrite, NS.
1950-1960	Silty shale, reddish brown, slightly calc, soft with minor anhydrite and sandstone, white, very fine grained, non-calc, tight, NS.
1960-1970	Silty shale and minor anhydrite aa, no sandstone, NS.
1974	Lost circulation - No sample 1970-1980.
1980-1990	75% cave, 25% sample aa, NS.
1990-2000	75% cave, 25% sample aa, NS.
2000-2010	75% cave, 25% sample aa, NS.
2010-2020	30% cave and silty shale, reddish brown, non-calc, soft with minor anhydrite and limestone, NS.
2020-2030	Sample aa, with sandstone, pink, fine to very fine grained, sub-angular, fair sorting dolomite cement, poor porosity, NS.
2030-2040	Sandstone aa, NS.
2040-2050	Sandstone aa, except very fine to medium grained sub-rounded poor sorting, poor porosity, NS.
2050-2060	Sandstone aa.
2060-2070	Anhydrite, white, with minor dolomite, pink and gray, dense and sandstone aa, with one chip shaly siltstone, red, slightly calc, hard, NS.
2070-2080	Sample aa, with 10% siltstone aa, NS.
2080-2090	Sample aa, with 10% siltstone aa, NS.
2090-2100	Anhydrite and limestone aa, NS.
2100-2110	Anhydrite and limestone aa, with sandstone white to lavender, very fine to fine grained, poor sorting, slightly calc to non-calc, NS.
2110-2120	Dolomite, tan to gray, dense; anhydrite, white, crystalline, shale, red, soft; sandstone white to lavender, very fine to fine grained, poor sorting, slightly calc to non-calc, tight, NS.
2120-2130	Sample aa, with sandstone white, very fine to fine grained, fair sorting, rounded, slight effervescence, fair porosity, NS.
2130-2140	Dolomite and shale aa, with white sandstone aa, NS.
2140-2150	Increasing white sandstone with shale aa, NS.
2150-2160	Shale aa, with dolomite aa and decreasing sandstone aa, with minor black shale, soft, slightly calc, NS.
2160-2170	Sample aa, with increasing black shale and limestone, NS.
2170-2175	Sample aa, NS.
2175-2221	Core #1, see detailed description.
2221-2264	Core #2, see detailed description.
	Total Depth 2264'.

The Superior Oil Company, #44-15 Peterson
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota

CORE #1 2175-2221 Cored 46 feet, Recovered 44 feet.

2175-76	Dolomite, black, finely crystalline, tight, NS.
2176-77	Anhydrite and dolomite, mottled light and dark gray, coarsely crystalline, tight, NS.
2177-78	Anhydrite, light to dark gray, tight, NS.
2178-79	Anhydrite, aa, with reddish-brown dolomite mottling, tight, NS.
2179-80	Dolomite, light gray, finely crystalline with minor clear anhydrite crystals and black shale mottling, NS.
2180-81	Dolomite, light gray, dense, mottled with clear anhydrite and red spots, NS. Some of the anhydrite has the curved shape of shell fragments.
2181-82	Sample aa, NS.
2182-83	Sandstone, gray, very fine-grained, subrounded, dolomitic and anhydritic cement, hard and tight, NS.
2183-84	Sample aa, NS.
2184-85	Anhydrite, mottled white and gray, tight, NS.
2185-86	Shale, dark gray, anhydritic, NS.
2186-87	Anhydrite, gray, very finely crystalline, dolomitic and very silty, NS.
2187-88	Anhydrite, light gray, sandy, very fine grained, NS.
2188-89	Sandstone, light gray, very fine to medium-grained, poorly sorted, dolomitic and anhydritic, tight, NS.
2189-90	Sandstone, light gray, very fine to medium-grained, poorly sorted, dolomitic and anhydritic, tight, NS.
2190-91	Sandstone, light gray, very fine to medium-grained, poorly sorted, dolomitic and anhydritic, tight, NS.
2191-92	Sandstone, light gray, very fine to medium-grained, poorly sorted, dolomitic and anhydritic, tight, NS.
2192-93	Sandstone, light gray, very fine to fine-grained, anhydritic cement, tight, NS.
2193-94	Anhydritic, gray with white dolomite mottling, tight, NS.
2194-95	Anhydrite, gray and white mottled, NS.
2195-96	Anhydrite, gray and white mottled, NS.
2196-97	Anhydrite, gray and white mottled, NS.

Superior, #44-15 Peterson
Core #1
Page 2

2197-98	Anhydrite, gray and white mottled, NS.
2198-99	Anhydrite, gray and white mottled, NS.
2199-2200	Anhydrite, gray and white mottled, NS.
2200-01	Anhydrite, gray and white mottled, NS.
2201-02	Anhydrite, gray and white mottled, NS.
2202-03	Anhydrite, aa, mottled with reddish-brown dolomite, tight, NS.
2203-04	Sample aa, NS.
2204-05	Sample aa, NS.
2205-06	Anhydrite, mottled light and dark gray, NS.
2206-07	Anhydrite, mottled light and dark gray, NS.
2207-08	Anhydrite, mottled light and dark gray, with minor dolomite, NS.
2208-09	Anhydrite, mottled light and dark gray and black, with minor dolomite, NS.
2209-10	Anhydrite, aa, with ½-inch tan dolomite layers, no dip, tight, NS.
2210-11	Dolomite, gray, finely crystalline, with veinlets of black anhydrite, tight, NS.
2211-12	Thin laminae of black anhydrite and light gray sandy dolomite, tight, NS.
2212-13	Sandstone, black, very fine-grained, with anhydrite cement, tight, NS.
2213-14	Anhydrite, mottled light and dark gray with tan dolomite mottling, NS.
2214-15	Dolomite, tan to light gray, mottled with dark gray anhydrite, tight, NS.
2215-16	Black shale, anhydritic with gray anhydrite laminae, NS.
2216-17	Black shale, anhydritic, NS.
2217-18	Dolomite, light gray, very finely crystalline, very sandy, very fine to fine-grained, NS.
2218-19	Sandstone, light gray, very fine to medium-grained, subrounded, fair sorting, dolomite cement, tight, NS.

The Superior Oil Company, #44-15 Peterson
C SE SE Section 15, T 7 S, R 1 E
Fall River County, South Dakota

CORE #2 2221-2264 Cored 43 feet, Recovered 43 feet.

2221-22	Sandstone, gray, very fine to medium-grained, sub-rounded, fair sorting, dolomitic and anhydritic cement, tight, NS.
2222-23	Sandstone, dark gray, very fine to fine-grained, good sorting, anhydritic cement, tight, NS.
2223-24	Anhydrite, mottled gray, NS.
2224-25	Anhydrite, mottled gray, NS.
2225-26	Anhydrite, mottled gray, NS.
2226-27	Anhydrite, mottled gray, NS.
2227-28	Anhydrite, mottled gray, NS.
2228-29	Anhydrite, mottled gray, NS.
2229-30	Anhydrite, mottled gray, NS.
2230-31	Anhydrite, mottled gray, NS.
2231-32	Anhydrite, mottled gray, NS.
2232-33	Anhydrite, mottled gray, NS.
2233-34	Dolomite, gray, dense with spots of anhydrite; yellow fluorescence in hairline fractures; very slight and very slow cut with acetone. Strong sulfur odor.
2234-35	Dolomite, aa, tight, NS. Sulfur odor.
2235-36	Dolomite, aa, tight with increasing amount of anhydrite, NS.
2236-37	Anhydrite, gray, dense, NS.
2237-38	Dolomite and anhydrite, gray, very finely crystalline, very sandy, fine to very fine grains, slight porosity, NS.
2238-39	Sandstone, fine to medium-grained, rounded to sub-rounded, fair sorting, dolomitic and anhydritic cement. Trace of porosity. NS.
2239-40	Anhydrite, gray, very sandy, tight, NS.
2240-41	Anhydrite, gray, very sandy, tight, NS.
2241-42	Anhydrite, gray, very sandy, tight, NS.
2242-43	Anhydrite, gray, very sandy, tight, NS.
2243-44	Sandstone, gray, very fine to fine-grained, sub-rounded, fair sorting, dolomitic and anhydritic cement, tight, NS.

Superior, #44-15 Peterson
Core #2
Page 2

2244-45	Sandstone, aa, tight, NS.
2245-46	Sandstone, gray, fine to medium-grained, anhydritic cement, tight, NS.
2246-47	Anhydrite, black, silty, tight, NS.
2247-48	Anhydrite, black, silty, tight, NS.
2248-49	Anhydrite, gray, dolomitic, tight, NS.
2249-50	Sandstone, gray, very fine to fine-grained, sub-rounded, anhydritic cement, tight, NS.
2250-51	Sandstone, gray, very fine to fine-grained, sub-rounded, anhydritic cement, tight, NS.
2251-52	Sandstone, gray, very fine to fine-grained, sub-rounded, anhydritic cement, tight, NS.
2252-53	Sandstone, gray, very fine to fine-grained, sub-rounded, anhydritic cement, tight, NS.
2253-54	Sandstone, gray, very fine to fine-grained, sub-rounded, anhydritic cement, slight porosity, NS.
2254-55	Anhydrite, mottled gray, dense, with streaks of tan dolomite and very fine-grained pyrite, tight, NS.
2255-56	Anhydrite, mottled gray, dense with streaks of tan dolomite, tight, NS.
2256-57	Sample aa, NS.
2257-58	Sample aa, NS.
2258-59	Sample aa, NS.
2259-60	Dolomite, light gray, dense, tight, NS.
2260-61	Dolomite, light gray, dense, tight with small spots of anhydrite, NS.
2261-62	Sample aa, NS.
2262-63	Sample aa, with minor spots of very finely crystalline pyrite, NS.
2263-64	Sample aa, NS.

Hydro ID 4

FILE 37 of 63

SOUTH DAKOTA STATE GEOLOGICAL SURVEY

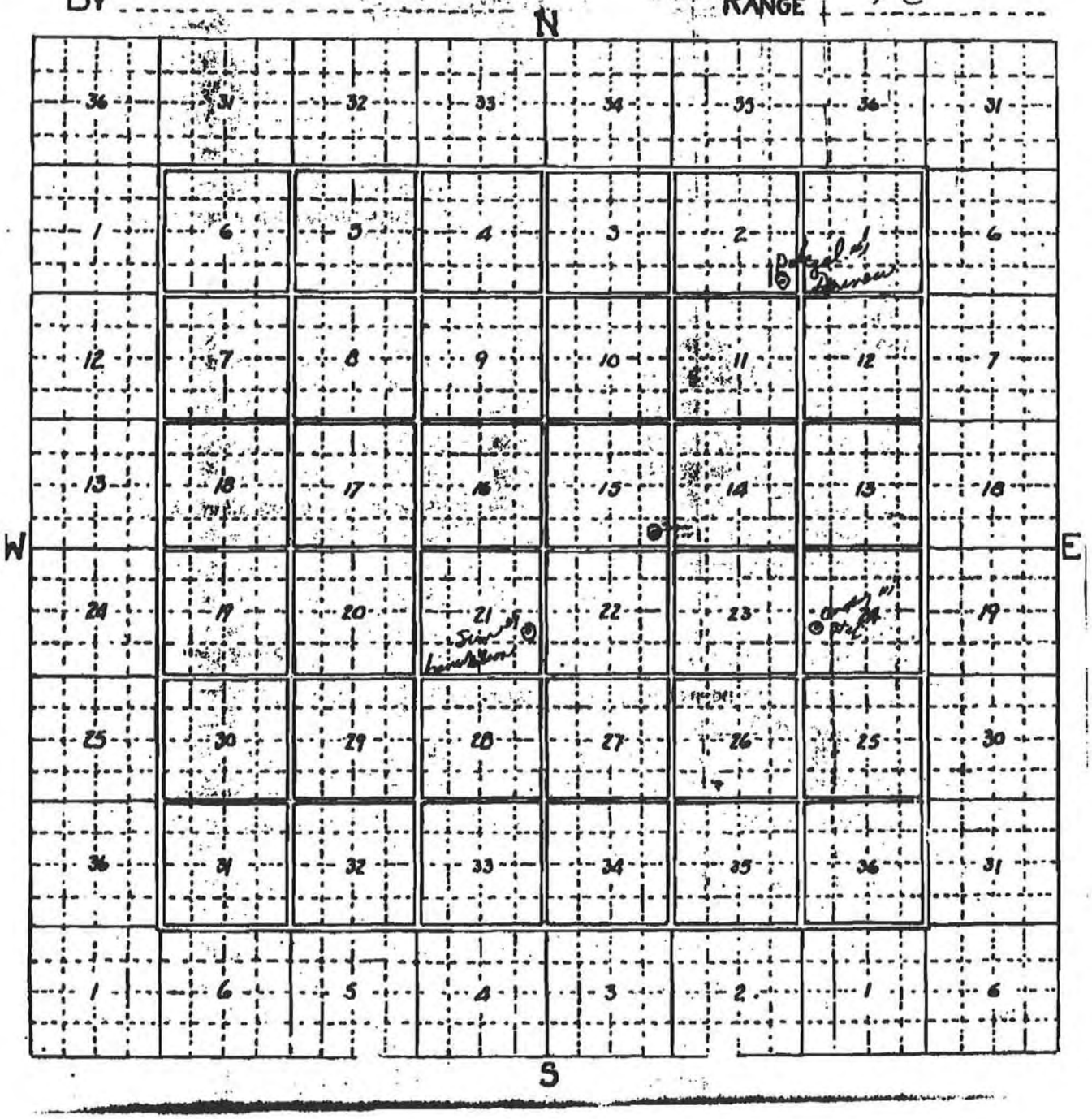
COUNTY .....

DATE .....

BY .....

TOWNSHIP 15

RANGE 1 E



ADMINISTRATIVE / SUNDRY REPORTS

MAR 7 5 1965

STATE PUB CO., PIERRE

S. Dak. Oil & Gas Board
FORM 7

PLUGGING RECORD

Operator	Address
The Superior Oil Company	P. O. Box 200, Casper, Wyoming

Name of Lease	Well No.	Field & Reservoir
Peterson	1 (44-15)	Wildcat

Location of Well	Sec-Twp-Rge or Block & Survey	County
660' FSL & 660' FEL C SE SE	15-7S-1E	Fall River

Application to drill this well was filed in name of	Has this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry*
The Superior Oil Co.	No			Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls/day)
March 5, 1965	2264'			

Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped etc.)	Packers and shoes
8-5/8"	971	None	971		Guide shoe @ 971, float collar @ 937 & basket @ 688'.

Was well filled with mud-laden fluid, according to regulations?	Indicate deepest formation containing fresh water
Yes	Bsl. Sundance Sd.

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interv[illegible] to fresh water sand, name and address of surface owner and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Mr. Earl J. Cox of the State Geological Survey supervised the plugging operations.
This well was plugged & abandoned in the following manner:
Plug #1 - Equalized through open end DP 25 sx reg. cmt. from 1970' to 1920'
Plug #2 - Equalized through open end DP 35 sx reg. cmt. from 1715' to 1645'
Plug #3 - Equalized through open end DP 30 sx reg. cmt. w/2% $CaCl_2$ from 1020' to 950'
Removed csg. head & capped well as requested by land owner in attached letter.
The pits have been fenced and the location will be cleaned & leveled when the pits dry up.

USE REVERSE SIDE FOR ADDITIONAL DETAIL

Executed this the 18th day of March, 19 65

State of Wyoming
County of Natrona

J. P. Dujka
Signature of Affiant

Before me, the undersigned authority, on this day personally appeared J. P. Dujka known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states, that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Subscribed and sworn to before me this 18th day of March, 19 65

SEAL

My commission expires January 19, 1967

Notary Public in and for [illegible] County.

DO NOT WRITE BELOW THIS LINE

Approved 10-21-66
Date

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

[illegible], Secretary

Approved for release of bond
Date Oct 10, 1966

Dist: State Board (2)
State Geologist (1)

State Geologist

Note: File 2 copies of this form with Secretary, Oil & Gas Board, Pierre.

S. Dak. Oil & Gas Board
FORM 4

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FARM OR LEASE NAME: Peterson
WELL NO.: 1 (44-15)
FIELD AND POOL, OR WILDCAT: Wildcat
NO. ACRES IN LEASE: 2846.03

TYPE OF COMPLETION
☐ Oil Well ☐ Gas Well ☒ Dry Hole
☐ New Well ☐ Work-Over ☐ Deepen ☐ Plug Back ☐ Same Zone ☐ Diff Zone

OPERATOR: The Superior Oil Company
ADDRESS: P. O. Box 200, Casper, Wyoming
LOCATION (In feet from nearest lines of section or legal subdivision where possible)*
Surface: 660' FSL & 660' FEL Sec. 15.
Top prod. interval:
At total depth: 660' FSL & 660' FEL Sec. 15
¼ ¼ SEC. TWP. RGE: C SE SE 15-7S-1E
COUNTY: Fall River

PERMIT NO.	DATE ISSUED	PREVIOUS PERMIT NO	DATE ISSUED
	2-18-65		

DATE SPUDDED	DATE T.D. REACHED	DATE COMPL. (Ready to Prod.)	ELEVATIONS (DF, RKB, RT, GR, etc.)*	ELEV. CASINGHEAD FLGE
2-25-65	3-3-65	P & A 3-5-65	3585' KB	

TOTAL DEPTH (MD & TVD)	PLUG, BACK T.D. (MD & TVD)	IF MULTIPLE COMPL., HOW MANY*	INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
2264' MD			→	0' to 2264'	

PRODUCING INTERVAL(S), THIS COMPLETION, TOP, BOTTOM, NAME (MD & TVD)* — DATE DIRECTIONAL SURVEY SUBMITTED

TYPE ELECTRIC AND OTHER LOGS RUN (Circle those filed) — WAS WELL CORED
IES, Microlog, Dual Induction - LL & GRS (All filed) — Yes

CASING RECORD (Report all strings set in well)

CASING SIZE	DEPTH SET (MD)	HOLE SIZE	WEIGHT LBS./FT.	PURPOSE	SACKS CEMENT	AMOUNT PULLED
8-5/8"	971	12-1/4"	24#	Surface	625	None

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

PERFORATION RECORD				ACID, SHOT, FRAC., CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL (MD)	HOLES PER FT.	SIZE AND TYPE	PURPOSE	AMOUNT AND KIND OF MATERIAL USED	DEPTH INTERVAL (MD)

PRODUCTION

DATE FIRST PRODUCTION	PRODUCING METHOD (Flowing, gas lift, pumping,—size & type of pump)	WELL STATUS (Prod. or shut-in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PRODUCTION FOR TEST →	OIL, Bbls.	GAS, Mcf.	WATER, Bbls. & %	OIL GRAVITY-API (Corr.)

FLOW, TUBING PRESSURE	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL, Bbls.	GAS, Mcf.	WATER, Bbls. & %	GAS-OIL RATIO

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

LIST OF ATTACHMENTS
1 copy all E-Logs, 1copy Core Analysis, 1copy ltr. from land owner

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

SIGNED: J. P. Dujka — TITLE: District Engineer — DATE: 3-15-65

DO NOT WRITE BELOW THIS LINE
*See Instructions On Reverse Side

Approved _____ Date _____

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA
_____ Secretary

Dist: State Board (3) w/1 copy all attachments.
State Geologist (1) w/2 copies all attachments.

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. Supplemental instructions by local Federal and/or State offices will govern the use of this form.

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 last blank.

If this well was directionally drilled, show both the location at the surface and at total depth from nearest lines, where possible; also show the locations at the top and at the bottom of any zone for which production data are reported in space 33, and any zone open for injection or disposal. Use this reverse side if more space is needed. (MD-Measured Depth, TVD-True Vertical Depth)

*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.

If this well is completed for separate production from more than one zone (multiple-zone completion), so state in the correct space and show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the zone reported in the blanks under PRODUCTION. Submit a separate completion report on this form for each interval (zone) to be separately produced.

"Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

File 3 copies of this form with Secretary, OR and Gas Board, Pierre.

SUMMARY OF WATER ZONES AND NON-COMMERCIAL OIL OR GAS ZONES (Note: If well was directionally drilled, show both measured and true vertical depths for zones and markers listed)						GEOLOGIC MARKERS		
KIND OF FORMATION	DEPTH TO TOP		DEPTH TO BOTTOM		CONTENTS; PRODUCTIVE RATE, IF KNOWN	NAME	DEPTH TO TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH	MEAS. DEPTH	TRUE VERT. DEPTH			MEAS. DEPTH	TRUE VERT. DEPTH
Lakota Sd.	371		425		30 bbls. wtr./hr.	Dakota	185'	
Sundance Sd.	771		905		25 bbls. wtr./hr.	Lakota	371'	
Bsl. Sundance Sd.	966		1007		15 bbls. wtr./hr.	Morrison	471'	
						Sundance	670'	
						Sundance Sd.	771'	
						Minnekahta	1518'	
						Opeche	1557'	
						Minnelusa	1845'	
						Red Marker	2108'	

CORRESPONDENCE

SCIENCE CENTER, UNIVERSITY OF SOUTH DAKOTA CAMPUS,
VERMILLION, 57069, PHONE 624-4471

WESTERN FIELD OFFICE, 208 GAY BUILDING, BELLE FOURCHE,
BOX 187, 57717, PHONE 892-3121

Western Field Office
October 12, 1966

OCT 13 1966

Mr. Merlin J. Tipton
Assistant State Geologist
State Geological Survey
Vermillion, South Dakota

Dear Tip:

In going through my files, I find that my records show the following oil tests have meet all requirements and can now be released from bond coverage:

Superior #1 Peterson (44-15)
Fall River County, South Dakota

Gulf #1 Dahlke
Jones County, South Dakota

Gulf #1 Sandy
Jones County, South Dakota

Gulf #1 Wolf-State
Lyman County, South Dakota.

