Logs Received:

FDC, C.N.L.D.

Sonic Waveform

Natural Gamma

BHC, DLM-SFL,

Repeat Formation

Fracture Indent. Log

DI-SFL

THE ANSCHUTZ CORPORATION

2400 ANACONDA TOWER
555 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-825-6100
TWX 910-931-2620

May 12, 1980

Cleon B. Feight, Director
Division of Oil Gas & Mining
1588 West North Temple
Salt Lake City, Utah 84116

RE: Anschutz Ranch East Field
Anschutz Ranch East No 16-20U
SESE Sec 20T4N R8E
Summit County, Utah

Dear Jack,

Enclosed please find our APD for the above referenced location submitted in triplicate. Survey plats will be submitted under a separate cover. If you have any questions please feel free to call.

Sincerely,

Peter B. Doty
Operation Coordinator

PBD/rtz
enclosure

RECEIVED
MAY 15 1980
DIVISION OF
OIL, GAS & MINING

Form DOGC-1a

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. Lease Designation and Serial No.: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Farm or Lease Name: Anschutz Ranch East

9. Well No.: 16-20U

10. Field and Pool, or Wildcat: Anschutz Ranch East

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 20 T4N R8E

1a. Type of Work: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well: Oil Well [X] Gas Well [ ] Other Single Zone [ ] Multiple Zone [ ]

2. Name of Operator: The Anschutz Corporation

3. Address of Operator: 555 17th St Suite 2400 Denver, Colorado 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: ~~660' FSL & 660' FEL (SESE)~~ 257' FSL 1640 FEL SW SE
At proposed prod. zone: Per approved spacing order 183-2

12. County or Parrish: Summit 13. State: Utah

14. Distance in miles and direction from nearest town or post office*: Approximately 16 miles South West of Evanston, Wy

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any): 660

16. No. of acres in lease: 640

17. No. of acres assigned to this well:

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.: 2640 ±

19. Proposed depth: 15,000

20. Rotary or cable tools: Rotary

21. Elevations (Show whether DF, RT, GR, etc.): 7420' GR (EST)

22. Approx. date work will start*: 6-1-80

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
26	20	3/8" wall	50	to surface
17½	13 3/8	54.5	2000	to surface
12¼	9 5/8	40-53.5	11,000	1000sx
8½	5½ liner	17	10,500-T.D.	250sx

This well will be drilled to an approximate total depth of 15,000 ft to test the sub-thrust formations. Mud and BOP programs will be those generally used in the area. Electric logs will be run to T.D. No cores are planned. Drill stem tests will be run as warranted. If productive intervals are encountered casing or a liner will be run through them and selectivly perforated. Frac'ing or acidizing may be required to stimulate production. Blanket bond is on file. Survey plats will be mailed under separate cover (the above surface location is tenative. The final location will be as described on the plats to be submitted).

APPROVED BY THE DIVISION OF OIL, GAS, AND MINING
DATE: 9-25-80
BY: M. J. Minder

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

24.

Signed: Peter B. Doty Title: Operations Coordinator Date: 5-9-80

(This space for Federal or State office use)

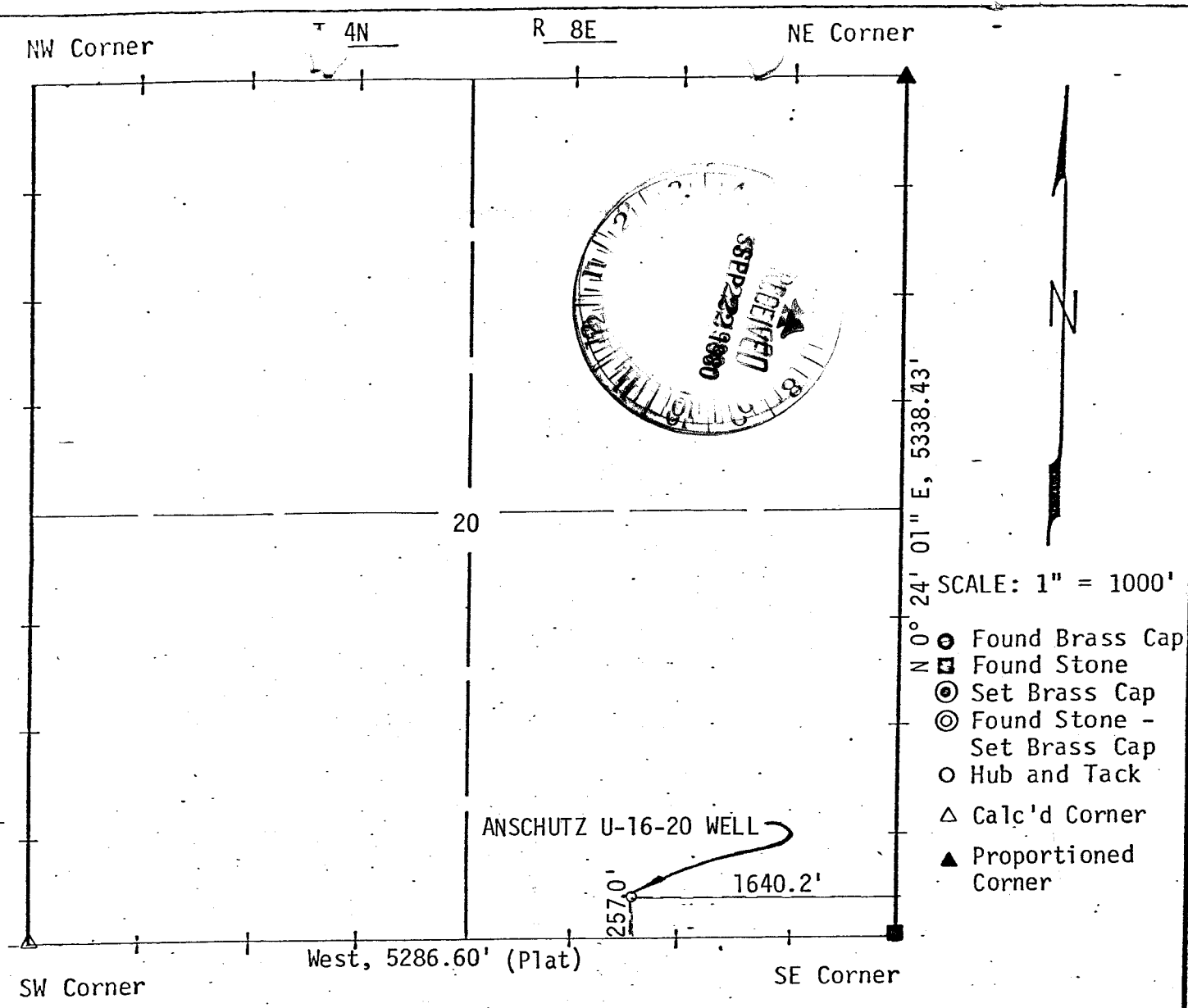
Permit No. ..... Approval Date .....

Approved by ..... Title ..... Date .....

Conditions of approval, if any:

RECEIVED
MAY 15 1980
DIVISION OF OIL, GAS & MINING

*See Instructions On Reverse Side



I, John A. Proffit of Evanston, Wyoming certify that in accordance with a request from Pete Doty of Denver, Colorado for The Anschutz Corporation I made a survey on the 13th day of May, 1980 for Location and Elevation of the Anschutz U-16-20 Well as shown on the above map, the wellsite is in the SW¼SE¼ of Section 20, Township 4N, Range 8E of the Salt Lake Base & Meridian, Summit County, State of Utah, Elevation is 7567 Feet Top of Hub Datum U.S.G.S. Quad - Porcupine Ridge, Utah-Wyoming, Spot Elevation 7504', SW¼SE¼ Section 23, T13N, R121 W, 6th P.M., Uinta County Wyoming

Reference point _____

Reference point _____

Reference point _____

Reference point _____

John A. Proffit 5/21/80

JOHN A. PROFFIT UTAH R.L.S. NO. 2860

DATE: May 19, 1980
JOB NO.: 80-20-6

UINTA ENGINEERING & SURVEYING, INC.
808 MAIN STREET, EVANSTON, WYOMING

Continental Laboratories

SHOW REPORT # 1

Operator The Anschutz Corporation Date April 23, 1981

Well ARE 16-20U Field Anschutz East CLI Project # RM 657

Location SE SE SEC 20 T4N R8E County Summit State Utah

DESCRIPTION OF PROBABLE RESERVOIR ROCK:

Show interval - from 11,133 to 11,134 ; Visual Ø

Lithology: 100% Ls, m-dk gy, mic-slcrpxl, frm-hd, dns, blky, abnt frac/ calc fls tr dol

Percentage Reservoir Rock in Sample 20 %, Percentage Reservoir Rock w/Flu 0 %

Fluorescence: Color — Intensity —, Distribution —

Solvent Cut: Normal Color — Flu. Color —

Intensity — Development —

GAS INFORMATION:

Drilling Fluid Gas: Gas is- X liberated ____ produced ____ both

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	52	.432%	.077	.034	.0021	.0027	.146
Background	3	.014	.0014	—	—	—	—
Net	49	.418	.0756	.034	.0021	.0027	N/A

Drill Cuttings Gas:

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	7	.0024%	.0008	.0024	.0013	.0022	2.46
Background	1	—	—	—	—	—	—
Net	6	.0024	.0008	.0024	.0013	.0022	N/A

DRILLING INFORMATION:

Average Drilling rate - During break 1.9 Before break 5.4 Controlled drlg ____

Bit - Type F-2 , diameter 8.5 ; Condition- X new, ____ worn, ____ dull

Wt. on Bit - Increased to ____, decreased to ____ no change at ____

Mud - Wt. 8.5 , Vis. 40 ,F 9.6 , Ck 0 ,% Oil 0 ,% Sand 0

Chlorides during show — Before show —

Other - —

FIELD EVALUATION:

Remarks: Twin Creek Formation - frac fls/calc; calc xl well developed on Ls surfaces. often clear with xl terminations torquey drilling

POOR
FAIR
GOOD
EXCELLENT

CL-15 8/76

Continental Laboratories

SHOW REPORT # 2

Operator The Anschutz Corporation Date April 23, 1981

Well ARE 16-20U Field Anschutz East CLI Project # RM657

Location SE SE SEC 20 T4N R 8 E County Summit State Utah

DESCRIPTION OF PROBABLE RESERVOIR ROCK:

Show interval - from 11,186 to 11,192 ; Visual Ø abnt frac

Lithology: 100% Ls, m-dk gy, mic-sl crpxl, frm-hd, dns, blky, abnt frac/calc fls tr dol

Percentage Reservoir Rock in Sample 20 %, Percentage Reservoir Rock w/Flu 0 %

Fluorescence: Color — Intensity —, Distribution —

Solvent Cut: Normal Color — Flu. Color —

- Intensity — Development —

GAS INFORMATION:

Drilling Fluid Gas: Gas is- X liberated ____ produced ____ both

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	500	.60%	.110	.07	.01	.013	.155
Background	3	.014	.0017	.0007	—	—	—
Net	497	.586	.1083	.0693	.01	.013	N/A

Drill Cuttings Gas:

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	6	.0012%	.0007	.0017	.0021	.0014	4.33
Background	1	—	—	—	—	—	—
Net	5	.0012	.0007	.0017	.0021	.0014	N/A

DRILLING INFORMATION:

Average Drilling rate - During break 1.7 Before break 4 Controlled drlg ____

Bit - Type F-2 , diameter 8.5 ; Condition- ____ new, ____ worn, ____ dull

Wt. on Bit - Increased to ____, decreased to ____ no change at ____

Mud - Wt. 8.5 , Vis. 40 ,F 9.6 , Ck 0 ,% Oil 0 ,% Sand 0

Chlorides during show — Before show —

Other - —

FIELD EVALUATION:

Remarks: Twin Creek Formation — frac fls/calc; calc xl well developed on Ls surfaces. often clear with xl terminations. torque drilling

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SHOW REPORT # 3

Operator The Anschutz Corporation Date May 6, 1981

Well ARE 16-20U Field Anschutz East CLI Project # RM657

Location SE SE SEC 20 T4N R8E County Summit State Utah

DESCRIPTION OF PROBABLE RESERVOIR ROCK:

Show interval - from 11,253 to 11,255 ; Visual Ø Frac w/tr. well-fr devel xl

Lithology: Ls lt brn-crm, crpxl, hd-vfrm, dns-xl/lam calc fls

Percentage Reservoir Rock in Sample 5 %, Percentage Reservoir Rock w/Flu 0 %

Fluorescence: Color — Intensity —, Distribution —

Solvent Cut: Normal Color — Flu. Color —

Intensity — Development —

GAS INFORMATION:

Drilling Fluid Gas: Gas is- X liberated ____ produced ____ both

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	44	.25%	.045	.027	—	—	.11
Background	1	.0072	—	—	—	—	—
Net	43	.2428	.045	.027	—	—	N/A

Drill Cuttings Gas:

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	2	tr.%	—	—	—	—	—
Background	2	tr.	—	—	—	—	—
Net	0	—	—	—	—	—	N/A

DRILLING INFORMATION:

Average Drilling rate - During break 4-5 Before break 6 Controlled drlg NO

Bit - Type F-2, diameter 8.5 ; Condition- X new, ____ worn, ____ dull

Wt. on Bit - Increased to ____, decreased to ____ no change at 43/45

Mud - Wt. 8.8, Vis. 44, F 8.0, Ck ____, % Oil —, % Sand ____

Chlorides during show ____ Before show ____

Other - ____

FIELD EVALUATION:

Remarks: Twin Creek fracture w/tr of v good fracture evidence

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SHOW REPORT # 4

Operator The Anschutz Corporation Date May 6, 1981

Well ARE 16-20U Field Anschutz East CLI Project # RM 657

Location SE SE SEC 20 T4N R8E County Summit State Utah

DESCRIPTION OF PROBABLE RESERVOIR ROCK:

Show interval - from 11,278 to 11,282 ; Visual Ø Fracture

Lithology: Ls brngy-crm, vfrm-frm, slfrag dns-xl, occ lam/calc xl tr well devel calc xl w/xl terms.

Percentage Reservoir Rock in Sample 8-10 %, Percentage Reservoir Rock w/Flu occ %

Fluorescence: Color yel-sl bri yel Intensity dull-sl bri , Distribution spty

Solvent Cut: Normal Color cl Flu. Color yel-sl bri yel

Intensity slo Development halo

GAS INFORMATION:

Drilling Fluid Gas: Gas is- X liberated _____ produced _____ both

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	1680	13%	2.8	1.9	.168	.22	.18
Background	3	.17	.0028	—	—	—	—
Net	1677	12.8	2.8	1.9	.168	.22	N/A

Drill Cuttings Gas:

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	5	.072%	.0014	.0017	.0042	.0027	.67
Background	1	—	—	—	—	—	—
Net	4	.072	.0014	.0017	.0042	.0027	N/A

DRILLING INFORMATION:

Average Drilling rate - During break 5.5-6.5 Before break 6-7 Controlled drlg NO

Bit - Type F-2 , diameter 8.5 ; Condition- X new, _____ worn, _____ dull

Wt. on Bit - Increased to _____, decreased to _____ no change at 43/45

Mud - Wt. 8.8 , Vis. 44 ,F 8.0 , Ck _____,% Oil — ,% Sand 3.3

Chlorides during show _____ Before show _____

Other - gas cut to c 7.5 at possum belly

FIELD EVALUATION:

Remarks: Show arrived 6 min. following 700u of decreasing connection gas

Mud flour. w/yel-bri yel flour.

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SHOW REPORT # 5

Operator The Anschutz Corporation Date May 9, 1981

Well ARE 16-20U Field Anschutz East CLI Project # RM657

Location SE SE SEC 20 T4N R8E County Summit State Utah

DESCRIPTION OF PROBABLE RESERVOIR ROCK:

Show interval - from 11,837 to 11,847 ; Visual Ø Good

Lithology: 80% Sandstone tn, wh, occ lt red, c-vf gr. sb ang - sb rd gr, v pr srt, frm-fri, sl calc/uncons c rd grs

Percentage Reservoir Rock in Sample 80 %, Percentage Reservoir Rock w/Flu 20-30 %

Fluorescence: Color Yellow Intensity Dull , Distribution Spotty

Solvent Cut: Normal Color Clear Flu. Color Dull Yellow

Intensity Dull Development Slow

GAS INFORMATION:

Drilling Fluid Gas: Gas is- X liberated _____ produced _____ both

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	378	2.64%	.45	.24	.21	.027	.11
Background	2	.012	.0014	—	—	—	—
Net	376	2.63	.449	.24	.21	.027	N/A

Drill Cuttings Gas:

	Total	C_1	C_2	C_3	C_4	C_5	Oil Indic.
Maximum	119	.048	.021	.24	.15	.24	13
Background	1	—	—	—	—	—	—
Net	118	.048	.021	.24	.15	.24	N/A

DRILLING INFORMATION:

Average Drilling rate - During break 4-5 Before break 9 Controlled drlg NO

Bit - Type F-2 , diameter 8.5 ; Condition- _____ new, X worn, _____ dull

Wt. on Bit - Increased to _____, decreased to _____ no change at 40-42

Mud - Wt. 8.8 , Vis. 44 ,F 8.0 , Ck _____,% Oil _____,% Sand _____

Chlorides during show _____ Before show _____

Other - _____

FIELD EVALUATION:

Remarks: Nugget, Show increases in quality with increase in penetration rate. Note the mud log.

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CL-15 8/76

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

ANSCHUTZ CORPORATION

20 4N 8E
Summit

16-20U ANSCHUTZ RANCH E.
ANSCHUTZ RANCH E. FIELD
SUMMIT COUNTY, UTAH

OCT 23 1981
OIL, GAS & MINING

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

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.
ANSCHUTZ RANCH E. FIELD
SUMMIT COUNTY, UTAH

DATE : 24-MAY-81
FORMATION : NUGGET
DRLG. FLUID: N/A
LOCATION : SW SE SEC 20-T4N-R8E

FILE NO : RP-4-6029
ANALYSTS : BERNDT
ELEVATION: 7420 GR

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1	11847.0-48.0	3.43	2.69	0.10	9.3	11.9	19.9	2.66	SS, GY-BRN F-MG	
2	11848.0-49.0	3.41	1.46	0.10	9.7	8.3	20.7	2.66	SS, GY-BRN F-MG	VF
3	11849.0-50.0	12.	0.07	0.13	13.9	6.9	18.9	2.65	SS, GY-BRN F-MG	
4	11850.0-51.0	4.67	3.94	1.53	12.9	6.1	24.4	2.65	SS, GY-BRN F-MG	
5	11851.0-52.0	20.	15.	31.	15.6	4.5	22.4	2.65	SS, GY-BRN F-MG	VF
6	11852.0-53.0	<0.01	<0.01	44.	15.2	4.7	36.7	2.64	SS, GY-BRN F-MG	VF
7	11853.0-54.0	<0.01	<0.01	2.04	16.9	5.5	33.2	2.64	SS, GY-BRN F-MG	VF
8	11854.0-55.0	6.23	5.75	0.79	14.1	4.2	21.0	2.65	SS, GY-BRN F-MG	
9	11855.0-56.0	8.32	8.08	0.86	14.2	3.5	34.5	2.65	SS, GY-BRN F-MG	
10	11856.0-57.0	5.17	4.39	0.58	13.2	4.3	20.0	2.64	SS, GY-BRN F-MG	
11	11857.0-58.0	6.35	5.62	0.81	13.4	4.0	22.5	2.65	SS, GY-BRN F-MG	
12	11858.0-59.0	9.43	8.46	0.75	13.4	3.9	19.6	2.65	SS, GY-BRN F-MG	
13	11859.0-60.0	9.60	8.16	0.33	14.5	4.9	27.0	2.65	SS, GY-BRN F-MG	
14	11860.0-61.0	4.30	1.61	0.71	11.6	3.2	32.3	2.65	SS, GY-BRN F-MG	
15	11861.0-62.0	8.15	3.84	1.15	13.2	4.4	23.5	2.66	SS, GY-BRN F-MG	
16	11862.0-63.0	8.79	8.30	1.33	14.4	4.2	33.9	2.66	SS, GY-BRN F-MG	
17	11863.0-64.0	7.39	6.40	0.58	13.8	4.0	30.4	2.66	SS, GY-BRN F-MG	
18	11864.0-65.0	24.	22.	2.66	15.8	5.3	32.0	2.65	SS, GY-BRN F-MG	
19	11865.0-66.0	17.	15.	1.72	16.0	5.0	18.6	2.65	SS, GY-BRN F-MG	
20	11866.0-67.0	15.	15.	<0.01	14.7	1.4	24.3	2.65	SS, GY-BRN F-MG	
21	11867.0-68.0	50.	22.	2.29	15.6	3.9	20.5	2.64	SS, LTBRN F-MG	VF
22	11868.0-69.0	15.	13.	2.40	15.3	4.8	21.8	2.65	SS, LTBRN F-MG	
23	11869.0-70.0	11.	11.	1.09	13.4	5.4	28.3	2.65	SS, LTBRN F-MG	
24	11870.0-71.0	10.	9.20	1.30	14.3	5.2	19.4	2.65	SS, LTBRN F-MG	
25	11871.0-72.0	4.60	2.83	0.62	11.6	3.6	9.0	2.65	SS, LTBRN F-MG	
26	11872.0-73.0	11.	3.35	0.69	12.3	7.0	14.0	2.64	SS, LTBRN F-MG	VF
27	11873.0-74.0	72.	5.63	29.	13.2	5.6	16.7	2.65	SS, LTBRN F-MG	VF
28	11874.0-75.0	1859.	2.65	90.	13.4	5.0	23.5	2.64	SS, LTBRN F-MG	VF