Sincerely,

Earl Cox

Earl Cox
Senior Geologist

EC:rk

DUNCAN J. McGREGOR
DIRECTOR AND STATE GEOLOGIST
VERMILLION

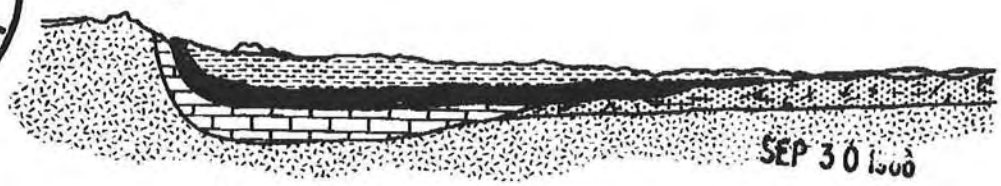
MERLIN J. TIPTON
ASSISTANT STATE GEOLOGIST
VERMILLION

EARL J. COX
SENIOR GEOLOGIST
BELLE FOURCHE

SOUTH DAKOTA GEOLOGICAL SURVEY

SCIENCE CENTER, UNIVERSITY OF SOUTH DAKOTA CAMPUS,
VERMILLION, 57069, PHONE 624-4471

WESTERN FIELD OFFICE, 208 GAY BUILDING, BELLE FOURCHE,
BOX 187, 57717, PHONE 892-3121



SEP 30 1966

Western Field Office
September 29, 1966

Dr. Duncan McGregor
State Geologist
State Geological Survey
Vermillion, South Dakota

Re: Superior #1 Peterson (44-15)
SESE-15-7S-1E
Fall River County, South Dakota
Permit No. 382

Dear Duncan:

I have received a copy of the RELEASE, signed by Francis Peterson, and the letter showing two copies of the RELEASE has been sent you by Superior Oil Company.

My records show all required samples, logs and records have been received by your office. The RELEASE, completes all requirements and it is recommended the bond covering this location be terminated.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:rk

DUNCAN J. McGREGOR
DIRECTOR AND STATE GEOLOGIST
VERMILLION

MERLIN J. TIPTON
ASSISTANT STATE GEOLOGIST
VERMILLION

EARL J. COX
SENIOR GEOLOGIST
BELLE FOURCHE

THE SUPERIOR OIL COMPANY

SUPERIOR BUILDING
P. O. BOX 200
CASPER, WYOMING 82601

SEP 28 1966

September 26, 1966

State Geological Survey
Science Center
University of South Dakota Campus
Vermillion, South Dakota

Re: Peterson No. 1 (44-15)
C SE SE Sec. 15-7S-1E
Fall River Co., South Dakota
Permit No. 382

Gentlemen:

Attached are two (2) copies of a letter agreement executed by Mr. Francis A. Peterson releasing us from all surface damages in connection with the drilling of the above referenced well.

We shall appreciate your approval of our abandonment of this location and the attendant release from bond requirement.

Very truly yours,

THE SUPERIOR OIL COMPANY

J. P. Dujka

JPD:sn

Attached

cc w/attach.: Mr. Earl Cox
South Dakota Geological Survey
Western Field Office
Belle Fourche, South Dakota

THE SUPERIOR OIL COMPANY

SUPERIOR BUILDING
P. O. BOX 200
CASPER, WYOMING 82601
September 20, 1966

RST
JCR
EJW
FILE

THE SUPERIOR OIL COMPANY
SEP 26 1966
ENGINEERING
CASPER

THE SUPERIOR OIL COMPANY
SEP 26 1966
LAND DEPARTMENT
CASPER, WYOMING

Mr. Francis A. Peterson
Edgemont, South Dakota

Re: Peterson #1 (44-15)
C SE SE 15-7S-1E
Fall River County, South Dakota
Permit #382

Dear Mr. Peterson:

Reference is made to Assignment and Agreement dated March 16, 1965 whereby we assigned to you the well in the SE SE 15-7S-1E and you assumed the responsibility for the well.

Regarding the reserve mud pit used in connection with said well, you have informed us that you wish to use it for a reservoir and will take it over, relieving us of any further clean up work or concern about surface damages of any kind arising out of the drilling of the well mentioned above.

If you agree with the foregoing, please sign in the space provided below and return one copy of this letter to us in the enclosed self-addressed envelope.

Very truly yours,

THE SUPERIOR OIL COMPANY

R. S. Troost
District Landman

RST/b
enc.

ACCEPTED AND AGREED TO
THIS 23 DAY OF Sept., 1966.

Francis A. Peterson
FRANCIS A. PETERSON

SEP 13 1966

SOUTH DAKOTA GEOLOGICAL SURVEY

SCIENCE CENTER, UNIVERSITY OF SOUTH DAKOTA CAMPUS, VERMILLION, 57069, PHONE 624-4471

WESTERN FIELD OFFICE, 208 GAY BUILDING, BELLE FOURCHE, BOX 187, 57717, PHONE 892-3121

Western Field Office
September 12, 1966

Mr. Robert Schoon
Geologist
State Geological Survey
Vermillion, South Dakota

Dear Bob:

Would you check the file on the Superior #1 Peterson, in Fall River County, and see if Superior has sent us a copy of the RELEASE, signed by the land owner.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:rk

P.S. Also have you rec'd samples from the Texaco #1-X Mortinson, Fall River County

E. Cox

DUNCAN J. McGREGOR
DIRECTOR AND STATE GEOLOGIST
VERMILLION

MERLIN J. TIPTON
ASSISTANT STATE GEOLOGIST
VERMILLION

EARL J. COX
SENIOR GEOLOGIST
BELLE FOURCHE

NOV 1 1965

Western Field Office
October 29, 1965

Mr. J. P. Dujka
Superior Oil Company
P. O. Box 200
Casper, Wyoming

Re: Superior #1 Peterson (44-15)
SESE-15-7S-1E
Fall River County, So. Dakota
Permit No. 382

Dear Mr. Dujka:

Thank you for your October 27 letter. A release from Mr. Peterson will meet all requirements covering cleaning up of the above location. If a copy of the release is sent to me, it will expedite bond termination.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:sm

Western Field Office
October 7, 1965

Mr. J. P. Dujka
Superior Oil Company
P. O. Box 200
Casper, Wyoming

Re: Superior #1 Peterson (44-15)
SESE-15-7S-1E
Fall River County, So. Dakota
Permit No. 382

Dear Mr. Dujka:

I visited the above location September 2 and found that the wellhead valve was open and water was running into the mud pit.

As you plan to fill the pit after it dries up, you may wish to contact the landowner and have him either close the valve or divert the water so it will not enter the pit.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:sm

July 13, 1965

Mr. Earl Cox
State Geological Survey
P. O. Box 187
Belle Fourche, South Dakota 57717

Dear Earl:

I am enclosing the electric log and dual induction laterolog on the Superior Peterson #1 (44-15) well in Fall River County, and carbon copies of the scout reports that Bob Schoon turned in last week.

Sincerely yours,

Janet J. McDonough
Senior Stenographer

Enclosures

MAY 13 1965

SOUTH DAKOTA

State Water Resources Commission

STATE OFFICE BUILDING

PIERRE, SOUTH DAKOTA

Ma. 1?, 1965

Mr. Francis A. Peterson
Edgemont, South Dakota 5773?

Re: Superior #1 Peterson (4?-15)
SE¼ SE¼ 15-7?-1E
Fall River County, S.D.
Permit No. 3?4

Dear Mr. Peterson:

In as much as the requirements for converting your oil test well to a water well have been done, as specified by the State Geological Survey, the Water Resources Commission hereby assumes jurisdiction of the well as a water well.

Since?ly,

J.?. ?AYNES

?:C/BM/bw
cc: Dr. Duncan McGregor, State Geologist, Vermillion, S.D.
Mr. Earl Cox, Belle Fourche, S.D.
Oil and Gas Board, Pierre, S.D.

MAY 11 1965

Western Field Office
Belle Fourche, South Dakota
May 10, 1965

Mr. Joe Grimes
Water Resources Commission
State Office Building
Pierre, South Dakota

Re: Superior #1 Peterson (44-15)
SE SE-15-7S-1E
Fall River County, South Dakota
Permit No. 382

Dear Mr. Grimes:

The above oil test is on land owned by Francis A. Peterson. He made arrangements to convert the test to a water well. The well has 971 feet of 8 5/8 inch surface casing, cemented with 575 sacks of cement. The base of the casing is just above the lowest Sundance sand. Immediately below the sand is a cement plug. Additional plugs were placed so as to isolate the Minnelusa sands in the hole. A three inch control valve is in place on the wellhead and when last visited, the well was flowing about 10 gpm of fresh water.

Enclosed is a letter from Mr. Peterson asking that conversion of the oil test to a water well be approved. Peterson agrees to assume full liability for any subsequent plugging that might be required.

If the Water Resources Commission will accept jurisdiction of this test as a water well, please so inform the Oil and Gas Board with a copy of your letter to the State Geologist.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:sm

cc: Secretary, Oil and Gas Board w/enc.
State Geologist w/enc.

P.S. to Duncan: Even though the Water Resources Commission accepts jurisdiction the pits have not been filled at this location and it is suggested that we not approve the bond release until they have been filled. Earl

Hydro ID 4

MAY 10 1965

53 of 63

THE SUPERIOR OIL COMPANY

SUPERIOR BUILDING
P. O. BOX 200
CASPER, WYOMING 82602

May 7, 1965

State Geological Survey
Science Center
University of South Dakota Campus
Vermillion, South Dakota

Re: Peterson #1 (44-15)
C SE SE 15-7S-1E
Fall River County
South Dakota
Permit #382

Gentlemen:

Attached are two copies each of the core and sample description on the above test.

Today we received a copy of the transmittal letter from American Stratigraphic Company showing they have sent you the samples for this well. As stated on the plugging record, the mud pits have been fenced and will be filled and leveled when they dry up.

If you need any further information or reports, please let us know.

Yours very truly,

THE SUPERIOR OIL COMPANY

J. P. Dujka

RLH/jr

cc: Mr. Earl Cox
South Dakota State Geological Survey
Western Field Office
Belle Fourche, South Dakota

MAY 7 1965

AMERICAN STRATIGRAPHIC COMPANY

17 NORTH 31st ST. • BILLINGS, MONTANA • ALPINE 9-7647

May 4, 1965

State of South Dakota Geological Survey
Science Center
Vermillion, South Dakota

Attention: Dr. Duncan McGregor
State Geologist

Gentlemen:

We are shipping you today via motor freight samples on the following well:

✓ Superior, #1 Peterson
15-7S-1E
Fall River County, South Dakota.

Very truly yours,

AMERICAN STRATIGRAPHIC COMPANY

Fred McCotter be

Fred McCotter
Manager

FMc/be
cc: Mr. Jerry Davis, Superior Oil Company, Box 200, Casper, Wyoming.

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
SCIENCE CENTER
University of South Dakota Campus
VERMILLION 57069
Phone 624-4471

DUNCAN J. McGREGOR
Director and State Geologist

MERLIN J. TIPTON
Assistant State Geologist

Western Field Office
Belle Fourche, South Dakota

April 15, 1965

Mr. J. P. Dujka
Superior Oil Company
P.O. Box 200
Casper, Wyoming

Re: Superior #1 Petersen (44-15)
SE¼SE¼-15-7S-1E
Fall River County, So. Dakota
Permit No. 382

Dear Mr. Dujka:

In checking our files, at Vermillion, I find we still need two copies each of the core and sample description on the above test. These records should be sent in within thirty days of completion of the test.

Before the bond can be released, the rig must be removed from the location, the samples sent in and the mud pits either filled or a release obtained from Mr. Peterson.

This letter is merely to inform you of the status of our files and to outline our requirements. It is hoped Superior will see fit to do additional work in South Dakota and be assured of our future cooperation.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:sn

Edgemont, South Dakota
March 10, 1965

Mr. Joe Grimes
Water Resource Commission
Pierre, South Dakota

Re: Superior #1 Peterson(44-15)
SE¼SE¼-15-7S-1E
Fall River County, So. Dakota
Permit No. 382

Dear Mr. Grimes:

I wish to convert the above oil test, on my land, to a water well. The water to be used will come from the sand zone immediately below the surface casing. A cement plug is in place, immediately below the water zone. The lower portion of the hole has been plugged according to specifications of the State Geological Survey.

Should conversion of the oil test to a water well be approved, I agree to assume full liability for any subsequent plugging that might be required.

Sincerely,

Francis A. Peterson

Francis A. Peterson

MAR 10 1965

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
SCIENCE CENTER
University of South Dakota Campus
VERMILLION 57069
Phone 624-4471

DUNCAN J. McGREGOR
Director and State Geologist

MERLIN J. TIPTON
Assistant State Geologist

Western Field Office
Belle Fourche, South Dakota
March 9, 1965

Mr. Francis A. Peterson

Edgemont, South Dakota

Re: Superior #1 Peterson(44-15)
SE¼SE¼-15-7S-1E
Fall River County, So. Dakota
Permit No. 382

Dear Mr. Peterson:

Enclosed is a letter and three copies made out to Mr. Grimes, of the Water Resource Commission, stating you wish to convert the above oil test to a water well. Please sign the original and all copies, and return to me in the stamped, addressed envelope.

As soon as you get the valve in place, at the wellhead, please let me know so it can be inspected. An envelope is enclosed for your use.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:sn

Edgemont, South Dakota
March 4, 1965

Dr. Duncan McGregor
State Geologist
State Geological Survey
Vermillion, South Dakota

Re: Superior #1 Peterson (44-15)
SE¼SE¼-15-7S-1E
Fall River County, So. Dak.
Permit No. 382

Dear Sir:

The above oil test on my land is to be plugged and abandoned. It is requested that the test be plugged in a manner so that I can easily go back into it at a future date and perforate the casing and tap the artesian water flow that is behind the casing.

To be specific, it is requested that approval be granted to weld or screw a cap on the top of the surface casing in place of the abandonment marker. It is also requested that the ten sack surface plug not be placed.

Should the test be plugged in the above manner, I agree to assume full liability for any subsequent plugging that might be required.

Sincerely,

F. A. Peterson

Francis A. Peterson

FEB 24 1965

SOUTH DAKOTA

State Water Resources Commission

STATE OFFICE BUILDING

PIERRE, SOUTH DAKOTA

February 23, 1965

Mr. F. A. Peterson
Edgemont, South Dakota

Dear Mr. Peterson:

I have been advised that the Superior Oil Company has obtained a Permit to Drill for Oil and Gas on your land in Section 19, T 7 S, R 7 E.

Occasionally, owners of land consider converting abandoned oil wells into water wells. Please advise me whether or not you intend to convert the oil well drill hole on your land into a water well if water is endountered and the drill hole is abandoned as an oil well.

If you are considering making a water well out of the abandoned oil well drill hole, special considerations are necessary to comply with the State's oil and water laws. The abandoned oil hole must be properly plugged and the water well properly constructed. All conversion work will be at your expense. The cost will vary, depending upon the characteristics of the drill hole, but such cost will be in the neighborhood of $5,000 or more. Usually another driller and drill rig will have to be arranged for. This other drill rig and casing and other materials will have to be on hand to take over immediately after the special oil well plugging is completed, because the drill hole cannot be left open for any appreciable length of time without spoiling it. Approval of plans for construction of the water well will be required, and a bond covering proper constructin may be required. Also, a water right may be required. All of these arrangements take considerable time to accomplish.

Please advise me immediately if you plan to convert the oil well drill hole into a water well. We both hope that a producing oil well results from the drill hole on your land; however, if not and you are planning on a water well, we must start making arrangements now.

Sincerely,

J.W. GRIMES
Chief Engineer

JWG/bm
cc Oil & Gas Board, State Capitol, Pierre, S.D.
Mr. Duncan McGregor, State Geologist, University of S.D.
Vermillion, South Dakota

SURETY

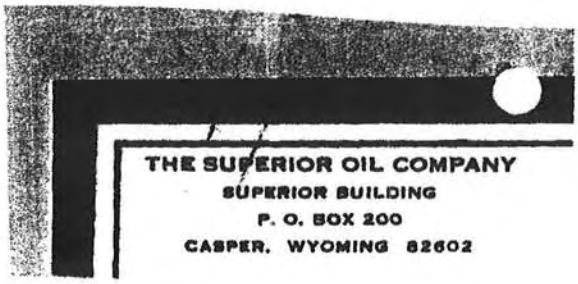
NO SURETY INFORMATION FOR THIS WELL AS OF 5/18/2011

MISCELLANEOUS

2205/2264 Superior Oil Co. #1 Peterson
15-7 S-1 E, Fall River Co.

0/2205 " "

5/10/65



Department of Environment & Natural Resources
Tomorrow...Today

Oil and Gas Search for: *api_no_ like '40 047 20065'*

Page 1 of 1	Export Options (temporarily unavailable)	Page: 1

Record 1 of 1

Well Information

API No:	40 047 20065	**County:**	FALL RIVER
Well Name:	PRC 21-14 PETERSON	**Location:**	NENW 14-7S-1E
Permit No:	741	**Total Depth:**	2266
Operator Name:	POWER RESOURCES CORPORATION	**Bottom Hole:**	Minnelusa
Permit Date:	12-03-1975	**KB Elevation:**	3647
Spud Date:	12-11-1975	**Ground Elevation:**	3639
Plug Date:	12-26-1975	**Latitude:**	43.447765
		Longitude:	-103.968121
Well Field	WILDCAT	**Status**	P&A
Class:	DRY HOLE	**Type:**	DRY HOLE

Formation Tops

Formation	Depth (ft.)
Morrison	322
Spearfish	890
Goose Egg	1178
Minnekahta	1425
Opeche	1465
Minnelusa	1569
Red Marker	1984
2nd Leo	2100

Page 1 of 1 (goto top)	Page: 1

COUNTY:	**FALL RIVER**
LEGAL LOCATION:	**NENW 14-7N-1E**
API NO:	**40 047 20065**
PERMIT NO:	**741**
WELL NAME:	**PRC #21-14 PETERSON**
OPERATOR:	**POWER RESOURCES CORPORATION**
PERMIT ISSUED:	**12/03/1975**
PERMIT CLOSED:	**01/23/1976**
FILE LOCATION:	**7N-1E-14 NENW**

TARGET CODES:

WELL HISTORY / CHECKLIST

PERMIT TO DRILL / INTENT TO DRILL

WELL INSPECTION / SCOUT REPORTS

OPERATOR'S TECHNICAL REPORTS / MAPS

ADMINISTRATIVE / SUNDRY REPORTS

CORRESPONDENCE

SURETY

MISCELLANEOUS

WELL HISTORY / CHECKLIST

BOND RELEASE CHECKLIST

Well Name & Location

PRC #21-14 Peterson
NENW 14-7S-1E, Fall River County

Permit # 741

API #40 047 20065

Bond # 4288541 Date Issued Dec. 3, 1975 Date released Aug. 25, 1976

Surface Restoration

✓ Pits filled

✓ Site level

11 — Site policed

— Dry-hole marker solid, sealed, correctly inscribed

— No dry-hole marker desired, letter in WFO files from surface owner

11 (Converted to water well, owner's responsibility) FK

Paperwork Filed

— Form 4 (Completion or Recompletion Report)

— Form 6 (Sundry Notices and Report on Wells)

✓ Form 7 (plugging Report)

Geological Information Filed

✓ Well Logs: IES, SNP, DIL, GR, NEUT, CALIP, Cement Bond, Temp, Micro, Laterlog, SM Dens. BCSL

— DST charts and reports

✓ Geologist's Report

— Results of coring and core analyses

✓ Set of 10-foot sample cuttings (check with Bob Schoon) ← have been received at Vermillion 1-15-76 Jrs

DATE 8-25-76 CHECKED BY Jrs

2

PERMIT CHECKLIST

Well Name and Location:	
PRC #21-14 Peterson NENW 14-7S-1E, Fall River	Permit # 741 API #40 047 20065 Bond # 4288541

Paperwork Filed with WFO

- ✓ Organization Report
- ✓ Application
- ✓ Bond
- ✓ Permit fee

The Following Papers sent to Operator:

- ✓ Permit (Form 2a)
- ✓ Receipt for $100 permit fee
- ✓ Cover letter explaining material sent

Permit Fee Filed:

- ✓ Permit fee w/Cash Receipts Transmittal Form sent to State Treasurer

Notification of New Permit sent to:

- ✓ Dr. Duncan J. McGregor
- ✓ Mr. Vern W. Butler
- ✓ Dr. Allyn Lockner
- ✓ Mr. George Kane

DATE Dec. 3, 1975 CHECKED BY Jean Miller

PERMIT TO DRILL / INTENT TO DRILL

3

State Pub. Co., Pierre

APPLICATION FOR PERMIT TO:

S. Dak. Oil & Gas Board
FORM 2

☒ DRILL ☐ DEEPEN ☐ PLUG BACK
☐ SINGLE ZONE
☒ OIL WELL ☐ GAS WELL ☐ MULTIPLE ZONE

FARM OR LEASE NAME
M. Lenora Peterson
WELL NO
~~#1-14~~ #21-14 Fed

OPERATOR
Power Resources Corporation

FIELD AND POOL, OR WILDCAT
Wildcat

ADDRESS
1660 S. Albion St. Suite 827 Denver, Colorado 80222

NO. ACRES IN LEASE
971.32

LOCATION (In feet from an established corner of the legal subdivision)
660 fr. NORTH
1983 fr. West
Section 14-7S-1E

SEC. TWP. RGE
NENW 14-7S-1E

COUNTY
Fall River

NAME AND ADDRESS OF SURFACE OWNER
M. Lenora Peterson
Star Route, Edgemont, So. Dakota 57735

ELEVATION
3639 GR

PROPOSED DEPTH
2500

NO. OF WELLS ETC
NONE

ROTARY OR CABLE TOOLS
Rotary

APPROXIMATE DATE WORK WILL START
December 3, 1975

NAME AND ADDRESS OF CONTRACTOR
Frenzwaythand Kaiser
P.O. Box 940
Newcastle, Wyoming

IF LEASE PURCHASED WITH ANY WELLS DRILLED, FROM WHOM PURCHASED (Name and address)
— NO —

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	NEW OR SECOND HAND	DEPTH	SACKS OF CEMENT
12¼"	8 7/8"	28	Second hand	150	150

DESCRIBE PROPOSED OPERATIONS IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOW OUT PREVENTER PROGRAM IF ANY

Drill a 7 7/8" hole from bottom of surface casing to estimated total depth of 2500. Will test the Leo zones of Minnelusa formation. Drill stem test any zones with shows of oil & gas. If commercial production indicated will set 5½" casing 100 feet below prospective pay zone, perforate, and complete.

SIGNED Richard R. Sandham TITLE Vice President-Land DATE Nov. 28 1975

WRITE BELOW THIS LINE

APPROVED NO. 741

DATE December 3, 1975

CONDITIONS

COMPLETE SET OF SAMPLES, AND CORES IF TAKEN, MUST BE SUBMITTED.

SAMPLES, AND CORES IF TAKEN, BELOW SOUTH DAKOTA DEPTH, MUST BE SUBMITTED.

STATE GEOLOGIST
WESTERN FIELD OFFICE

CHECKED BY
Supervisor, School and Public Lands
Date

DEC 1975
RECEIVED
OFFICE

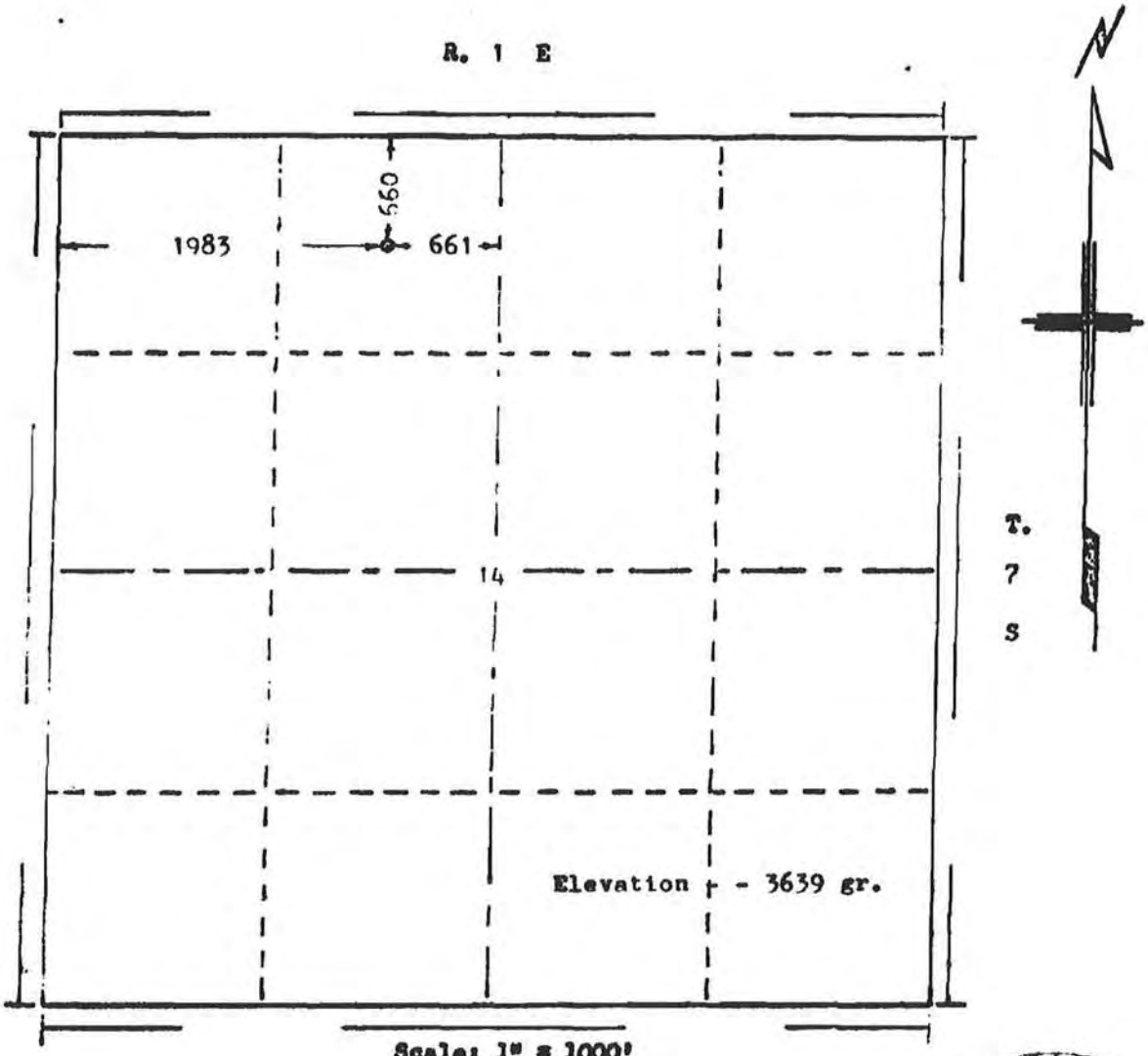
INSTRUCTIONS

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate modifications.

If the well is to be, or has been, directionally drilled, so state and show by attached sheets, if necessary, the coordinate location of the hole in any present or objective productive zones.

(*Sample location: 660' South and 660' East of the Northwest Corner of Section 16.)



#21-14 Jus

Thomas E. Nelson, of Casper, Wyoming
has in accordance with a request from Mr. Bassham
for Power Resources Corporation
determined the location of ~~#12-14~~ M. Lenore Peterson
to be C NE NW Section 14, Township 7 South
Range 1 East of the Black Hills Meridian
Fall River County, South Dakota

DEC 1975
FIELD OFFICE

I hereby certify that this plat is an accurate representation of a correct survey showing the location of
~~#12-14~~ #21-14 Jus M. Lenore Peterson

Date: ~~11-29-75~~

T. Nelson
Licensed Land Surveyor No. 1200
State of South Dakota

S. Dak. Oil & Gas Board
FORM 1

ORGANIZATION REPORT

Full Name of the Company, Organization, or Individual: Power Resources Corporation

Post Office Address (Box or Street Address): 1660 S. Albion St. Suite 827, Denver, Colo. 80222

Plan of Organization (State whether organization is a corporation, joint stock association, firm or partnership, or individual): Corporation

If a reorganization, give name and address of previous organization: NONE

(1) If foreign corporation, give State where incorporated	(2) Name and postoffice address of State agent	(3) Date of permit to do business in state
WYOMING	CT Corporation System 319 S. Coteau St. Pierre, S. Dakota 57501	December 1995

Principal Officers or Partners (if partnership) NAME	TITLE	POSTOFFICE ADDRESS
Robert V. Bailey	President	1660 S. Albion Suite 827 Denver, Colo 80222
Milton O. Childress	Executive Vice President	" " "
Richard A. Bassham	Vice President-Land	" " "
John F. Trotter	Secretary-Treasurer	307 Conroy Bldg Casper, Wy 82601

DIRECTORS NAME	POSTOFFICE ADDRESS
Robert V. Bailey	1660 S. Albion Suite 827 Denver, Colo 80222
Milton O. Childress	" " " " " "
Richard A. Bassham	" " " " " "
John F. Trotter	307 Conroy Bldg Casper, Wy 82601
Clovis E. Radelander	152 N. Durbin " "

Executed this the 28 day of November 1975

State of WYOMING }
County of NATRONA }

Richard A. Bassham
Signature of Affiant

Before me, the undersigned authority, on this day personally appeared Richard A. Bassham known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states, that he is duly authorized to make the above report, and that he has knowledge of the facts stated herein, and that said report is true and correct.

Subscribed and sworn to before me, a Notary Public, this 28 day of November 1975

SEAL

County of Natrona State of Wyoming
My Commission Expires June 30, 1978

My commission expires

Richard A. Bassham Jr.
Notary Public in and for Natrona
County, Wyoming

DO NOT WRITE BELOW THIS LINE

Approved 12-3-75
Date

Oil and Gas Board of the State of South Dakota

Fred V. Steece
Supervisor / WFO
Secretary

DEC 1975 RECEIVED WESTERN FIELD OFFICE

WELL INSPECTION / SCOUT REPORTS

SOUTH DAKOTA GEOLOGICAL SURVEY
Western Field Office

SCOUT REPORT

Number 2

Date Scouted 7-27-76

Operator Power Resources Corporation

Permit Number 741

Farm/Lease Name #21-14 Peterson

API Number 40 047 20065

NENW Sec. 14 T. 7S R. 1E County Fall River

Elev. 3639 Est. T.D. - Actual T.D. 2284 Spudded 12-11-75

Contractor Farnsworth & Kaiser Geologist Al Nelson

SCOUT'S OBSERVATION:

Open pipe at surface with mud all around it remains at site. Bags of cement and other refuse strewn about. No indication of completion as water well.

FORMATION TOPS:

DST RECORD:

PLUGGING RECORD:

DATE PLUGGED/COMPLETED

CASING RECORD:

_____ From ___ To _____

_____ From ___ To _____

SITE INSPECTION:

Approved X

Not Approved

REMARKS: No open mud pits. Water well piping is probably subsurface. Mess probably belongs to the rancher.

SCOUTED BY James E. Ellithorpe, Field Assistant

Fred V. Steece, Supervisor

POWERTECH (USA) INC.

1/ PRC #21-14 Peterson — 12-26-75

NENW 14-7S-1E Fall River

660 FNL & 1983 FWL

PERMIT:	741 (12-3-75)
API:	40 047 20065
ELEV:	3639 Gr.
CONTR:	Farnsworth & Kaiser Newell
GEOL:	Al. Nelson
ENGR:	
SPUD:	12-11-75
EST T.D.:	2500 (Leo)
CASING:	8 5/8 - 160 (@ 152)
CORES:	None
DST'S:	None
LOGS:	BCSL, DIL
T.D.:	2269 (Drlr) 2267 (Log)
PLUG:	12-26-75

Al Nelson called for plugging approval we worked out following plug program

40 sax: 2020-1900 Red marker

40 sax: 1600-1500 top Tule

30 sax: 950-850 Basal Sundance

no surface plug as well will be completed as a water well.

Formation Tops (Nelson)

Fuson	178
Morrison	339
Sundance	571
Basal Sd	862

1/ Power Resources Corp, Denver
John Trotter & George Wolf, principals

Spearfish	877
Goose Egg	1180
Minnekahta	1428
Minnelusa	1571
* 1st Conv	1571
massive Anhydr	1648
2nd Conv	1696
* Red Marker	1988
2nd Leo	2099
TD	2269

7-27-76

Visited site to see if converted to water well. Impossible to tell. Site is a mess.

OPERATOR'S TECHNICAL REPORTS / MAPS

Hydro ID 5

G. ALLAN NELSON
CONSULTING PETROLEUM GEOLOGIST
ROOM 408, MAJESTIC BUILDING
(303) 623-7750 RES 322-0328
DENVER, COLORADO 80202

GEOLOGICAL WELL REPORT

POWER RESOURCES CORPORATION

#21-14 LENORE PETERSON

NE NW SEC. 14, T.7S., R.1E.,

FALL RIVER COUNTY, SOUTH DAKOTA

Wildcat

WELL DATA

Location: 1983' from the West line and 660' from the North line, C NE NW Sec. 14, Township 7 South, Range 1 East, Fall River County, South Dakota.

Elevation: 3639 ground.
3647 K.B.

Type Well: Wildcat.

Spud Date: 10:00 P.M., December 11, 1975.

Completion Date: 9:00 P.M., December 26, 1975.

Casing Record: Ran 8 5/8" surface casing. Set at 152 ground. Cemented with 125 sacks of regular cement with 3% Calcium chloride. Pipe set at 152 ground. 24# casing.

Total Depth: 2269 Driller.
2267 Schlumberger.

Deepest Formation Penetrated: Lower Leo Section.

Depth Datum: 3647 K.B.

Well Status: Plugged and abandoned(left as water well for landowner).

Mud Program: Drilled out from under surface with water. Continued drilling with native mud down to 1070 in Spearfish red beds. Converted to a red bed between between 1070 and 1283 in the Goose Egg formation after getting stuck at 1283. Added 1 sack of soda ash, 5 Rayvan, 4 caustic soda, 1 can suf-drill, and 25 sacks of gel. Above 1283 a water-flow was continually thinning mud, particularly when mud pump was shut down on trips for bit.
Between 1625 in the Converse Massive Anhydrite and 1729 in middle Converse tourly treatment was Gel, 1 sack caustic soda, 1 soda ash, 1 Rayvan, and mud weight was 9.4-9.6 Mud vis. was 36 to 37.
At 2045 to 2078 in upper Leo wt. was 9.7 and vis. was 46, with tourly treatments of 1 sack of soda ash, 1 Rayvan, 1 caustic soda, and 4 CMC to get water loss down to 5 cc. or less before Second Leo was reached at approximately 2100.
At 2105 in Second Leo Sand main objective wt. was 10.0, vis. 36, and water loss 6.0 . Water flow from up the hole continued to create problems in maintaingood quality mud.
Logs were run without any hole trouble. Wt. was 10.3, vis. 85, and water loss 7.2.
Mud furnished by Pro-Mud, Casper; Phil Hogan, engineer.

Page 1

WELL DATA (Con.)

Hole Size: 12¼" from surface to 168.
7 7/8" from 168 to 2269 T.D. Driller.

Cores: (None).

Drill-Stem Tests: (None).

Logs: Schlumberger Borehole Compensated Sonic Log was run from T.D. up to base of surface casing on a 5" scale 40-70-100, and on a 5" scale 40-90-140 from T.D. up to 1400 above Minnekahta. Gamma Ray Log and Caliper Log were also run with Sonic Log. Two repeats were run from T.D. up to 1980 first and then from T.D. up to 1400 on a 40-90-140 scale.
Dual Induction Laterolog was run second and did not work. 8 hours were spent waiting for a second tool to arrive. A 2" scale was run from T.D. to base of surface pipe, and a 5" scale over same interval was also run, with a repeat from T.D. up to 1900.
Engineer: Don Marquez, Gillette.

Plugging Record: 40 sacks from 2020 to 1900 across the Red Marker.
30 sacks from 1600 to 1500 across top of the First Converse Sand.
30 sacks from 950 to 850 across Basal Sand of the Sundance.
Cementing by Halco, Gillette
(No plug in surface pipe since left as water well).

Contractor and Rig Equipment: Farnsworth & Kaiser, Newcastle, Wyoming.
U-34 rig.
3½" IF drill pipe.
5½" drill collars totaling 341'.
Mud pump GD FXQ with 6" liners and 16" stroke.
Radios on rig and at Newcastle base plus in pusher's pickup.
Mud pump trailer-mounted.
Rig trailer-mounted.
Buzz Farnsworth, pusher-owner.

Sample Storage: One cut of samples were sent to American Stratigraphic in Casper. sent
One cut of samples were to the South Dakota Geologic Survey in Vermillion.

Drilling Time Records: Original copy of Star Recording 1' drilling time charts is on file in Denver office of G.A. Nelson.

LOG FORMATION TOPS

All depths are measured from 3647 K.B.

FORMATION	DEPTH	DATUM
LOWER CRETACECUS	(In first samples at 184 K.B.)	
TENTATIVE FUSON SHALE (LAKOTA TOP INDETERMINATE)	178	
UPPER JURASSIC	339	
MORRISON FORMATION	339	
SUNDANCE FORMATION	571	
REDWATER SHALE MEMBER	571	
LAK MEMBER	690	
TENTATIVE HULETT SAND	795	
STOCKADE BEAVER SHALE	817	
BASAL SAND OF SUNDANCE	862	
TRIASSIC	877	
SPEARFISH FORMATION	877	
PERMIAN	1180	
GOOSE EGG FORMATION	1180	
FORELLE LIME MEMBER	1320	
GLENDO SHALE MEMBER	1338	
MINNEKAHTA LIME MEMBER	1428	
OPECHE SHALE MEMBER	1471	
MINNELUSA FORMATION	1571	-2076
UPPER MINNELUSA(PERMIAN)	1571	-2076
FIRST CONVERSE SAND	1571	-2076
BASE OF SAND	1648	
MASSIVE ANHYDRITE	1648	
BASE OF ANHYDRITE	1696	
SECOND CONVERSE SAND	1696	
BASE OF SECOND CONVERSE SAND	1722	
RED MARKER	1988	-1659
BASE OF RED MARKER	1992	

LOG FORMATION TOPS

FORMATION	DEPTH	DATUM
PENNSYLVANIAN	1992	-1663
MIDDLE MINNELUSA (LEO SECTION)	1992	-1663
SECOND LEO SAND	2099	-1548
BASE OF SAND	2130	
TOTAL DEPTH DRILLER (STRAP)	2269	
TOTAL DEPTH SCHLUMBERGER	2267	

SAMPLE LITHOLOGIC DESCRIPTION

All depths are from 3647 K.B.

All sample depths following have been corrected for lag, and then matched to drilling time breaks wherever possible. **Sample lithology is then matched to log lithology so that all lithology following matches log.

All shows are underlined with a solid line. Possible shows are underlined with a dashed line.

DEPTH	LITHOLOGY
LOWER CRETACEOUS	(In first samples caught below surface pipe at 184 K.B.)
TENTATIVE FUSON	178 (LAKOTA TOP INDETERMINATE) (In first samples caught below surface pipe at 184 K.B.)

(Samples following are caught at 10' intervals)

184-86	Abundant variegated clay, red, maroon, dark gray, purple, light green; limited sand, white, no show, no porosity, very well-cemented, very fine to fine, limy, poorly sorted, slightly soft, abundant white clay-fill.
186-97	Same variegated clay; very shaly sand, very silty, very fine, abundant clay cementation, part very fine to fine with poor sorting, no porosity, very soft.
197-204	Same red, maroon, purple waxy clay, also light green, noticable brownish gray; purple very sandy clay; limited very shaly sand as above.
204-10	(Very fast drilling) Traces pale green sand with abundant waxy clay cementation, very fine, silty, very soft, no show, also white.
210-30	Same as above (fast drilling).
230-34	(Very slow drilling like hard formation) Trace tannish brown very shaly sand, hard, tight, very fine, excellent sorting, no porosity, noncalcareous.
234-41	(Fast drilling) Waxy clay, red, maroon, violet, tan, pale green.
241-52	Same clay, also distinctive very dark chocolate brown; loose sand grains, poorly sorted very fine to fine to medium, subround.
252-59	Same red, violet waxy clay, some dark gray; same loose sand grains, clear, poorly sorted.
259-70	Same clay; traces green shaly sand, very fine to fine, very soft, silty, trace angular med grained orange quartz grain. Same clay; abundant light red very shaly sand, waxy cly cementation, very fine, verynsoft; first trace chert, whitish, light gray, very coarse and coarser, subangular.
270-88	(Top 12' very, very fast drilling like high porosity) Purplish maroon waxy shale, clay, light to dark gray; abundant very shaly sand, light red, very silty, clay cementation, very fine, soft.

SAMPLE LITHOLOGIC DESCRIPTION(Con.)

	288-99	(Top 6' very fast drilling) Same as above.
	299-311	(Basal 4' hard drilling) Shaly sand, dark green, very hard and tight, very well-cemented, no porosity, ver fine, well-sorted.
	311-18	Abundant clay-filled sand, light red, very fine, silty, mushy soft; shale breaks, waxy clay, light green, red.
	318-39	Same; green sand, shaly, very fine to fine, tight, no
339 MORRISON		porosity.
	339-50	Abundant dark gray silty shale, shale, slightly waxy in part.
	350-61	Same blackish shale, clay; loose calcite like from veinlet, white, gray, dark gray, in abundance.
	361-66	Same shale.
	366-78	Same shale, also dark green waxy, few streaks quartzitic sand, shaly, dark green, hard, very well-cemented, very fine, soft in part.
	378-92	Increasing greenish dark gray shale, clay, also very dark gray.
		Clay, slightly waxy, very dark gray to greenish dark gray, soft.
	392-?	Same waxy clay, grayish green to greenish dark gray, traces red.
	?-414	Same, also very dark gray clay; intermingled with sandy lime stringer(s), white to gray(Very slow drilling in basal part like lime).
	414-19	Same clay, very dark gray to greenish dark gray.
	419-28	(Fast drilling) Waxy clay, dark gray, greenish gray, soft, grayish green.
	428-34	Waxy clay, mostly grayish green, very soft.
	434-44	(Very fast drilling) Same.
	444-59	Same, also dark gray.
	459-69	Waxy clay, dark gray to greenish dark gray.
	469-79	Same, with trace white kaolinitic sand, very soft, very fine, no show, excellent sorting.

571 SUNDANCE FORMATION

571 REDWATER SHALE MEMBER
699 LAK MEMBER

699	699-710	Waxy clay, grayish green to greenish gray, dark gray, platy, very soft; sand streaks, greenish light gray, very silty, very, very fine, very soft, poor porosity, scattered fine glauconite.
	710-16	Same clay and sand; also light tan sand, very fine, silty, soft, no show, porous, excellent sorting.
	716-30	Same gray to green waxy clay, very soft; limited sand, light tan, very fine and finer, soft, porous, excellent sorting, no show.
	730-37	Very waxy clay, dark gray, greenish grey, grayish green, very soft; same soft tan sand, very fine, silty, no show; limited orange sand, very fine, well-sorted, shaly, soft, no show.

SAMPLE LITHOLOGIC DESCRIPTION (Con.)

795 TENTATIVE HULETT SAND

817 STOCKADE BEAVER SHALE

823-31 Sandstone, grenish white, very fine, excellent sorting, no show, no porosity, fine glauconite scattered, abundant tiny white spots of clay scattered, soft to very soft, also tiny black specks scattered, limy (Hulett cave).

831-46 Shale, silty shale, gray, greenish gry, platy, very soft, also darker gray; sand streaks, same sand as above, no show, part yellow limonite stained (Hulett cave).

846-57 Same soft waxy shale, grayish green to greenish gray; sand streaks, greenish gray, light gray, no show, poor porosity, very well-cemented, silty, very soft, very fine, excellent sorting, fine glauconite, limy.

857-62 Same alternating shale and sand as above, no show.