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

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
29	11875.0-76.0	3.12	3.01	1.14	12.9	8.2	24.5	2.65	SS, LTBRN F-MG	
30	11876.0-77.0	5.57	5.41	1.36	12.7	4.4	27.6	2.64	SS, LTBRN F-MG	
31	11877.0-78.0	3.98	3.64	1.42	13.5	4.6	20.1	2.65	SS, LTBRN F-MG	
32	11878.0-79.0	5.90	5.33	1.36	13.7	5.9	33.9	2.65	SS, LTBRN F-MG	
33	11879.0-80.0	12.	10.	1.94	14.6	4.0	26.4	2.65	SS, LTBRN F-MG	
34	11880.0-81.0	10.	10.	3.82	15.0	4.6	22.8	2.65	SS, LTBRN F-MG	
35	11881.0-82.0	12.	11.	35.	14.9	5.0	21.5	2.65	SS, LTBRN F-MG	VF
36	11882.0-83.0	9.63	3.60	0.78	13.3	4.1	23.5	2.65	SS, LTBRN F-MG	VF
37	11883.0-84.0	26.	25.	2.04	15.2	2.5	25.8	2.65	SS, LTBRN F-MG	VF
38	11884.0-85.0	14.	*	<0.01	13.7	1.3	18.9	2.64	SS, LTBRN F-MG	
39	11885.0-86.0	7.93	5.48	0.22	10.9	4.0	4.0	2.65	SS, LTBRN F-MG	
40	11886.0-87.0	11.	6.45	0.39	9.2	8.9	13.4	2.65	SS, LTBRN F-MG	VF
41	11887.0-88.0	10.	*	<0.01	13.1	15.8	59.2	2.63	SS, LTBRN F-MG	
42	11888.0-89.0	291.	10.	2.29	10.3	15.7	41.9	2.65	SS, LTBRN F-MG SLTY CALC	VF
43	11889.0-90.0	13.	*	<0.01	9.6	8.3	8.3	2.63	SS, LTBRN F-MG	
44	11890.0-91.0	0.06	0.04	0.03	5.8	11.6	14.5	2.65	SS, LTBRN F-MG	
45	11891.0-92.0	1.09	0.97	0.41	10.9	10.0	15.0	2.65	SS, LTBRN F-MG SLTY CALC	
46	11892.0-93.0	24.	21.	0.67	13.1	5.6	16.8	2.66	SS, LTBRN F-MG	
47	11893.0-94.0	8.17	6.42	0.90	14.0	3.7	22.4	2.65	SS, LTBRN F-MG	
48	11894.0-95.0	57.	51.	1.38	14.8	1.3	17.3	2.65	SS, LTBRN F-MG	
49	11895.0-96.0	95.	79.	1.13	15.4	1.7	20.4	2.65	SS, LTBRN F-MG	
50	11896.0-97.0	54.	37.	1.08	14.8	6.2	15.4	2.66	SS, LTBRN F-MG	
51	11897.0-98.0	62.	23.	0.12	12.4	4.0	16.1	2.66	SS, GY VF-FG CALC	
52	11898.0-99.0	145.	96.	0.23	11.4	13.0	30.3	2.66	SS, GY VF-FG CALC	
53	11899.0-00.0	86.	70.	0.15	11.3	2.0	8.2	2.66	SS, GY VF-FG	
	11900.0-01.0								LOST CORE	
54	11901.0-02.0	0.14	0.14	0.01	7.7	3.4	16.9	2.66	SS, GY VFG SL/CALC	
55	11902.0-03.0	0.02	0.01	<0.01	5.4	4.0	20.0	2.66	SS, GY VFG SL/CALC	
56	11903.0-04.0	<0.01	<0.01	<0.01	4.6	4.7	23.6	2.66	SS, GY VFG SL/CALC	
57	11904.0-05.0	15.	0.03	0.01	7.0	3.4	34.3	2.66	SS, GY VFG SL/CALC	V&HF

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
58	11905.0-06.0	0.03	0.02	0.01	8.4	2.6	15.7	2.65	SS, GY VFG SL/CALC	
59	11906.0-07.0	0.05	0.02	<0.01	8.4	5.0	10.1	2.65	SS, GY VFG	
60	11907.0-08.0	0.02	0.02	<0.01	8.1	6.6	8.8	2.66	SS, GY VFG	
61	11908.0-09.0	0.02	0.02	0.03	8.5	6.7	9.0	2.65	SS, GY VFG SL/CALC	
62	11909.0-10.0	0.03	0.01	<0.01	8.6	5.6	13.9	2.65	SS, GY VFG	
63	11910.0-11.0	0.02	0.01	<0.01	8.1	7.9	15.8	2.65	SS, GY VFG	
64	11911.0-12.0	0.02	<0.01	<0.01	8.4	10.2	17.8	2.66	SS, GY VFG	
65	11912.0-13.0	0.02	0.02	<0.01	8.8	8.3	14.5	2.65	SS, GY VFG	
66	11913.0-14.0	0.02	<0.01	<0.01	8.3	8.7	15.3	2.65	SS, GY VFG	
67	11914.0-15.0	0.02	0.02	<0.01	8.4	14.1	31.8	2.65	SS, GY VFG	
68	11915.0-16.0	0.03	<0.01	<0.01	8.9	2.4	12.0	2.65	SS, GY VFG	
69	11916.0-17.0	0.08	0.03	<0.01	8.8	6.7	13.3	2.66	SS, GY VFG	
70	11917.0-18.0	0.06	0.03	<0.01	9.4	8.5	14.9	2.65	SS, GY VFG	VF
71	11918.0-19.0	0.06	*	0.07	9.5	6.9	15.5	2.63	SS, GY VFG	
72	11919.0-20.0	0.14	0.11	0.02	10.4	6.0	23.9	2.65	SS, LTGY VFG	V&HF
73	11920.0-21.0	0.53	0.11	0.01	9.4	5.9	19.8	2.65	SS, LTGY VFG	
74	11921.0-22.0	2.43	*	0.24	11.1	5.1	18.8	2.63	SS, LTGY VFG	
75	11922.0-23.0	2.85	*	1.15	11.2	1.9	21.1	2.63	SS, LTGY VFG	
76	11923.0-24.0	0.68	0.62	0.06	10.1	3.6	21.9	2.64	SS, LTGY VFG	
	11924.0-25.0								LOST CORE	
77	11925.0-26.0	1.65	0.88	0.22	11.6	7.5	24.4	2.65	SS, LTGY VFG	
78	11926.0-27.0	2.35	2.00	0.33	10.9	9.0	31.5	2.65	SS, LTGY VFG	
79	11927.0-28.0	9.80	3.96	1.39	12.8	7.6	21.4	2.65	SS, LTGY VFG	
80	11928.0-29.0	108.	*	0.85	13.4	5.1	23.1	2.64	SS, LTGY VFG	
81	11929.0-30.0	92.	90.	13.	14.2	5.9	28.3	2.65	SS, GY VF-FG SL/CALC	
82	11930.0-31.0	58.	19.	0.79	14.3	4.6	33.3	2.65	SS, GY VF-FG SL/CALC	
83	11931.0-32.0	153.	137.	27.	15.6	4.4	26.3	2.65	SS, GY VF-FG SL/CALC	
84	11932.0-33.0	142.	135.	13.	15.4	4.7	29.1	2.66	SS, GY VF-FG SL/CALC	HF
85	11933.0-34.0	265.	144.	1.99	15.2	4.4	31.6	2.66	SS, GY VF-FG SL/CALC	V&HF
86	11934.0-35.0	73.	45.	12.	15.3	4.8	30.9	2.65	SS, GY VF-FG SL/CALC	

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION	
87	11935.0-36.0	151.	93.	2.61	16.2	4.8	34.8	2.65	SS, GY VF-FG SL/CALC	
88	11936.0-37.0	88.	66.	0.11	14.8	7.3	28.1	2.66	SS, GY VF-FG SL/CALC	
89	11937.0-38.0	60.	17.	17.	15.8	5.5	33.8	2.65	SS, GY VFG SL/CALC	
90	11938.0-39.0	318.	*	27.	16.7	7.0	35.0	2.64	SS, GY VFG SL/CALC	
91	11939.0-40.0	34.	33.	12.	15.6	6.1	22.2	2.65	SS, GY VF-FG	
92	11940.0-41.0	116.	36.	13.	15.6	4.1	33.0	2.65	SS, GY VF-FG	
93	11941.0-42.0	167.	135.	11.	16.8	3.9	26.4	2.66	SS, GY VF-FG	
94	11942.0-43.0	200.	200.	41.	17.5	3.9	29.3	2.66	SS, GY VF-FG	
95	11943.0-44.0	4.83	2.42	0.04	10.8	7.4	24.6	2.67	SS, GY VFG	
96	11944.0-45.0	1.22	1.16	0.07	11.1	6.2	17.1	2.66	SS, GY VFG	
97	11945.0-46.0	4.75	3.40	0.69	12.6	5.6	20.9	2.66	SS, GY VFG	
98	11946.0-47.0	44.	1.19	1.14	13.7	8.7	27.7	2.66	SS, GY VFG	
99	11947.0-48.0	15.	3.85	0.03	11.5	6.9	17.3	2.66	SS, GY VFG	HF
100	11948.0-49.0	<0.01	<0.01	1.59	14.6	5.8	14.5	2.66	SS, GY VFG	
101	11949.0-50.0	26.	5.71	0.13	9.3	8.5	14.9	2.66	SS, GY F-MG	
102	11950.0-51.0	1.86	0.93	0.13	8.7	12.2	12.2	2.66	SS, GY F-MG	
103	11951.0-52.0	46.	5.37	3.42	12.0	13.0	19.5	2.66	SS, GY F-MG	
104	11952.0-53.0	9.73	6.56	1.00	11.2	7.2	28.7	2.66	SS, GY F-MG	
105	11953.0-54.0	0.10	*	0.09	7.0	7.7	11.5	2.64	SS, GY F-MG	
106	11954.0-55.0	2.98	1.49	0.63	8.9	9.4	11.7	2.67	SS, GY F-MG	
107	11955.0-56.0	1.18	0.82	0.17	7.1	10.2	10.2	2.66	SS, GY F-MG	
108	11956.0-57.0	0.15	0.06	0.04	5.8	10.4	7.8	2.66	SS, GY F-MG	VF
	11957.0-58.0								LOST CORE	
109	11958.0-59.0	0.06	0.04	0.03	4.4	8.6	25.7	2.67	SS, GY F-MG	
110	11959.0-60.0	0.41	0.04	0.06	4.3	5.1	41.2	2.67	SS, GY F-MG	VF
111	11960.0-61.0	5.61	4.79	1.22	10.2	1.7	11.8	2.66	SS, GY FG	
112	11961.0-62.0	2.95	2.77	0.10	10.7	6.3	29.8	2.66	SS, GY F-MG	
113	11962.0-63.0	2.80	1.87	0.17	8.7	7.0	15.8	2.66	SS, GY F-MG	
114	11963.0-64.0	13.	0.11	0.02	7.0	9.5	11.9	2.66	SS, GY F-MG	
115	11964.0-65.0	0.70	0.45	0.07	7.6	9.5	16.7	2.66	SS, GY F-MG	

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Petroleum Reservoir Engineering
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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
116	11965.0-66.0	0.35	0.20	0.03	7.4	9.2	15.4	2.67	SS, GY F-MG
117	11966.0-67.0	0.23	0.17	0.03	6.7	7.0	9.3	2.66	SS, GY F-MG
118	11967.0-68.0	0.17	0.11	0.03	7.0	6.6	15.3	2.66	SS, GY FG
119	11968.0-69.0	0.02	*	0.06	6.7	5.0	11.6	2.64	SS, GY FG
120	11969.0-70.0	0.27	0.13	0.04	8.8	10.8	16.2	2.66	SS, GY VF-FG
121	11970.0-71.0	0.59	*	0.86	11.7	4.8	34.6	2.65	SS, GY F-MG
122	11971.0-72.0	36.	34.	<0.01	11.1	8.8	38.1	2.66	SS, GY F-MG
123	11972.0-73.0	0.08	0.06	<0.01	7.7	10.8	18.9	2.65	SS, GY FG
124	11973.0-74.0	0.11	0.04	<0.01	8.0	7.4	16.7	2.65	SS, GY FG
125	11974.0-75.0	0.17	0.09	<0.01	8.1	12.2	12.2	2.65	SS, GY FG
126	11975.0-76.0	0.16	0.08	<0.01	9.1	11.4	11.4	2.65	SS, GY FG
127	11976.0-77.0	0.17	0.13	<0.01	9.2	11.2	9.6	2.66	SS, GY FG
128	11977.0-78.0	0.19	0.13	<0.01	8.9	8.5	10.0	2.65	SS, GY FG
129	11978.0-79.0	0.55	0.25	<0.01	9.6	9.5	27.0	2.64	SS, GY FG
130	11979.0-80.0	0.11	0.07	<0.01	8.4	13.5	23.2	2.65	SS, GY FG
131	11980.0-81.0	0.85	0.57	<0.01	8.7	10.2	11.9	2.66	SS, GY FG
132	11981.0-82.0	0.24	0.19	0.01	13.9	12.4	14.4	2.65	SS, GY FG
133	11982.0-83.0	0.63	0.55	0.03	10.7	7.1	10.6	2.68	SS, GY FG
134	11983.0-84.0	0.97	0.48	0.05	10.4	5.9	17.6	2.65	SS, GY FG
135	11984.0-85.0	0.25	0.17	0.01	8.5	13.8	11.5	2.65	SS, GY FG
136	11985.0-86.0	0.14	0.10	<0.01	9.0	8.6	10.8	2.65	SS, GY FG
137	11986.0-87.0	0.11	0.08	<0.01	6.9	8.7	11.5	2.66	SS, GY FG
138	11987.0-88.0	0.15	0.13	<0.01	8.0	11.5	8.6	2.65	SS, GY FG
139	11988.0-89.0	0.34	0.26	<0.01	7.7	9.7	12.2	2.66	SS, GY FG
140	11989.0-90.0	0.76	0.48	0.03	8.9	0.0	9.0	2.65	SS, GY FG
141	11990.0-91.0	0.25	0.13	<0.01	8.4	9.6	16.0	2.66	SS, GY FG
142	11991.0-92.0	0.08	*	0.06	9.3	8.0	12.1	2.63	SS, GY FG
143	11992.0-93.0	0.61	0.52	0.01	9.9	11.8	17.7	2.68	SS, GY FG
144	11993.0-94.0	0.48	0.44	0.02	10.0	11.1	19.4	2.69	SS, GY FG
145	11994.0-95.0	0.46	0.37	0.04	10.6	7.3	10.9	2.65	SS, GY FG

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
116	11965.0-66.0	0.35	0.20	0.03	7.4	9.2	15.4	2.67	SS, GY F-MG
117	11966.0-67.0	0.23	0.17	0.03	6.7	7.0	9.3	2.66	SS, GY F-MG
118	11967.0-68.0	0.17	0.11	0.03	7.0	6.6	15.3	2.66	SS, GY FG
119	11968.0-69.0	0.02	*	0.06	6.7	5.0	11.6	2.64	SS, GY FG
120	11969.0-70.0	0.27	0.13	0.04	8.8	10.8	16.2	2.66	SS, GY VF-FG
121	11970.0-71.0	0.59	*	0.86	11.7	4.8	34.6	2.65	SS, GY F-MG
122	11971.0-72.0	36.	34.	<0.01	11.1	8.8	38.1	2.66	SS, GY F-MG
123	11972.0-73.0	0.08	0.06	<0.01	7.7	10.8	18.9	2.65	SS, GY FG
124	11973.0-74.0	0.11	0.04	<0.01	8.0	7.4	16.7	2.65	SS, GY FG
125	11974.0-75.0	0.17	0.09	<0.01	8.1	12.2	12.2	2.65	SS, GY FG
126	11975.0-76.0	0.16	0.08	<0.01	9.1	11.4	11.4	2.65	SS, GY FG
127	11976.0-77.0	0.17	0.13	<0.01	9.2	11.2	9.6	2.66	SS, GY FG
128	11977.0-78.0	0.19	0.13	<0.01	8.9	8.5	10.0	2.65	SS, GY FG
129	11978.0-79.0	0.55	0.25	<0.01	9.6	9.5	27.0	2.64	SS, GY FG
130	11979.0-80.0	0.11	0.07	<0.01	8.4	13.5	23.2	2.65	SS, GY FG
131	11980.0-81.0	0.85	0.57	<0.01	8.7	10.2	11.9	2.66	SS, GY FG
132	11981.0-82.0	0.24	0.19	0.01	13.9	12.4	14.4	2.65	SS, GY FG
133	11982.0-83.0	0.63	0.55	0.03	10.7	7.1	10.6	2.68	SS, GY FG
134	11983.0-84.0	0.97	0.48	0.05	10.4	5.9	17.6	2.65	SS, GY FG
135	11984.0-85.0	0.25	0.17	0.01	8.5	13.8	11.5	2.65	SS, GY FG
136	11985.0-86.0	0.14	0.10	<0.01	9.0	8.6	10.8	2.65	SS, GY FG
137	11986.0-87.0	0.11	0.08	<0.01	6.9	8.7	11.5	2.66	SS, GY FG
138	11987.0-88.0	0.15	0.13	<0.01	8.0	11.5	8.6	2.65	SS, GY FG
139	11988.0-89.0	0.34	0.26	<0.01	7.7	9.7	12.2	2.66	SS, GY FG
140	11989.0-90.0	0.76	0.48	0.03	8.9	0.0	9.0	2.65	SS, GY FG
141	11990.0-91.0	0.25	0.13	<0.01	8.4	9.6	16.0	2.66	SS, GY FG
142	11991.0-92.0	0.08	*	0.06	9.3	8.0	12.1	2.63	SS, GY FG
143	11992.0-93.0	0.61	0.52	0.01	9.9	11.8	17.7	2.68	SS, GY FG
144	11993.0-94.0	0.48	0.44	0.02	10.0	11.1	19.4	2.69	SS, GY FG
145	11994.0-95.0	0.46	0.37	0.04	10.6	7.3	10.9	2.65	SS, GY FG

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146	11995.0-96.0	0.67	*	0.11	8.9	10.6	3.5	2.64	SS, GY FG	
147	11996.0-97.0	0.44	0.38	<0.01	8.6	0.0	4.1	2.65	SS, GY FG	
148	11997.0-98.0	1.10	0.96	0.11	10.6	0.0	7.1	2.65	SS, GY FG	
149	11998.0-99.0	1.34	1.12	0.12	11.5	7.1	26.8	2.68	SS, GY FG	
150	11999.0-00.0	0.58	0.50	0.07	11.2	6.9	17.3	2.67	SS, GY FG	
151	12000.0-01.0	0.45	0.41	0.03	9.7	6.3	8.4	2.65	SS, GY FG	
152	12001.0-02.0	0.70	0.53	0.07	11.0	6.8	17.1	2.68	SS, GY FG	
153	12002.0-03.0	1.17	0.94	0.15	11.9	5.5	19.2	2.68	SS, GY FG	
154	12003.0-04.0	0.79	0.64	0.11	10.6	6.7	28.3	2.65	SS, GY FG	
155	12004.0-05.0	1.01	0.89	0.12	11.5	6.1	22.9	2.68	SS, GY FG	
156	12005.0-06.0	1.29	1.15	0.13	10.8	6.5	21.0	2.65	SS, GY FG	
157	12006.0-07.0	1.23	0.97	0.13	11.5	4.6	13.8	2.69	SS, GY FG	
158	12007.0-08.0	1.21	1.10	0.11	10.4	7.4	9.2	2.65	SS, GY FG	
159	12008.0-09.0	1.02	1.02	0.14	11.7	6.4	17.5	2.68	SS, GY FG	
160	12009.0-10.0	2.25	2.21	0.33	12.0	6.4	14.4	2.67	SS, GY FG	
161	12010.0-11.0	0.29	0.18	0.20	9.7	7.6	12.2	2.65	SS, GY FG	
162	12011.0-12.0	0.52	0.32	0.15	10.3	5.2	19.2	2.65	SS, GY FG	VF
163	12012.0-13.0	0.36	0.17	0.14	10.2	10.7	23.2	2.65	SS, GY FG	
164	12013.0-14.0	0.59	*	0.44	10.1	5.8	13.1	2.63	SS, GY FG	
165	12014.0-15.0	0.28	0.13	0.08	9.7	10.2	20.3	2.65	SS, GY FG	VF
166	12015.0-16.0	0.11	0.06	0.01	5.8	8.1	8.1	2.67	SS, GY F-MG	
	12016.0-17.0								LOST CORE	
167	12017.0-18.0	0.69	<0.01	<0.01	7.1	8.1	12.2	2.65	SS, GY FG	V&HF
168	12018.0-19.0	<0.01	*	<0.01	7.4	10.8	16.2	2.65	SS, GY FG	
169	12019.0-20.0	0.03	0.03	<0.01	6.8	8.6	12.9	2.65	SS, GY FG	
170	12020.0-21.0	3.64	0.05	0.41	7.8	14.1	24.6	2.65	SS, GY FG	VF
171	12021.0-22.0	0.14	0.05	0.10	7.5	8.6	15.1	2.65	SS, GY FG	VF
172	12022.0-23.0	0.11	0.09	0.04	8.3	8.5	17.1	2.64	SS, GY FG	
173	12023.0-24.0	0.18	0.15	0.03	8.5	8.8	15.4	2.65	SS, GY FG	
174	12024.0-25.0	0.16	0.10	0.03	7.9	8.9	15.6	2.65	SS, GY FG	

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
175	12025.0-26.0	0.30	0.13	0.03	8.2	5.8	11.5	2.65	SS, GY FG
176	12026.0-27.0	0.19	0.18	0.03	7.0	7.8	18.1	2.66	SS, GY F-MG
177	12027.0-28.0	0.03	0.02	<0.01	5.2	10.4	13.8	2.66	SS, GY FG
178	12028.0-29.0	0.03	0.02	<0.01	6.5	10.0	15.0	2.66	SS, GY FG
179	12029.0-30.0	0.03	0.02	<0.01	7.3	9.0	20.3	2.67	SS, GY FG
180	12030.0-31.0	0.03	0.01	<0.01	8.3	9.4	16.4	2.69	SS, GY FG SL/DOL
181	12031.0-32.0	0.03	0.02	<0.01	8.6	13.8	13.8	2.68	SS, BRN F-MG SL/DOL
182	12032.0-33.0	209.	19.	39.	8.2	9.2	16.1	2.65	SS, BRN F-MG VF
183	12033.0-34.0	0.06	0.05	<0.01	9.0	6.5	6.5	2.68	SS, BRN F-MG SL/DOL
184	12034.0-35.0	0.06	0.05	<0.01	9.0	8.6	10.8	2.68	SS, BRN F-MG SL/DOL
185	12035.0-36.0	1379.	0.02	0.03	5.9	8.6	10.7	2.65	SS, BRN F-MG VF
186	12036.0-37.0	0.07	0.04	<0.01	7.9	7.0	16.3	2.66	SS, BRN F-MG VF
187	12037.0-38.0	0.13	0.11	0.01	10.5	6.6	24.6	2.69	SS, BRN F-MG SL/DOL
188	12038.0-39.0	0.12	0.07	0.10	10.7	5.5	27.4	2.68	SS, BRN F-MG SL/DOL
189	12039.0-40.0	0.20	0.12	0.09	11.2	6.2	10.3	2.68	SS, BRN F-MG SL/DOL
190	12040.0-41.0	<0.01	<0.01	<0.01	8.8	8.3	14.6	2.68	SS, BRN F-MG SL/DOL
191	12041.0-42.0	0.06	0.04	<0.01	9.2	5.7	11.4	2.66	SS, GY MG
192	12042.0-43.0	0.13	0.11	0.03	10.1	5.8	9.6	2.66	SS, GY MG
193	12043.0-44.0	0.16	0.15	0.10	10.5	6.3	14.1	2.67	SS, GY MG
194	12044.0-45.0	0.17	0.09	0.05	9.2	2.2	8.9	2.65	SS, GY MG
195	12045.0-46.0	0.10	0.08	0.08	8.8	11.3	19.8	2.65	SS, GY MG
196	12046.0-47.0	5.42	2.56	0.04	10.2	5.6	19.6	2.66	SS, GY C-MG
197	12047.0-48.0	2.54	2.54	0.02	10.0	5.3	26.6	2.70	SS, GY C-MG SL/DOL
198	12048.0-49.0	21.	18.	0.10	10.0	5.0	25.0	2.66	SS, GY C-MG
199	12049.0-50.0	0.10	0.09	0.06	8.2	4.4	17.6	2.66	SS, GY MG
200	12050.0-51.0	0.05	0.05	<0.01	7.9	8.7	13.0	2.65	SS, GY MG
201	12051.0-52.0	0.06	0.04	0.03	6.8	7.7	10.3	2.66	SS, GY F-MG
202	12052.0-53.0	0.05	0.04	0.02	6.1	8.7	14.6	2.64	SS, GY F-MG
203	12053.0-54.0	0.07	0.06	0.02	6.6	7.5	5.0	2.68	SS, GY F-MG
204	12054.0-55.0	0.03	0.02	<0.01	6.8	10.6	3.5	2.68	SS, GY F-MG