862 BASAL SAND OF SUNDANCE

862-72 (Very rapid drilling of 7' in 4") Basal sand of Hulett: sandstone, light greenish gray to yellowish greenish gray, no show, very fine, excellent sorting, porous, very soft, fine glauconite and black specks scattered, no fluorescence.

872-77 Dark gray very waxy shale, very soft; trace also black with pyrite spot; trace tannish gray mottled purplish maroon.

877 TRIASSIC

877 SPEARFISH FORMATION

877-99 (Samples up at 900 in less than 22"; red bed top marked by faster drilling from 2½"/ft. above red bed top to 2"/ft. below red bed top) Abundant brick red silty shale, very silty, very soft, fine black biotite specks scattered; limited smooth red shale; trace white medium crystalline to coarsely crystalline anhydrite.

SAMPLE LITHOLOGIC DESCRIPTION (Con.)

1528-34 Plain shale to silty shale, brick red, soft in lower part; top 4' anhydr ite, white, tan, microcrystalline.
1534-44 (Missing).
1544-49 Same red silty shale, soft.
Anhydrite, white, to tan denser to limited orange.
1549-56 Siltyshale, light red, brick red, soft.
1556-71 Same shale.
1571(-2076 MINNELUSA FORMATION
1571(-2076 UPPER MINNELUSA (PERMIAN)

1571-90 (Samplessurfacing off bottom at 1590 in more than 15" and less than 45") (Top 10' very fast drilling like high porosity and bottom 5' fast drilling like good porosity) Abundant sandstone, light yellow, pinkish yellow, soft, no show, good visible porosity, poorly sorted very fine to fine to fine-lpus, anhydritic-looking, clear grains, subround.
1590-93 Anhydrite stringer, white to tan to gray denser, cryp- to crystalline.
1593-1602 (Fast drilling like very porous sand) Same sand as above, light yellow, pinkish possible from red bed mud contami- nation, poorly sorted very fine to fine to fine-plus, porous, no show, no fluorescence, friable.
1602-07 (Slower drilling like tight or hard streak) Possible an hy- drite stringer, tan denser to white.
1607-15 (Very fast drilling of 1"/ft. like high porosity) Sandstone, light yellow, fair sorting, very fine to fine, clear grains, soft, good visible porosity, no show, anhydritic-looking, trace limy; trace light red shaly sandstone, very fine to mostly fine, abundant tiny red shale specks.
1615-35 Abundant loose sand grains, very poorly sorted, very fine to fine to few medium grains, clear grains, mostly light yellowish to less of light orange coloration(Slower dril- ling like more cemented, less porosity); sand is cave; white anhydrite, finely crystalline.
Same as above; anhydrite is in top 17' and sand is in bottom 3' of Fast drilling.
1635-45 (Continued fast drilling)Same loose sand grains as above.
1645-48 (Slightly slower drilling like sand is transitional to anhydrite below)
1648 BASE OF FIRST CONVERSE SAND
1648 MASSIVE ANHYDRITE

1648-60 (Slower drilling 11"/ft.) Anhydrite, tannish light gray, finely crystalline.
1696 BASE OF MASSIVE ANHYDRITE

1696 SECOND CONVERSE SAND

1696-98 Abundant sandstone, light orange, orange, very fine, good sorting, porous, soft, no show, traces whitish clay-fill scattered, clear grains but light orange, subround.
1698-1702 Increasingly abundant light orang sand, no show, soft, porous, very fine, well-sorted, anhydritic cementation.

SAMPLE LITHOLOGIC DESRIPTION (Con.)

1702-1722 (Below top 3' very fast drilling begins: 1"/ft.)
Same light orange sandstone, very fine to fine, soft, porous, no show, anhydritic cementation, clear light orange grains, fair sorting, noncalcareous.

1722 BASE OF SECOND CONVERSE SAND

1806-13 Snow white sand, no show, well-cemented, poor porosity, very fine to fine, fair sorting, anhydritic-looking cementation, clear grains, soft to slightly soft, no fluorescence.

1813-24 Same white sand as above, no show, poor porosity due to being very well-cemented, abundant white clay-fill, soft.

SAMPLE LITHOLOGIC DESCRIPTION (Con.)

1988(-1659RED MARKER

1988-92 (At 1990 samples coming off bottom in less than 38") (Red Marker marked by typical faster drilling from 10"/ft. above Marker to 2,4,3"/ft. in it) Abundant shale, shiny, splintery, platy, red, maroon,purplish red, very soft.

1992 BASE OF RED MARKER

1992(-1663PENNSYLVANIAN

1992(-1663MIDDLE MINNELUSA (LEO SECTION)

1992-2002 Abundant dolomite, tan to dark tan, anhydritic dolomite, less of red, lighter tan slightly chalky softer, darker tan and reddenser, harder; associated white anhydrite in 20%.

2002-12 (4'bblow top is 4' of faster drilling like possible shale break) Abundant silty shale, brick red, orange red, very soft; same dolomite and anhydritic dolomite and white anhydrite, with dolomite becoming violet to tan with purple shale spots in part; sand streaks, white, very well-cemented, no show, limited, no visible porosity, very fine to fine, clear grains, anhydritic cementation, noncalcareous, soft, possibly a granular anhydrite fast drilling is sd.

2012-22 Dolomite, tan, pink, violet, dense, hard, becoming anhydritic dolomite, tan, finely crystalline; sand streak(s), white, very fine, well-sorted, no show, no porosity, tight, few fine grains, trace mostly fine grained.

2022-32 Very distinctive blackish brown to greenish brown dolomite with tiny blacksih spots which in part are embedded clear sand grains, slightly chalky-looking, noncalcareous, hard; 20% finely crystalline snow white anhydrite with dark greenish brown dolomite and tan dense anhydrite.

2032-41 Same dolomite as above, becoming mostly snow white anhydrite with part tan denser and few brown sandy streaks with no porosity, tight.

2041-52 Same as above.

2052-62 Hard snow white to denser gray anhydrite; hard, dense tan to tannish brown to brown mottled red dolomite and anhydritic dolomite, part slightly crystalline; tannish gray very,very finely sandy dolomite, silty, with dark maroon to purplish maroon shaly spots.

2062-71 Anhydritic dolomite, dark tan, dense, very hard, cryptocrystalline, with anhydrite, snow white, very finely crystalline.

2071-84 Dolomite, anydritic dolomite, tan with purplish tan in part, few purplish red tiny shale spots in part; associated white anhydrite as above; limited violet chalky dolomite.

2084-92 Tan to dark tan anhydritic dolomite, dense, hard, cryptocrystalline, also purplish to maroon shale spots in part; 5% sandstone, light gray to tannish gray, poorly sorted very fine to fine, very well-cemented, no porosity, tight, mostly dolomitic, trace limy, soft to hard, scattered purplish tiny shale spots.

SAMPLE LITHOLOGIC DESCRIPTION (Con.)

2092-99	Anhydritic dolomite, tannish brown, very finely sandy, hard, with associated snow white anhydrite, microcrystalline, limited gray denser.
2099(-1548) SECOND LEO SAND	(Very slow drilling like hard formation)(Drills at 19" to 28"/ft. in sand versus 16"/ft. above and below sand)
2099-2113	Abundant sandstone, light gray, very silty, very well-cemented, no show, no visible porosity, tight, poorly sorted, part mostly very fine, part mostly fine with few medium grains, limy to dolomitic; two out of 25 cuttings with traces of yellow fluorescence on each end only, two other cuttings with golden yellow fair fluorescence throughout opposite tan staining in all of of one cutting and tan staining in 50% of other cutting, subround grains, tiny possible oil droplets not detectable after crushing, good yellow fluorescence in 2 stained pieces after crushing.
2113-21	Trace first chert in Leo, light gray, translucent, angualr, very coarse and coarser; same light gray sand, no show, very silty, very well-cemented, also gray more cemented, mostly very fine, few fine grained streaks, limited same sand grayer slightly quartzitic, no fluorescence.
2121-30	Sandstone, very silty, light gray, very fine, excellent sorting, very well-cemented, no show, no porosity, soft, in 40-50%; sandstone, 30-40%, grayish tan staining, very fine to mostly fine, well-cemented, poor or less porosity, soft, noncalcareous; limited gray denser sand, slightly quartzitic, very fine, hard, tight; limited fine to fine-plus sand, white, soft, porous, no show; all with no fluorescence.
2130 BASE OF SECOND LEO SAND	First jet black coaly shale, coal, mostly brownish black, firm to hard, blocky; from 2121 to 2124.
2130-42	All tan dense dolomite, anhydritic dolomite, hard, brittle, tle, with few white anhydrite spots and veinlets, cryptocrystalline.
2142-52	Same as above but darker brown, greenish brown, dense, cryptocrystalline, with 10% snow white anhydrite; trace round white anyhdrite spots in tan dolomite matrix.
2152-63	Same dolomite and minor amounts of anhydrite as above; also silty dolomite to lime, greenish tan, soft.
2163-69	Silty shale, orange redbrick red, soft; abundant very shaly siltstone, medium gray, no show, no porosity, dolomitic to limy, soft to limited hard; white anhydrite veinlet intersecting siltstone, medium crystalline.
2169-82	Second jet black coaly shale, coal, brownish black, firm, slightly soft; silty red shale break(s) as above, soft; mostly dolomite to anhydritic dolomite, tan, gray, dark gray, some brown, mostly dense to cryptocrystalline, anhydrite is from 2171 to 2182.
2182-93	Dolomite, anhydritic dolomite, tan, grayish tan, very cherty, dense, cryptocrystalline in part; grading into very sandy dolomite to very dolomitic sand, tan to grayish tan, very poorly sorted very fine to fine to few medium grains, very well-cemented, no porosity.

SAMPLE LITHOLOGIC DESCRIPTION (Con.)

2193-2202 Same dolomite and anhydritic dolomite, becoming darker brown cryptocrystalline; also chalky dolomite tolime, cream, light tan grayish, light gray; abundant shale, orange red, silty, soft; minor amount of anhydrite, white to brownish denser; shale probaly in faster drilling lower few feet.

2202-12 Same dolomite and abundant red shale as above; increasing snow white anhydrite, very finely crystalline; traces quartzitic sand, white to gray where tighter, very fine, excellent sorting, very well-cemented, no porosity, hard, tight.

2212-21 Abundant snow white anhydrite, part gray denser; abundant orange red silty shale as above, very soft; minority

2221-32 Dolomite to limestone, graysh tan, cryptocrystalline, hard, brittle, trace dark gray irregular streaks, trace fine pyrite specks.
20% brick red shale, orange red, soft, silty; very finely sucrosic silty limy dolomite to limestone, tan, grayish tan, tannish gray, hard; minority snow white anhydrite, microcrystalline to gray denser.

2132-40 Very finely sucrosic dolomite, dark gray, less of brown; 15% white anhydrite; 5% or less limited streak of sand, white, light gray, gray, quartzitic, very well-cemented, no show, no porosity, tight.

2140-54 Sucrosic limestone, dolomitic lime, ver, vegy finely sandy lime, tan, greenish tan; traces anhydritic sand, white, light gray, no show, no porosity, very well-cemented. very fine, well-sorted; 15% white anhydrite.

2154-63 Same as above, with limestone, becoming same white sand, very fine, well-sorted, very well-cemented, no show, no porosity, anhydritic-looking.

2163- 68½ (Missing because when 45" circulated samples were caught at T.D. no more cuttings were coming since hole was all cleaned out.

2160 TOTAL DEPTH DRILLER(STRAP)

2267 TOTAL DEPTH SCHLUMBERGER

HOLE DEVIATION SURVEYS

Surveys were made using a Sure Shot Model B with a 7° maximum reading.

Depth	Deviation	Formation
160	3/4°	------
268	"	Lakota ?
547	¼	Morrison
779	1	Sundance LAK member
1283	1¼	Goose Egg
1526	"	Opeche
2162	1 3/4	Lower Leo

BIT RECORD

12¼" bit from surface to 168. All bits below 168 are 7 7/8".

Run No.	Make	Type	From	To	Feet	Hours	Formation @ Base of Run
1	Smith	DTJ RR	168	1037	869	28	Spearfish
2	"	DGJ	1037	1526	489	24 3/4	Opeche
3	RTC	OSC1C Retip	1526	1655	129	9½	Massive Anhydrite.
4	Smith	V2J	1655	1750	95	12½	Pre-Second Converse.
5	RTC	J22 RR	1750	1974	224	57½	Basalmost Converse.
6	"	J33 RR	1974	2162	188	46	Pre-Second Leo Sand.
7	"	J65 RR	2162	2269 T.D.	17'	----	Lower Leo Section.

DRILLING PROGRESS SUMMARY

Drilling depths as of 8 A.M. each day.

Date	No. of Days	P.D. Depth	Fm. @ P.D.	Footage Drilled Last 24 hours	Status
Dec. 8,1975	--	----	----	----	Moving.
9	--	----	----	----	Move & rig up.
10	--	----	----	----	Rig up.
11	--	----	----	----	" " to dril rathole.
15	1	168	------	168	Work on rig.
16	2	391	Morrison	223	Drilling.
17	3	1038	Spearfish	647	Service rig.
18	4	1437	Minnekahta	399	Check B.O.P.
19	5	1665	Massive Anhydrite	228	Drilling.
20	6	1764	Pre-Second Conv.	99	------
21	7	1882	Lower Converse	118	Drilling.
22	8	1974	Basal Converse	92	Trip for bit.
23	9	2077	Upper Leo	103	Drilling.
24	10	2162	Pre-Second Leo	85	"
25	11	2210	Lower Leo	48	"
26	12				

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Respectfully submitted, B. A. Mercer McLean

POWER RESOURCES CORPORATION

Power Resources Corporation
#21-14 M. Lenore Peterson
NE¼NW¼ Sec. 14, T. 7S, R. 1E
Fall River County, S. Dakota
Elevation: Gr. 3639, KB 3647
Well Permit #741

DAILY DRILLING REPORT

11/29/75	Surveyed and staked location
12/02/75	Graded location and dug pits
12/08/75	Moving in rotary tools
12/09/75	Moving in and rigging up
12/10/75	Finished rigging up
12/11/75	Prep to spud
12/12/75	Spudded at 10:00 P.M., 12/11/75 Ran 8-5/8" 28# surface casing. Cemented with 125 sacks regular cement with 3% calcium chloride. Plug down at midnight - good returns. Pipe set at 152 Gr. Shut down - waiting on crews.
12/16/75	Drilling @ 397'. 3/4° @ 268'. 8 drill collars. Weight on bit - 15,000#. Rotary speed - 100 rpm.
12/17/75	1037' - Drilling. 3/4° @ 541', 1° @ 779'.
12/18/75	1437' - Drilling. 1¼° @ 1002'. Sample tops: Morrison - 322' Spearfish - 890' Goose Egg - 1178' No shows.
12/19/75	1660' - Drilling. 1½° - 1526'. Sample Top: Minnekahta - 1425' Drilling in 1st Converse sand. Mud Wt. - 9.4; Visc. - 36.
12/20/75	1765' - Drilling
12/21/75	1890' - Drilling
12/22/75	1974' - Drilling
12/23/75	2078' - Drilling

1660 So. Albion, Suite 827, Denver, Colorado 80222 303 759-5660

POWER RESOURCES CORPORATION

Power Resources Corporation
#21-14 M. Lenore Peterson
NE¼NW¼ Sec. 14, T. 7S, R. 1E
Fall River County, S. Dakota
Elevation: Gr. 3639, KB 3647
Well Permit #741

DAILY DRILLING REPORT cont'd.

12/24/75 2162' - drilling. Sample Top: 2nd Leo - 2100' (+1547)
ss, tite, some oil stn, poor P&P
Drilling to est. total depth of 2285' and log.

ADMINISTRATIVE / SUNDRY REPORTS

Hydro ID 5

24

JAN 1976
REC
WES. FIELD OFFICE

S. Dak. Oil & Gas Board
FORM 7

PLUGGING RECORD

Operator	Address
POWER RESOURCES CORPORATION	1660 So. Albion, Suite 827, Denver, CO. 80222

Name of Lease	Well No.	Field & Reservoir
Lenore Peterson	21-14	Wildcat

Location of Well	Sec-Twp-Rge or Block & Survey	County
NENW Sec. 14 - T. 7 S.- R. 1 E.		Fall River

Application to drill this well was filed in name of	Was this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry?
Power Resources Corporation	No			Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls./day)
December 2, 1975	2266	None	None	None

Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used. Indicate zones squeeze cemented, giving amount cement.
Morrison		339	
Basal Sundance Sand		862	950-850 30 Sacks
First Converse Sand		1571	1650-1500 30 Sacks
Base 2nd Converse Sand		1722	1900-2020 40 Sacks
2nd Leo Sand		2099-2113	Traces Yellow Fluorescence

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped etc.)	Packers and shoes
8-5/8	152	-0-	152		

Was well filled with mud-laden fluid, according to regulations? | Indicate deepest formation containing fresh water.

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval in fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Well plugged back to 850. Land owner, Lenore Peterson, Star Route, Edgemont, So. Dakota, has furnished letter to So. Dakota Geological Survey at Rapid City requesting use of well as a fresh water well. Mr. G. Allen Nelson has presented a detailed Geologic Well Report by letter dated 2 January 1976.

USE REVERSE SIDE FOR ADDITIONAL DETAIL

Sworn to before me this 12th day of January, 19

State of Colorado
County of Denver

R.R. Benham, V.P.
Signature of Affiant

Before me, the undersigned authority, on this day personally appeared ..... known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states, that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Subscribed and sworn to before me this 12th day of January, 19 76

SEAL

My commission expires My Commission expires Sept. 29, 1979

Notary Public in and for Denver County, Colo

DO NOT WRITE BELOW THIS LINE

Approved Jan. 23, 1976
Date

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

Supervisor, Western Field Office

CORRESPONDENCE

Peterson and Son, Inc.
Edgemont, South Dakota 57735
April 21, 1976

Mr. Fred Steece
South Dakota Geological Survey
308 West Boulevard
Rapid City, South Dakota 57701

Dear Sir:

I am writing in regard to your letter of February 26, 1976, Concerning the well converted to our use. We are using the well as a flowing well to water livestock. The well was completed by adding a 8 5/8 inch pipe to the existing casing and reducing this pipe to 4 inches with a one inch outlet. Approximately 100 feet of plastic pipe carries the water to the tank. We have not had the water analyzed.

If you have any further questions, feel free to contact us.

Sincerely,

Debrah Peterson

Debrah Peterson
Secretary

January 7, 1976

Fred Steece

South Dakota Geologocal Survey

308 West Blvd.

Rapid City, South Dakota 57701

Dear Sir:

I, M. Lenore Peterson, accept full responsibility for the oil test well known as #21-14 Peterson located on my land in NENW¼ Section 14 Township 7S. Range 1E. Fall river County, South Dakota as it is being left for a water well. Relieving Power Resources of their responsibilities with their bond.

The top of the highest plug is 850 feet and it has an 8 5/8" casing to 152 feet below ground level.

Sincerely,

M. Lenore Peterson

M. Lenore Peterson

Star Route

Edgemont, S.D. 57735

cc: John Trotter

December 3, 1975

Mr. P. A. Bansham, Vice President
Power Resources Corporation
1660 S. Albion, Suite 827
Denver, Colorado 80222

Dear Mr. Bansham:

Enclosed is your copy of Permit #741 (form 2a) and approved application to drill (form 2) covering the Power Resources Corporation #21-14 Peterson oil test in Fall River County, South Dakota. A copy of the permit should be posted at the well site. Also enclosed is a receipt for your $100 permit fee. Please make drilling progress reports to the Western Field Office at least weekly.

May I wish you success in your drilling venture and if there is anything I can do to be of help, please let me know.

Sincerely,

Fred V. Steece
Supervisor, Western Field Office

FVS/jlm
cc: Dr. Duncan J. McGregor
Enc. 3

December 3, 1975

Mr. David Volk
State Treasurer
Capitol Office Building
Pierre, S. D. 57501

Dear Mr. Volk:

Enclosed is a check in the amount of $100 from Power Resources Corporation to cover the drilling fee for permit #741 for an oil test in Fall River County. This check is for deposit in the general fund and a Cash Receipts Transmittal form is enclosed for the same amount.

Sincerely,

Fred V. Steece
Supervisor, Western Field Office

FVS/jlm
Enc. 2
cc: Dr. Duncan J. McGregor

SURETY

State Pub. Co., Pierre

S. Dak. Oil & Gas Board
FORM 3

BOND NO. 809878

BOND

KNOW ALL MEN BY THESE PRESENTS,

That we: Energy Reserves Group, Inc.

of the County of: Sedgwick In the State of: Kansas

as Principal, and Seaboard Surety Company

of New York, N. Y.

as Surety, authorized to do business in the State of South Dakota as surety, are held and firmly bound unto the State of South Dakota in the sum of ~~($5,000.00)~~ $20,000.00), lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The condition of this obligation is that whereas the above bounden principal proposes to drill a well or wells for oil, gas, or stratigraphic purposes in and upon the following described land situated within the State, to wit.

Any land situated within State of South Dakota

(May be used as blanket bond or for single well)

---------- Blanket Bond ----------

NOW, THEREFORE, if the above bounden principal shall comply with all of the provisions of the laws of this State and the rules, regulations and orders of the Oil and Gas Board of the State, especially with reference to the proper plugging of said well or wells, and filing with the Oil and Gas Board of this State all notices and records required by said Board, and the restoration of the surface, in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, then this obligation shall be terminated by the Board, the same shall be and remain in full force and effect.

Penal sum of

Twenty Thousand and 00/100 Dollars ($20,000.00)

Witness our hands and seals, this 21st day of April, 1976

Energy Reserves Group, Inc.

By Vice President R. D. Orr Principal

Witness our hands and seals, this 21st day of April, 1976

Seaboard Surety Company

By (James W. Bily) Attorney-in-fact Surety

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

DO NOT WRITE BELOW THIS LINE

Approved May 11, 1976 Date

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

Supervisor

Countersigned in South Dakota McLEAN / STANTON

By

Agent at Rapid City, S.D.

PAUL McKEAN

MAY 1976 FIELD OFFICE

Note: File 2 copies of this form with Secretary, Oil & Gas Board, Pierre.

POWERTECH (USA) INC.

Certified Copy

Hydro ID 5

No.

SEABOARD SURETY COMPANY

HOME OFFICE

NEW YORK, NEW YORK

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That SEABOARD SURETY COMPANY, a corporation of the State of New York, has made, constituted and appointed and by these presents does make, constitute and appoint A. C. Arbre[illegible] or A. C. Siebert or James A. [illegible] or Robert C. [illegible] or Evelyn Houchin or James W. Bily or Bill Hall or Donald E. Gragg or [illegible] A. Colagrossi---

of [illegible], Kansas

its true and lawful Attorney-in-Fact, to make, execute and deliver on its behalf insurance policies, surety bonds, undertakings and other instruments of similar nature as follows: Without Limitations

Such insurance policies, surety bonds, undertakings and instruments for said purposes, when duly executed by the aforesaid Attorney-in-Fact, shall be binding upon the said Company as fully and to the same extent as if signed by the duly authorized officers of the Company and sealed with its corporate seal; and all the acts of said Attorney-in-Fact, pursuant to the authority hereby given, are hereby ratified and confirmed.

This appointment is made pursuant to the following By-Laws which were duly adopted by the Board of Directors of the said Company on December 8th, 1927, and are still in full force and effect:

ARTICLE VIII, SECTION 1:

"Policies, bonds, recognizances, stipulations, consents of surety, underwriting undertakings and instruments relating thereto. [illegible] recognizances, stipulations, consents of surety and underwriting undertakings of the Company [illegible] and other writings relating in any way thereto or to any claim or loss thereunder, shall be signed in the name and on behalf of the Company

(a) by the Chairman of the Board, the President, a Vice President or a Resident Vice President and by the Secretary, an Assistant Secretary, a Resident Secretary or a Resident Assistant Secretary; or

(b) by an Attorney-in-Fact for the Company appointed and authorized by the Chairman of the Board, the President or a Vice President to make such signature; or

(c) by such other officers or representatives as the Board may from time to time determine.

The seal of the Company shall if appropriate be affixed thereto by any such officer, Attorney-in-Fact or representative."

IN WITNESS WHEREOF, SEABOARD SURETY COMPANY has caused these presents to be signed by one of its Vice-Presidents, and its corporate seal to be hereunto affixed and duly attested by one of its Assistant Secretaries, this 13th day of August, 19 75.

Attest:

SEABOARD SURETY COMPANY,

(Seal) Joan Lynch
Assistant Secretary

By John C. Whiteside
Vice-President

STATE OF NEW YORK
COUNTY OF NEW YORK } ss.:

On this 13th day of August, 19 75, before me personally appeared John C. Whiteside, a Vice-President of SEABOARD SURETY COMPANY, with whom I am personally acquainted, who, being by me duly sworn, said that he resides in the State of New Jersey; that he is a Vice-President of SEABOARD SURETY COMPANY, the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of the said Company; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said Company; and that he signed his name thereto as Vice-President of said Company by like authority.

State of New York
No. 43-4508755 Qualified in Richmond County
Certificate filed in New York County
(Seal) Commission Expires March 30, 1977

Karen Gavrity
Notary Public

CERTIFICATE

I, the undersigned Assistant Secretary of SEABOARD SURETY COMPANY do hereby certify that the original Power of Attorney of which the foregoing is a full, true and correct copy, is in full force and effect on the date of this Certificate, and I do further certify that the Vice President who executed the said Power of Attorney was one of the [illegible] by the Board of Directors to appoint an attorney-in-fact as provided in Article VIII, Section 1, of the By-Laws of SEABOARD SURETY COMPANY.

This Certificate may be signed and sealed by facsimile under and by authority of the following resolution of the [illegible] of SEABOARD SURETY COMPANY at a meeting duly called and held on the 25th day of [illegible]

"RESOLVED: (2) that the use of a printed facsimile of the corporate seal of the company and of the signature of an Assistant Secretary on any certification of the correctness of a copy of an instrument executed by the President or a Vice President pursuant to Article VIII, Section 1, of the By-Laws appointing and authorizing an attorney-in-fact to sign in the name and on behalf of the company surety bonds, underwriting undertakings or other instruments described in said Article VIII, Section 1, with like effect as if such seal and such signature had been manually affixed and made, hereby is authorized and approved."

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the Company to these presents this 21st day of April, 19 76.

State Pub. Co., Pierre

S. Dak. Oil & Gas Board
FORM 3

BOND NO. [illegible]

BOND

KNOW ALL MEN BY THESE PRESENTS,

That we POWER RESOURCES CORP. of the County of DENVER in the State of: COLORADO as Principal, and HARTFORD ACCIDENT AND INDEMNITY COMPANY of HARTFORD, CONN., as surety, authorized to do business in the State of South Dakota as surety, are held and firmly bound unto the State of South Dakota in the sum of ($5,000.00 $20,000.00) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors and assigns jointly and severally, firmly by these presents.

The condition of this obligation is that whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes upon the following described land located within the State to wit:

T. 1 South, R. 1 East, Fall River County, South Dakota
(As covered by blanket bond or for single well)

Sec. 14: C NE NW

Well Name #21-14 M. Lenore Petersen

NOW, THEREFORE, if the above bounden principal shall comply with all of the provisions of the laws of this State and the rules, regulations and orders of the Oil and Gas Board of the State, especially with reference to the proper plugging of said well or wells, and filing with the Oil and Gas Board of this State all notices and records required by said Board, and the restoration of the surface, in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, then this obligation shall be terminated by the Board, the same shall be and remain in full force and effect.

Penal sum of

Five Thousand and no/100---------- ($5,000.00)

Witness our hands and seals, this 1st day of December 1975

Attest:

[illegible] Secretary

Joan F. Trotter, Secretary

POWER RESOURCES CORP.

Richard A. Bansbach, Vice President

Richard A. Bansbach, V. P.

Principal

Witness our hands and seals, this 1st day of December 1975

Hartford Accident and Indemnity Co.

Wall Forbes, attorney-in-fact

Surety

130 South Wolcott, Casper, Wyo. 82601

If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.

DO NOT WRITE BELOW THIS LINE

THE OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

Approved 12-3-75
Date

[illegible]
Secretary

Countersigned in South Dakota

By [illegible]

Address [illegible]

Note: 2 copies of this form with Secretary Oil & Gas Board, Pierre

POWERTECH (USA) INC.

Hartford Accident and Indemnity Company

000987

HARTFORD, CONNECTICUT

POWER OF ATTORNEY

Know all men by these Presents, That the HARTFORD ACCIDENT AND INDEMNITY COMPANY, a corporation duly organized under the laws of the State of Connecticut, and having its principal office in the City of Hartford, County of Hartford, State of Connecticut, does hereby make, constitute and appoint

WALT FORBES, W. W. BUTLER, SHIRLEY L. McPHERSON, and THOMAS L. MYERS, of CASPER, WYOMING,

its true and lawful Attorney(s)-in-fact, with full power and authority to each of said Attorneys-in-fact, in their separate capacity if more than one is named above, to sign, execute and acknowledge any and all bonds and undertakings and other writings obligatory in the nature thereof on behalf of the company in its business [illegible] the fidelity of persons holding places of public or private trust; guaranteeing the performance of contracts other than insurance policies; [illegible] the performance of insurance contracts where surety bonds are accepted by states and municipalities, and [illegible] guaranteeing bonds and undertakings required or permitted in all actions or proceedings or by law allowed

in penalties not exceeding the sum of FIVE HUNDRED THOUSAND DOLLARS ($500,000.00) each,

and to bind the HARTFORD ACCIDENT AND INDEMNITY COMPANY thereby as fully and to the same extent as if such bonds and undertakings and other writings obligatory in the nature thereof were signed by an Executive Officer of the HARTFORD ACCIDENT AND INDEMNITY COMPANY and sealed and attested by one other of such officers, and hereby ratifies and confirms all that its said Attorney(s)-in-fact may do in pursuance hereof.

This power of attorney is granted under and by authority of the following By-Law adopted by the Stockholders of the HARTFORD ACCIDENT AND INDEMNITY COMPANY at a meeting duly called and held on the 10th day of February, 1943.

ARTICLE IV

SECTION 8. The President or any Vice-President, acting with any Secretary or Assistant Secretary, shall have power and authority to appoint, for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, one or more Resident Vice-Presidents, Resident Assistant Secretaries and Attorneys-in-fact and at any time to remove any such Resident Vice-President, Resident Assistant Secretary, or Attorney-in-fact, and revoke the power and authority given to him.

SECTION 11. Attorneys-in-fact shall have power and authority, subject to the terms and limitations of the power of attorney issued to them, to execute and deliver on behalf of the Company and to attach the seal of the Company thereto any and all bonds and undertakings, and other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-fact shall be as binding upon the Company as if signed by an Executive Officer and sealed and attested by one other of such Officers.

This power of attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Directors of the HARTFORD ACCIDENT AND INDEMNITY COMPANY at a meeting duly called and held on the 13th day of March, 1956.

RESOLVED, that, whereas the President or any Vice-President, acting with any Secretary or Assistant Secretary, has the power and authority to appoint by a power of attorney, for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, one or more Resident Vice-Presidents, Assistant Secretaries and Attorneys-in-fact,

Now therefore, the signatures of such officers and the seal of the Company may be affixed to any such power of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company, and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

In Witness Whereof, the HARTFORD ACCIDENT AND INDEMNITY COMPANY has caused these presents to be signed by its Vice-President, and its corporate seal to be hereto affixed, duly attested by its Secretary, this 17th day of January, 1968.

Attest: HARTFORD ACCIDENT AND INDEMNITY COMPANY

[signature] Secretary

[signature] Vice President

STATE OF CONNECTICUT, ss.
COUNTY OF HARTFORD,

On this 17th day of January, A. D. 1968, before me personally came John F. Beardsley, to me known, who being by me duly sworn, did depose and say, that he resides in the County of Hartford, State of Connecticut, that he is the Vice-President of the HARTFORD ACCIDENT AND INDEMNITY COMPANY, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

[signature]
Notary Public
My commission expires March 31, 1977

STATE OF CONNECTICUT, ss.
COUNTY OF HARTFORD,

CERTIFICATE

I, the undersigned, Assistant Secretary of the HARTFORD ACCIDENT AND INDEMNITY COMPANY, a Connecticut Corporation, DO HEREBY CERTIFY that the foregoing and attached POWER OF ATTORNEY remains in full force and has not been revoked; and furthermore, that Article IV, Sections 8 and 11, of the By-Laws of the Company, and the Resolution of the Board of Directors, set forth in the Power of Attorney, is now in force.

Signed and sealed at the City of Hartford. Dated the 1[illegible] day of December 1975.

[signature]
Assistant Secretary

Form [illegible]

MISCELLANEOUS

NO MISCELLANEOUS INFORMATION FOR THIS WELL AS OF 5/18/2011

ORIGINAL WELL CONSTRUCTION DURING OPERATION

API No. 4004720065
14-7S-1E

Surface

125 sx cement to surface

Surface Casing
8 5/8", 24#,
set @ 152'

Perforations
None (DH)

Hole Size
Unknown

Total Depth
2267'

PLUGGING AND ABANDONMENT CONSTRUCTION

Surface

125 sx cement to surface

Surface Casing
8 5/8" set @ 152'

No Plug in Surface Pipe since left as a water well

30 sx 850'-950'
(Sundance)

30 sx 1500'-1600'
(1st Converse Sand)

40 sx 1900'-2020'
(2nd Leo)

Total Depth
2267'

Feet of cement from Plugging Report
Mud wt. 10.3 #/gal

POWERTECH (USA) INC.

South Dakota Department of Environment & Natural Resources
Protecting SD's Tomorrow...Today

Oil and Gas Search for: *api_no_ like '40 047 05090'*

Page 1 of 1	**Download Database** (Excel spreadsheet format)	**Page:** Prev 1 Next

Record 1 of 1

Well Information

API No:	40 047 05090	**County:**	FALL RIVER
Well Name:	CONSOLIDATED ROYALTY 1 STATE	**Location:**	NWSW 24-7S-1E
Permit No:	370	**Total Depth:**	2467
Operator Name:	CONSOLIDATED ROYALTY OIL CO	**Bottom Hole:**	Minnelusa Formation
Permit Date:	09-23-1964	**KB Elevation:**	3577
Spud Date:	09-21-1984	**Ground Elevation:**	3566
Plug Date:	10-06-1984	**Latitude:**	43.425719
		Longitude:	-103.952837
Well Field	WILDCAT	**Status**	P&A
Class:	DRY HOLE	**Type:**	DRY HOLE

Formation Tops

Formation	Depth (ft.)
Fall River Sandstone	**50**
Lakota Formation	**237**
Sundance Formation	**540**
Spearfish Formation	**875**
Minnekahta Limestone	**1401**
Opeche Shale	**1433**
Minnelusa Formation	**1470**
Converse Sand, Minnelusa Formation	**1525**
Red Marker, Minnelusa Formation	**1961**
1st Leo Sandstone, Minnelusa Formation	**1971**
2nd Leo Sandstone, Minnelusa Formation	**2080**

Page 1 of 1 (goto top)	**Page:** Prev 1 Next

POWERTECH (USA) INC.

COUNTY:	**FALL RIVER**
LEGAL LOCATION:	**NWSW 24-7N-1E**
API NO:	**40 047 05090**
PERMIT NO:	**370**
WELL NAME:	**CONSOLIDATED ROYALTY #1 STATE**
OPERATOR:	**THE CONSOLIDATED ROYALTY OIL COMPANY**
PERMIT ISSUED:	**09/23/1964**
PERMIT CLOSED:	**01/26/1965**
FILE LOCATION:	**7N-1E-24 NWSW**

TARGET CODES:

WELL HISTORY / CHECKLIST

PERMIT TO DRILL / INTENT TO DRILL

WELL INSPECTION / SCOUT REPORTS

OPERATOR'S TECHNICAL REPORTS / MAPS

ADMINISTRATIVE / SUNDRY REPORTS

CORRESPONDENCE

SURETY

MISCELLANEOUS

POWERTECH (USA) INC.

WELL HISTORY / CHECKLIST

POWERTECH (USA) INC.

WELL HISTORY

Well Name Consolidated Royalty #1 State Permit No. 370

Location NWSW 24-7S-1E - Fall River Date of Permit 9-23-64

Elev. 3566 Gr. API No.

Confidential X From To 11-30-64

Logs Received

Cuttings Received Cores Received

Drill Stem Records

Cap Plug and Marker Set 11-5-64

Surface Restored 10-21-64

Plugging Affidavit Signed Date

Bond Released Date 1-26-65

Summary of Scout Reports

9-21-64 First report

9-24-64 Spudded 9-21-64

10-6-64 Plugged

10-21-64 Mud pits filled and location smoothed

11-5-64 Marker pipe placed

See Conroy Trotter-Lane-Fed. Permit 365 (Fall River Co.) for further reference

DST #1 2082 - 2092, Rec 7 DM, No pressures available -- Wireline #1 2089 - 2091.5 no recovery

POWERTECH (USA) INC.

PERMIT TO DRILL / INTENT TO DRILL

STATE OF SOUTH DAKOTA

DEPARTMENT OF STATE

PIERRE

ESSIE WIEDENMAN
SECRETARY OF STATE

September 24, 1964

ALMA LARSON
ASSISTANT SECRETARY

Dr. Duncan McGregor
State Geologist
Science Center University
Vermillion, South Dakota 57069

Dear Dr. McGregor:

Reference is made to the #1 State Oil Test, NW SW Section 24-7S- 1E., Fall River County, South Dakota.

Enclosed please find copies of the following:

Minutes of the Board Meeting of September 23, 1964
Permit No. 370
Plat

Very sincerely,

ESSIE WIEDENMAN
Secretary of State
Secretary State Oil and Gas Board

EW/ir
Enc-

POWERTECH (USA) INC.

State Pub. Co., Pierre

APPLICATION FOR PERMIT TO:

S. Dak. Oil & Gas Board
FORM 2

☒ DRILL ☐ DEEPEN ☐ PLUG BACK ☐ SINGLE ZONE

☐ OIL WELL ☐ GAS WELL ☐ MULTIPLE ZONE

FARM OR LEASE NAME: South Dakota 24-RC-367

WELL NO.: #1 STATE

OPERATOR: THE CONSOLIDATED ROYALTY OIL COMPANY

FIELD AND POOL, OR WILDCAT: WILDCAT

ADDRESS: P. O. BOX 605, CASPER, WYOMING

NO. ACRES IN LEASE: 160.00

LOCATION (In feet from nearest lines of section or legal subdivision, where possible)*: 760' East of West Line & 1880' North of South Line of Section 24-7S-1E.

¼ ¼ SEC. TWP. RGE: NW SW Sec. 24-7S-1E

COUNTY: FALL RIVER

NAME AND ADDRESS OF SURFACE OWNER: Alfred Manke, Edgemont, South Dakota

ELEVATION: 3566' Ground

PROPOSED DEPTH: 2500'

NO. OF WELLS ETC.: 1 (one)

ROTARY OR CABLE TOOLS: Rotary

NAME AND ADDRESS OF CONTRACTOR: Bullock and Barnhart, P. O. Box 2426, Casper, Wyoming

APPROXIMATE DATE WORK WILL START: September 21, 1964

IF LEASE PURCHASED WITH ANY WELLS DRILLED, FROM WHOM PURCHASED (Name and address): NONE

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	NEW OR SECOND HAND	DEPTH	SACKS OF CEMENT
12 1/4"	8 5/8"	20#	New	500'	325

DESCRIBE PROPOSED OPERATIONS. IF PROPOSAL IS TO DEEPEN OF PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOW OUT PREVENTER PROGRAM IF ANY

Blow Out Preventer - Shaffer 12" Series 900 Mechanical Double Gate.

A 7 7/8" hole will be drilled from the base of the surface casing to total depth. In the event oil or gas production is indicated, either 4 1/2" or 5 1/2" casing will be set through the productive zone or zones and cemented with an appropriate amount of cement. In the event of a dry hole, the hole will be plugged in accordance with the laws of the State of South Dakota.

SIGNED [signature] TITLE President DATE September 17, 1964

DO NOT WRITE BELOW THIS LINE

PERMIT NO. 370

CHECKED BY [signature] Deputy School and Public Lands Sept 22/1964 Date

APPROVAL DATE Sept 23, 1964 [signature], Secretary

CONDITIONS:

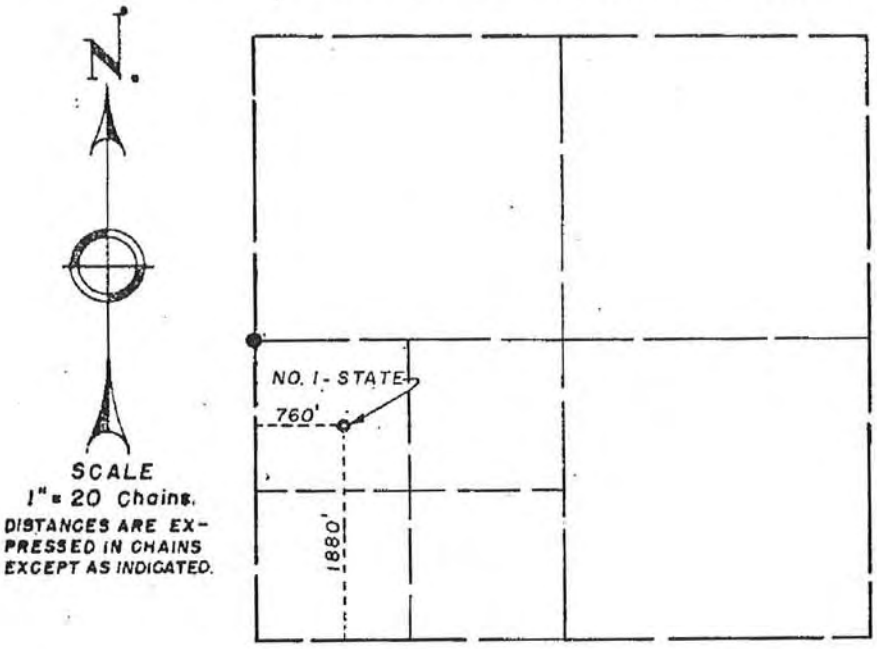
☒ COMPLETE SET OF SAMPLES, AND CORES IF TAKEN, MUST BE SUBMITTED.

☐ SAMPLES, AND CORES IF TAKEN, BELOW ..... DEPTH, MUST BE SUBMITTED.

*See Instructions On Reverse Side

POWERTECH (USA) INC.

SECTION 24
T. 7 S.-R. 1 E., BLACK HILLS MER.
FALL RIVER COUNTY, SOUTH DAKOTA



SCALE
1" = 20 Chains.
DISTANCES ARE EXPRESSED IN CHAINS EXCEPT AS INDICATED.

LEGEND

U.S. Government Brass Cap Corner	○
Original stone corner, properly marked, firmly set	●
Iron pipe set at proportionate distance	■
Corner established by others as indicated	□
Dependent Resurvey	═══
Protraction	┄┄┄
Well location	⊙

ELEVATIONS
Before grading

LOCATION	3566
R.P. 100' N	3568
R.P. 100' S	3564
R.P. 100' E	3569
R.P. 100' W	3568

ELEV'S. REFERRED TO:
U.S.C.& G.S. BM, SE¼SE¼, Sec. 23
Elev. 3546

SURVEY AND PLAT BY
WORTHINGTON, LENHART & ASSOCIATES, INC.
200 South Lowell St., Casper, Wyoming
Direct solar lines and chained distances. Ref. Book No. 263, P. 70

PLATTED FIELD NOTES OF SURVEY MARKING WELL LOCATION NW¼SW¼, SECTION 24 FOR CON ROY - SUN - FROST, CASPER, WYO.

William H. Ladd
Certified true and correct, Surveyor.
SOUTH DAKOTA REG. NO. 1255 L.S.