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Petroleum Reservoir Engineering
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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
205	12055.0-56.0	0.03	0.02	<0.01	4.2	12.0	9.0	2.64	SS, GY F-MG	
206	12056.0-57.0	0.03	0.02	<0.01	7.4	10.7	18.8	2.68	SS, GY F-MG	
207	12057.0-58.0	5.17	3.45	0.09	10.2	10.0	17.4	2.68	SS, GY F-MG	HF
208	12058.0-59.0	1.01	*	0.58	11.3	7.9	13.8	2.66	SS, GY F-MG	
209	12059.0-60.0	0.06	0.05	<0.01	9.0	7.2	16.3	2.65	SS, GY F-MG	
210	12060.0-61.0	0.09	0.04	<0.01	9.0	7.9	21.8	2.66	SS, GY F-MG	
211	12061.0-62.0	0.06	0.05	<0.01	7.3	9.3	15.5	2.66	SS, GY F-MG	
212	12062.0-63.0	0.01	<0.01	<0.01	3.9	0.0	17.2	2.70	SS, GY FG	
213	12063.0-64.0	8.35	0.02	<0.01	3.4	0.0	45.6	2.69	SS, GY FG	HF
214	12064.0-65.0	0.02	0.01	<0.01	4.7	4.5	4.5	2.65	SS, GY FG	
215	12065.0-66.0	0.03	0.01	0.07	3.0	0.0	21.5	2.66	SS, GY FG	
216	12066.0-67.0	664.	0.02	84.	5.5	0.0	11.4	3.45	SS, GY FG PYR SID	VF
217	12067.0-68.0	<0.01	<0.01	<0.01	1.6	0.0	1.9	3.06	SS, GY FG PYR SID	VF
218	12068.0-69.0	0.01	<0.01	<0.01	3.6	0.0	12.7	2.69	SS, GY FG	
219	12069.0-70.0	0.02	0.01	<0.01	5.8	4.2	16.7	2.68	SS, GY FG	
220	12070.0-71.0	0.09	0.05	<0.01	4.0	4.0	16.0	2.66	SS, GY FG	
221	12071.0-72.0	0.02	0.02	<0.01	7.3	7.8	10.5	2.66	SS, GY FG	
222	12072.0-73.0	0.02	0.02	<0.01	7.9	3.1	12.5	2.66	SS, GY FG	
223	12073.0-74.0	14.	0.01	<0.01	5.6	4.1	28.5	2.66	SS, GY FG	HF
	12074.0-77.0								LOST CORE	
224	12077.0-78.0	1.20	0.02	<0.01	6.3	0.0	3.6	2.66	SS, GY FG	HF
225	12078.0-79.0	1961.	6.62	2814.	6.1	9.2	15.4	2.66	SS, GY F-MG	VF
226	12079.0-80.0	0.01	<0.01	<0.01	5.6	7.7	15.5	2.90	SS, GY F-MG	
227	12080.0-81.0	0.02	0.01	<0.01	6.1	8.2	19.2	2.66	SS, GY F-MG	
228	12081.0-82.0	0.02	0.01	<0.01	6.9	6.8	18.2	2.66	SS, GY F-MG	
229	12082.0-83.0	0.03	0.01	<0.01	7.8	8.3	10.4	2.67	SS, GY F-MG	VF
230	12083.0-84.0	0.03	0.02	<0.01	7.6	0.0	27.8	2.66	SS, GY F-MG	
231	12084.0-85.0	0.12	0.02	<0.01	4.6	9.0	18.0	2.67	SS, GY FG	VF
232	12085.0-86.0	0.06	0.06	<0.01	12.8	8.8	13.2	2.65	SS, GY FG	
233	12086.0-87.0	0.10	0.09	3075.	13.0	5.3	14.5	2.65	SS, GY F-MG	VF

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Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
234	12087.0-88.0	0.16	0.12	0.95	12.9	4.2	12.6	2.65	SS, GY F-MG VF
235	12088.0-89.0	0.20	0.17	1.38	14.1	6.1	16.7	2.65	SS, GY F-MG VF
236	12089.0-90.0	0.16	0.14	0.08	13.8	6.1	16.7	2.66	SS, GY F-MG VF
	12090.0-93.0								TOO BROKEN FOR ANALYSIS
	12093.0-98.0								LOST CORE
237	12098.0-99.0	0.09	0.09	0.04	13.7	6.7	22.3	2.66	SS, GY F-MG
238	12099.0-00.0	0.11	0.09	0.05	14.2	6.7	31.4	2.66	SS, GY F-MG
239	12100.0-01.0	0.30	0.16	0.07	13.9	6.6	29.7	2.65	SS, GY FG VF
240	12101.0-02.0	0.22	0.21	0.13	15.1	5.8	26.2	2.66	SS, GY FG
241	12102.0-03.0	0.36	0.36	0.20	15.6	5.5	24.0	2.65	SS, GY FG V&HF
242	12103.0-04.0	0.47	0.36	0.18	15.7	6.4	28.5	2.66	SS, GY FG HF
243	12104.0-05.0	0.55	0.52	0.23	16.3	5.9	25.6	2.66	SS, GY F-MG
244	12105.0-06.0	30.	4.62	0.21	16.4	6.5	22.2	2.65	SS, GY F-MG HF
245	12106.0-07.0	9.38	2.81	0.41	17.1	7.1	27.2	2.65	SS, GY F-MG HF
246	12107.0-08.0	8.74	8.50	0.40	17.0	5.9	28.3	2.65	SS, GY F-MG HF
247	12108.0-09.0	10.	6.80	0.12	16.6	5.9	25.6	2.65	SS, GY FG HF
248	12109.0-10.0	8.96	8.21	0.32	16.9	5.3	28.2	2.65	SS, GY F-MG HF
249	12110.0-11.0	19.	12.	0.55	17.4	5.6	30.8	2.65	SS, GY F-MG HF
250	12111.0-12.0	13.	12.	0.61	15.3	5.7	31.6	2.58	SS, GY F-MG
251	12112.0-13.0	14.	14.	6.60	19.1	4.0	32.6	2.70	SS, GY F-MG HF
252	12113.0-14.0	4.93	3.94	1.62	16.3	5.7	29.3	2.66	SS, GY F-MG HF
253	12114.0-15.0	11.	11.	13.	17.6	4.0	29.9	2.66	SS, GY F-MG HF
254	12115.0-16.0	42.	29.	14.	16.8	4.0	31.4	2.66	SS, GY F-MG
255	12116.0-17.0	35.	33.	1.14	13.1	7.7	31.9	2.65	SS, GY F-MG
256	12117.0-18.0	1.57	1.51	0.04	17.7	5.8	24.8	2.90	SS, GY F-MG
257	12118.0-19.0	14.	6.76	0.04	11.4	4.2	26.3	2.69	SS, GY F-MG
258	12119.0-20.0	53.	25.	0.87	13.3	4.1	23.8	2.65	SS, GY F-MG HF
259	12120.0-21.0	62.	34.	1.17	9.8	4.5	23.7	2.54	SS, GY F-MG HF
260	12121.0-22.0	25.	21.	0.68	11.2	3.5	24.6	2.66	SS, GY F-MG
261	12122.0-23.0	148.	102.	1.27	13.9	4.0	26.2	2.66	SS, GY F-MG HF

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Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
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DATE : 24-MAY-81
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ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
262	12123.0-24.0	268.	172.	2.76	15.2	3.3	26.1	2.66	SS, GY F-MG	HF
263	12124.0-25.0	15.	*	0.67	9.0	12.0	17.1	2.64	SS, GY F-MG	
264	12125.0-26.0	102.	56.	1.18	11.5	9.4	18.8	2.65	SS, GY M-CG	HF
265	12126.0-27.0	1.50	1.04	0.02	10.0	11.3	19.4	2.66	SS, GY F-MG	
266	12127.0-28.0	42.	1.19	0.02	11.5	10.8	18.5	2.66	SS, GY F-MG	HF
267	12128.0-29.0	0.75	*	0.27	13.5	12.3	71.9	2.66	SS, GY F-MG	
268	12129.0-30.0	0.68	0.45	0.04	13.6	5.8	25.9	2.66	SS, GY F-MG	
269	12130.0-31.0	1.71	1.47	0.10	15.5	6.1	31.7	2.65	SS, GY FG	
270	12131.0-32.0	5.86	5.13	0.17	12.6	6.8	35.1	2.52	SS, GY FG	
271	12132.0-33.0	11.	8.61	3.29	17.3	5.8	27.8	2.65	SS, GY F-MG	
272	12133.0-34.0	3.27	3.27	1.40	16.3	3.6	32.7	2.65	SS, GY F-MG	
273	12134.0-35.0	6.55	5.54	1.29	16.5	3.7	42.1	2.65	SS, GY F-MG	
274	12135.0-36.0	15.	*	2.70	16.9	6.7	41.2	2.64	SS, GY F-MG	
275	12136.0-37.0	9.53	8.20	1.20	15.7	6.4	34.3	2.64	SS, GY F-MG	
276	12137.0-38.0	1.74	1.49	0.02	10.6	7.0	36.9	2.66	SS, GY F-MG	
277	12138.0-39.0	5.21	4.59	2.96	17.1	8.4	22.3	2.65	SS, GY F-MG	
278	12139.0-40.0	22.	*	10.	16.6	6.5	25.8	2.63	SS, GY F-MG	
279	12140.0-41.0	12.	*	0.77	13.2	8.5	31.2	2.63	SS, GY F-MG	
280	12141.0-42.0	101.	5.02	1.17	16.6	7.1	38.5	2.68	SS, GY F-MG	HF
281	12142.0-43.0	11.	8.67	2.20	17.2	6.4	48.9	2.65	SS, GY FG	
282	12143.0-44.0	22.	17.	2.83	16.1	6.5	37.1	2.65	SS, GY FG	
283	12144.0-45.0	25.	*	0.73	15.2	8.3	37.2	2.63	SS, GY FG	
284	12145.0-46.0	11.	1.67	0.10	13.8	5.4	39.0	2.65	SS, GY FG	
285	12146.0-47.0	2.36	2.12	0.09	13.5	6.0	33.0	2.65	SS, GY FG	
286	12147.0-48.0	1.90	1.63	0.04	12.5	7.6	33.0	2.65	SS, GY FG	
287	12148.0-49.0	1.43	0.54	0.05	14.8	8.4	42.0	2.66	SS, GY FG	
288	12149.0-50.0	1.73	*	0.32	13.4	7.2	31.3	2.64	SS, GY FG	
289	12150.0-51.0	6.57	5.39	0.60	15.2	7.8	44.0	2.65	SS, GY FG	VF
290	12151.0-52.0	1.49	*	0.04	9.4	9.6	24.0	2.64	SS, GY FG	
291	12152.0-53.0	1.22	*	0.24	9.2	5.5	27.3	2.64	SS, GY FG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
292	12153.0-54.0	105.	2.77	2.55	13.6	7.7	36.1	2.65	SS, GY FG VF
293	12154.0-55.0	6.41	*	1.49	11.8	7.5	30.1	2.63	SS, GY FG
294	12155.0-56.0	4.88	4.36	0.10	13.3	7.6	33.0	2.65	SS, GY FG
295	12156.0-57.0	8.90	3.01	0.05	12.7	6.6	38.7	2.65	SS, GY FG VF
	12157.0-59.0								LOST CORE
296	12159.0-60.0	51.	*	5.37	15.2	5.2	43.0	2.63	SS, GY FG
297	12160.0-61.0	10.	9.13	4.09	14.8	4.7	34.3	2.64	SS, GY FG VF
298	12161.0-62.0	8.24	*	5.83	13.8	4.8	41.7	2.63	SS, GY FG
299	12162.0-63.0	7.80	*	4.53	15.6	6.8	38.5	2.63	SS, GY FG
300	12163.0-64.0	11.	*	0.74	14.1	4.3	49.7	2.63	SS, GY FG
301	12164.0-65.0	7.50	*	0.59	14.6	4.7	31.7	2.64	SS, GY VF-FG
302	12165.0-66.0	6.58	*	3.67	14.9	7.2	32.6	2.64	SS, GY VF-FG
303	12166.0-67.0	31.	29.	4.77	15.4	5.0	35.1	2.65	SS, GY VF-FG VF
304	12167.0-68.0	182.	10.	3.35	15.2	7.7	26.9	2.65	SS, GY VF-FG VF
305	12168.0-69.0	1.99	1.00	0.42	11.8	39.0	31.4	2.65	SS, GY VF-FG
306	12169.0-70.0	11.	7.81	3.38	13.7	6.4	38.3	2.65	SS, GY VF-FG V&HF
307	12170.0-71.0	32.	12.	12.	15.7	7.6	33.1	2.65	SS, GY VF-FG VF
308	12171.0-72.0	131.	*	5.50	17.0	6.0	36.0	2.63	SS, GY VF-FG
309	12172.0-73.0	20.	1.74	2.53	14.1	6.4	39.6	2.65	SS, GY F-MG
310	12173.0-74.0	68.	9.83	104.	16.8	4.6	28.7	2.65	SS, GY F-MG VF
311	12174.0-75.0	24.	17.	9.29	14.8	7.0	31.7	2.64	SS, GY F-MG
312	12175.0-76.0	24.	2.88	41.	14.2	4.3	30.0	2.65	SS, GY F-MG VF
313	12176.0-77.0	65.	4.59	52.	16.2	5.5	25.5	2.65	SS, GY F-MG VF
314	12177.0-78.0	86.	36.	41.	16.9	5.5	26.5	2.66	SS, GY F-MG
315	12178.0-79.0	91.	87.	78.	17.5	4.3	27.0	2.65	SS, GY F-MG HF
316	12179.0-80.0	79.	63.	20.	15.0	3.9	27.3	2.67	SS, GY F-MG
317	12180.0-81.0	99.	35.	11.	15.4	4.3	30.1	2.66	SS, GY F-MG
318	12181.0-82.0	82.	2.42	15.	14.2	4.7	26.4	2.65	SS, GY F-MG VF
319	12182.0-83.0	6.37	1.22	2.14	10.4	6.4	32.9	2.66	SS, GY F-MG
320	12183.0-84.0	83.	33.	7.74	15.1	11.0	27.5	2.67	SS, GY F-MG

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
321	12184.0-85.0	154.	137.	200.	16.3	7.2	12.6	2.64	SS, GY F-MG	HF
322	12185.0-86.0	11.	*	11.	9.9	6.9	15.6	2.64	SS, GY F-MG	
323	12186.0-87.0	1.01	0.95	0.52	8.9	7.4	14.7	2.66	SS, GY F-MG	
324	12187.0-88.0	7.39	5.66	4.52	14.5	9.5	20.6	2.65	SS, GY F-MG	
325	12188.0-89.0	0.53	0.53	0.47	10.8	7.7	24.9	2.66	SS, GY F-MG	
326	12189.0-90.0	0.60	0.54	0.25	12.1	6.0	18.1	2.66	SS, GY F-MG	VF
327	12190.0-91.0	2.14	*	2.07	12.7	5.8	21.8	2.65	SS, GY F-MG	VF
328	12191.0-92.0	1.08	*	0.36	12.8	5.2	16.9	2.63	SS, GY F-MG	VF
329	12192.0-93.0	1.38	*	0.24	13.0	7.7	17.4	2.63	SS, GY F-MG	VF
330	12193.0-94.0	1.53	1.27	2.31	12.4	5.4	32.6	2.65	SS, GY F-MG	VF
331	12194.0-95.0	1.22	0.61	1.28	10.1	3.8	26.5	2.65	SS, GY F-MG	VF
332	12195.0-96.0	6.01	5.01	2.74	14.2	3.6	22.9	2.65	SS, GY F-MG	
333	12196.0-97.0	6.61	5.88	5.25	14.4	3.0	18.2	2.65	SS, GY F-MG	
334	12197.0-98.0	7.50	*	4.54	13.5	4.8	20.6	2.63	SS, GY F-MG	
335	12198.0-99.0	4.73	4.48	3.10	14.3	5.4	32.2	2.65	SS, GY F-MG	
336	12199.0-00.0	7.42	6.40	2.68	14.2	4.5	29.5	2.65	SS, GY F-MG	
337	12200.0-01.0	7.02	5.72	5.93	13.8	4.8	31.5	2.65	SS, GY F-MG	
338	12201.0-02.0	9.36	8.62	5.57	13.9	6.4	12.7	2.65	SS, GY F-MG	
339	12202.0-03.0	3.27	1.76	1.36	12.5	4.8	25.4	2.66	SS, GY F-MG	
340	12203.0-04.0	11.	11.	5.78	14.7	6.1	19.8	2.65	SS, GY F-MG	
341	12204.0-05.0	7.27	5.45	5.61	14.4	5.3	25.2	2.65	SS, GY F-MG	
342	12205.0-06.0	2.77	2.52	0.68	13.0	5.2	15.6	2.65	SS, GY F-MG	
343	12206.0-07.0	3.53	3.28	1.36	13.8	6.6	21.5	2.66	SS, GY F-MG	
344	12207.0-08.0	1.52	0.51	1.40	10.8	4.2	22.2	2.66	SS, GY F-MG	
345	12208.0-09.0	3.61	1.04	2.00	11.5	3.6	20.4	2.65	SS, GY F-MG	VF
346	12209.0-10.0	23.	19.	4.40	14.7	10.3	24.9	2.66	SS, GY F-MG	
347	12210.0-11.0	0.69	0.56	0.16	5.8	10.6	10.6	2.66	SS, GY F-MG	
348	12211.0-12.0	0.24	0.18	0.06	11.7	5.7	19.8	2.66	SS, GY F-MG	
349	12212.0-13.0	0.37	0.37	0.06	11.2	5.6	26.4	2.66	SS, GY F-MG	
350	12213.0-14.0	28.	4.68	0.89	14.1	5.9	24.9	2.66	SS, GY F-MG	

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Petroleum Reservoir Engineering

DALLAS, TEXAS

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
351	12214.0-15.0	0.36	0.33	0.21	13.1	5.3	18.4	2.66	SS, GY F-MG	
352	12215.0-16.0	1.17	0.54	1.83	13.0	5.8	30.6	2.65	SS, GY F-MG	VF
353	12216.0-17.0	6.31	2.78	2603.	13.9	4.8	30.2	2.66	SS, GY F-MG	VF
354	12217.0-18.0	4.28	3.78	1.70	14.1	5.0	37.2	2.66	SS, GY F-MG	VF
355	12218.0-19.0	11.	*	3.37	13.7	5.8	27.7	2.63	SS, GY F-MG	
	12219.0-21.0								TOO BROKEN FOR ANALYSIS	
356	12221.0-22.0	9.27	*	0.34	10.6	5.7	17.0	2.64	SS, GY F-MG	
	12222.0-25.0								TOO BROKEN FOR ANALYSIS	
357	12225.0-26.0	1.79	0.77	0.32	8.3	8.5	25.4	2.65	SS, GY F-MG	
	12226.0-27.0								TOO BROKEN FOR ANALYSIS	
358	12227.0-28.0	0.64	0.57	0.44	13.1	7.3	27.4	2.66	SS, GY F-MG	
359	12228.0-29.0	0.53	0.21	0.54	11.7	5.5	31.5	2.65	SS, GY F-MG	
360	12229.0-30.0	0.84	0.61	0.25	13.3	5.7	31.2	2.68	SS, GY F-MG	
361	12230.0-31.0	0.88	0.74	0.73	12.8	4.1	30.1	2.66	SS, GY F-MG	
362	12231.0-32.0	0.63	0.32	0.42	14.0	3.8	30.7	2.68	SS, GY F-MG	
363	12232.0-33.0	0.79	0.41	0.17	13.3	9.4	28.3	2.69	SS, GY F-MG	
364	12233.0-34.0	2.72	1.98	0.37	12.1	4.5	38.0	2.65	SS, GY F-MG	
365	12234.0-35.0	2.89	1.21	0.25	13.9	4.7	38.7	2.68	SS, GY F-MG	
366	12235.0-36.0	3.93	2.21	0.71	14.4	4.1	32.4	2.65	SS, GY F-MG	
367	12236.0-37.0	10.	6.63	2.08	14.5	5.0	27.4	2.65	SS, GY F-MG	HF
368	12237.0-38.0	0.57	0.54	0.08	10.6	9.1	33.2	2.68	SS, GY F-MG	
369	12238.0-39.0	3.77	1.26	0.18	10.8	4.3	27.5	2.65	SS, GY F-MG	
370	12239.0-40.0	1.20	0.72	0.10	10.7	7.9	25.8	2.68	SS, GY F-MG	
371	12240.0-41.0	0.38	0.26	0.10	9.1	9.3	23.2	2.65	SS, GY FG	
372	12241.0-42.0	0.58	0.58	0.13	9.9	8.7	23.8	2.68	SS, GY FG	
373	12242.0-43.0	0.17	0.14	0.08	9.0	11.9	17.9	2.68	SS, GY FG	
374	12243.0-44.0	0.09	0.09	0.03	7.8	14.1	21.1	2.67	SS, GY FG	
375	12244.0-45.0	0.14	0.11	<0.01	8.0	8.8	15.5	2.70	SS, GY F-MG	
376	12245.0-46.0	0.32	0.26	<0.01	9.2	14.5	19.4	2.68	SS, GY F-MG	
377	12246.0-47.0	0.06	0.03	<0.01	7.1	8.3	18.6	2.67	SS, GY F-MG	

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Petroleum Reservoir Engineering
DALLAS, TEXAS

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16-20U ANSCHUTZ RANCH E.