Dated: 9 - 17 - 1964
Work Order No. 9 - 17 - 64

POWERTECH (USA) INC.

STATE OIL AND GAS BOARD
PIERRE, SOUTH DAKOTA
SEPTEMBER 23, 1964

A special meeting of the State Oil and Gas Board was held in the office of the Secretary of State at 11:45 o'clock a.m., September 23, 1964.

PRESENT: John Trevillyan, Executive Aide to the Governor
Walter Weygint, Assistant Secretary of State
Martin Konstant, Deputy Commissioner of School and Public Lands
Essie Wiedenman, Secretary of State and Secretary State Oil and Gas Board.

Mr. Trevillyan, Executive Aide to the Governor, called the meeting to order.

Mrs. Wiedenman, Secretary, presented to the Board application to drill for oil dated September 17, 1964, filed by the Consolidated Royalty Oil Company, P.O. Box 605, Casper, Wyoming, covering the #1 State well, located NW SW Section 24-7S-1E., Fall River County, South Dakota. Said well is covered by Bond No. 6121491 in the amount of $5,000.00, executed by the Fireman's Fund Insurance Company, a California corporation, as Surety. This well is located 760' east of west line and 1880' north of south line of Section 24-7S-1E., BHM.

Mr. Weygint, Assistant Attorney General, moved that this application be approved and Permit No. 370 be granted, which Permit shall require The Consolidated Royalty Oil Company to furnish to Dr. Duncan McGregor, State Geologist, free of charge, a complete set of cuttings and two sets of all records including Geophysical Logs and drill stem tests.

Mr. Konstant, Deputy Commissioner of School and Public Lands, seconded the motion.

All voted "aye" and motion carried.

JOHN TREVILLYAN
EXECUTIVE AIDE TO THE GOVERNOR

ESSIE WIEDENMAN
SECRETARY

STATE OIL AND GAS BOARL
PIERRE, SOUTH DAKOTA
SEPTEMBER 23, 1964

A special meeting of the State Oil and Gas Board was held in the office of the Secretary of State at 11:45 o'clock a.m., September 23, 1964.

PRESENT: John Trevillyan, Executive Aide to the Governor
Walter Weygint, Assistant Secretary of State
Martin Konstant, Deputy Commissioner of School and Public Lands
Essie Wiedenman, Secretary of State and Secretary State Oil and Gas Board.

Mr. Trevillyan, Executive Aide to the Governor, called the meeting to order.

Mrs. Wiedenman, Secretary, presented to the Board application to drill for oil dated September 17, 1964, filed by the Consolidated Royalty Oil Company, P.O. Box 605, Casper, Wyoming, covering the #1 State well, located NW SW Section 24-7S-1E., Fall River County, South Dakota. Said well is covered by Bond No. 6121491 in the amount of $5,000.00, executed by the Fireman's Fund Insurance Company, a California corporation, as Surety. This well is located 760' east of west line and 1880' north of south line of Section 24-7S-1E., BHM.

Mr. Weygint, Assistant Attorney General, moved that this application be approved and Permit No. 370 be granted, which Permit shall require The Consolidated Royalty Oil Company to furnish to Dr. Duncan McGregor, State Geologist, free of charge, a complete set of cuttings and two sets of all records including Geophysical Logs and drill stem tests.

Mr. Konstant, Deputy Commissioner of School and Public Lands, seconded the motion.

All voted "aye" and motion carried.

JOHN TREVILLYAN
EXECUTIVE AIDE TO THE GOVERNOR

ESSIE WIEDENMAN
SECRETARY

POWERTECH (USA) INC.

WELL INSPECTION / SCOUT REPORTS

POWERTECH (USA) INC.

February 4, 1965

Miss Alma Larson
Secretary of State
State Capitol
Pierre, South Dakota

Dear Miss Larson:

Please find enclosed two scout reports for the following wells:

1) Cahill #1 Gustafson, Gregory County

Please find enclosed five scout reports for the following wells:

1) Pan American #1 Socony Mobil, Fall River County
2) Consolidated Royalty #1 Trotter-Lane-Fed., Fall River County
3) Cramer #1 Wilkinson, Fall River County

Please find enclosed six scout reports for the following wells:

1) Consolidated Royalty #1 Helsel, Fall River County
2) Consolidated Royalty #1 State, Fall River County

Sincerely yours,

(Mrs.) Donna Jean Hedges
Administrative Assistant

For the State Geologist

Enclosures

Permit No. 370

POWERTECH (USA) INC.

STATE GEOLOGICAL SURVEY

CONFIDENTIAL

Scout Report

Date scouted November 5, 1964

Owner Consolidated Royalty

Designation of well #1 State

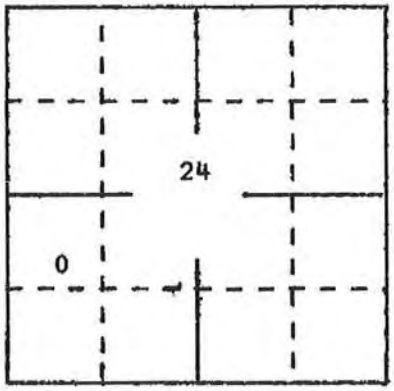
Location: Sec. 24 T. 7 N. S. R. 1 E. W.

Fall River County, S. Dak. Total Depth 2467 feet

Casing Record:

8 5/8 487 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None

Developments since last visit:

Abandonment marker pipe placed.

Remarks and recommendations:

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor

Duncan J. McGregor, State Geologist

Permit No. 370

POWERTECH (USA) INC.

STATE GEOLOGICAL SURVEY

CONFIDENTIAL

Scout Report

Date scouted Oct. 21, 1964

Owner Consolidated Royalty

Designation of well #1 State

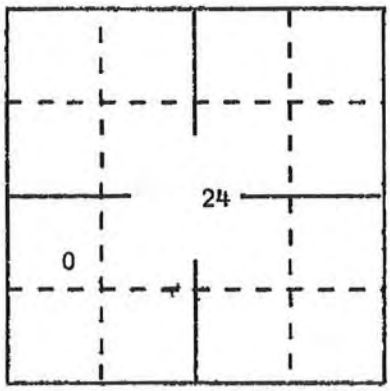
Location: Sec. 24 T. 7 N. S. R. 1 E. W.

Fall River County, S. Dak. Total Depth 2467 feet

Casing Record:

8 5/8" 497 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None

Developments since last visit:

Mud pits filled and location smoothed.

Remarks and recommendations:

Marker pipe not placed.

Scouted by Earl Cox, Geologist

Approved by Duncan J. McGregor

Duncan J. McGregor, State Geologist

POWERTECH (USA) INC.

Permit No. 370

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted . October 6, 1964 . . .

Owner . . . Consolidated Royalty . . . . . .

Designation of well . #1 State . . . . . .

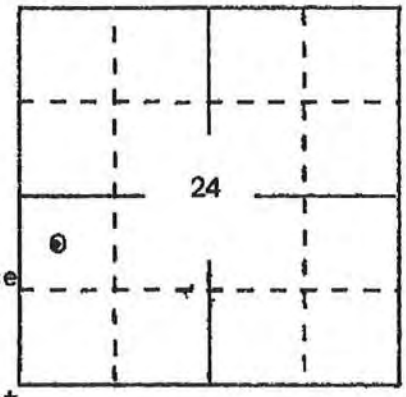
Location: Sec. 24 T. 7 N. S. R. 1 E. W.

. Fall River . . . . . County, S. Dak. Total Depth . 2467 . . feet

Casing Record:

8 5/8 487 Ft. _____ Ft.

_____ Ft. _____ Ft.



Plugged as follows:
Work in progress at time of visit:

2135-2060	25 sx	2nd Leo Sand
1715-1640	25 sx	3rd Converse Sand
1525-1460	25 sx	Top 2nd Converse Sand
910- 835	40 sx	Base Sundance
600-420	60 sx	Base surface casing and top sundance
	10 sx	surface plug

Developments since last visit:
Drilled 2105-2467. Run induction laterolog and gamma ray sonic logs. Took wire line test at 2089½ - 2092 so sample of gas (air?) could be analyzed.

Remarks and recommendations: Tentative log tops:

Sundance	- 548	Opeche	- 1430	2nd Leo Zone	- 2060
Basal Sundance	- Sd - 854	Minnelusa	- 1470	3rd Leo Zone	- 2305
Spearfish	- 894	2nd Converse	- 1525		
Goose egg	- 1146	3rd Converse	- 1655	T. D.	2467
Minnekahta	- 1397	Red Marker	- 1950		

Scouted by . . . . Earl Cox, Geologist . . . . . .

Approved by . . Duncan J. McGregor . . . . . .
Duncan J. McGregor, State Geologist

POWERTECH (USA) INC.

Permit No. 370

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted . October 2, 1964 . .

Owner . . . . Consolidated Royalty . . . . . .

Designation of well . #1 State . . . . . .

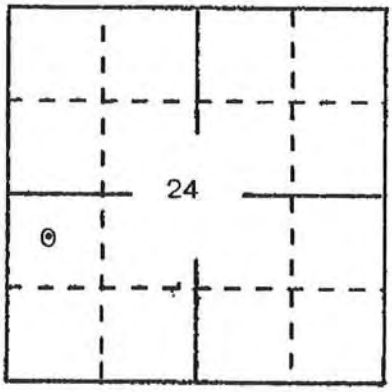
Location: Sec. 24 T. 7 N. S. R. 1 E. W.

. . Fall River . . . . . County, S. Dak. Total Depth . 2105 . . feet

Casing Record:

8 5/8 487 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Drill stem test #1 2095-2105'
Shut in 30" - open 60" - shut in 30"
Recovered 5 gallons drilling mud
Preparing to drill ahead.

Developments since last visit:

Drilled from 1184-2105
Encountered good oil shows 2098' - 2101'. Shows were in 2nd Leo Sand that was very tite.

Remarks and recommendations: Sample tops:

Dakota	- 50	Minnekahta	- 1401	4th Converse	- 1790
Lakota	- 237	Opeche	- 1433	Red Marker	- 1961
Sundance	- 540	Minnelusa	- 1529	1st Leo Zone	- 1971
Basal Sundance Sd	- 860	2nd Converse	- 1529	2nd Leo Zone	- 2080
Spearfish	- 875	3rd Converse	- 1662		

Scouted by . . . . . Earl Cox, Geologist . . . . . .

Approved by . Duncan J. McGregor . . . . . .

Duncan J. McGregor, State Geologist

Permit No. 370

POWERTECH (USA) INC.

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted . September 24, 1964 .

Owner . . . . Consolidated Royalty . . . . . .

Designation of well . #1 State . . . . . .

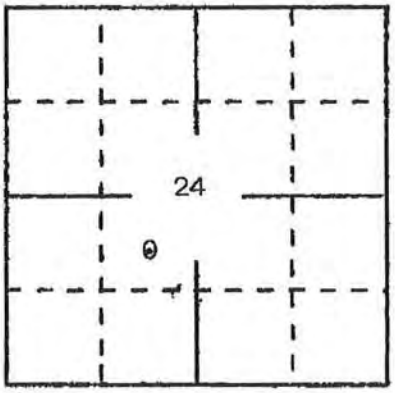
Location: Sec. 24 T. 7 N. S. R. 1 E. W.

. Fall River . . . . . County, S. Dak. Total Depth . 1184 . . feet

Casing Record:

8 5/8 487 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Mixing mud after reaching 1184

Developments since last visit:

Spudded: 9/21/64

Set 487 feet of 8 5/8 surface casing with 275 sacks. Drilled 0-1184'

Remarks and recommendations:

A flow of water was encountered about 50 feet below the surface casing in the Sundance

Scouted by . . . Earl Cox, Geologist . . . . . .

Approved by . . . Duncan J. McGregor . . . . . .

Duncan J. McGregor, State Geologist

POWERTECH (USA) INC.

Permit No. 370

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted . 9/21/64 . . . . . .

Owner . . Consolidated Royalty. . . . . .

Designation of well . #1 State. . . . . .

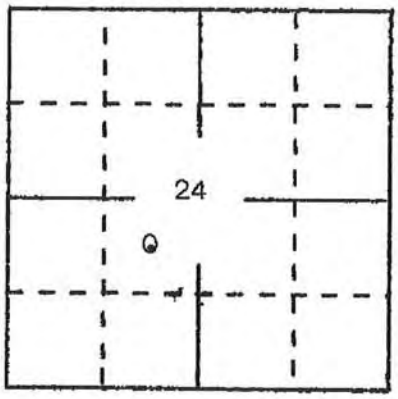
Location: Sec. 24 T. 7 N. S. R. 1 E. W.

. Fall River . . . . . County, S. Dak. Total Depth . 0 . . . feet

Casing Record:

_____Ft. _____Ft.

_____Ft. _____Ft.



Work in progress at time of visit:

Preparing to spud in

Developments since last visit:

The permit had not been granted but was in the process. Cox verbally gave approval for surface casing to be set and cemented at this time.

Remarks and recommendations:

A water flow is expected in the Lakota so surface casing will be set through the Lakota

Scouted by . . Earl Cox, Geologist . . . . . .

Approved by . . Duncan J. McGregor . . . . . .

Duncan J. McGregor, State Geologist

Cr-B #1 State
7c ONSL
-1E
Fall River County

Contractor:
Bullock + Barnhart, Casper

Surface Owner Leslie
~~Alfred Manke~~ Coats
Edgemont S.Dak.

Elev: gd 3566
K.B. +11

Est. T.D: 2500

Permit: Sept 23, 1964, #370

9-25-64
Gillespie Called.
were at 1430'.
MK top - 1401.

10-1-64
at 2067'
2nd leo est at 2080,

Sample tops

Rch 50'
Lak 237
Sun 540
B. Sun 860
Sp 875
mk 1401
Op 1433
Ml 1529
Red m 1961.

Converse had about 80' of good sand.

Sept. 21, 1964

Had moved on & Spudded.
I had gave them permission to set surface & but not to drill out from under until the permit was oked.

Spudded: Sept 21, 1964
Set 487' 8 5/8 w/275 SX

~~Sept~~ Sept. 24, 1964
Were at 1184. and were killing a water flow that was probably coming from the upper Sundance about 50 feet below the bottom of surface casing.

Oct 2, 1964
@ 2105 waiting to DST.
Had about 4' of Solumalion

2nd Converse 1529 - 1610 good sd
3rd " 1662
4th " 1790
1st Leo zone 1971

Stuck pipe at 1886 for about 2 days & had to wash over.
H.Phelp agai's low pressure 2nd ~~...~~ Converse sd.

2098 - 2101 oil shows tite sand.
2nd Leo

Top Leo zone ~~@~~ 2080.

DST # ... 12, 1964
-2105
SI 3 ... S.I. 30"
Rec. 5 gallons drilling mud.

Oct. 6, 1964
11:30 AM

Core from Colom.
Hand Run logs & will Run
wire line test 2089½-92 for
gas sample. T.D. of 2467
by Schlumberger. 2480 driller

Tentative log tops
Scandance 548
Base Scandance Sd. 854
Spearfish 894
Goose egg 1146
mk 1377
Opeche 1430
ml 1470
2nd Converse 1525
3rd Con 1655
Red Marker 1950
2nd Leo Zone 2060
3rd " " 2305
T.D. 2467

10-6-64

~~[struck]~~ Plug program

10 sx Surface plug
60 sx base Sugan 420-600
40 sx base Scandance 835-910
25 sx Top Converse 1460-1525
25 sx 3rd Converse 1640-1715
25 sx 2nd Leo 2060-2135

10-6-64
4:30 P.M.

preparing to plug as above.
were finish by 10:30 P.M.

10-20-64

pits filled + smoothed
Surface plug + marker
not in.

Nov. 5, 1964

Marker in OK.

POWERTECH (USA) INC.

OPERATOR'S TECHNICAL REPORTS / MAPS

POWERTECH (USA) INC.

CONSOLIDATED ROYALTY OIL CO., SUN OIL CO., HENRY FROST

#1 STATE

NW SW Section 24, Twp 7 South, Rge 1 East

Fall River County, South Dakota

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

CONTENTS

SUMMARY

Operator: Consolidated Royalty Oil Co., Sun Oil Co., Henry Frost

Name: #1 State

Location: 760' EWL 1880' NSL Section 24, T7S, R1E, Fall River Co., South Dakota

Elevation: 3566 Gr., 3577 KB

Spud: September 21, 1964 **Completed:** October 6, 1964

Status: Plugged and Abandoned

Geologic Record:

Formation	Spl. Top	Schl. Top	Datum
Dakota	50	Behind surf csg	-
Lakota	240	Behind surf csg	-
Morrison	320	Behind surf csg	-
Sundance	540	548	+3029
Basal SS	860	854	+2723
Spearfish	890	893	+2684
Goose Egg	1220	1147	+2430
Minnekahta	1400	1397	+2180
Opeche	1430	1430	+2147
Minnelusa	1480	1470	+2107
2nd Converse SS	1530	1525	+2052
Converse Anhy	1610	1598	+1979
3rd Converse SS	1660	1655	+1922
4th Converse SS	1790	1815	+1762
Red Marker	1960	1950	+1627
1st Leo Zone	1970	1957	+1620
2nd Leo Zone	2080	2061	+1516
3rd Leo Zone	2290	2287	+1290
Total Depth:	2480	2467	

Formation Tests: DST #1 by Johnson Testers, Gillette, Wyoming
2082-92 (2nd Leo); Recovered 7' DM
WLT #1 by Schlumberger, Newcastle, Wyoming
2089-2091.5 (2nd Leo) No recovery

Cores: None

POWERTECH (USA) INC.

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

SUMMARY (Cont'd.)

Logs:	By Schlumberger, Newcastle, Wyoming
	Sonic - GR-Cal: 2" - 180 to 2461
	5" (3') - 734 to 2461
	5" (1') - 794 to 2461
	Dual Ind - LL: 2" - 490 to 2463
	5" - 732 to 2463
Drilling Mud:	Mo-Mar Mud Co., Casper, Wyoming
Drilling Contractor:	Barnhart & Bullock Drilling Co., Inc., Casper, Wyoming
Geologic Supervision:	James D. Copen, Consulting Geologist, Casper, Wyoming

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

GEOLOGIC RECORD

Sample Descriptions

Sample intervals are 10' except where noted. Samples were examined wet. Samples are in possession of the American Stratigraphic Corp., Billings, Montana.

20' Samples

0- 40 Surface gravel; Sd-free, clr qtz, fcg, poor sorted, ang to rd

10' Samples

40- 50 Sh - blk, fisl to earthy

DAKOTA 50

50- 60 SS - gry partly mottled w/blk carb material; vf-mg, hd & tite; SS - cg, sli fri, poss poor por, NS; Pyr; Sh a/a
60- 90 Siltst - gry w/blk sh prtgs; Sh - blk a/a; little SS a/a
90-100 Sh - lt gry to wh, soft, bentc; abun sphalerite pellets

20' Samples

100-120 Same a/a w/Sh - blk, carb to sub-lignite
120-140 Sh - blk, v/carb grading to coal; Sh - gry, soft, bentc; Pyr
140-160 Sh - lt gry, bentc to med gry, silty w/fine carb prtgs
160-180 No sample
180-240 Sh - v/lt gry, pale lvndr and grn,wxy; abun Pyr

LAKOTA 240

Note - began mixing very heavy mud to kill expected water flow from Lakota. Samples 240' to 496' are very poor, consisting primarily of recirculated material.

Circ 240 Sh - variclr a/a; SS - drk green, wh, mcg; sphalerite pellets; abun Pyr including pyritized plant remains; Sd - free, fcg, poor sorting, ang to rdd

10' Samples

240-300 Same as circ spl abv
300-320 Same a/a w/Sh - brite grn, wxy
320-370 SS - gry, wh, fmg, fri, ex por, NS; Sh a/a; Pyr
370-410 Same a/a w/incr SS
410-480 LS - drk gry, argill; Sh - gry, wxy, fisl; much recirculated material a/a
480-500 No samples

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

GEOLOGIC RECORD (Cont'd.)

20' Samples

500- 540 Ls-gry, dns; little Sh - lt gry - grn

SUNDANCE 540

540- 560 Sd - free, fmg, few clusters deep green, glauc, NS; Ls a/a
560- 580 Sd a/a w/rare Ls a/a; tr Sh - red
580- 640 Sh - gry, fisl to blocky; increasing Siltst - gry, glauc
640- 660 Siltst & SS - gry, glauc, vfg, hd & tite, NS; little Sh a/a
660- 680 Same a/a w/little Siltst & SS - red, fg, NS
680- 760 SS - red - brn, silt to fg, tite to fair por, NS; little Sh - gry - grn, wxy
760- 780 Silt & SS - wh, gry - grn, vfg, soft, argill, NS; little Sh a/a
780- 800 SS - lt gry, mcg, fri, ex por, NS; Sh - blu - gry, wxy, fisl

Begin 10' samples

800- 820 Same a/a
820- 860 Sh - blu - gry, wxy, fisl

BASAL SUNDANCE SANDSTONE 860

860- 870 SS - lt gry & mustard yellow, vfg, poor por, NS; tr red Silt & Sh
870- 890 Same a/a w/SS - red-brn, fri, ex por, NS
Circ 890 Same a/a

SPEARFISH 890

20' Samples

890-1000 Sh - red - brn, silty to earthy
1000-1180 Sh - a/a w/occas Anhy - wh, xln, gran, dns
1180-1210 No samples

Begin 10' samples

1210-1220 Same a/a

GOOSE EGG 1220

1220-1320 Anhy - wh, dns, xln, gran & Sh a/a
1320-1400 Sh - red - brn, earthy w/little Anhy a/a

MINNEKAHTA 1400

1400-1430 Ls - wh, pink, brn, dns; little Sh a/a

OPECHE 1430

1430-1443 Sh - red, purple, v/silty; Anhy - wh, brn, dns, gran

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

GEOLOGIC RECORD (Cont'd.)

Circ 1443 Same a/a
1443-1450 Same a/a
1450-1460 Ls - wh, pink, brn, dns; Sh & Anhy a/a
1460-1480 Sh - red - brn, earthy & little gry; little Ls & Anhy a/a

MINNELUSA 1480

1480-1490 Anhy - wh, dns; Sh - red - brn w/Anhy incls
1490-1530 Sh - red - brn, sdy in part, anhy incls

SECOND CONVERSE SANDSTONE 1530

Circ 1539 SS - tan, pink, mcg, fri, ex por, NS; Sh a/a
1539-1550 Same a/a
1550-1560 SS - a/a but titer; Sh a/a
1560-1580 SS - a/a bcmg deeper red; Sh a/a
1580-1610 SS - wh, red, violet, mcg, ex por, NS; Sh a/a

CONVERSE ANHYDRITE 1610

1610-1640 Anhy - wh, tan, gran, dns; Sh - red & gry - grn
1640-1660 Dolo - pink, gry, dns; Sh & Anhy a/a

THIRD CONVERSE SANDSTONE 1660

1660-1672 SS - pink, mcg, poor sorting, fri, fair to ex por, NS; Anhy & Sh a/a
Circ 1672 Same a/a
1672-1680 Same a/a
1680-1690 SS - wh, anhydrtc, fcg, soft to firm, poor por to tite, NS; little SS - pink a/a
1690-1720 Dolo - lt to drk gry, blk, mottled w/anhy, marly to dns; Cht-gry
1720-1740 SS - lt gry, wh, fcg, tite, NS; Dolo w/anhy a/a; Sh - red earthy & drk gry blky
1740-1770 Sh - gry blky & red earthy; little Dolo & Anhy a/a
1770-1790 Dolo - gry, wh mottled pink; little Anhy - wh, gran, dns; little Sh a/a

FOURTH CONVERSE SANDSTONE 1790

1790-1800 SS - lt gry partly mottled red, fmg, vht, NS; Dolo, Anhy & Sh a/a
1800-1820 Anhy - gry, dns to wh xln, gran; little Dolo, Sh & SS a/a
1820-1830 SS - pink, fmg, firm to fri, poor to fair por, NS; Anhy a/a
1830-1850 SS - a/a to v/soft w/mushy Anhy matrix, NS; Anhy & Sh a/a
1850-1860 Anhy - wh gran to gry dns; little SS & Sh a/a
1860-1880 Very poor samples consisting of free Sd, Anhy & Sh a/a
1880-1910 SS - pink, fcg, poor sorted, v/hd & tite; Dolo - wh, pink, dns; little Anhy & red Sh a/a
1910-1930 Dolo - wh to lt gry partly w/purp spots, dns; tr SS a/a
1930-1960 SS - wh mottled purp in part, vf-mg, v/tite to poor por, NS; Dolo - gry, silty; little Dolo, Sh & Anhy a/a

Powertech (USA) Inc.

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

GEOLOGIC RECORD (Cont'd.)

RED MARKER 1960

1960-1970 Sh - red w/occas grn mottling to gry-grn, hd, brittle

FIRST LEO ZONE 1970

1970-2000 Dolo - lt to drk brn, v/hd & brittle; SS - wh, pink, purp, fg, v/hd & tite, NS; Sh - red & gry-grn a/a
2000-2010 Dolo - tan, brn, viol w/anhy mottling, v/hd & brittle; tr SS & red Sh a/a
2010-2030 Dolo - lt to drk gry mottled blk, partly v/sdy; little SS - gry, wh, fcg, dolotc, hd & tite, NS; little Anhy & red Sh a/a
2030-2040 SS - wh, fcg, poor sorted, v/hd & tite, NS; Dolo - tan, brn, wh; Cht - wh, crm; Sh - red a/a
2040-2060 Dolo - tan, brn, gry, anhy incls; tr SS a/a; blk cht

Begin 5' samples

2060-2080 Dolo - gry, sdy to dolotc SS; little Anhy & red Sh a/a; blk cht

SECOND LEO ZONE 2080

2080-2090 SS - gry, fcg, poor sorting, dolotc, v/hd & tite, NS; Dolo & Sh a/a
2090-2100 Dolo - gry, brn; little SS a/a
2100-2105 SS - gry, fairly hd & tite, spty blk oil stain, ex odor, cut and fluor; rare frag por SS w/good show; Sh - blk, brittle, fisl; Dolo a/a

DRILL STEM TEST #1 2095-2105 driller
2082-2092 Schlumberger
Shut in 30 min; Open 60 min; Shut in 30 min
Very strong blow throughout test
Recovered 7' drilling mud

ISIP:	354#	FSIP:	354#
IFP:	21#	FFP:	27#
IHP:	1156#	FHP:	1094#

2105-2110 SS - gry, mcg, v/hd to soft, poor por, good fluor & cut, faint odor; Sh & Dolo a/a

Resume 10' samples

2110-2130 SS - gry, mcg, v/hd & tite, pale fluor & cut; Dolo - gry, dns; Sh - red, earthy, fisl
2130-2150 Dolo - gry, dns w/little Anhy; little SS & Sh a/a
Circ 2160 SS - gry, mg, fri, poor por, occas pale fluor and weak cut, no odor, no vis stn; Dolo - gry, brn; little Anhy & Sh a/a
2160-2180 Dolo - gry, dns to gran; little Anhy, SS & Sh a/a
2180-2190 Sh - red, gry, little blk; Dolo a/a
2190-2210 Dolo - gry, tan, brn, dns to xln; little Anhy; little Sh & SS a/a

POWERTECH (USA) INC.

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

GEOLOGIC RECORD (Cont'd.)

2210-2220	Sh - red, gry, choc brn; little Dolo, Anhy & Sh a/a
2220-2230	Dolo - lt gry, brittle; little red & gry Sh
2230-2240	SS - wh, fg, dolotc, v/hd & tite, NS; Dolo - gry to drk gry & brn; little red Sh a/a
2240-2250	Sh - red, blocky to splintery; Dolo & SS a/a; Anhy - wh, dns, gran
2250-2270	SS - wh, fg, dolotc, v/hd & tite, NS; Dolo - drk brn, blk; little Anhy & Sh a/a
2270-2290	Dolo - gry, tan, brn, dns; SS a/a; Anhy & Sh a/a

THIRD LEO ZONE 2290

2290-2310	SS - wh, fg, dolotc, v/hd & tite, NS
2310-2330	SS a/a w/little pale green & orng SS; Dolo - tan to brn, dns; Sh - red, gry, grn, blk
2330-2357	Ls - crm, tan, pink, dns & chalky wh; SS a/a; Sh - red, gry; Anhy; cht - orange
Circ 2357	SS - wh, crm, fg, dolotc, v/hd & tite; Same a/a
2357-2360	Same a/a
2360-2370	No sample
2370-2385	SS - wh, pink, purp, fg, calc, fair por in part, NS; Same a/a
Circ 2385	Same a/a
2385-2390	Poor spl - trip junk
2390-2450	Sh - red, gry, fisl, splintery; little SS, Dolo & Anhy a/a
2450-2480	Ls - brn dns to wh marl; Anhy - wh, dns, gran; Sh - red, grn, lvndr, gry; abun chert - orng; little SS a/a

2480 TOTAL DEPTH

WIRE LINE TEST #1 2089-2091.5
ISI 10 min Open 15 min FSI 10'
Recovered .6 cu ft shot gas, no formation fluid
HP: 1040#
ISIP: 0# FSIP: 0#
Sampling Pressure: 0#

POWERTECH (USA) INC.

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

DRILLING RECORD

Well History

9-21-64	Rig up; drill rat hole; spud at 5 PM and drill 228' of 12-1/4" surface hole
9-22-64	Finish drilling surface hole 228-500; set 498' of 8-5/8" surface pipe with 275 sacks cement
9-23-64	Wait on cement; drill out cement 392'-500'; drill 500-792
9-24-64	Drill 792-1183; flowing water, mud up at 1183; drill 1183-1340
9-25-64	Drill 1340-1659
9-26-64	Drill 1659-1776
9-27-64	Drill 1776-1886; drill pipe stuck in hole 90' off bottom
9-28-64	Worked stuck DP with driving tool, no help; spotted 25 bbl diesel, no help; spotted 25 bbl diesel with drum of "control-flow", no help
9-29-64	Found free point with Dialog; shot off and left 13 drill collars in hole; ran wash-over pipe and washed-over 3 drill collars; screwed in with jars and jarred fish loose
9-30-64	Drill 1886-2005
10-1-64	Drill 2005-2084
10-2-64	Drill 2084-2105; condition hole and wait on tester; run DST #1; drill 2105-2123
10-3-64	Drill 2123-2217
10-4-64	Drill 2217-2337
10-5-64	Drill 2337-2480; condition hole for logs
10-6-64	Finish prep for logs; run logs; run WLT #1; plug and abandon

Bit Record

Bit #	Size	Make	Type	Serial	In	Out	Drilled
1	12-1/4	HTCo.	OSC3	Retip	0	498	496'/8 Hrs.
2	7-7/8	HTCo.	OSC3	Retip	496	1135	637'/10 Hrs.
3	7-7/8	Smith	DT2G	81825	1135	1443	308'/14 Hrs.
4	7-7/8	Varel	V2	16100	1443	1662	219'/12 Hrs.
5	7-7/8	Smith	K2P	85331	1662	1776	114'/9 Hrs.
6	7-7/8	Smith	C2	86366	1776	1886	110'/9 Hrs.
7	7-7/8	HTCo.	W7	74155	1886	1976	90'/12 Hrs.
8	7-7/8	Reed	YHGR	344637	1976	2023	47'/9 Hrs.
9	7-7/8	Reed	YHG	643984	2023	2084	61'/12 Hrs.
10	7-7/8	HTCo.	W7	39754	2084	2105	21'/4 Hrs.
11	7-7/8	Smith	L4H	81738	2105	2149	44'/9 Hrs.
12	7-7/8	Smith	C2	86087	2149	2217	68'/10 Hrs.
13	7-7/8	Smith	T2J	78628	2217	2300	83'/11 Hrs.
14	7-7/8	Smith	T2J	78612	2300	2385	85'/11 Hrs.
15	7-7/8	HTCo.	W7	39553	2385	2480	95'/10 Hrs.

ConRoy - Sun - Frost
#1 State
NW SW 24, T7S, R1E
Fall River Co., South Dakota

DRILLING RECORD (Cont'd.)

Plugging Record

Used 175 sacks cement as follows to plug:

2135-2060	w/25 sacks
1715-1640	w/25 sacks
1525-1460	w/25 sacks
910- 835	w/40 sacks
600- 450	w/50 sacks
Top plug & monument	10 sacks

Casing Record

498' of 8-5/8" surface casing w/275 sacks cement, 2% cacl

Mud Program

The mud program was supervised and materials were supplied by the Mo-Mar Mud Co., Casper, Wyo.

The surface hole was drilled with weighted mud to control an anticipated water flow from the Lakota sandstone. 498' of surface pipe were set which successfully shut off the Lakota water flow. Drilling below surface pipe was attempted with water but an additional water flow was encountered, presumably from a sandstone in the upper Sundance. Mud was mixed at 1183' and maintained throughout the rest of the hole at the following average characteristics:

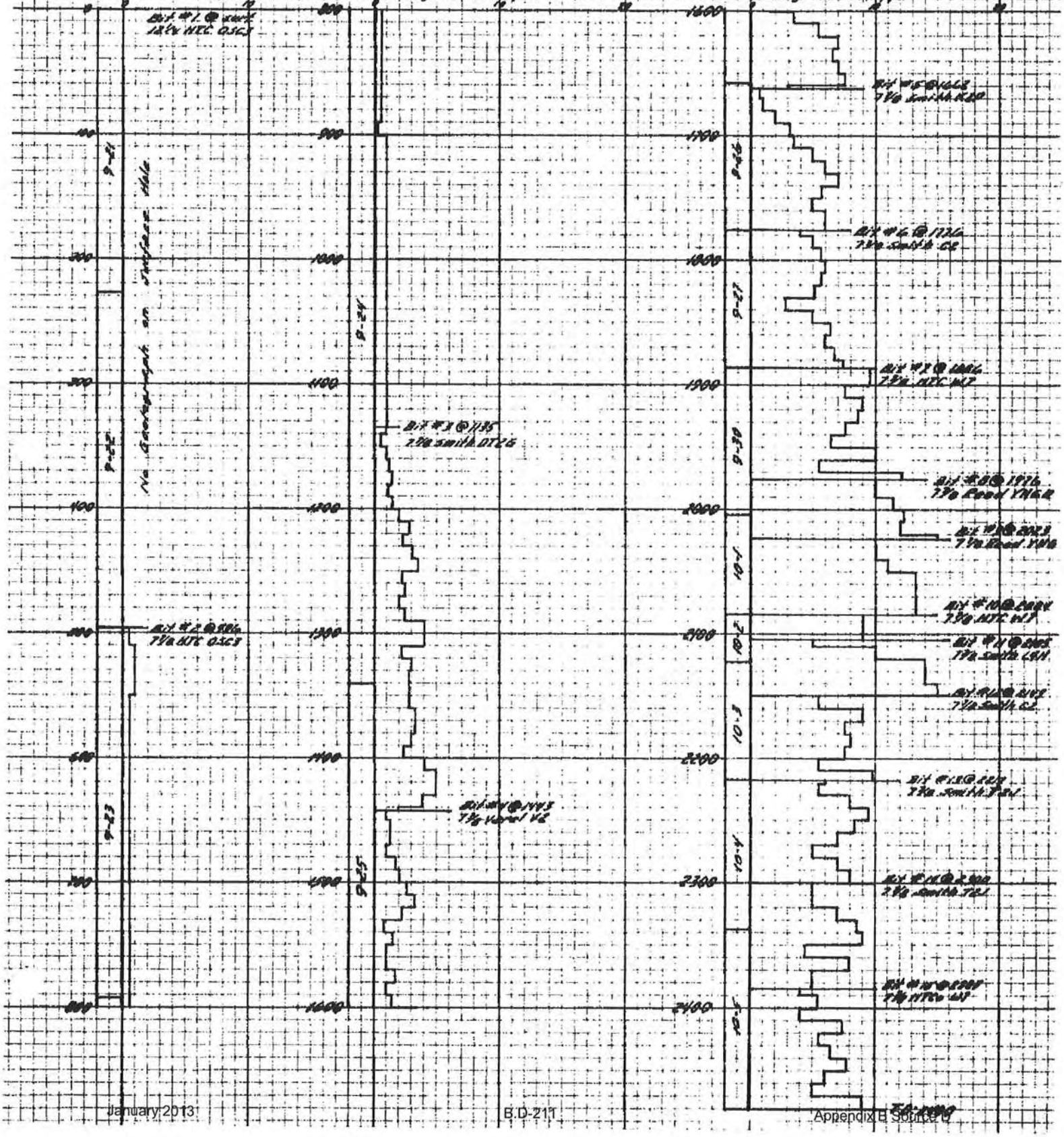
Weight	10.6 lb/gal
Viscosity	60 sec/qt
Water loss	10 cc API

This mud minimized but never completely killed the small water flow which continued intermittently throughout the balance of drilling. At total depth the viscosity was raised to 70 sec/qt for logging.

POWERTECH (USA) INC.

PENETRATION RATE

CONROY - SUN-FROST #1 State
NW SW 24 T7S R1E
Fall River Co, So. Dak.



POWERTECH (USA) INC.

JOHNSTON TESTERS

SURFACE INFORMATION

Description (Rate of Flow)	Time	Pressure (P.S.I.G.)	Surface Chake
Opened Tool	1303	-	-
WEAK BLOW INCREASING TO			
GOOD BLOW IN 3 MINUTES			
CLOSED FOR INITIAL SHUT-IN	1306	-	-
RE-OPENED TOOL	1336	-	-
GOOD BLOW THROUGHOUT TEST			
CLOSED FOR FINAL SHUT-IN	1436	-	-
PULLED PACKER LOOSE	1506	-	-

EQUIPMENT, HOLE & MUD DATA

Type Test: CONVENTIONAL OPEN HOLE

Farmation Tested: 2ND LEO

Elevatian: 3577 K.B. Ft.

Net Praductive Interval: - Ft.

Estimated Parosity: - %

All Depths Measured From: KELLY BUSHING

EQUIPMENT SEQUENCE

COMPONENTS	Size/Type	Depth/Length/ I.D.
DRILL PIPE	4½" FH	1749'/3.8
DRILL COLLARS	4½" H-90	308'/2.5"
4-STAGE SHUT-IN	4 3/4"	
HYDRAULIC TOOL	4 3/4" CO	
JARS	4 3/4"	
	HS-1	
RECORDER CARRIER	4 7/8" T	6'
RECORDER CARRIER	4 7/8" T	6'
SAFETY JOINT	4 5/8"	
	BOWEN	
BOB-TAIL PACKER	6 3/4"	2095'
PERF. ANCHOR	4½"	9'

RECOVERY DATA

Description	Amaunt
DRILLING MUD	7'(.04BBLS.)

Total Depth: 2105 Ft.

Main Hole/Casing Size: 7 7/8"

Rat Hole/Liner Size: -

Battom Choke Size: 5/8"

Mud Type: CHEM.GEL Wt. 10.6

Viscosity: 50 Water Lass: 10 C.C.

Cushion Type	Amount	Pressure
	NONE	

Remarks:

Address: BOX 605; CASPER, WYOMING

Company: CONSOLIDATED ROYALTY OIL COMPANY Field: WILD CAT

Well: STATE #1 Lacatian: NW SW 24 7S 1E

Test Interval: 2095' TO 2105' Test #: 1 Date: 10-2-64

County: FALL RIVER State: SOUTH DAKOTA Field Report No.: 15193

Technician: JAMES D. COPEN (GILLETTE) Test Approved By: B.M. JAMES D. COPEN No. Reports Requested: 18(6x's)

POWERTECH (USA) INC.

JOHNSTON TESTERS

PRESSURE DATA

Instrument No.		T-23			Field Report No. 15193 A
Capacity (P.S.I.G.)		3000			
Instrument Depth		2077'			
Instrument Opening		INSIDE			TIME DATA
Pressure Gradient P.S.I./Ft.		-			
Well Temperature °F.		-			Time Given / Time Computed
Initial Hydrostatic Mud	A	1148			
Initial Shut-in	B	354			30 Mins. / ____ Mins.
Initial Flow	C	19			3 Mins. / ____ Mins.
	C-1	14			- Mins. / ____ Mins.
	C-2	13			- Mins. / ____ Mins.
Final Flow	D	20			60 Mins. / ____ Mins.
Final Shut-in	E	352			30 Mins. / ____ Mins.
Final Hydrostatic Mud	F	1090			
Remarks:	C-3	209			
	C-4	19			

READ AT 86°F.

*Shut in pressure did not reach static reservoir pressure.

Clock Travel _____ inches per min.

PRESSURE INCREMENTS

Point Minutes	Pressure	$\frac{T+\Delta t}{\Delta t}$	Point Minutes	Pressure	$\frac{T+\Delta t}{\Delta t}$	Point Minutes	Pressure	$\frac{T+\Delta t}{\Delta t}$

IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

POWERTECH (USA) INC.

A. Initial Hyd. Mud B. Initial shut-in C. Initial flow D. Final Flow E. Final shut-in F. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

A-1, A-2, A-3, etc. Initial Hyd. Pressures

B-1, B-2, B-3, etc. The Initial Shut-in Pressures

C-1, C-2, C-3, etc. Flowing Pressures

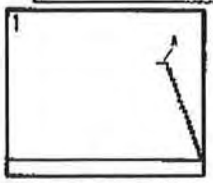
D-1, D-2, D-3, etc. The Final Flow Pressures or Final Shut-in Pressures

E-1, E-2, E-3, etc. The Final Shut-in Pressures

F-1, F-2, F-3, etc. Final Hyd. Mud Pressures

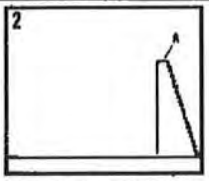
Z – Special pressure points such as pumping pressure recorded for formation breakdown.

1



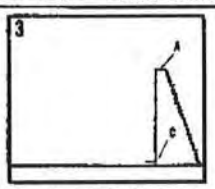
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



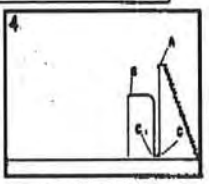
The packer is expanded and set to isolate the test zone. When the test valve is opened a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



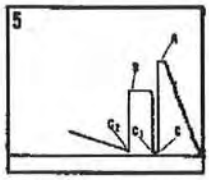
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

4



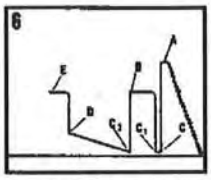
This chart shows the initial shut-in pressure. The methods by which this pressure can be taken allow only a minimum of formation fluid to be produced. This initial shut-in pressure is the best method yet devised for recording the original, undisturbed reservoir pressure of a formation.