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ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
378	12247.0-48.0	0.06	0.02	<0.01	7.6	7.4	12.3	2.66	SS, GY FG	
379	12248.0-49.0	0.04	0.02	<0.01	9.0	9.1	25.0	2.66	SS, GY FG	
380	12249.0-50.0	0.12	0.12	0.13	9.5	12.4	14.1	2.66	SS, GY F-MG	
381	12250.0-51.0	0.15	0.12	<0.01	9.0	7.2	16.2	2.66	SS, GY FG	
382	12251.0-52.0	0.22	0.19	0.18	10.5	9.4	17.2	2.67	SS, GY FG	
383	12252.0-53.0	0.02	0.02	<0.01	8.6	10.9	18.6	2.67	SS, GY FG	
384	12253.0-54.0	0.02	0.02	<0.01	11.6	8.4	21.0	2.66	SS, GY FG	
385	12254.0-55.0	0.07	0.04	<0.01	10.2	10.2	18.7	2.66	SS, GY FG	
386	12255.0-56.0	0.06	0.06	<0.01	10.8	9.8	19.7	2.66	SS, GY FG	
387	12256.0-57.0	0.31	0.23	<0.01	11.2	10.3	17.6	2.66	SS, GY F-MG	
388	12257.0-58.0	0.15	0.10	<0.01	11.2	9.1	18.2	2.66	SS, GY F-MG	
389	12258.0-59.0	0.48	0.44	0.21	13.5	9.3	21.3	2.66	SS, GY F-MG	
390	12259.0-60.0	0.81	0.75	0.62	13.6	8.3	24.8	2.64	SS, GY F-MG	
391	12260.0-61.0	1.67	1.59	0.44	13.5	5.0	29.9	2.67	SS, GY F-MG	
392	12261.0-62.0	1.09	0.90	0.40	12.5	4.8	35.1	2.66	SS, GY F-MG	
393	12262.0-63.0	0.71	0.34	0.09	10.4	11.0	18.3	2.66	SS, GY F-MG	
394	12263.0-64.0	0.14	0.10	0.08	7.0	6.4	8.0	2.67	SS, GY F-MG	
395	12264.0-65.0	0.77	0.63	0.22	11.0	5.9	26.4	2.66	SS, GY F-MG	
396	12265.0-66.0	0.30	0.27	0.09	13.9	5.1	25.4	2.66	SS, GY F-MG	
397	12266.0-67.0	0.61	0.49	0.55	14.0	3.5	14.8	2.65	SS, GY F-MG	
398	12267.0-68.0	0.11	0.08	0.09	9.2	11.7	21.5	2.66	SS, GY F-MG	
399	12268.0-69.0	0.14	0.14	0.13	9.6	10.5	23.6	2.66	SS, GY F-MG	
400	12269.0-70.0	0.68	0.63	<0.01	8.8	4.9	13.6	2.66	SS, GY F-MG	
401	12270.0-71.0	1.38	1.14	0.06	11.9	5.8	34.6	2.66	SS, GY F-MG	
402	12271.0-72.0	0.06	0.04	<0.01	7.8	10.9	20.0	2.67	SS, GY F-MG	
403	12272.0-73.0	0.95	0.64	0.04	11.1	7.7	39.6	2.66	SS, GY F-MG	V&HF
404	12273.0-74.0	3.94	3.38	0.08	12.2	9.6	22.4	2.66	SS, GY F-MG	
405	12274.0-75.0	3.61	1.69	0.05	12.0	6.6	24.7	2.66	SS, GY F-MG	
406	12275.0-76.0	0.94	0.78	0.04	11.8	10.5	17.6	2.66	SS, GY F-MG	
407	12276.0-77.0	1.60	1.14	0.07	12.8	7.1	37.9	2.66	SS, GY F-MG	

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379	12248.0-49.0	0.04	0.02	<0.01	9.0	9.1	25.0	2.66	SS, GY FG	
380	12249.0-50.0	0.12	0.12	0.13	9.5	12.4	14.1	2.66	SS, GY F-MG	
381	12250.0-51.0	0.15	0.12	<0.01	9.0	7.2	16.2	2.66	SS, GY FG	
382	12251.0-52.0	0.22	0.19	0.18	10.5	9.4	17.2	2.67	SS, GY FG	
383	12252.0-53.0	0.02	0.02	<0.01	8.6	10.9	18.6	2.67	SS, GY FG	
384	12253.0-54.0	0.02	0.02	<0.01	11.6	8.4	21.0	2.66	SS, GY FG	
385	12254.0-55.0	0.07	0.04	<0.01	10.2	10.2	18.7	2.66	SS, GY FG	
386	12255.0-56.0	0.06	0.06	<0.01	10.8	9.8	19.7	2.66	SS, GY FG	
387	12256.0-57.0	0.31	0.23	<0.01	11.2	10.3	17.6	2.66	SS, GY F-MG	
388	12257.0-58.0	0.15	0.10	<0.01	11.2	9.1	18.2	2.66	SS, GY F-MG	
389	12258.0-59.0	0.48	0.44	0.21	13.5	9.3	21.3	2.66	SS, GY F-MG	
390	12259.0-60.0	0.81	0.75	0.62	13.6	8.3	24.8	2.64	SS, GY F-MG	
391	12260.0-61.0	1.67	1.59	0.44	13.5	5.0	29.9	2.67	SS, GY F-MG	
392	12261.0-62.0	1.09	0.90	0.40	12.5	4.8	35.1	2.66	SS, GY F-MG	
393	12262.0-63.0	0.71	0.34	0.09	10.4	11.0	18.3	2.66	SS, GY F-MG	
394	12263.0-64.0	0.14	0.10	0.08	7.0	6.4	8.0	2.67	SS, GY F-MG	
395	12264.0-65.0	0.77	0.63	0.22	11.0	5.9	26.4	2.66	SS, GY F-MG	
396	12265.0-66.0	0.30	0.27	0.09	13.9	5.1	25.4	2.66	SS, GY F-MG	
397	12266.0-67.0	0.61	0.49	0.55	14.0	3.5	14.8	2.65	SS, GY F-MG	
398	12267.0-68.0	0.11	0.08	0.09	9.2	11.7	21.5	2.66	SS, GY F-MG	
399	12268.0-69.0	0.14	0.14	0.13	9.6	10.5	23.6	2.66	SS, GY F-MG	
400	12269.0-70.0	0.68	0.63	<0.01	8.8	4.9	13.6	2.66	SS, GY F-MG	
401	12270.0-71.0	1.38	1.14	0.06	11.9	5.8	34.6	2.66	SS, GY F-MG	
402	12271.0-72.0	0.06	0.04	<0.01	7.8	10.9	20.0	2.67	SS, GY F-MG	
403	12272.0-73.0	0.95	0.64	0.04	11.1	7.7	39.6	2.66	SS, GY F-MG	V&HF
404	12273.0-74.0	3.94	3.38	0.08	12.2	9.6	22.4	2.66	SS, GY F-MG	
405	12274.0-75.0	3.61	1.69	0.05	12.0	6.6	24.7	2.66	SS, GY F-MG	
406	12275.0-76.0	0.94	0.78	0.04	11.8	10.5	17.6	2.66	SS, GY F-MG	
407	12276.0-77.0	1.60	1.14	0.07	12.8	7.1	37.9	2.66	SS, GY F-MG	

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
408	12277.0-78.0	6.29	5.74	0.14	13.4	6.9	42.8	2.66	SS, GY F-MG	VF
409	12278.0-79.0	2.09	*	0.22	6.9	9.0	28.4	2.64	SS, GY F-MG	
410	12279.0-80.0	0.97	0.84	0.03	10.2	4.4	33.4	2.66	SS, GY F-MG	
411	12280.0-81.0	0.65	0.65	0.02	11.5	8.5	31.1	2.67	SS, GY F-MG	
412	12281.0-82.0	1.62	1.36	0.05	12.8	5.1	37.3	2.66	SS, GY F-MG	
413	12282.0-83.0	1.02	0.87	0.03	10.4	11.8	20.2	2.68	SS, GY F-MG	
414	12283.0-84.0	0.79	0.74	0.01	11.8	6.3	14.2	2.66	SS, GY F-MG	
415	12284.0-85.0	0.19	0.14	<0.01	8.0	7.8	17.5	2.66	SS, GY F-MG	
416	12285.0-86.0	0.02	*	0.32	5.6	6.0	12.1	2.64	SS, GY F-MG	
	12286.0-87.0								LOST CORE	
417	12287.0-88.0	0.54	*	0.26	13.0	6.2	31.2	2.66	SS, GY F-MG	
418	12288.0-89.0	1.71	0.82	0.82	13.6	7.3	24.5	2.66	SS, GY F-MG	V&HF
419	12289.0-90.0	0.54	*	0.34	12.9	8.0	17.3	2.65	SS, GY F-MG	
420	12290.0-91.0	1.43	0.87	1.41	10.5	5.7	20.1	2.66	SS, GY F-MG	VF
421	12291.0-92.0	0.95	0.88	0.13	13.3	7.5	5.7	2.66	SS, GY F-MG	
422	12292.0-93.0	0.73	0.64	0.04	13.9	8.4	16.9	2.66	SS, GY F-MG	
423	12293.0-94.0	0.21	0.21	0.02	11.6	5.5	18.0	2.66	SS, GY F-MG	
424	12294.0-95.0	0.93	0.77	0.09	13.4	9.1	19.8	2.66	SS, GY F-MG	
425	12295.0-96.0	1.50	0.73	0.06	10.5	6.0	15.1	2.66	SS, GY F-MG	
426	12296.0-97.0	1.03	0.93	0.06	9.9	11.9	15.9	2.66	SS, GY F-MG	
427	12297.0-98.0	0.46	0.26	0.02	18.4	8.4	14.0	2.66	SS, GY F-MG	
428	12298.0-99.0	1.02	0.87	0.05	9.7	7.2	21.7	2.66	SS, GY F-MG	
429	12299.0-00.0	0.31	0.15	0.06	7.7	12.4	20.7	2.67	SS, GY F-MG	
430	12300.0-01.0	0.18	*	0.07	7.6	7.3	3.7	2.67	SS, GY F-MG	
431	12301.0-02.0	0.05	*	1.05	3.2	9.9	19.9	2.64	SS, GY F-MG	
432	12302.0-03.0	0.07	0.03	0.02	7.4	15.5	12.9	2.67	SS, GY F-MG	
433	12303.0-04.0	<0.01	<0.01	<0.01	5.9	19.0	19.0	2.67	SS, GY F-MG	
434	12304.0-05.0	0.66	0.01	0.02	6.2	17.3	14.4	2.67	SS, GY F-MG	
435	12305.0-06.0	0.03	0.02	0.01	8.2	12.9	20.9	2.68	SS, GY F-MG	
436	12306.0-07.0	0.07	0.05	0.02	11.2	6.7	20.1	2.66	SS, GY F-MG	

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Petroleum Reservoir Engineering

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
437	12307.0-08.0	0.07	0.07	0.06	12.6	8.7	24.0	2.66	SS, GY F-MG	
438	12308.0-09.0	0.07	0.05	0.03	12.2	8.8	31.6	2.66	SS, GY F-MG	
439	12309.0-10.0	0.08	0.03	0.10	10.5	6.9	24.0	2.66	SS, GY F-MG	
440	12310.0-11.0	0.07	0.07	0.04	9.7	9.8	17.1	2.66	SS, GY F-MG	
441	12311.0-12.0	0.02	0.02	0.02	8.1	8.8	15.4	2.67	SS, GY FG	
442	12312.0-13.0	0.02	<0.01	<0.01	8.1	9.8	19.5	2.67	SS, GY FG	
443	12313.0-14.0	0.06	0.01	0.02	7.2	13.9	20.8	2.67	SS, GY FG	HF
444	12314.0-15.0	<0.01	<0.01	0.01	7.5	10.3	18.1	2.67	SS, GY FG	
445	12315.0-16.0	0.01	<0.01	<0.01	6.3	17.6	17.6	2.67	SS, GY FG	
446	12316.0-17.0	0.01	0.01	0.01	7.8	14.0	14.0	2.67	SS, GY FG	
447	12317.0-18.0	<0.01	<0.01	0.01	8.1	14.2	14.2	2.67	SS, GY FG	
448	12318.0-19.0	0.01	0.01	0.01	8.8	12.5	16.7	2.66	SS, GY F-MG	
449	12319.0-20.0	0.05	0.04	0.06	10.0	5.7	13.4	2.66	SS, GY FG	
450	12320.0-21.0	0.02	0.01	0.02	7.7	7.5	2.5	2.66	SS, GY FG	
451	12321.0-22.0	0.69	0.37	0.03	7.7	10.2	20.3	2.66	SS, GY FG	VF
452	12322.0-23.0	0.10	0.05	<0.01	8.2	8.0	15.9	2.66	SS, GY FG	
453	12323.0-24.0	0.14	0.14	0.02	8.7	11.2	19.5	2.66	SS, GY FG	
454	12324.0-25.0	0.09	<0.01	0.02	8.8	8.1	14.2	2.67	SS, GY FG	
455	12325.0-26.0	0.14	0.09	0.03	10.0	8.1	8.1	2.66	SS, GY FG	
456	12326.0-27.0	0.20	0.15	0.03	10.7	5.9	11.8	2.66	SS, GY FG	
457	12327.0-28.0	1.40	1.07	0.15	12.0	3.5	19.3	2.66	SS, GY FG	VF
458	12328.0-29.0	0.51	0.26	0.07	10.3	6.4	15.0	2.66	SS, GY FG	VF
459	12329.0-30.0	0.96	0.32	0.09	9.3	6.7	17.8	2.66	SS, GY FG	VF
460	12330.0-31.0	0.15	0.15	0.02	9.2	6.4	10.6	2.66	SS, GY FG	
461	12331.0-32.0	0.41	0.31	0.02	9.5	5.9	11.8	2.66	SS, GY VF-FG	
462	12332.0-33.0	1.60	1.17	0.25	10.4	5.2	13.9	2.65	SS, GY VF-FG	VF
463	12333.0-34.0	0.57	*	0.05	5.5	1.6	3.1	2.64	SS, GY VF-FG	
464	12334.0-35.0	2.22	1.09	2.43	12.5	11.3	2.8	2.66	SS, GY VF-FG	
465	12335.0-36.0	4.04	1.12	0.35	11.0	5.2	8.7	2.66	SS, GY VF-FG	VF
466	12336.0-37.0	0.04	*	1.59	4.1	8.3	16.5	2.64	SS, GY VF-FG	

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Petroleum Reservoir Engineering

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DATE : 24-MAY-81
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FILE NO : RP-4-6029
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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION	
467	12337.0-38.0	7.40	7.26	1.43	14.2	5.7	12.8	2.66	SS, GY VF-FG	VF
468	12338.0-39.0	21.	14.	2.69	15.3	3.4	32.6	2.66	SS, GY F-MG	VF
469	12339.0-40.0	5.69	*	1.53	14.4	3.6	25.4	2.63	SS, GY F-MG	
470	12340.0-41.0	29.	18.	1.26	14.1	6.2	29.7	2.65	SS, GY F-MG	
471	12341.0-42.0	51.	45.	2.89	16.1	3.6	33.8	2.67	SS, GY F-MG	
472	12342.0-43.0	10.	4.70	1.56	15.1	3.7	23.2	2.65	SS, GY F-MG	
473	12343.0-44.0	12.	9.27	2.82	15.6	5.1	26.9	2.66	SS, GY F-MG	
474	12344.0-45.0	10.	9.01	1.67	15.1	4.4	19.0	2.66	SS, GY F-MG	
	12345.0-47.0								LOST CORE	
475	12347.0-48.0	0.93	0.93	0.13	11.6	6.0	20.9	2.66	SS, GY FG	
476	12348.0-49.0	1.14	1.09	1.10	14.1	5.4	23.0	2.65	SS, GY FG	
477	12349.0-50.0	1.45	0.80	0.13	11.8	4.4	17.7	2.67	SS, GY VF-FG	
478	12350.0-51.0	0.61	0.36	0.16	11.1	5.5	22.1	2.67	SS, GY VF-FG	
479	12351.0-52.0	5.00	5.00	<0.01	10.1	4.2	18.2	2.67	SS, GY VF-FG	
480	12352.0-53.0	0.04	0.03	<0.01	8.8	6.4	19.1	2.67	SS, GY VF-FG	
481	12353.0-54.0	76.	1.44	0.66	15.6	4.6	23.0	2.66	SS, GY VF-FG	
482	12354.0-55.0	67.	0.96	0.38	15.6	4.3	27.0	2.66	SS, GY VF-FG	
483	12355.0-56.0	1.67	1.47	1.27	16.9	7.1	34.4	2.65	SS, GY VF-FG	
484	12356.0-57.0	2.94	2.68	3.83	18.3	6.3	41.1	2.66	SS, GY VF-FG	
485	12357.0-58.0	2.51	2.15	0.99	16.8	4.2	31.4	2.65	SS, GY VF-FG	
486	12358.0-59.0	2.23	2.13	0.16	15.4	5.9	33.5	2.66	SS, GY VF-FG	
487	12359.0-60.0	6.19	5.63	1.28	17.7	6.9	34.3	2.65	SS, GY VF-FG	
488	12360.0-61.0	12.	*	2.46	18.8	6.4	26.7	2.62	SS, GY VF-FG	
489	12361.0-62.0	2.96	1.85	0.55	14.0	4.4	26.6	2.66	SS, GY VF-FG	
490	12362.0-63.0	0.12	*	9.35	18.4	5.5	22.2	2.63	SS, GY VF-FG	VF
491	12363.0-64.0	2.09	1.68	0.95	15.0	4.8	28.7	2.66	SS, GY VF-FG	
492	12364.0-65.0	1.47	0.92	0.26	13.1	3.6	28.6	2.65	SS, GY VF-FG	
493	12365.0-66.0	1.19	0.94	0.06	13.3	9.5	19.1	2.66	SS, GY VF-FG	
494	12366.0-67.0	7.14	1.26	0.06	13.3	8.5	19.9	2.64	SS, GY VF-FG	VF
495	12367.0-68.0	0.71	0.66	0.02	11.5	8.8	17.5	2.67	SS, GY VF-FG	

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
496	12368.0-69.0	3.08	*	0.05	14.5	6.2	15.5	2.63	SS, GY VF-FG	
497	12369.0-70.0	0.02	0.02	0.01	12.6	6.1	16.8	2.68	SS, GY VF-FG	
498	12370.0-71.0	0.37	0.35	0.01	13.4	7.9	21.2	2.67	SS, GY VF-FG	
499	12371.0-72.0	0.41	0.37	0.02	12.1	10.3	27.4	2.67	SS, GY VF-FG	
500	12372.0-73.0	0.24	0.22	0.02	10.2	11.2	20.5	2.66	SS, GY VF-FG	
501	12373.0-74.0	0.76	0.31	0.02	10.9	9.2	16.8	2.67	SS, GY F-MG	
502	12374.0-75.0	0.37	0.21	0.01	10.5	8.4	23.2	2.67	SS, GY F-MG	
503	12375.0-76.0	0.12	0.10	<0.01	9.5	8.9	22.2	2.67	SS, GY F-MG	
504	12376.0-77.0	0.18	0.10	<0.01	10.4	11.0	18.3	2.67	SS, GY F-MG	HF
505	12377.0-78.0	0.05	*	0.08	10.1	8.0	19.9	2.64	SS, GY F-MG	
506	12378.0-79.0	0.02	*	0.03	9.8	7.5	18.7	2.64	SS, GY F-MG	
507	12379.0-80.0	0.17	0.11	<0.01	8.8	8.2	20.4	2.66	SS, GY F-MG	
508	12380.0-81.0	0.02	*	0.02	11.3	10.3	19.1	2.64	SS, GY F-MG	
509	12381.0-82.0	0.05	*	0.02	10.1	9.6	22.4	2.64	SS, GY F-MG	
510	12382.0-83.0	0.02	*	0.02	10.7	10.6	19.6	2.64	SS, GY F-MG	
	12383.0-86.0								TOO BROKEN FOR ANALYSIS	
511	12386.0-87.0	0.38	0.36	0.01	14.3	4.2	16.7	2.66	SS, GY F-MG	
512	12387.0-88.0	0.24	0.13	0.09	9.9	4.4	15.5	2.67	SS, GY F-MG	
513	12388.0-89.0	0.55	0.52	0.07	14.2	3.7	19.8	2.66	SS, GY F-MG	
	12389.0-92.0								TOO BROKEN FOR ANALYSIS	
514	12392.0-93.0	0.35	0.33	0.05	13.2	5.8	16.1	2.66	SS, GY F-MG	
515	12393.0-94.0	0.53	0.53	0.14	13.2	3.9	17.0	2.65	SS, GY F-MG	
516	12394.0-95.0	1.32	0.66	0.02	13.0	4.1	17.9	2.65	SS, GY F-MG	
517	12395.0-96.0	0.59	0.49	0.03	13.7	3.0	16.6	2.68	SS, GY F-MG	
518	12396.0-97.0	1.78	1.00	0.05	12.7	3.9	15.5	2.65	SS, GY F-MG	
519	12397.0-98.0	0.76	0.49	0.02	12.3	4.4	14.7	2.65	SS, GY F-MG	
520	12398.0-99.0	0.35	0.35	0.30	12.0	7.8	14.4	2.66	SS, GY F-MG	
521	12399.0-00.0	0.87	0.76	0.14	13.6	2.9	14.5	2.66	SS, GY F-MG	
522	12400.0-01.0	2.73	2.37	0.52	13.0	5.1	16.6	2.64	SS, GY F-MG	
523	12401.0-02.0	0.13	*	0.61	9.8	0.8	15.4	2.64	SS, GY F-MG	

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524	12402.0-03.0	0.22	0.22	<0.01	11.2	7.2	16.1	2.66	SS, GY F-MG
525	12403.0-04.0	0.04	*	<0.01	12.4	8.0	18.7	2.69	SS, GY F-MG
526	12404.0-05.0	0.54	0.43	0.02	9.5	6.0	17.9	2.66	SS, GY F-MG
	12405.0-07.0								LOST CORE
527	12407.0-08.0	0.32	0.26	<0.01	9.7	8.8	24.1	2.66	SS, GY F-MG
528	12408.0-09.0	0.18	0.18	<0.01	8.7	6.6	24.1	2.67	SS, GY F-MG
529	12409.0-10.0	0.16	0.16	<0.01	8.6	9.8	18.0	2.67	SS, GY F-MG
530	12410.0-11.0	0.26	0.26	0.02	10.7	6.3	17.2	2.66	SS, GY F-MG
531	12411.0-12.0	0.78	0.65	0.04	11.2	5.1	20.5	2.66	SS, GY F-MG
532	12412.0-13.0	0.31	0.31	0.01	11.2	7.1	10.6	2.65	SS, GY F-MG
533	12413.0-14.0	0.25	0.25	0.02	9.2	6.1	18.2	2.67	SS, GY F-MG
534	12414.0-15.0	0.43	0.27	0.02	9.6	5.9	11.8	2.66	SS, GY F-MG
535	12415.0-16.0	0.21	0.21	0.01	9.7	6.6	19.7	2.66	SS, GY F-MG
536	12416.0-17.0	0.26	0.20	0.01	10.5	7.5	18.8	2.66	SS, GY F-MG
537	12417.0-18.0	0.21	0.16	0.02	11.0	7.5	11.2	2.66	SS, GY F-MG
538	12418.0-19.0	0.21	0.16	0.01	10.0	9.1	12.2	2.66	SS, GY F-MG
539	12419.0-20.0	0.26	0.21	0.03	10.5	7.0	19.3	2.66	SS, GY F-MG
540	12420.0-21.0	0.30	0.24	0.02	10.4	0.0	5.2	2.66	SS, GY F-MG
541	12421.0-22.0	0.30	0.23	0.01	9.8	6.5	8.6	2.67	SS, GY F-MG
542	12422.0-23.0	0.16	0.16	0.02	11.4	6.9	19.0	2.66	SS, GY F-MG
543	12423.0-24.0	0.16	0.11	<0.01	10.5	5.0	14.9	2.66	SS, GY F-MG
544	12424.0-25.0	0.21	0.16	0.02	11.0	1.2	9.2	2.67	SS, GY F-MG
545	12425.0-26.0	0.21	0.16	0.07	10.7	6.2	14.0	2.66	SS, GY F-MG
546	12426.0-27.0	0.38	0.32	0.02	11.5	4.5	13.4	2.66	SS, GY F-MG
547	12427.0-28.0	0.43	0.37	0.05	12.3	5.0	16.6	2.66	SS, GY F-MG
548	12428.0-29.0	0.27	0.22	0.03	11.5	8.8	16.1	2.66	SS, GY F-MG
549	12429.0-30.0	0.48	0.43	0.04	12.1	5.7	14.2	2.66	SS, GY F-MG
550	12430.0-31.0	0.64	0.59	0.05	12.2	5.7	24.0	2.66	SS, GY F-MG
551	12431.0-32.0	14.	0.82	1.04	11.6	3.9	24.5	2.66	SS, GY F-MG
552	12432.0-33.0	17.	0.92	0.54	9.9	4.5	19.5	2.66	SS, GY F-MG

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
553	12433.0-34.0	0.27	0.27	0.43	13.1	1.9	7.4	2.66	SS, GY F-MG
554	12434.0-35.0	0.27	0.21	0.21	12.2	4.4	16.3	2.66	SS, GY F-MG
555	12435.0-36.0	0.54	0.48	0.64	14.8	9.1	18.2	2.65	SS, GY F-MG
556	12436.0-37.0	0.27	0.27	0.21	12.4	8.9	16.5	2.66	SS, GY F-MG
557	12437.0-38.0	0.53	0.37	0.29	13.7	8.3	13.8	2.62	SS, GY F-MG
558	12438.0-39.0	0.27	0.22	0.28	12.6	7.9	19.1	2.66	SS, GY F-MG
559	12439.0-40.0	0.16	0.11	0.07	9.8	12.5	18.8	2.67	SS, GY F-MG
560	12440.0-41.0	0.16	0.11	0.21	8.5	11.1	23.7	2.67	SS, GY F-MG
561	12441.0-42.0	9.81	6.47	4.03	14.6	8.2	25.6	2.67	SS, GY FG
562	12442.0-43.0	0.43	0.32	0.28	12.8	9.1	19.6	2.66	SS, GY FG
563	12443.0-44.0	0.32	0.27	0.14	11.8	9.6	25.5	2.66	SS, GY FG
564	12444.0-45.0	0.54	0.54	0.14	10.3	7.9	25.6	2.66	SS, GY FG
565	12445.0-46.0	0.82	0.60	0.28	10.0	8.9	16.3	2.66	SS, GY FG
566	12446.0-47.0	0.75	0.59	0.14	11.0	6.7	16.7	2.66	SS, GY FG
567	12447.0-48.0	9.82	0.59	0.03	13.1	0.0	15.0	2.66	SS, GY FG
568	12448.0-49.0	0.73	0.63	0.04	12.5	8.5	21.1	2.66	SS, GY FG
569	12449.0-50.0	0.68	0.58	0.03	13.0	7.1	29.6	2.66	SS, GY FG
570	12450.0-51.0	0.59	0.48	0.21	13.1	8.1	26.9	2.66	SS, GY FG
571	12451.0-52.0	1.59	1.59	0.29	13.8	8.1	29.8	2.65	SS, GY FG
572	12452.0-53.0	0.60	0.49	0.07	12.2	8.6	22.9	2.65	SS, GY FG
573	12453.0-54.0	0.64	0.64	0.28	11.6	7.4	26.0	2.65	SS, GY FG
574	12454.0-55.0	1.17	0.75	0.43	13.0	5.2	38.8	2.65	SS, GY FG
575	12455.0-56.0	1.22	0.85	0.50	14.7	5.9	14.7	2.66	SS, GY FG
576	12456.0-57.0	0.65	0.60	0.28	13.6	8.3	28.6	2.66	SS, GY FG
577	12457.0-58.0	0.80	0.27	0.21	13.6	7.1	33.3	2.66	SS, GY FG
578	12458.0-59.0	0.69	0.42	0.22	14.7	8.1	38.3	2.66	SS, GY FG
579	12459.0-60.0	0.64	0.53	0.14	14.5	7.5	29.9	2.66	SS, GY FG
580	12460.0-61.0	0.42	0.37	0.22	13.7	7.3	31.8	2.66	SS, GY FG
581	12461.0-62.0	1.17	1.07	0.14	14.6	8.1	26.7	2.66	SS, GY FG
	12463.0-66.0								TOO BROKEN FOR ANALYSIS

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
	12466.0-67.0								LOST CORE	
582	12467.0-68.0	0.21	0.21	<0.01	10.9	6.1	29.1	2.66	SS, GY FG	
583	12468.0-69.0	0.16	0.10	<0.01	9.5	10.8	23.4	2.67	SS, GY FG	
584	12469.0-70.0	0.02	*	0.05	6.8	7.0	27.9	2.65	SS, GY FG	
585	12470.0-71.0	0.05	*	0.07	7.0	10.6	19.4	2.64	SS, GY FG	
586	12471.0-72.0	0.16	0.10	<0.01	9.5	7.6	19.0	2.65	SS, GY FG	
587	12472.0-73.0	0.31	0.26	<0.01	10.7	7.4	22.1	2.66	SS, GY FG	
588	12473.0-74.0	0.31	0.26	<0.01	11.1	7.3	16.4	2.66	SS, GY FG	
589	12474.0-75.0	0.42	0.31	<0.01	10.8	9.8	21.3	2.66	SS, GY FG	
590	12475.0-76.0	0.34	0.34	<0.01	10.0	5.6	24.2	2.65	SS, GY FG	
591	12476.0-77.0	0.15	0.10	<0.01	9.8	12.3	23.3	2.70	SS, GY FG	
592	12477.0-78.0	0.02	*	0.03	8.4	11.4	31.4	2.63	SS, GY FG	
593	12478.0-79.0	0.05	*	0.03	8.6	11.4	34.3	2.64	SS, GY FG	
594	12479.0-80.0	0.10	0.05	<0.01	9.2	9.6	16.7	2.68	SS, GY FG	
595	12480.0-81.0	0.11	0.11	<0.01	9.0	14.1	25.9	2.67	SS, GY FG	
596	12481.0-82.0	0.43	0.22	<0.01	10.5	11.4	15.2	2.66	SS, GY FG	VF
597	12482.0-83.0	0.10	0.10	<0.01	10.2	5.7	17.0	2.67	SS, GY FG	
598	12483.0-84.0	0.23	0.23	<0.01	10.9	10.7	16.1	2.66	SS, GY FG	VF
599	12484.0-85.0	0.07	*	0.05	10.7	10.1	16.8	2.63	SS, GY FG	
600	12485.0-86.0	0.02	*	0.02	10.6	10.0	11.6	2.63	SS, GY FG	
601	12486.0-87.0	0.77	0.72	0.05	10.5	11.5	24.5	2.65	SS, GY FG	V&HF
602	12487.0-88.0	0.16	0.05	0.02	8.6	14.3	26.2	2.65	SS, GY FG	
603	12488.0-89.0	0.01	<0.01	<0.01	8.1	12.2	24.5	2.66	SS, GY FG	
604	12489.0-90.0	0.01	<0.01	<0.01	8.7	12.4	26.9	2.65	SS, GY FG	
605	12490.0-91.0	0.02	0.01	0.06	9.0	9.4	28.2	2.66	SS, GY FG	VF
606	12491.0-92.0	0.02	0.01	<0.01	10.5	6.7	16.7	2.65	SS, GY FG	
607	12492.0-93.0	0.01	0.01	0.02	10.3	10.6	18.2	2.65	SS, GY FG	
608	12493.0-94.0	0.02	0.02	0.02	10.7	10.0	15.8	2.65	SS, GY FG	
609	12494.0-95.0	0.01	<0.01	<0.01	9.9	9.8	16.8	2.65	SS, GY FG	VF
610	12495.0-96.0	0.02	0.02	0.02	11.0	9.0	13.5	2.65	SS, GY FG	

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Petroleum Reservoir Engineering

DALLAS, TEXAS

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
611	12496.0-97.0	0.39	0.32	0.08	10.8	11.0	17.2	2.65	SS, GY FG	
612	12497.0-98.0	0.21	0.16	0.06	10.4	10.7	18.4	2.66	SS, GY FG	
613	12498.0-99.0	0.31	0.26	0.08	10.0	8.8	13.2	2.66	SS, GY FG	
614	12499.0-00.0	<0.01	<0.01	<0.01	5.9	13.4	11.2	2.67	SS, GY FG	
615	12500.0-01.0	0.01	<0.01	<0.01	6.5	0.0	33.8	2.67	SS, GY FG	
616	12501.0-02.0	<0.01	<0.01	<0.01	4.5	13.0	15.1	2.69	SS, GY FG	
617	12502.0-03.0	<0.01	<0.01	<0.01	6.1	10.0	27.6	2.68	SS, GY FG	
618	12503.0-04.0	<0.01	<0.01	<0.01	5.7	1.2	12.1	2.73	SS, GY FG	
619	12504.0-05.0	<0.01	<0.01	<0.01	5.5	2.5	11.1	2.69	SS, GY FG	
620	12505.0-06.0	<0.01	<0.01	<0.01	6.2	11.6	30.8	2.68	SS, GY FG	
621	12506.0-07.0	<0.01	<0.01	<0.01	7.3	11.9	39.7	2.67	SS, GY F-MG	
622	12507.0-08.0	0.01	<0.01	<0.01	7.6	13.9	31.2	2.67	SS, GY F-MG	
623	12508.0-09.0	0.03	0.01	<0.01	5.9	0.8	21.2	2.69	SS, GY F-MG	
624	12509.0-10.0	0.06	0.03	<0.01	5.9	7.2	43.3	2.68	SS, GY F-MG	
625	12510.0-11.0	0.03	<0.01	0.10	5.3	9.8	32.8	2.66	SS, GY F-MG	
626	12511.0-12.0	0.02	0.01	0.05	6.1	3.2	64.7	2.67	SS, GY F-MG	
627	12512.0-13.0	0.03	0.03	0.03	8.3	13.2	26.4	2.66	SS, GY F-MG	
628	12513.0-14.0	0.02	*	0.02	6.2	10.1	16.8	2.64	SS, GY F-MG	
629	12514.0-15.0	0.03	0.02	<0.01	5.9	15.5	10.3	2.66	SS, GY F-MG	
630	12515.0-16.0	0.02	*	0.02	4.6	11.6	11.6	2.64	SS, GY F-MG	
631	12516.0-17.0	0.03	0.02	<0.01	3.3	11.4	11.4	2.66	SS, GY F-MG	
632	12517.0-18.0	0.03	0.01	<0.01	3.8	2.5	39.8	2.67	SS, GY F-MG	
633	12518.0-19.0	0.02	0.01	<0.01	4.6	0.0	55.4	2.68	SS, GY F-MG	
634	12519.0-20.0	0.03	0.03	<0.01	8.6	11.6	17.4	2.66	SS, GY F-MG	
635	12520.0-21.0	0.03	0.02	<0.01	10.6	7.5	17.0	2.66	SS, GY F-MG	
636	12521.0-22.0	0.03	0.03	<0.01	8.2	11.0	11.0	2.65	SS, GY F-MG	
637	12522.0-23.0	0.05	0.04	<0.01	9.2	13.3	17.8	2.66	SS, GY F-MG	
638	12523.0-24.0	0.02	0.01	<0.01	8.1	14.7	19.5	2.66	SS, GY F-MG	VF
639	12524.0-25.0	0.02	0.02	<0.01	7.8	14.8	24.7	2.67	SS, GY F-MG	
640	12525.0-26.0	0.01	<0.01	<0.01	8.5	15.1	20.1	2.66	SS, GY F-MG	

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Petroleum Reservoir Engineering

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16-20U ANSCHUTZ RANCH E.

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
641	12526.0-27.0	0.02	*	0.02	8.9	7.7	17.2	2.64	SS, GY F-MG	
642	12527.0-28.0	0.03	0.02	0.02	8.7	12.4	34.0	2.69	SS, GY F-MG	
643	12528.0-29.0	0.02	*	0.02	7.0	18.3	33.6	2.65	SS, GY F-MG	
644	12529.0-30.0	0.02	0.02	<0.01	6.4	8.3	45.8	2.66	SS, GY F-MG	
645	12530.0-31.0	0.03	0.02	<0.01	7.9	16.6	38.6	2.69	SS, GY F-MG	
646	12531.0-32.0	0.03	0.02	<0.01	7.3	12.5	37.6	2.66	SS, GY F-MG	
647	12532.0-33.0	0.02	*	0.02	8.3	15.2	27.8	2.64	SS, GY F-MG	
648	12533.0-34.0	0.02	*	0.02	8.0	13.8	20.8	2.64	SS, GY F-MG	
649	12534.0-35.0	0.02	*	0.02	6.6	10.4	45.2	2.65	SS, GY F-MG	
650	12535.0-36.0	0.03	0.03	<0.01	9.3	10.4	20.8	2.68	SS, GY F-MG	
651	12536.0-37.0	0.05	0.02	0.01	6.3	8.8	22.1	2.67	SS, GY F-MG	
652	12537.0-38.0	<0.01	<0.01	<0.01	6.9	13.6	13.6	2.67	SS, GY F-MG	
653	12538.0-39.0	0.02	0.01	<0.01	7.6	7.8	36.6	2.66	SS, GY F-MG	
654	12539.0-40.0	0.04	<0.01	<0.01	7.1	11.5	42.2	2.66	SS, GY F-MG	
655	12540.0-41.0	0.05	*	0.03	7.2	8.8	32.2	2.65	SS, GY F-MG	
656	12541.0-42.0	<0.01	<0.01	<0.01	7.0	9.5	41.0	2.66	SS, GY F-MG	
657	12542.0-43.0	811.	<0.01	<0.01	7.2	8.3	20.8	2.66	SS, GY F-MG	
658	12543.0-44.0	0.04	0.02	<0.01	10.4	11.7	29.2	2.66	SS, GY F-MG	
659	12544.0-45.0	0.01	<0.01	<0.01	8.2	0.0	36.1	2.66	SS, GY F-MG	
660	12545.0-46.0	0.01	0.01	0.01	8.7	6.8	16.9	2.65	SS, GY F-MG	
661	12546.0-47.0	0.05	*	0.02	6.9	8.0	32.0	2.65	SS, GY F-MG	
662	12547.0-48.0	0.04	0.03	<0.01	5.1	0.0	51.2	2.66	SS, GY F-MG	
663	12548.0-49.0	0.10	0.10	0.01	7.5	11.2	30.8	2.66	SS, GY F-MG	
664	12549.0-50.0	4.47	0.08	<0.01	8.9	7.1	21.3	2.69	SS, GY F-MG	
665	12550.0-51.0	80.	0.07	0.15	7.2	14.1	42.4	2.66	SS, GY F-MG	VF
666	12551.0-52.0	3.79	0.07	<0.01	8.8	10.0	22.5	2.65	SS, GY F-MG	
667	12552.0-53.0	3.04	0.04	0.02	7.6	9.0	17.9	2.65	SS, GY F-MG	
668	12553.0-54.0	0.02	*	0.02	8.9	8.8	17.5	2.64	SS, GY F-MG	
669	12554.0-55.0	0.02	*	0.03	9.4	9.0	27.0	2.64	SS, GY F-MG	
670	12555.0-56.0	2.24	0.03	0.09	6.6	10.0	40.0	2.66	SS, GY F-MG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
671	12556.0-57.0	0.05	*	0.03	6.7	14.8	40.6	2.65	SS, GY F-MG	
672	12557.0-58.0	0.02	*	0.03	7.4	3.0	27.3	2.65	SS, GY F-MG	
673	12558.0-59.0	1.22	<0.01	<0.01	6.3	13.6	15.8	2.65	SS, GY F-MG	
674	12559.0-60.0	39.	0.02	<0.01	6.8	15.9	31.7	2.66	SS, GY F-MG	
675	12560.0-61.0	13.	0.06	<0.01	6.4	11.2	44.7	2.66	SS, GY F-MG	
676	12561.0-62.0	2.59	0.03	0.02	6.5	16.4	16.4	2.66	SS, GY F-MG	
677	12562.0-63.0	2.19	0.02	0.08	6.3	13.5	23.6	2.66	SS, GY F-MG	
678	12563.0-64.0	93.	0.02	0.01	6.5	18.9	18.9	2.66	SS, GY F-MG	
679	12564.0-65.0	0.57	<0.01	0.01	6.6	13.5	40.4	2.66	SS, GY F-MG	
680	12565.0-66.0	0.25	<0.01	0.01	5.8	15.8	39.6	2.67	SS, GY F-MG	
681	12566.0-67.0	0.03	<0.01	0.01	4.7	0.0	48.5	2.60	SS, LTRD F-MG	
682	12567.0-68.0	0.02	*	0.02	6.9	0.0	54.9	2.65	SS, LTRD F-MG	
683	12568.0-69.0	0.03	0.02	<0.01	7.2	0.0	48.1	2.67	SS, LTRD F-MG	HF
684	12569.0-70.0	0.11	0.02	<0.01	4.2	11.9	29.8	2.66	SS, LTRD F-MG	HF
685	12570.0-71.0	0.03	<0.01	<0.01	5.4	0.0	54.6	2.66	SS, LTRD F-MG	
686	12571.0-72.0	0.02	*	0.02	5.2	13.5	13.5	2.64	SS, LTRD F-MG	
687	12572.0-73.0	<0.01	<0.01	<0.01	4.9	0.0	65.8	2.66	SS, LTRD F-MG	
688	12573.0-74.0	0.02	*	0.03	5.1	14.4	18.0	2.64	SS, LTRD F-MG	
689	12574.0-75.0	0.01	<0.01	0.01	4.5	11.3	22.6	2.65	SS, LTRD F-MG	VF
690	12575.0-76.0	0.13	<0.01	0.02	4.6	11.1	29.5	2.66	SS, LTRD F-MG	V&HF
691	12576.0-77.0	0.02	*	0.03	5.7	15.7	31.4	2.65	SS, LTRD F-MG	
692	12577.0-78.0	0.01	0.01	0.37	3.9	11.7	27.2	2.65	SS, LTRD F-MG	VF
693	12578.0-79.0	0.03	0.03	0.01	4.3	8.9	44.4	2.66	SS, LTRD F-MG	
694	12579.0-80.0	0.03	0.03	<0.01	4.1	0.0	53.8	2.66	SS, LTRD F-MG	
695	12580.0-81.0	3.54	<0.01	0.57	3.9	0.0	41.2	2.65	SS, LTRD F-MG	VF
696	12581.0-82.0	0.03	*	0.03	4.4	0.0	51.8	2.65	SS, LTRD F-MG	
697	12582.0-83.0	0.05	0.02	<0.01	4.2	0.0	52.1	2.64	SS, LTRD F-MG	HF
698	12583.0-84.0	0.01	<0.01	<0.01	4.5	0.0	50.1	2.64	SS, LTRD F-MG	
699	12584.0-85.0	0.02	*	0.02	4.9	18.7	28.1	2.64	SS, LTRD F-MG	
700	12585.0-86.0	<0.01	<0.01	<0.01	3.5	17.3	30.2	2.63	SS, LTRD F-MG	