5



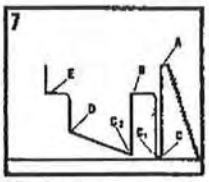
The test tool has been opened to the surface either by breaking a disc, rotating a shut-in tool open or by reopening the main testing valve to permit the formation to produce. The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



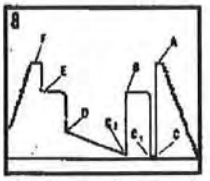
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing; the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

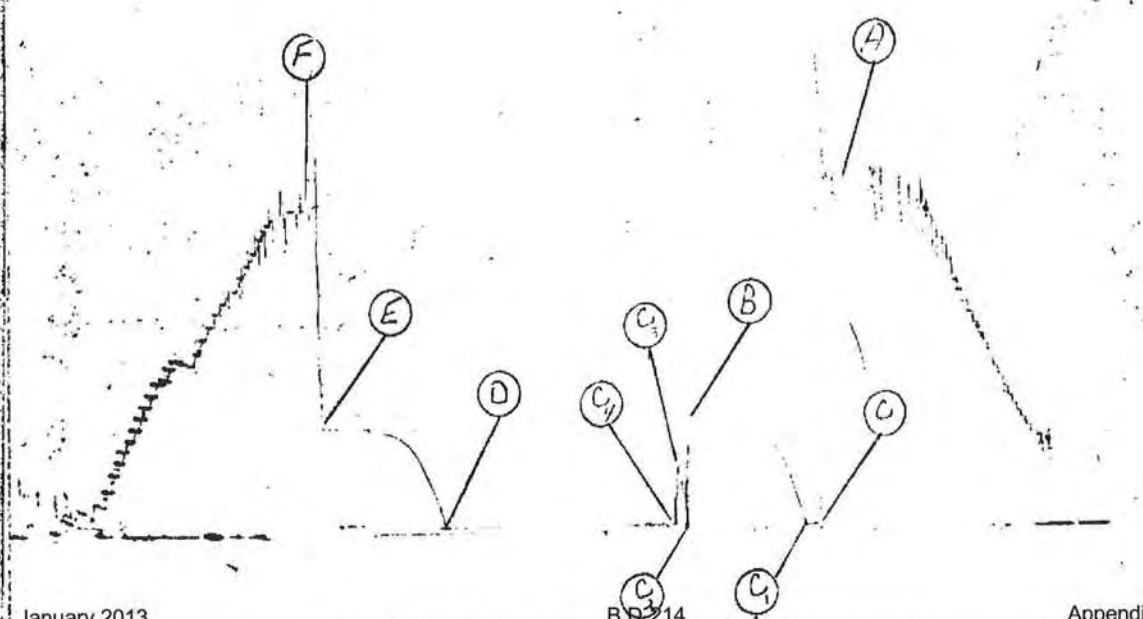
8



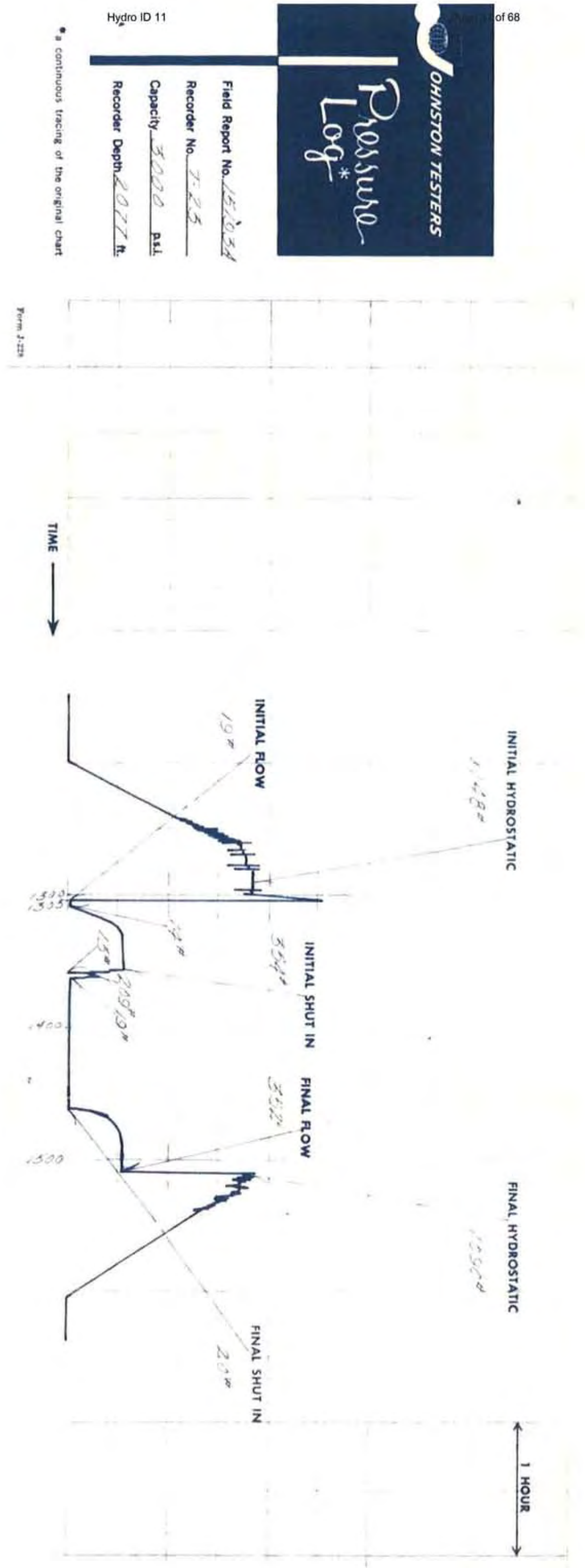
The packer has been unseated. The testing assembly is being removed from the hole.

JOHNSTON TESTERS

FIELD REPORT NO.	RECORDER NO.	CAPACITY	REPORTS REQUESTED
15193 A	T-23	3000#	18-



Powertech (USA) Inc.



POWERTECH (USA) INC.

ADMINISTRATIVE / SUNDRY REPORTS

POWERTECH (USA) INC.

JAN 2 6 1965

January 26, 1965

Frank Gillespie
Consolidated Royalty Oil Company
Box 605
Casper, Wyoming

Dear Mr. Gillespie:

We are enclosing copies of the minutes approving the plugging of the three wells listed below.

✓ #1 State, Section 24-T7S-R1E, Fall River County, South Dakota

#1 Trotter-Lane-Federal, Section 21-T7S-R2E, Fall River County, South Dakota

#1 K. A. Helsel, Section 25-T9S-R3E, Fall River County, South Dakota.

The Firemen's Fund Insurance Company has been duly authorized to release all obligations on the above wells.

Very truly yours,

ALMA LARSON
Secretary of State

AL/smt
Enc.
cc. Dr. Duncan McGregor ✓

COPY

JAN 28 1964

POWERTECH (USA) INC.

STATE OIL AND GAS BOARD
PIERRE, SOUTH DAKOTA
January 26, 1965

A special meeting of the State Oil and Gas Board was held in the office of the Secretary of State at 11:30 A.M., January 26, 1965.

PRESENT: Nils A. Boe, Governor; Walter Weygint, Assistant Attorney General; Bernard Linn, Commissioner of School and Public Lands and Alma Larson, Secretary of State and Secretary State Oil and Gas Board.

Governor Boe called the meeting to order.

Miss Larson, Secretary, presented to the Board Well Plugging Record from the Consolidated Royalty Oil Company, Casper, Wyoming, covering the #1 State well, Section 24-T7S-R1E, Fall River County, South Dakota.

After a short discussion it was moved by Mr. Weygint, Assistant Attorney General, and seconded by Mr. Linn, Commissioner of School and Public Lands, that the Well Plugging Affidavit of Consolidated Royalty Oil Company on the #1 State well, 769' EWL and 1680' NSL, Section 24-T7S-R1E, Fall River County, South Dakota, be approved, and the liability under Bond #6121491 executed by Fireman's Fund Insurance Company, San Francisco, California, as Surety and Consolidated Royalty Oil Company as Principal, in the amount of $5,000.00, conditioned upon compliance with the law and rules and regulations of the Oil and Gas Board concerning wells to be drilled in Fall River County, South Dakota, be, and the same is hereby terminated and at an end from and after said date, and the bond of $5,000.00 given in connection with the drilling of said well, be released.

On roll call all voted "aye" and motion carried.

NILS A. BOE
GOVERNOR

ALMA LARSON
SECRETARY OF STATE

STATE OIL AND GAS BOARD
PIERRE, SOUTH DAKOTA
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After a short discussion it was moved by Mr. Weygint, Assistant Attorney General, and seconded by Mr. Linn, Commissioner of School and Public Lands, that the Well Plugging Affidavit of Consolidated Royalty Oil Company on the #1 State well, 769' EWL and 1880' NSL, Section 24-T7S-R1E, Fall River County, South Dakota, be approved, and the liability under Bond #6121491 executed by Fireman's Fund Insurance Company, San Francisco, California, as Surety and Consolidated Royalty Oil Company as Principal, in the amount of $5,000.00, conditioned upon compliance with the law and rules and regulations of the Oil and Gas Board concerning wells to be drilled in Fall River County, South Dakota, be, and the same is hereby terminated and at an end from and after said date, and the bond of $5,000.00 given in connection with the drilling of said well, be released.

On roll call all voted "aye" and motion carried.

NILS A. BOE
GOVERNOR

ALMA LARSON
SECRETARY OF STATE

OCT 27 1964

STATE OF SOUTH DAKOTA

DEPARTMENT OF STATE

PIERRE

ESSIE WIEDENMAN
SECRETARY OF STATE

ALMA LARSON
ASSISTANT SECRETARY

October 26, 1964

Dr. Duncan McGregor
State Geologist
Science Center University
Vermillion, South Dakota 57069

Dear Dr. McGregor:

Reference is made to the #1 State NW SW Section 24-7S 1E., Fall River County.

Enclosed please find the following:

Three copies of Plugging Record- Form 7
Three copies of Well Completion Report-Form 4

Also one copy each of the following for your file:

Formation Tester
Laterolog
Sonic Log
Technical Report
Geologic Record

Bond will be released upon approval and notification from you.

Very sincerely,

ESSIE WIEDENMAN
Secretary of State
Secretary State Oil and Gas Board

EW/ir
Enc-

POWERTECH (USA) INC.

STATE PUB CO., PIERRE

S. Dak. Oil & Gas Board
FORM 7

PLUGGING RECORD

Operator	Address
THE CONSOLIDATED ROYALTY OIL COMPANY	P. O. Box 605, Casper, Wyoming

Name of Lease	Well No.	Field & Reservoir
South Dakota - 28-4C-367	#1 State	Wildcat

Location of Well	Sec-Twp-Rge or Block & Survey	County
760' N/L & 1980' E/L	Sec. 28-7S-17	Fall River

Application to drill this well was filed in name of	Has this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry?
THE CONSOLIDATED ROYALTY OIL COMPANY	No	- -	- -	Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls./day)
10-5-64	2867'	- -	- -	- -

Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used indicate zones squeeze cemented, giving amount cement
No oil or gas. Refer			2135-2050' 25 sx
to well summary and			1715-1640' 25 sx
sample description for			1525-1460' 25 sx
details.			910- 835' 40 sx
			600- 450' 50 sx
			Top plug & 10 sx monument

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped etc)	Packers and shoes
8-5/8"	498'	-	All		

Was well filled with mud-laden fluid, according to regulations?

Indicate deepest formation containing fresh water.

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

USE REVERSE SIDE FOR ADDITIONAL DETAIL

Executed this the 20th day of October, 1964.

State of WYOMING

County of NATRONA

Frank E. Gillespie
Signature of Affiant

Frank E. Gillespie - Treasurer

Before me, the undersigned authority, on this day personally appeared Frank E. Gillespie known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states, that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Subscribed and sworn to before me this 20th day of October, 1964.

SEAL

My commission expires My Commission Expires May 13, 1967

Notary Public in and for Natrona County, Wyoming

DO NOT WRITE BELOW THIS LINE

Approved 1-26-65
Date

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

, Secretary

See Instructions On Reverse Side

Approved for release of bond
Date Jan 29, 1965
State Geologist

POWERTECH (USA) INC.

S. Dak. Oil & Gas Board
FORM 4

STATE PUB. CO., PIERRE

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FARM OR LEASE NAME: South Dakota 24-3C-367

WELL NO.: #1 State

TYPE OF COMPLETION
☐ Oil Well ☐ Gas Well ☒ Dry & Abandoned
☐ New Well ☐ Work-Over ☐ Deepen ☐ Plug Back ☐ Same Zone ☐ Diff Zone

FIELD AND POOL, OR WILDCAT: Wildcat

OPERATOR: THE CONSOLIDATED ROYALTY OIL COMPANY

NO. ACRES IN LEASE: 160.00

ADDRESS: P. O. Box 805, Casper, Wyoming

LOCATION (In feet from nearest lines of section or legal subdivision where possible)*
Surface: 760' East of West Line & 1980' North of South Line Sec. 24-7S-1E
Top prod. interval:
At total depth:

¼ ¼ SEC. TWP. RGE.: NW SW Sec. 24-7S-1E

COUNTY: Fall River

PERMIT NO.	DATE ISSUED	PREVIOUS PERMIT NO.	DATE ISSUED
370	9-23-64		

DATE SPUDDED	DATE T. D. REACHED	DATE COMPL. (Ready to Prod.)	ELEVATIONS (DF, RKB, RT, GR, etc.)*	ELEV. CASINGHEAD FLGE.
9-21-64	10-6-64	- -	3566' GR 3577' KB	

TOTAL DEPTH (MD & TVD)	PLUG, BACK T. D. (MD & TVD)	IF MULTIPLE COMPL., HOW MANY*	INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
2467'	- -		→		

PRODUCING INTERVAL(S), THIS COMPLETION, TOP, BOTTOM, NAME (MD & TVD)*: None

DATE DIRECTIONAL SURVEY SUBMITTED: None

TYPE ELECTRIC AND OTHER LOGS RUN (Circle those filed): Dual Induction-Laterolog, Sonic Log-Gamma Ray, Formation Tester

WAS WELL CORED: No

CASING RECORD (Report all strings set in well)

CASING SIZE	DEPTH SET (MD)	HOLE SIZE	WEIGHT LBS./FT.	PURPOSE	SACKS CEMENT	AMOUNT PULLED
8-5/8"	500	12-1/4"	20#	Surface casing	275	None

LINER RECORD

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

TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

PERFORATION RECORD

DEPTH INTERVAL (MD)	HOLES PER FT.	SIZE AND TYPE	PURPOSE

ACID, SHOT, FRAC., CEMENT SQUEEZE, Etc.

AMOUNT AND KIND OF MATERIAL USED	DEPTH INTERVAL (MD)

PRODUCTION

DATE FIRST PRODUCTION	PRODUCING METHOD (Flowing, gas lift, pumping,—size & type of pump)	WELL STATUS(Prod. or shut-in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PRODUCTION FOR TEST →	OIL, Bbls.	GAS, Mcf.	WATER, Bbls. & %	OIL GRAVITY-API (Corr.)

FLOW. TUBING PRESSURE	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL, Bbls.	GAS, Mcf.	WATER, Bbls. & %	GAS-OIL RATIO

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

TEST WITNESSED BY

LIST OF ATTACHMENTS
2 prints Dual Induction-Laterolog
2 prints Sonic Log-Gamma Ray
2 prints Formation Tester
2 copies Technical Report
2 copies Well History

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

SIGNED: Frank D. Gillespie TITLE: Treasurer DATE: 10-20-64

DO NOT WRITE BELOW THIS LINE
*See Instructions On Reverse Side

Approved 1-26-65
Date

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA
Elmer Larson, Secretary

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. Supplemental instructions by local Federal and/or State offices will govern the use of this form.

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 last blank.

If this well was directionally drilled, show both the location at the surface and at total depth from nearest lines, where possible; also show the locations at the top and at the bottom of any zone for which production data are reported in space 33, and any zone open for injection or disposal. Use this reverse side if more space is needed. (MD-Measured Depth, TVD-True Vertical Depth)

*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.

If this well is completed for separate production from more than one zone (multiple-zone completion), so state in the correct space and show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the zone reported in the blanks under PRODUCTION. Submit a separate completion report on this form for each interval (zone) to be separately produced.

"Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

File 3 copies of this form with Secretary, Oil and Gas Board, Pierre.

SUMMARY OF WATER ZONES AND NON-COMMERCIAL OIL OR GAS ZONES (Note: If well was directionally drilled, show both measured and true vertical depths for zones and markers listed)						GEOLOGIC MARKERS		
KIND OF FORMATION	DEPTH TO TOP		DEPTH TO BOTTOM		CONTENTS; PRODUCTIVE RATE, IF KNOWN	NAME	DEPTH TO TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH	MEAS. DEPTH	TRUE VERT. DEPTH			MEAS. DEPTH	TRUE VERT. DEPTH
Please refer to enclosed Well History for details.								

POWERTECH (USA) INC.

CORRESPONDENCE

POWERTECH (USA) INC.

SCIENCE CENTER, UNIVERSITY OF SOUTH DAKOTA CAMPUS, VERMILLION, 57069, PHONE 624-4471

WESTERN FIELD OFFICE, 507½ STATE ST., BELLE FOURCHE, BOX 187, 57717, PHONE 892-3121

Western Field Office
August 31, 1967

Mr. George L. Coates
Star Route
Edgemont, South Dakota

Re: ConRoy #1 State
NESW-24-7S-1E
Fall River County, South Dakota
Permit No. 370

Dear Mr. Coates:

Your August 28 letter has been received in which you mention you want to convert the above oil test to a water well for agricultural use.

The oil test was plugged September 10, 1964. The bond was released January 26, 1965. The State Oil and Gas Board no longer has jurisdiction over the test hole.

Approval to complete the oil test as a water well should be obtained from the Water Resources Commission, State Office Building, Pierre, South Dakota. Their phone number is Capitol 4-5911, Extension 343. Mr. Joe Grimes is the Chief Engineer.

The test was drilled to a depth of 2,467 feet. The surface casing consisted of 487 feet of 8 5/8-inch pipe cemented with 275 sacks of cement. The formation tops as picked by the company geologist are:

Dakota	50	Minnekahta	1397
Lakota	237	Minnelusa	1470
Sundance	540	2nd Converse sand	1525
Basal Sundance sand	854	3rd Converse sand	1655
Spearfish	894	2nd Leo zone	2060

Cement plugs were placed at approximately the following depths:

420-600	1640-1715
835-910	2060-2135
1460-1525	

If I can be of further help, please contact me.

Sincerely,

Earl Cox
State Geologist

EC:rp

cc: State Geologist
Water Resources Commission

POWERTECH (USA) INC.

SEP - 1 1967

Western Field Office
August 31, 1967

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Star Route
Edgemont, South Dakota

Re: ConRoy #1 State
NWSW-24-7S-1E
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Permit No. 370

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POWERTECH (USA) INC.

Mr. George L. Coates page 2 August 31, 1967

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1460-1525	

If I can be of further help, please contact me.

Sincerely,

Earl Cox

Earl Cox
State Geologist

EC:rp

cc: State Geologist
Water Resources Commission

POWERTECH (USA) INC.

Western Field Office
Belle Fourche, South Dakota
May 11, 1965

Mr. Leslie Coates
Box 564
Edgemont, South Dakota

Re: Conroy #1 State
NW¼SW¼-24-7S-1E
Fall River County, South Dakota
Permit No. 370

Dear Mr. Coates:

I have your May 5 letter asking for information on the above oil test.

The test was drilled to a depth of 2467 feet. The surface casing consisted of 487 feet of 8 5/8 inch pipe, cemented with 275 sacks of cement. The formation tops as picked by the company geologist are:

Dakota	50	Minnekahta	1397
Lakota	237	Minnelusa	1470
Sundance	540	2nd Converse sand	1525
basal Sundance sand	854	3rd Converse sand	1655
Spearfish	894	2nd Leo zone	2060

Cement plugs were placed at approximately the following depths:

420-600
835-910
1460-1525
1640-1715
2060-2135

I can give you very little information about the water pressure. A flow of water occurred at a depth of 1184. The driller thought the water was coming from the top of the Sundance formation and that the flow resulted when the weight of the drilling mud was allowed to decrease.

I do not have a set of logs run on the well. As I recall, Conroy was to give you a set and indicate the water zones.

If I can be of further help, let me know.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:sn

AMERICAN STRATIGRAPHIC COMPANY

17 NORTH 31ST ST. • BILLINGS, MONTANA • ALPINE 9-7647

January 15, 1965

Mr. Jim Copen
Consolidated Royalty Oil Company
Conroy Building
Casper, Wyoming

Dear Mr. Copen:

Samples from the following wells have been processed and shipped to the State of South Dakota Geological Survey in Vermillion, South Dakota December 14, 1964:

#1 Trotter-Federal
SW NE 21-7S-2E
Fall River Co.

#1 State
NW SW 24-7S-1E
Fall River Co.

#1 Helsel
SE SE 25-9S-3E
Fall River Co.

As soon as we have finished processing the #1 Wulf-Ideen-USA, NE NE 15-8S-2E, and the Ideen-Federal, SW SW 15-9S-2E, Fall River County wells we will forward them on to the Survey.

Yours very truly,

AMERICAN STRATIGRAPHIC COMPANY

Fred McCotter
Manager

FMc/ve

cc: John Shafer, American Stratigraphic Co., Casper, Wyoming
Dr. Duncan McGregor, Geological Survey, Vermillion, South Dakota

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
SCIENCE CENTER
University of South Dakota Campus
VERMILLION 57069
Phone 624-4471

DUNCAN J. McGREGOR
Director and State Geologist

MERLIN J. TIPTON
Assistant State Geologist

Western Field Office
Belle Fourche, South Dakota

January 7, 1965

Mr. Frank Gillespie
The Consolidated Royalty Oil Company
Box 605
Casper, Wyoming

Re: Conroy #1 Helsel
Conroy #1 Ideen-Fed.
Conroy #1 Trotter-Lane-Fed.
Conroy #1 State

Dear Frank:

This is a recap of our telephone conversation earlier today concerning your January 4 letter to the Oil and Gas Board about release of the bonds on the above tests.

Several weeks ago I checked the records at Pierre and Vermillion and found all required records and reports had been filed. At that time, however, the samples from the tests had not been received at Vermillion. As soon as the samples have been received from a test, the bond on that test can be released.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:cr

cc: Secretary, Oil and Gas Board
State Geologist

POWERTECH (USA) INC.

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
SCIENCE CENTER
University of South Dakota Campus
VERMILLION 57069
Phone 624-4471
Western Field Office
Belle Fourche, South Dakota

DUNCAN J. McGREGOR
Director and State Geologist
MERLIN J. TIPTON
Assistant State Geologist

November 30, 1964

Dr. Duncan McGregor
State Geologist
Vermillion
South Dakota

Re: Consolidated Royalty #1 State
NW¼ SW¼-24-7S-1E
Fall River County, South Dakota
Permit No. 370

Dear Duncan:

The Consolidated Royalty Company has written and given permission to release any and all information on the above test.

Sincerely,

Earl Cox

Earl Cox
Engineering-Petroleum Geologist

EC:cr

cc: Secretary, Oil and Gas Board