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
701	12586.0-87.0	18.	1.34	<0.01	4.2	5.0	40.3	2.66	SS, LTRD F-MG	HF
702	12587.0-88.0	0.01	<0.01	2.56	4.3	0.0	45.2	2.66	SS, LTRD F-MG	VF
703	12588.0-89.0	0.88	0.08	<0.01	5.4	11.0	40.3	2.66	SS, LTRD F-MG	HF
704	12589.0-90.0	0.03	0.01	<0.01	5.3	11.0	36.7	2.65	SS, LTRD F-MG	
705	12590.0-91.0	0.03	0.03	<0.01	5.6	9.5	47.7	2.66	SS, LTRD F-MG	
706	12591.0-92.0	0.02	0.01	<0.01	5.3	0.0	61.4	2.64	SS, LTRD F-MG	
707	12592.0-93.0	0.02	0.01	<0.01	5.8	6.6	52.5	2.64	SS, LTRD F-MG	
708	12593.0-94.0	0.01	<0.01	<0.01	5.8	0.0	70.1	2.66	SS, LTRD F-MG	
709	12594.0-95.0	0.02	0.02	<0.01	6.0	8.3	57.8	2.66	SS, LTRD F-MG	
710	12595.0-96.0	0.02	0.02	0.43	5.7	0.0	62.4	2.66	SS, LTRD F-MG	
711	12596.0-97.0	0.02	<0.01	0.18	5.3	0.0	50.2	2.69	SS, LTRD F-MG	VF
712	12597.0-98.0	<0.01	<0.01	<0.01	5.2	0.0	57.9	2.68	SS, LTRD F-MG	
713	12598.0-99.0	<0.01	<0.01	1.42	5.1	11.2	52.4	2.67	SS, LTRD F-MG	
714	12599.0-00.0	0.03	0.03	<0.01	7.8	0.0	36.9	2.66	SS, LTGY F-MG	
715	12600.0-01.0	0.02	*	0.02	8.1	7.3	26.8	2.64	SS, LTGY F-MG	
716	12601.0-02.0	0.04	0.03	<0.01	7.6	0.0	58.6	2.67	SS, LTGY F-MG	
717	12602.0-03.0	0.04	*	0.14	6.2	0.0	57.2	2.67	SS, LTGY F-MG	
718	12603.0-04.0	0.02	*	0.03	6.0	8.7	40.4	2.65	SS, LTGY F-MG	
719	12604.0-05.0	0.03	0.03	<0.01	8.1	8.6	25.9	2.67	SS, LTGY F-MG	
720	12605.0-06.0	0.03	0.02	<0.01	6.7	8.2	20.4	2.66	SS, LTGY F-MG	
721	12606.0-07.0	0.04	0.03	<0.01	8.4	11.0	22.1	2.65	SS, GY F-MG	
722	12607.0-08.0	0.01	<0.01	<0.01	8.6	14.7	29.3	2.65	SS, GY F-MG	
723	12608.0-09.0	0.02	0.01	<0.01	8.7	12.8	18.3	2.65	SS, GY F-MG	
724	12609.0-10.0	1.00	0.12	<0.01	9.3	14.7	29.4	2.66	SS, GY F-MG	HF
725	12610.0-11.0	0.07	0.05	<0.01	9.4	12.3	24.7	2.66	SS, GY F-MG	
726	12611.0-12.0	0.04	0.03	<0.01	9.7	12.9	20.3	2.65	SS, GY F-MG	
727	12612.0-13.0	0.04	0.04	<0.01	9.7	8.5	21.3	2.68	SS, GY F-MG	
728	12613.0-14.0	0.17	0.04	<0.01	6.7	12.4	37.3	2.66	SS, GY F-MG	HF
729	12614.0-15.0	0.05	0.04	0.10	7.8	11.3	41.4	2.66	SS, GY F-MG	
730	12615.0-16.0	0.04	0.02	0.03	5.7	14.9	41.0	2.64	SS, GY F-MG	

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Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
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ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
731	12616.0-17.0	0.15	0.15	0.03	6.3	16.7	33.3	2.67	SS, LTRD F-MG	V&HF
732	12617.0-18.0	0.22	0.14	0.04	6.6	3.7	41.0	2.68	SS, LTRD F-MG	
733	12618.0-19.0	0.04	0.03	<0.01	6.6	3.9	47.0	2.68	SS, LTRD F-MG	
734	12619.0-20.0	0.17	0.10	0.03	3.4	10.6	45.8	2.68	SS, LTRD F-MG	
735	12620.0-21.0	0.16	0.13	0.04	6.9	10.1	47.2	2.68	SS, LTRD F-MG	
736	12621.0-22.0	0.30	0.22	0.03	6.6	12.4	43.4	2.68	SS, LTRD F-MG	
737	12622.0-23.0	0.31	0.25	0.06	6.7	0.0	42.3	2.65	SS, LTRD F-MG	
738	12623.0-24.0	0.02	*	0.05	5.9	0.0	53.4	2.65	SS, LTRD F-MG	
739	12624.0-25.0	0.02	*	0.02	5.0	0.0	53.7	2.65	SS, LTRD F-MG	
740	12625.0-26.0	0.50	0.16	0.03	5.0	0.0	36.5	2.67	SS, LTRD F-MG	
741	12626.0-27.0	0.32	0.28	0.04	4.7	12.2	24.3	2.67	SS, LTRD F-MG	
742	12627.0-28.0	50.	4.26	0.03	6.5	11.9	26.8	2.67	SS, LTRD F-MG	HF
743	12628.0-29.0	0.19	0.13	0.04	6.2	7.2	32.4	2.67	SS, LTRD F-MG	
744	12629.0-30.0	0.10	0.08	0.03	7.5	6.3	59.5	2.68	SS, LTRD F-MG	
745	12630.0-31.0	0.08	0.06	0.03	7.5	6.9	52.0	2.68	SS, LTRD F-MG	
746	12631.0-32.0	0.18	0.12	0.03	8.0	21.3	21.3	2.70	SS, LTRD F-MG SL/DOL	
747	12632.0-33.0	0.13	0.09	0.04	6.9	11.1	27.8	2.67	SS, LTRD F-MG	
748	12633.0-34.0	0.36	0.25	0.03	6.8	11.4	17.0	2.67	SS, LTRD F-MG	
749	12634.0-35.0	0.08	0.06	0.03	7.2	4.9	39.2	2.72	SS, LTRD F-MG SL/DOL	
750	12635.0-36.0	0.14	0.08	0.03	7.2	4.0	64.5	2.71	SS, LTRD F-MG SL/DOL	
751	12636.0-37.0	0.18	0.16	0.03	9.4	14.0	28.0	2.68	SS, GY F-MG	
752	12637.0-38.0	0.05	*	0.05	10.0	9.8	17.2	2.64	SS, GY F-MG	
753	12638.0-39.0	0.15	0.08	0.03	8.3	10.1	22.6	2.70	SS, GY F-MG	
754	12639.0-40.0	0.20	0.11	0.03	8.3	13.2	23.2	2.67	SS, GY F-MG	
755	12640.0-41.0	0.21	0.14	0.03	8.0	8.9	15.5	2.66	SS, GY F-MG	
756	12641.0-42.0	0.14	0.06	0.03	8.9	15.0	18.7	2.68	SS, GY F-MG	
757	12642.0-43.0	0.17	0.13	0.03	8.9	12.4	20.7	2.67	SS, GY F-MG	
758	12643.0-44.0	0.05	*	0.02	8.3	8.6	8.6	2.64	SS, GY F-MG	
759	12644.0-45.0	0.07	*	0.02	8.3	9.6	9.6	2.64	SS, GY F-MG	
760	12645.0-46.0	0.30	0.17	0.03	7.2	12.9	19.3	2.70	SS, GY F-MG	

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Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
761	12646.0-47.0	0.23	0.15	0.03	8.5	3.0	14.9	2.72	SS, GY F-MG	
762	12647.0-48.0	0.35	0.10	0.04	7.4	0.0	43.2	2.70	SS, GY F-MG	
763	12648.0-49.0	0.30	0.17	0.03	9.8	11.5	21.1	2.68	SS, GY F-MG	
764	12649.0-50.0	0.21	0.09	0.04	11.4	9.8	14.7	2.69	SS, GY F-MG	
765	12650.0-51.0	0.11	0.08	0.04	9.0	11.1	41.6	2.67	SS, GY F-MG	
766	12651.0-52.0	0.13	0.04	0.05	9.3	12.6	27.3	2.68	SS, GY F-MG	
767	12652.0-53.0	0.30	0.15	0.03	9.7	12.0	15.0	2.68	SS, GY F-MG	
768	12653.0-54.0	0.17	0.17	0.03	11.1	10.4	20.7	2.68	SS, GY F-MG	
769	12654.0-55.0	0.25	0.14	0.03	11.4	12.2	26.4	2.68	SS, GY F-MG	
770	12655.0-56.0	0.24	0.11	0.03	11.8	11.4	21.0	2.67	SS, GY F-MG	
771	12656.0-57.0	0.04	0.02	<0.01	10.4	10.1	10.1	2.69	SS, GY F-MG	
772	12657.0-58.0	0.08	0.07	<0.01	11.4	12.0	26.1	2.68	SS, GY F-MG	
773	12658.0-59.0	0.02	*	0.01	9.1	10.8	14.4	2.61	SS, GY F-MG	
774	12659.0-60.0	0.05	*	0.02	8.7	8.6	14.3	2.64	SS, GY F-MG	
775	12660.0-61.0	0.09	0.08	<0.01	12.1	15.4	24.1	2.68	SS, GY F-MG	
776	12661.0-62.0	0.07	0.05	<0.01	10.4	9.8	24.5	2.67	SS, GY F-MG	
777	12662.0-63.0	0.05	0.04	<0.01	11.4	7.4	18.6	2.69	SS, GY F-MG	
778	12663.0-64.0	0.06	0.04	<0.01	9.8	11.4	16.3	2.67	SS, GY F-MG	
779	12664.0-65.0	0.05	*	0.03	9.8	12.5	16.0	2.64	SS, GY F-MG	
780	12665.0-66.0	0.07	*	0.27	10.6	13.4	19.1	2.64	SS, GY F-MG	
781	12666.0-67.0	0.03	0.03	<0.01	12.0	9.6	12.8	2.67	SS, GY F-MG	
782	12667.0-68.0	0.06	0.02	<0.01	10.2	18.4	20.7	2.67	SS, GY F-MG	VF
783	12668.0-69.0	0.12	*	0.08	10.1	10.0	16.7	2.64	SS, GY F-MG	
784	12669.0-70.0	0.07	*	0.07	7.4	12.4	14.2	2.64	SS, GY F-MG	
785	12670.0-71.0	0.03	0.03	<0.01	10.7	8.3	4.1	2.68	SS, GY F-MG	
786	12671.0-72.0	0.04	0.03	<0.01	10.2	10.0	30.1	2.67	SS, GY F-MG	
787	12672.0-73.0	0.05	*	0.02	9.4	12.0	20.6	2.64	SS, GY F-MG	
788	12673.0-74.0	0.06	0.03	<0.01	12.5	14.9	27.6	2.70	SS, GY F-MG	
789	12674.0-75.0	0.02	0.01	<0.01	10.4	8.3	13.9	2.68	SS, GY F-MG	
790	12675.0-76.0	0.10	*	0.02	10.9	8.9	14.9	2.64	SS, GY F-MG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
791	12676.0-77.0	0.02	0.02	<0.01	7.3	10.1	14.4	2.64	SS, GY F-MG
792	12677.0-78.0	0.02	<0.01	<0.01	9.9	11.0	15.8	2.67	SS, GY F-MG
793	12678.0-79.0	0.02	<0.01	<0.01	10.2	13.6	27.2	2.67	SS, GY F-MG
794	12679.0-80.0	0.02	0.01	<0.01	11.2	4.5	23.9	2.68	SS, GY F-MG
795	12680.0-81.0	0.02	0.02	<0.01	11.7	9.0	19.5	2.67	SS, GY F-MG
796	12681.0-82.0	0.03	0.02	<0.01	10.7	12.5	23.2	2.67	SS, GY F-MG
797	12682.0-83.0	0.02	0.01	<0.01	10.4	15.1	17.7	2.66	SS, GY F-MG
798	12683.0-84.0	0.05	*	0.02	7.6	16.4	23.5	2.65	SS, GY F-MG
799	12684.0-85.0	0.02	0.01	<0.01	7.1	23.7	43.5	2.69	SS, GY F-MG
800	12685.0-86.0	0.02	<0.01	<0.01	11.3	9.2	18.3	2.66	SS, GY F-MG
801	12686.0-87.0	0.07	0.05	0.03	14.0	11.7	19.4	2.73	SS, GY F-MG
802	12687.0-88.0	0.02	0.01	0.04	9.1	8.3	29.2	2.72	SS, GY F-MG
803	12688.0-89.0	0.01	<0.01	0.03	10.2	12.1	24.2	2.65	SS, GY F-MG
804	12689.0-90.0	0.02	*	0.02	9.6	13.8	25.4	2.65	SS, GY F-MG
805	12690.0-91.0	0.09	0.06	0.04	12.1	9.9	24.7	2.71	SS, GY F-MG
806	12691.0-92.0	0.21	0.07	0.03	11.3	12.0	20.0	2.71	SS, GY F-MG
807	12692.0-93.0	0.08	0.03	0.04	11.7	14.2	21.2	2.74	SS, GY F-MG
808	12693.0-94.0	0.01	<0.01	0.04	9.2	16.1	21.5	2.68	SS, GY F-MG
809	12694.0-95.0	<0.01	<0.01	0.04	11.4	18.3	31.3	2.75	SS, GY F-MG
810	12695.0-96.0	<0.01	<0.01	0.04	8.3	15.6	31.1	2.69	SS, GY F-MG
811	12696.0-97.0	<0.01	<0.01	0.04	8.4	15.9	29.2	2.70	SS, GY F-MG
812	12697.0-98.0	0.02	<0.01	0.03	7.7	20.4	23.8	2.70	SS, GY F-MG
813	12698.0-99.0	0.01	<0.01	0.04	9.1	16.6	27.6	2.71	SS, GY F-MG
814	12699.0-00.0	0.01	<0.01	<0.01	10.9	7.1	8.9	2.69	SS, GY F-MG
815	12700.0-01.0	0.02	0.02	<0.01	12.5	4.8	20.6	2.72	SS, GY F-MG
816	12701.0-02.0	0.02	0.02	<0.01	12.5	6.6	16.4	2.71	SS, GY F-MG
817	12702.0-03.0	0.01	<0.01	<0.01	11.7	0.0	27.9	2.76	SS, GY F-MG
818	12703.0-04.0	0.01	<0.01	<0.01	10.3	10.6	16.6	2.66	SS, GY F-MG
819	12704.0-05.0	<0.01	<0.01	<0.01	10.4	11.3	22.5	2.67	SS, GY F-MG
820	12705.0-06.0	0.05	*	0.02	10.0	17.9	32.9	2.64	SS, GY F-MG

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
821	12706.0-07.0	<0.01	<0.01	<0.01	9.7	11.4	31.3	2.72	SS, GY F-MG
822	12707.0-08.0	<0.01	<0.01	<0.01	10.9	9.1	34.2	2.70	SS, GY F-MG
823	12708.0-09.0	<0.01	<0.01	<0.01	14.3	9.8	21.2	2.79	SS, GY F-MG
824	12709.0-10.0	0.01	<0.01	<0.01	10.7	12.9	9.2	2.67	SS, GY F-MG
825	12710.0-11.0	0.05	*	0.05	9.4	6.3	20.5	2.64	SS, GY F-MG
826	12711.0-12.0	0.02	0.01	<0.01	13.6	7.6	24.6	2.74	SS, GY F-MG
827	12712.0-13.0	0.03	0.01	<0.01	11.9	6.8	20.3	2.70	SS, GY F-MG
828	12713.0-14.0	0.04	0.02	<0.01	15.3	7.5	24.3	2.80	SS, GY F-MG
829	12714.0-15.0	0.05	0.03	<0.01	12.0	6.6	23.1	2.70	SS, GY F-MG
830	12715.0-16.0	0.07	*	0.07	10.9	9.3	12.4	2.64	SS, GY F-MG
831	12716.0-17.0	1.40	0.01	<0.01	11.8	10.9	16.3	2.70	SS, BF F-MG
832	12717.0-18.0	1.15	<0.01	<0.01	12.9	9.7	13.9	2.70	SS, BF F-MG
833	12718.0-19.0	0.84	0.01	<0.01	10.9	12.6	27.4	2.68	SS, BF F-MG
834	12719.0-20.0	1.22	0.01	<0.01	11.0	11.9	20.4	2.68	SS, BF F-MG
835	12720.0-21.0	1.41	0.01	<0.01	10.6	12.8	17.6	2.66	SS, BF F-MG
836	12721.0-22.0	0.47	<0.01	<0.01	11.4	14.2	24.3	2.69	SS, BF F-MG
837	12722.0-23.0	0.18	<0.01	<0.01	11.0	11.7	19.5	2.68	SS, BF F-MG
838	12723.0-24.0	0.52	<0.01	<0.01	11.0	10.2	17.0	2.70	SS, BF F-MG
839	12724.0-25.0	0.59	<0.01	<0.01	10.8	9.5	14.3	2.70	SS, BF F-MG
840	12725.0-26.0	0.45	<0.01	<0.01	7.5	5.0	2.5	2.73	SS, BF F-MG
841	12726.0-27.0	0.42	<0.01	<0.01	10.7	0.0	62.7	2.75	SS, LTRD F-MG
842	12727.0-28.0	0.19	<0.01	<0.01	7.2	0.0	61.4	2.72	SS, LTRD F-MG
843	12728.0-29.0	0.17	<0.01	<0.01	5.2	0.0	69.4	2.69	SS, LTRD F-MG
844	12729.0-30.0	0.24	<0.01	<0.01	5.2	0.0	39.7	2.71	SS, LTRD F-MG
845	12730.0-31.0	0.25	<0.01	<0.01	5.9	0.0	63.6	2.71	SS, LTRD F-MG
846	12731.0-32.0	0.50	<0.01	<0.01	5.5	0.0	64.1	2.70	SS, LTRD F-MG
847	12732.0-33.0	0.22	<0.01	<0.01	7.2	0.0	57.0	2.69	SS, LTRD F-MG
848	12733.0-34.0	0.26	<0.01	<0.01	5.5	0.0	51.0	2.58	SS, LTRD F-MG
849	12734.0-35.0	0.39	<0.01	<0.01	5.2	0.0	55.5	2.68	SS, LTRD F-MG
	12735.0-39.0								LOST CORE

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Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
850	12739.0-40.0	0.23	<0.01	<0.01	6.5	0.0	6.4	2.70	SS, LTRD F-MG	
851	12740.0-41.0	0.02	*	0.02	5.5	0.0	31.1	2.66	SS, BF F-MG	
852	12741.0-42.0	0.02	0.02	0.02	8.9	11.9	23.7	2.72	SS, BF F-MG	
853	12742.0-43.0	0.02	*	0.02	4.3	0.0	65.6	2.67	SS, BF F-MG	
854	12743.0-44.0	2.28	0.03	<0.01	7.6	10.8	24.4	2.72	SS, BF F-MG	
855	12744.0-45.0	4.67	0.06	<0.01	7.8	10.7	26.8	2.67	SS, BF F-MG	
856	12745.0-46.0	1632.	0.23	<0.01	9.3	11.0	23.9	2.68	SS, BF F-MG	
857	12746.0-47.0	3.05	0.04	<0.01	9.0	12.0	15.9	2.66	SS, BF F-MG	
858	12747.0-48.0	5.83	0.07	<0.01	8.1	12.3	18.5	2.67	SS, BF F-MG	
859	12748.0-49.0	0.05	*	0.02	8.5	10.2	23.0	2.65	SS, BF F-MG	
860	12749.0-50.0	243.	2.12	0.33	7.6	10.6	23.9	2.66	SS, BF F-MG	VF
861	12750.0-51.0	0.02	*	0.02	5.2	10.2	20.5	2.65	SS, BF F-MG	
862	12751.0-52.0	0.12	*	0.02	6.5	5.0	15.0	2.65	SS, BF F-MG	
863	12752.0-53.0	0.05	*	0.05	9.2	8.8	15.5	2.65	SS, BF F-MG	
864	12753.0-54.0	9.64	0.07	0.03	8.7	10.1	17.6	2.69	SS, BF F-MG	
865	12754.0-55.0	0.02	*	0.02	8.5	13.6	15.8	2.64	SS, BF F-MG	
866	12755.0-56.0	113.	0.31	0.02	11.1	12.2	16.3	2.70	SS, BF F-MG	HF
867	12756.0-57.0	2.29	0.04	<0.01	10.8	13.0	13.0	2.69	SS, BF F-MG	
868	12757.0-58.0	17.	0.15	<0.01	5.9	16.9	56.4	2.64	SS, BF F-MG	
869	12758.0-59.0	1.73	0.03	<0.01	8.6	9.4	25.0	2.67	SS, BF F-MG	
870	12759.0-60.0	6.89	0.09	<0.01	9.4	10.9	21.8	2.68	SS, BF F-MG	
871	12760.0-61.0	0.02	*	0.02	9.4	13.4	44.6	2.64	SS, BF F-MG	
872	12761.0-62.0	0.02	*	0.02	9.4	19.3	14.5	2.65	SS, BF F-MG	
873	12762.0-63.0	0.02	*	0.02	9.7	0.0	42.8	2.65	SS, BF F-MG	
874	12763.0-64.0	0.47	<0.01	<0.01	6.6	0.0	72.4	2.71	SS, BF F-MG	
875	12764.0-65.0	0.70	<0.01	<0.01	8.0	17.2	47.2	2.70	SS, BF F-MG	
876	12765.0-66.0	1.15	0.01	<0.01	10.1	11.1	27.7	2.71	SS, BF F-MG	
877	12766.0-67.0	0.70	<0.01	<0.01	9.2	11.5	28.7	2.71	SS, BF F-MG	
878	12767.0-68.0	0.69	<0.01	<0.01	7.1	13.4	13.4	2.69	SS, BF F-MG	
879	12768.0-69.0	1.16	<0.01	<0.01	8.4	11.7	35.0	2.71	SS, BF F-MG	

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16-20U ANSCHUTZ RANCH E.

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
880	12769.0-70.0	18.	0.08	<0.01	7.8	13.0	29.2	2.70	SS, BF F-MG	
881	12770.0-71.0	<0.01	<0.01	<0.01	5.8	16.0	28.0	2.74	SS, BF F-MG	
882	12771.0-72.0	0.02	*	0.02	4.6	0.0	74.0	2.68	SS, BF F-MG	
883	12772.0-73.0	1.53	1.15	1.34	16.5	5.7	14.2	2.69	SS, BF F-MG	HF
884	12773.0-74.0	0.68	0.65	0.09	15.0	8.8	14.7	2.72	SS, BF F-MG	
885	12774.0-75.0	1.52	1.12	0.93	13.7	5.8	14.4	2.67	SS, BF F-MG	
886	12775.0-76.0	0.30	0.20	0.11	13.1	10.6	26.5	2.67	SS, BF F-MG	
887	12776.0-77.0	0.27	0.13	0.27	14.2	9.5	16.4	2.66	SS, BF F-MG	
888	12777.0-78.0	0.05	0.04	<0.01	13.9	9.3	14.6	2.68	SS, BF F-MG	
889	12778.0-79.0	0.06	0.02	<0.01	10.5	11.9	11.9	2.60	SS, BF F-MG	
890	12779.0-80.0	0.82	0.39	0.28	13.1	9.7	11.1	2.63	SS, BF F-MG	
891	12780.0-81.0	0.26	0.12	0.35	14.2	11.6	11.6	2.68	SS, GY F-MG	
892	12781.0-82.0	0.06	0.05	0.09	11.4	10.2	13.6	2.66	SS, GY F-MG	
893	12782.0-83.0	0.06	0.06	<0.01	11.3	9.0	16.6	2.66	SS, GY F-MG	
894	12783.0-84.0	0.04	0.03	<0.01	11.4	10.4	11.9	2.66	SS, GY F-MG	
895	12784.0-85.0	0.08	0.07	<0.01	10.4	9.7	11.3	2.65	SS, GY F-MG	
896	12785.0-86.0	0.09	0.07	<0.01	10.0	8.5	14.8	2.66	SS, GY F-MG	
897	12786.0-87.0	0.04	0.04	<0.01	8.3	10.5	10.5	2.67	SS, BF F-MG	
898	12787.0-88.0	0.02	*	0.04	10.8	6.9	18.9	2.64	SS, BF F-MG	
899	12788.0-89.0	0.02	0.01	<0.01	9.7	10.5	17.6	2.66	SS, BF F-MG	
900	12789.0-90.0	0.02	<0.01	<0.01	10.3	10.6	26.5	2.72	SS, BF F-MG	
901	12790.0-91.0	0.03	0.03	<0.01	10.6	8.0	24.0	2.68	SS, BF F-MG	
902	12791.0-92.0	0.04	0.02	<0.01	9.2	10.9	9.3	2.67	SS, BF F-MG	
903	12792.0-93.0	0.03	0.03	<0.01	12.3	7.3	26.7	2.70	SS, BF F-MG	
904	12793.0-94.0	0.07	0.02	<0.01	9.3	0.0	57.4	2.71	SS, BF F-MG	
905	12794.0-95.0	0.03	0.03	<0.01	10.3	8.9	17.9	2.67	SS, BF F-MG	
906	12795.0-96.0	0.02	0.02	<0.01	7.6	11.2	29.8	2.68	SS, BF F-MG	
907	12796.0-97.0	0.02	0.01	<0.01	8.5	13.0	32.5	2.69	SS, BF F-MG	
908	12797.0-98.0	0.07	0.04	<0.01	8.8	0.0	3.8	2.67	SS, BF F-MG	
	12798.0-99.0								TOO BROKEN FOR ANALYSIS	

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
909	12799.0-00.0	0.02	0.01	<0.01	8.0	0.0	44.2	2.67	SS, BF F-MG	
910	12800.0-01.0	0.46	0.05	<0.01	8.4	7.1	16.6	2.69	SS, BF F-MG	
911	12801.0-02.0	0.09	0.05	<0.01	8.0	10.0	13.3	2.71	SS, BF F-MG	
912	12802.0-03.0	0.09	0.07	<0.01	10.5	0.0	5.9	2.67	SS, BF F-MG	
913	12803.0-04.0	0.10	0.06	<0.01	11.4	0.0	5.2	2.67	SS, BF F-MG	
914	12804.0-05.0	0.86	0.09	<0.01	10.6	8.4	4.2	2.70	SS, BF F-MG	
915	12805.0-06.0	1.14	1.14	<0.01	10.5	8.6	11.5	2.70	SS, BF F-MG	
916	12806.0-07.0	407.	0.02	<0.01	9.7	8.9	13.4	2.68	SS, BF F-MG	HF
917	12807.0-08.0	0.03	0.03	<0.01	9.7	0.0	10.2	2.67	SS, BF F-MG	
918	12808.0-09.0	0.06	0.03	<0.01	10.7	9.5	4.8	2.71	SS, BF F-MG	
919	12809.0-10.0	0.35	0.28	<0.01	8.2	6.7	5.0	2.67	SS, BF F-MG	
920	12810.0-11.0	3.35	0.04	<0.01	9.3	6.5	13.0	2.67	SS, BF F-MG	HF
921	12811.0-12.0	0.32	*	0.07	11.0	7.1	21.4	2.67	SS, BF F-MG	
922	12812.0-13.0	10.	0.06	0.31	10.3	0.0	18.8	2.70	SS, BF F-MG	HF
923	12813.0-14.0	0.02	0.01	<0.01	8.9	7.5	12.6	2.68	SS, BF F-MG	
924	12814.0-15.0	0.03	0.01	<0.01	9.2	8.0	21.4	2.66	SS, BF F-MG	
925	12815.0-16.0	0.02	0.01	<0.01	8.6	9.9	19.8	2.71	SS, BF F-MG	
926	12816.0-17.0	0.02	0.01	<0.01	14.4	0.0	17.3	2.67	SS, BF F-MG	
927	12817.0-18.0	0.45	0.25	<0.01	9.7	1.5	24.2	2.67	SS, BF F-MG	
928	12818.0-19.0	0.06	0.05	<0.01	7.8	7.4	17.2	2.66	SS, BF F-MG	HF
929	12819.0-20.0	10.	8.42	<0.01	7.0	0.0	24.1	2.69	SS, BF F-MG	HF
930	12820.0-21.0	0.03	0.01	<0.01	3.7	0.0	48.3	2.66	SS, BF F-MG	
931	12821.0-22.0	0.02	0.01	<0.01	6.7	0.0	18.4	2.67	SS, LTRD F-MG	
932	12822.0-23.0	0.01	<0.01	<0.01	6.8	0.0	28.9	2.67	SS, LTRD F-MG	
933	12823.0-24.0	2.39	2.14	<0.01	5.1	9.9	23.2	2.68	SS, LTRD F-MG	HF
934	12824.0-25.0	0.02	<0.01	<0.01	5.3	0.0	30.2	2.68	SS, LTRD F-MG	
935	12825.0-26.0	0.01	<0.01	0.18	7.7	0.0	17.6	2.67	SS, GY F-MG	
936	12826.0-27.0	<0.01	<0.01	<0.01	7.2	0.0	17.0	2.67	SS, GY F-MG	
937	12827.0-28.0	0.02	<0.01	<0.01	7.7	0.0	9.3	2.67	SS, GY F-MG	
938	12828.0-29.0	0.02	<0.01	<0.01	6.6	1.9	15.5	2.66	SS, GY F-MG	

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939	12829.0-30.0	0.06	0.04	<0.01	7.5	1.7	6.8	2.65	SS, GY F-MG	
940	12830.0-31.0	0.12	0.09	0.09	6.6	2.1	17.0	2.65	SS, GY F-MG	
941	12831.0-32.0	0.02	<0.01	<0.01	6.8	0.0	33.7	2.66	SS, LTRD F-MG	
942	12832.0-33.0	0.02	0.01	<0.01	5.0	0.0	44.3	2.67	SS, LTRD F-MG	
943	12833.0-34.0	0.01	<0.01	<0.01	7.4	0.0	33.0	2.66	SS, LTRD F-MG	
944	12834.0-35.0	0.02	*	0.03	6.6	3.5	13.8	2.65	SS, LTRD F-MG	
945	12835.0-36.0	0.02	0.01	<0.01	9.2	0.0	24.2	2.81	SS, LTRD F-MG	
946	12836.0-37.0	1.88	0.28	<0.01	7.0	0.0	31.3	2.68	SS, LTRD F-MG	
947	12837.0-38.0	0.21	0.07	<0.01	5.0	0.0	16.5	2.67	SS, LTRD F-MG	VF
948	12838.0-39.0	0.15	0.09	<0.01	5.4	0.0	15.4	2.67	SS, LTRD F-MG	
949	12839.0-40.0	0.12	0.07	0.90	5.2	2.9	17.6	2.68	SS, LTRD F-MG	
950	12840.0-41.0	0.10	0.07	<0.01	6.5	2.6	15.7	2.66	SS, LTRD F-MG	
951	12841.0-42.0	0.02	*	0.03	6.3	0.0	30.5	2.65	SS, LTRD F-MG	
952	12842.0-43.0	1.08	0.90	<0.01	14.7	0.0	9.5	2.67	SS, LTRD F-MG	
953	12843.0-44.0	0.04	*	0.04	8.1	0.0	28.7	2.64	SS, LTRD F-MG	
954	12844.0-45.0	0.15	0.11	0.04	6.3	0.0	24.5	2.67	SS, LTRD F-MG	
955	12845.0-46.0	0.17	0.05	<0.01	5.8	0.0	17.8	2.68	SS, LTRD F-MG	
956	12846.0-47.0	0.06	0.06	<0.01	6.9	0.0	30.7	2.68	SS, LTRD F-MG	
957	12847.0-48.0	0.06	0.03	<0.01	5.8	0.0	19.3	2.67	SS, LTRD F-MG	
958	12848.0-49.0	0.13	0.09	<0.01	5.9	0.0	32.0	2.66	SS, LTRD F-MG	
959	12849.0-50.0	0.07	0.06	<0.01	5.9	4.7	18.6	2.67	SS, LTRD F-MG	
960	12850.0-51.0	0.02	*	0.03	5.8	0.0	9.6	2.64	SS, LTRD F-MG	
961	12851.0-52.0	0.17	0.10	<0.01	5.6	0.0	39.1	2.67	SS, LTRD F-MG	
	12852.0-54.0								LOST CORE	
962	12854.0-55.0	0.04	0.02	<0.01	7.4	0.0	19.1	2.71	SS, LTRD F-MG	
963	12855.0-56.0	0.07	0.05	0.06	8.0	0.0	4.5	2.70	SS, LTRD F-MG	
964	12856.0-57.0	0.07	0.04	<0.01	6.9	0.0	20.3	2.68	SS, LTRD F-MG	
965	12857.0-58.0	0.06	0.04	<0.01	6.6	0.0	33.4	2.68	SS, LTRD F-MG	
966	12858.0-59.0	0.06	0.04	<0.01	6.6	0.0	31.8	2.70	SS, LTRD F-MG	
967	12859.0-60.0	0.06	0.03	<0.01	5.9	0.0	31.0	2.68	SS, LTRD F-MG	

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
968	12860.0-61.0	0.08	0.06	<0.01	6.8	0.0	40.5	2.68	SS, LTRD F-MG	
969	12861.0-62.0	0.07	0.04	0.19	5.9	0.0	35.1	2.69	SS, LTRD F-MG	
970	12862.0-63.0	7.09	1.08	<0.01	5.2	0.0	34.7	2.68	SS, LTRD F-MG	
971	12863.0-64.0	24.	<0.01	0.01	5.9	0.0	29.1	2.67	SS, LTRD F-MG	HF
972	12864.0-65.0	<0.01	<0.01	<0.01	5.4	9.4	18.8	2.67	SS, LTRD F-MG	
973	12865.0-66.0	12.	9.32	<0.01	7.0	1.6	29.6	2.67	SS, LTRD F-MG	HF
974	12866.0-67.0	0.01	<0.01	<0.01	5.7	0.0	36.2	2.66	SS, LTRD F-MG	
975	12867.0-68.0	0.01	<0.01	0.04	6.2	0.0	49.9	2.67	SS, LTRD F-MG	
976	12868.0-69.0	0.04	*	0.03	7.0	0.0	42.7	2.65	SS, LTRD F-MG	
977	12869.0-70.0	<0.01	<0.01	<0.01	6.2	0.0	27.0	2.66	SS, LTRD F-MG	
978	12870.0-71.0	<0.01	<0.01	<0.01	6.2	0.0	22.4	2.67	SS, LTRD F-MG	
979	12871.0-72.0	0.03	0.01	<0.01	6.2	0.0	33.0	2.68	SS, LTRD F-MG	
980	12872.0-73.0	0.04	*	0.03	5.9	0.0	24.4	2.65	SS, LTRD F-MG	
981	12873.0-74.0	0.02	0.02	0.02	5.4	0.0	47.4	2.68	SS, LTRD F-MG	
982	12874.0-75.0	0.01	<0.01	<0.01	5.1	0.0	44.0	2.68	SS, LTRD F-MG	
983	12875.0-76.0	0.02	0.01	<0.01	3.7	0.0	62.3	2.68	SS, LTRD F-MG	
984	12876.0-77.0	<0.01	<0.01	<0.01	5.2	0.0	6.6	2.67	SS, LTRD F-MG	
985	12877.0-78.0	6.49	3.97	19.	4.8	0.0	12.2	2.66	SS, LTRD F-MG	HF
986	12878.0-79.0	<0.01	<0.01	<0.01	5.4	0.0	21.5	2.66	SS, LTRD F-MG	
987	12879.0-80.0	<0.01	<0.01	<0.01	4.9	0.0	26.8	2.65	SS, LTRD F-MG	
988	12880.0-81.0	0.24	0.05	<0.01	5.1	0.0	38.8	2.67	SS, LTRD F-MG	HF
989	12881.0-82.0	0.05	0.05	<0.01	4.3	0.0	43.4	2.65	SS, LTRD F-MG	
990	12882.0-83.0	0.01	<0.01	<0.01	5.4	0.0	42.7	2.66	SS, LTRD F-MG	
991	12883.0-84.0	0.91	0.15	<0.01	6.2	0.0	17.2	2.66	SS, GY F-MG	
992	12884.0-85.0	0.03	*	0.03	6.7	0.0	9.3	2.65	SS, GY F-MG	
993	12885.0-86.0	0.21	0.15	<0.01	5.9	0.0	62.2	2.67	SS, GY F-MG	
994	12886.0-87.0	0.02	0.01	<0.01	6.2	0.0	39.5	2.66	SS, GY F-MG	
995	12887.0-88.0	0.13	0.07	<0.01	4.9	12.5	20.8	2.65	SS, GY F-MG	
996	12888.0-89.0	0.19	0.08	<0.01	5.2	17.4	21.8	2.68	SS, GY F-MG	
997	12889.0-90.0	0.74	0.53	0.04	5.3	0.0	61.8	2.67	SS, GY F-MG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION	
998	12890.0-91.0	0.23	0.20	0.02	5.0	0.0	55.8	2.67	SS, GY F-MG	
999	12891.0-92.0	0.12	0.09	2.07	5.7	0.0	55.3	2.67	SS, GY F-MG	
1000	12892.0-93.0	0.04	*	0.03	6.8	0.0	37.2	2.65	SS, GY F-MG	
1001	12893.0-94.0	1.96	0.98	<0.01	5.5	0.0	45.5	2.66	SS, BF M-FG	
1002	12894.0-95.0	0.06	0.03	<0.01	5.3	0.0	35.8	2.66	SS, BF M-FG	
1003	12895.0-96.0	0.12	0.03	<0.01	5.3	0.0	50.5	2.65	SS, BF M-FG	
1004	12896.0-97.0	0.04	*	0.03	8.3	0.0	52.4	2.66	SS, BF M-FG	
1005	12897.0-98.0	0.06	0.06	<0.01	5.6	0.0	25.5	2.66	SS, BF M-FG	
1006	12898.0-99.0	1.43	0.09	<0.01	5.1	0.0	34.8	2.65	SS, BF M-FG	
1007	12899.0-00.0	0.01	<0.01	<0.01	6.3	0.0	27.2	2.68	SS, BF M-FG	
1008	12900.0-01.0	<0.01	<0.01	<0.01	4.7	0.0	52.7	2.71	SS, BF M-FG	
1009	12901.0-02.0	0.01	<0.01	<0.01	5.0	0.0	57.7	2.70	SS, LTRD M-FG	
1010	12902.0-03.0	<0.01	<0.01	<0.01	1.5	0.0	47.4	2.60	SS, LTRD M-FG	
1011	12903.0-04.0	<0.01	<0.01	<0.01	4.2	0.0	55.3	2.67	SS, LTRD M-FG	
1012	12904.0-05.0	<0.01	<0.01	<0.01	4.2	0.0	51.6	2.67	SS, LTRD M-FG	
1013	12905.0-06.0	<0.01	<0.01	7.41	4.4	0.0	46.6	2.67	SS, LTRD M-FG	
1014	12906.0-07.0	<0.01	<0.01	<0.01	4.5	0.0	45.6	2.68	SS, LTRD M-FG	
1015	12907.0-08.0	<0.01	<0.01	<0.01	4.8	0.0	52.9	2.69	SS, LTRD M-FG	
1016	12908.0-09.0	7.84	0.35	0.09	3.7	0.0	51.3	2.69	SS, LTRD M-FG	V&HF
1017	12909.0-10.0	<0.01	<0.01	<0.01	4.0	0.0	56.7	2.69	SS, LTRD M-FG	
1018	12910.0-11.0	0.63	0.03	<0.01	5.7	0.0	51.2	2.69	SS, LTRD M-FG	VF
	12911.0-13.0								TOO BROKEN FOR ANALYSIS	
1019	12913.0-14.0	0.05	0.02	<0.01	7.5	0.0	25.9	2.66	SS, LTRD M-FG	
1020	12914.0-15.0	0.03	0.01	0.10	6.4	0.0	20.5	2.58	SS, LTRD M-FG	
1021	12915.0-16.0	0.04	0.03	0.16	8.5	1.9	15.5	2.65	SS, BF M-FG	
1022	12916.0-17.0	0.04	0.03	0.25	8.8	7.9	9.9	2.66	SS, BF M-FG	
1023	12917.0-18.0	0.05	0.03	0.24	9.1	7.2	9.6	2.66	SS, BF M-FG	VF
1024	12918.0-19.0	0.09	0.03	0.13	9.5	0.0	6.9	2.67	SS, BF M-FG	
1025	12919.0-20.0	0.12	0.09	0.09	9.5	6.8	6.8	2.66	SS, BF M-FG	
1026	12920.0-21.0	0.12	0.09	0.20	9.6	4.6	6.9	2.66	SS, BF M-FG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1027	12921.0-22.0	0.16	*	0.12	9.5	9.2	9.2	2.64	SS, BF M-FG	
1028	12922.0-23.0	0.18	0.12	0.24	10.3	6.8	6.8	2.66	SS, BF M-FG	
1029	12923.0-24.0	0.16	0.11	0.27	10.2	6.4	12.9	2.66	SS, BF M-FG	
1030	12924.0-25.0	0.37	0.15	0.01	9.6	5.6	7.5	2.66	SS, BF M-FG	VF
1031	12925.0-26.0	0.10	0.07	0.05	10.0	6.7	9.0	2.67	SS, BF M-FG	
1032	12926.0-27.0	0.97	0.06	0.24	5.2	0.0	26.1	2.70	SS, BF M-FG	VF
1033	12927.0-28.0	8.23	3.33	1.99	4.3	0.0	52.5	2.72	SS, BF M-FG	HF
1034	12928.0-29.0	0.04	*	0.03	8.7	0.0	63.4	2.65	SS, BF M-FG	
1035	12929.0-30.0	35.	13.	0.04	6.7	0.0	21.4	2.68	SS, BF M-FG	HF
1036	12930.0-31.0	0.07	<0.01	<0.01	7.0	0.0	41.9	2.68	SS, BF M-FG	
1037	12931.0-32.0	0.01	<0.01	<0.01	8.2	0.0	24.0	2.71	SS, BF M-FG	
1038	12932.0-33.0	0.04	*	0.04	7.9	0.0	17.0	2.65	SS, BF M-FG	
1039	12933.0-34.0	0.01	<0.01	<0.01	7.4	0.0	22.7	2.69	SS, BF M-FG	
1040	12934.0-35.0	<0.01	<0.01	<0.01	6.7	0.0	32.7	2.69	SS, BF M-FG	
1041	12935.0-36.0	0.04	*	0.02	6.8	0.0	9.0	2.64	SS, BF M-FG	
1042	12936.0-37.0	0.77	0.03	0.64	4.9	0.0	40.1	2.66	SS, BF M-FG	V&HF
1043	12937.0-38.0	0.02	0.01	<0.01	8.0	0.0	27.0	2.73	SS, BF M-FG	
1044	12938.0-39.0	0.02	0.01	<0.01	5.6	0.0	35.2	2.67	SS, BF M-FG	
1045	12939.0-40.0	0.02	0.02	<0.01	5.0	0.0	38.7	2.67	SS, BF M-FG	
1046	12940.0-41.0	0.03	<0.01	<0.01	5.6	0.0	41.5	2.68	SS, BF M-FG	
1047	12941.0-42.0	0.04	0.04	<0.01	5.2	0.0	40.2	2.69	SS, BF M-FG	
1048	12942.0-43.0	0.04	*	0.02	6.3	0.0	11.8	2.65	SS, BF M-FG	
1049	12943.0-44.0	0.02	0.02	1.12	5.3	0.0	29.4	2.71	SS, BF M-FG	VF
1050	12944.0-45.0	0.01	<0.01	<0.01	6.0	0.0	26.3	2.69	SS, BF M-FG	
1051	12945.0-46.0	0.04	<0.01	<0.01	5.2	0.0	36.6	2.67	SS, BF M-FG	
1052	12946.0-47.0	0.02	<0.01	<0.01	6.3	0.0	35.4	2.69	SS, BF M-FG	
1053	12947.0-48.0	0.02	0.01	<0.01	5.8	0.0	51.4	2.70	SS, BF M-FG	
1054	12948.0-49.0	0.02	0.01	<0.01	6.2	0.0	54.9	2.69	SS, BF M-FG	
1055	12949.0-50.0	0.01	<0.01	0.03	6.7	0.0	61.3	2.71	SS, BF M-FG	
1056	12950.0-51.0	0.02	0.02	<0.01	6.6	0.0	54.3	2.70	SS, BF M-FG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1057	12951.0-52.0	0.05	0.03	<0.01	6.5	0.0	13.0	2.69	SS, BF M-FG	
1058	12952.0-53.0	0.02	<0.01	<0.01	6.3	0.0	53.1	2.70	SS, BF M-FG	
)1059	12953.0-54.0	0.05	<0.01	<0.01	9.5	0.0	51.0	2.70	SS, BF M-FG	VF
1060	12954.0-55.0	0.04	<0.01	<0.01	7.0	0.0	45.2	2.70	SS, BF M-FG	VF
1061	12955.0-56.0	0.03	0.01	<0.01	5.8	0.0	50.6	2.70	SS, BF M-FG	
1062	12956.0-57.0	0.04	0.03	<0.01	5.4	0.0	63.9	2.70	SS, BF M-FG	
1063	12957.0-58.0	0.02	0.01	<0.01	5.4	0.0	59.0	2.70	SS, BF M-FG	
1064	12958.0-59.0	0.03	0.02	<0.01	5.6	0.0	63.1	2.70	SS, BF M-FG	
1065	12959.0-60.0	0.02	*	0.02	6.2	0.0	56.4	2.70	SS, BF M-FG	
1066	12960.0-61.0	0.02	*	0.01	5.1	0.0	72.1	2.71	SS, BF M-FG	
1067	12961.0-62.0	0.05	0.02	<0.01	4.5	0.0	44.4	2.68	SS, BF M-FG	
1068	12962.0-63.0	0.10	0.08	<0.01	5.4	0.0	32.1	2.67	SS, BF M-FG	H&VF
1069	12963.0-64.0	0.06	0.04	0.01	5.2	0.0	23.3	2.67	SS, BF M-FG	
1070	12964.0-65.0	0.04	*	0.04	5.0	0.0	40.6	2.69	SS, BF M-FG	
1071	12965.0-66.0	0.04	0.01	<0.01	6.7	0.0	9.2	2.68	SS, LTGY M-FG	
1072	12966.0-67.0	0.11	0.04	<0.01	6.1	0.0	45.0	2.67	SS, LTGY M-FG	
1073	12967.0-68.0	0.08	0.06	<0.01	5.5	0.0	22.5	2.68	SS, LTGY M-FG	
1074	12968.0-69.0	0.07	0.04	<0.01	5.4	0.0	30.0	2.68	SS, LTGY M-FG	
)1075	12969.0-70.0	0.03	0.03	<0.01	6.2	0.0	48.2	2.70	SS, LTGY M-FG	
)1076	12970.0-71.0	0.03	0.01	<0.01	5.0	0.0	48.5	2.68	SS, LTGY M-FG	
	12971.0-73.0								TOO BROKEN FOR ANALYSIS	
1077	12973.0-74.0	0.02	*	0.03	5.1	0.0	46.3	2.67	SS, LTGY M-FG	
1078	12974.0-75.0	0.08	0.05	<0.01	6.6	0.0	51.2	2.68	SS, LTGY M-FG	
1079	12975.0-76.0	0.04	0.03	<0.01	6.6	0.0	46.5	2.69	SS, LTGY M-FG	
1080	12976.0-77.0	<0.01	<0.01	<0.01	6.3	0.0	35.6	2.68	SS, LTGY M-FG	
1081	12977.0-78.0	0.05	*	0.02	4.8	0.0	53.7	2.71	SS, GY M-FG	
1082	12978.0-79.0	1.51	0.02	<0.01	4.6	11.5	46.1	2.69	SS, GY M-FG	
1083	12979.0-80.0	0.02	0.02	<0.01	6.7	2.0	12.1	2.68	SS, GY M-FG	
1084	12980.0-81.0	0.03	0.01	<0.01	7.5	0.0	17.2	2.66	SS, LTGY M-FG	
1085	12981.0-82.0	13.	0.04	<0.01	8.9	0.0	10.7	2.67	SS, LTGY M-FG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION	
1086	12982.0-83.0	0.08	0.02	<0.01	7.7	0.0	4.4	2.66	SS, LTGY M-FG	
1087	12983.0-84.0	46.	0.45	0.05	7.5	0.0	6.4	2.66	SS, LTGY M-FG	
1088	12984.0-85.0	0.05	*	0.02	7.2	0.0	27.5	2.65	SS, LTGY M-FG	
1089	12985.0-86.0	0.03	0.01	<0.01	7.7	0.0	16.7	2.67	SS, LTGY M-FG	
1090	12986.0-87.0	0.03	0.03	<0.01	7.0	3.4	13.4	2.65	SS, LTGY M-FG	
1091	12987.0-88.0	0.08	0.08	<0.01	8.5	0.0	7.0	2.65	SS, GY M-FG	
1092	12988.0-89.0	0.05	*	0.02	6.1	5.3	26.6	2.64	SS, LTGY M-FG	
1093	12989.0-90.0	0.29	0.09	0.01	7.9	8.5	17.0	2.65	SS, LTGY M-FG	
1094	12990.0-91.0	0.05	*	0.07	7.2	3.5	14.1	2.64	SS, LTGY M-FG	
1095	12991.0-92.0	0.05	*	0.05	4.2	0.0	47.4	2.64	SS, LTGY M-FG	
1096	12992.0-93.0	0.01	0.01	<0.01	6.0	0.0	15.7	2.68	SS, LTGY M-FG	
1097	12993.0-94.0	0.03	0.03	<0.01	4.6	0.0	23.0	2.66	SS, LTGY M-FG	
1098	12994.0-95.0	0.01	<0.01	<0.01	6.0	0.0	22.3	2.68	SS, LTGY M-FG	
1099	12995.0-96.0	26.	19.	<0.01	5.9	0.0	47.8	2.70	SS, LTGY M-FG	HF
1100	12996.0-97.0	<0.01	<0.01	<0.01	6.9	0.0	46.9	2.68	SS, LTGY M-FG	
1101	12997.0-98.0	0.77	0.02	<0.01	6.7	0.0	32.7	2.70	SS, LTGY M-FG	
1102	12998.0-99.0	0.11	0.09	<0.01	4.3	0.0	40.4	2.70	SS, GY M-FG	
1103	12999.0-00.0	0.04	0.02	<0.01	6.1	0.0	33.2	2.67	SS, LTGY M-FG	
1104	13000.0-01.0	0.02	0.01	<0.01	5.9	0.0	52.4	2.68	SS, GY M-FG	
1105	13001.0-02.0	3.33	0.03	<0.01	7.1	0.0	13.2	2.67	SS, LTGY M-FG	
1106	13002.0-03.0	0.02	0.01	<0.01	5.8	0.0	49.6	2.66	SS, LTGY M-FG	
1107	13003.0-04.0	0.02	0.02	<0.01	6.2	0.0	15.1	2.66	SS, LTGY M-FG	
1108	13004.0-05.0	0.04	0.03	<0.01	6.8	0.0	5.9	2.66	SS, LTGY M-FG	
1109	13005.0-06.0	19.	11.	0.02	7.1	0.0	20.3	2.67	SS, LTGY M-FG	
1110	13006.0-07.0	0.05	*	0.04	6.8	0.0	14.0	2.65	SS, LTGY M-FG	
1111	13007.0-08.0	0.03	0.02	<0.01	6.9	0.0	13.2	2.68	SS, LTGY VFG DOL	
1112	13008.0-09.0	0.01	0.01	<0.01	5.4	0.0	34.4	2.65	SS, LTGY VFG	
1113	13009.0-10.0	0.03	0.02	<0.01	6.6	0.0	10.4	2.66	SS, LTGY VFG	HF
1114	13010.0-11.0	0.02	0.02	<0.01	5.5	0.0	11.5	2.66	SS, LTGY VFG	
1115	13011.0-12.0	0.14	0.09	0.04	4.4	0.0	11.3	2.65	SS, LTGY VFG	

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1116	13012.0-13.0	<0.01	<0.01	<0.01	5.2	0.0	11.8	2.67	SS, LTGY VFG	
1117	13013.0-14.0	0.04	<0.01	0.07	5.3	0.0	6.0	2.67	SS, LTGY VFG	
1118	13014.0-15.0	0.04	0.01	0.01	6.3	0.0	9.0	2.66	SS, LTGY VFG	
1119	13015.0-16.0	0.24	0.09	0.42	8.3	0.0	5.9	2.70	SS, LTGY VFG	VF
1120	13016.0-17.0	0.01	0.01	0.02	5.8	0.0	19.7	2.67	SS, LTGY VFG	
1121	13017.0-18.0	0.02	<0.01	<0.01	4.4	0.0	11.6	2.66	SS, LTGY VFG	
1122	13018.0-19.0	0.16	0.06	0.29	5.1	0.0	13.6	2.66	SS, CRM VFG	VF
1123	13019.0-20.0	0.05	0.02	0.04	6.4	0.0	8.2	2.66	SS, CRM VFG	VF
1124	13020.0-21.0	0.01	0.01	<0.01	6.1	0.0	9.3	2.67	SS, CRM VFG	
1125	13021.0-22.0	1.95	0.49	0.09	5.6	0.0	20.8	2.66	SS, CRM VFG	HF
1126	13022.0-23.0	0.04	0.01	0.02	4.3	0.0	33.1	2.68	SS, CRM VFG	V&HF
1127	13023.0-24.0	0.02	0.01	<0.01	6.0	0.0	16.2	2.67	SS, CRM VFG	
1128	13024.0-25.0	0.03	0.01	0.02	7.3	0.0	13.5	2.68	SS, CRM VFG SL/DOL	
1129	13025.0-26.0	0.02	*	0.18	6.4	0.0	4.3	2.65	SS, CRM VFG	
1130	13026.0-27.0	0.02	0.01	<0.01	7.5	0.0	4.3	2.68	SS, CRM VFG	
1131	13027.0-28.0	0.04	0.01	0.08	5.8	0.0	6.2	2.65	SS, LTGY VFG	
1132	13028.0-29.0	0.18	0.17	0.02	7.7	18.1	6.0	2.67	SS, LTGY VFG	
1133	13029.0-30.0	0.09	0.05	0.03	7.8	12.8	6.4	2.66	SS, LTGY VFG	
1134	13030.0-31.0	0.16	0.05	0.05	8.4	30.0	30.0	2.66	SS, LTGY VFG	
1135	13031.0-32.0	0.19	0.10	0.12	7.0	14.9	14.9	2.67	SS, LTGY VFG	VF
	13032.0-33.0								LOST CORE	
1136	13033.0-34.0	0.56	0.10	0.23	9.2	0.0	44.8	2.67	SS, LTGY VFG	VF
1137	13034.0-35.0	0.40	0.10	0.04	9.2	15.7	39.3	2.67	SS, LTGY VFG	
1138	13035.0-36.0	0.10	0.03	0.03	8.4	7.5	22.6	2.70	SS, LTGY VFG	
1139	13036.0-37.0	0.08	0.07	0.17	7.6	0.0	11.8	2.68	SS, LTGY VFG	VF
1140	13037.0-38.0	1.15	0.03	0.37	5.4	0.0	18.5	2.68	SS, LTGY VFG	VF
1141	13038.0-39.0	0.04	0.02	<0.01	5.0	0.0	10.3	2.69	SS, LTGY VFG	
1142	13039.0-40.0	4.64	0.17	0.48	7.1	6.1	12.2	2.68	SS, LTGY VFG	VF
1143	13040.0-41.0	0.17	0.02	0.02	6.4	0.0	15.6	2.68	SS, LTGY VFG	
1144	13041.0-42.0	2.41	0.42	0.22	7.9	0.0	6.6	2.67	SS, LTGY VFG	VF

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1145	13042.0-43.0	0.05	*	0.05	6.7	5.9	2.9	2.66	SS, LTGY VFG	
1146	13043.0-44.0	0.05	*	0.05	6.5	0.0	14.4	2.67	SS, LTGY VFG	
1147	13044.0-45.0	0.24	0.17	0.19	7.6	0.0	16.4	2.67	SS, LTGY VFG	
1148	13045.0-46.0	0.02	*	0.02	6.6	0.0	3.4	2.66	SS, LTGY VFG	
1149	13046.0-47.0	0.05	*	0.05	6.7	0.0	3.3	2.67	SS, LTGY VFG	
1150	13047.0-48.0	20.	2.55	0.26	6.0	0.0	28.9	2.67	SS, LTGY VFG	HF
1151	13048.0-49.0	0.12	0.04	0.03	6.6	0.0	6.5	2.67	SS, LTGY VFG	VF
1152	13049.0-50.0	0.05	*	0.02	5.6	0.0	12.8	2.67	SS, LTGY VFG	
1153	13050.0-51.0	470.	0.44	0.01	7.1	0.0	1.8	2.67	SS, LTGY VFG	VF
1154	13051.0-52.0	4.64	0.15	0.73	8.0	12.4	6.2	2.68	SS, LTGY VFG	VF
1155	13052.0-53.0	1.52	0.57	0.15	6.8	0.0	3.3	2.68	SS, LTGY VFG	VF
1156	13053.0-54.0	0.03	*	0.02	6.2	0.0	6.3	2.65	SS, LTGY VFG	
1157	13054.0-55.0	0.19	0.16	0.04	6.4	0.0	7.3	2.67	SS, LTGY VFG	
1158	13055.0-56.0	0.03	*	62.	6.4	0.0	2.0	2.67	SS, LTGY VFG	
1159	13056.0-57.0	0.02	*	0.03	6.8	0.0	19.3	2.67	SS, LTGY VFG	
1160	13057.0-58.0	0.09	0.05	0.03	8.8	0.0	25.0	2.68	SS, LTGY VFG	
1161	13058.0-59.0	1.17	0.10	0.13	6.4	0.0	6.3	2.68	SS, LTGY VFG	VF
1162	13059.0-60.0	0.03	*	0.03	4.6	0.0	39.8	2.68	SS, LTGY VFG	
1163	13060.0-61.0	0.13	0.09	0.15	5.9	0.0	8.0	2.68	SS, LTGY VFG	HF
1164	13061.0-62.0	0.09	0.05	0.08	6.3	0.0	22.1	2.68	SS, LTGY VFG	
1165	13062.0-63.0	0.16	0.09	0.03	6.1	0.0	53.8	2.70	SS, LTGY VFG	
1166	13063.0-64.0	0.09	0.08	0.04	5.2	0.0	71.6	2.69	SS, LTGY VFG	
1167	13064.0-65.0	0.14	0.07	0.17	4.4	0.0	70.3	2.70	SS, LTGY VFG	V&HF
1168	13065.0-66.0	0.23	*	0.03	3.9	0.0	29.0	2.70	SS, LTGY VFG	
1169	13066.0-67.0	4.07	*	1.50	4.2	0.0	6.3	2.66	SS, LTGY VFG	
1170	13067.0-68.0	0.79	*	0.02	5.7	0.0	9.1	2.65	SS, LTGY VFG	
1171	13068.0-69.0	0.30	0.08	0.52	6.8	0.0	6.7	2.67	SS, LTGY VFG	VF
1172	13069.0-70.0	0.08	*	0.03	6.4	0.0	5.9	2.65	SS, LTGY VFG	
1173	13070.0-71.0	0.02	*	0.02	5.4	0.0	88.7	2.66	SS, LTGY VFG	
1174	13071.0-72.0	0.02	*	0.03	13.1	0.0	20.6	2.65	SS, LTGY VFG	

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Petroleum Reservoir Engineering

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1175	13072.0-73.0	1174.	0.21	0.07	5.8	0.0	17.4	2.68	SS, LTGY VFG	VF
1176	13073.0-74.0	0.02	*	0.02	2.3	0.0	44.7	2.64	SS, LTGY VFG	VF
1177	13074.0-75.0	0.21	0.07	0.06	7.2	0.0	12.9	2.68	SS, LTGY VFG	V&HF
1178	13075.0-76.0	0.06	0.04	0.03	9.3	0.0	8.6	2.69	SS, LTGY VFG	
1179	13076.0-77.0	0.02	*	0.03	7.1	0.0	7.0	2.65	SS, LTGY VFG	
1180	13077.0-78.0	0.02	*	0.02	5.5	4.0	8.1	2.66	SS, LTGY VFG	
1181	13078.0-79.0	0.03	*	0.03	5.7	0.0	5.3	2.66	SS, LTGY VFG	
1182	13079.0-80.0	0.02	*	0.02	5.3	0.0	53.8	2.67	SS, LTGY VFG	
1183	13080.0-81.0	0.02	*	0.02	6.1	0.0	36.0	2.66	SS, LTGY VFG	
1184	13081.0-82.0	1.57	0.07	0.07	7.3	2.2	13.3	2.67	SS, LTGY VFG	VF
1185	13082.0-83.0	0.02	*	0.02	5.7	0.0	5.4	2.65	SS, LTGY VFG	
1186	13083.0-84.0	0.46	0.15	0.16	7.6	24.5	61.3	2.68	SS, LTGY VFG	VF
1187	13084.0-85.0	0.02	*	0.02	6.3	0.0	7.6	2.65	SS, LTGY VFG	
1188	13085.0-86.0	0.09	0.06	0.04	6.3	0.0	21.3	2.68	SS, LTGY VFG	
1189	13086.0-87.0	0.13	0.11	0.15	5.9	0.0	47.6	2.66	SS, LTGY VFG	
1190	13087.0-88.0	0.87	0.07	0.39	7.6	0.0	19.3	2.64	SS, LTGY VFG	
1191	13088.0-89.0	0.03	*	0.02	6.1	6.5	13.0	2.68	SS, LTGY VFG	
1192	13089.0-90.0	0.04	0.04	0.04	6.1	3.6	21.9	2.67	SS, LTGY VFG	
	13090.0-93.0								TOO BROKEN FOR ANALYSIS	
1193	13093.0-94.0	0.05	*	0.04	4.7	0.0	18.8	2.67	SS, LTGY VFG	
1194	13094.0-95.0	7.57	2.79	0.06	5.4	7.6	45.7	2.68	SS, LTGY VFG	V&HF
1195	13095.0-96.0	0.10	0.04	0.24	6.3	0.0	50.1	2.69	SS, LTGY VFG	VF
1196	13096.0-97.0	3.86	0.07	0.03	6.1	0.0	42.4	2.68	SS, LTGY VFG	HF
1197	13097.0-98.0	0.02	*	0.03	6.2	0.0	27.5	2.67	SS, LTGY VFG	
1198	13098.0-99.0	0.03	*	0.03	6.6	0.0	22.7	2.65	SS, LTGY VFG	
1199	13099.0-00.0	0.02	*	0.02	5.3	0.0	31.3	2.65	SS, LTGY VFG	
1200	13100.0-01.0	0.06	0.04	0.04	6.6	0.0	23.3	2.67	SS, LTGY VFG	
1201	13101.0-02.0	0.07	0.05	0.04	5.9	0.0	45.2	2.67	SS, GY FG	
1202	13102.0-03.0	0.35	0.25	0.44	6.9	0.0	25.0	2.68	SS, GY FG	VF
1203	13103.0-04.0	0.02	<0.01	0.02	6.9	0.0	41.2	2.67	SS, GY FG	

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1204	13104.0-05.0	4.29	1.14	0.29	8.5	0.0	87.8	2.67	SS, GY FG	V&HF
1205	13105.0-06.0	0.27	0.05	11.	6.1	0.0	31.7	2.68	SS, GY FG	VF
1206	13106.0-07.0	0.05	0.04	<0.01	6.3	0.0	23.3	2.67	SS, GY FG	
1207	13107.0-08.0	0.17	0.04	0.02	7.6	3.4	20.4	2.67	SS, GY FG	
1208	13108.0-09.0	0.04	0.03	<0.01	7.3	0.0	13.8	2.67	SS, GY FG	
1209	13109.0-10.0	0.02	0.01	0.06	7.7	0.0	9.6	2.67	SS, GY FG	
1210	13110.0-11.0	0.03	0.01	0.13	6.8	0.0	25.2	2.67	SS, GY FG	
1211	13111.0-12.0	0.02	0.01	4.96	7.7	0.0	6.2	2.66	SS, BF F-MG	VF
1212	13112.0-13.0	0.03	0.03	0.04	8.3	0.0	3.1	2.66	SS, BF F-MG	VF
1213	13113.0-14.0	0.03	*	0.03	6.0	4.3	21.3	2.62	SS, BF F-MG	
1214	13114.0-15.0	0.02	*	0.03	6.9	6.4	16.0	2.65	SS, BF F-MG	
1215	13115.0-16.0	0.02	*	0.02	6.9	0.0	36.6	2.65	SS, BF F-MG	
1216	13116.0-17.0	0.03	<0.01	0.01	6.5	0.0	4.7	2.66	SS, BF F-MG	
1217	13117.0-18.0	15.	9.37	0.75	6.8	0.0	25.3	2.66	SS, BF F-MG	V&HF
1218	13118.0-19.0	9.56	5.31	0.75	6.8	0.0	37.3	2.66	SS, BF F-MG	V&HF
1219	13119.0-20.0	0.02	*	0.03	6.9	0.0	17.8	2.65	SS, BF F-MG	
1220	13120.0-21.0	0.10	0.03	0.01	6.9	0.0	32.5	2.67	SS, BF F-MG	
1221	13121.0-22.0	0.03	*	0.03	6.2	0.0	15.9	2.66	SS, BF F-MG	
1222	13122.0-23.0	0.05	0.02	0.02	7.2	0.0	7.6	2.66	SS, BF F-MG	
1223	13123.0-24.0	0.15	0.06	5.83	6.7	0.0	10.1	2.66	SS, BF F-MG	VF
1224	13124.0-25.0	0.03	*	0.03	4.6	0.0	15.0	2.66	SS, BF F-MG	
1225	13125.0-26.0	0.37	0.01	<0.01	6.0	0.0	12.6	2.67	SS, BF F-MG	VF
1226	13126.0-27.0	0.03	0.02	0.02	6.7	0.0	31.5	2.67	SS, BF F-MG	
1227	13127.0-28.0	0.05	0.01	0.02	7.4	0.0	7.4	2.66	SS, BF F-MG	
1228	13128.0-29.0	1.04	0.07	<0.01	7.3	0.0	6.3	2.66	SS, BF F-MG	
1229	13129.0-30.0	0.32	0.05	0.01	7.0	0.0	5.8	2.66	SS, BF F-MG	
1230	13130.0-31.0	0.06	0.04	<0.01	7.0	5.8	17.5	2.66	SS, BF F-MG	
1231	13131.0-32.0	78.	1.23	0.01	6.8	0.0	6.0	2.66	SS, BF F-MG	V&HF
1232	13132.0-33.0	0.03	0.01	0.03	6.6	0.0	11.6	2.66	SS, BF F-MG	
1233	13133.0-34.0	0.08	0.07	0.02	6.9	0.0	10.7	2.66	SS, BF F-MG	

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1234	13134.0-35.0	0.03	*	0.03	6.3	0.0	9.5	2.64	SS, BF F-MG	
1235	13135.0-36.0	0.07	0.04	<0.01	6.2	0.0	26.5	2.66	SS, BF F-MG	
1236	13136.0-37.0	0.05	0.05	<0.01	5.9	0.0	24.3	2.66	SS, BF F-MG	
1237	13137.0-38.0	0.11	*	0.02	4.9	0.0	20.6	2.65	SS, BF F-MG	
1238	13138.0-39.0	0.02	0.01	<0.01	6.1	0.0	31.6	2.66	SS, BF F-MG	
1239	13139.0-40.0	1.57	0.03	0.01	6.2	5.7	22.8	2.66	SS, BF F-MG	
1240	13140.0-41.0	0.06	0.01	0.01	5.0	0.0	48.8	2.66	SS, BF F-MG	
1241	13141.0-42.0	0.08	0.05	<0.01	4.9	0.0	27.3	2.66	SS, BF F-MG	VF
1242	13142.0-43.0	1.21	0.94	<0.01	4.5	0.0	50.8	2.67	SS, BF F-MG	
1243	13143.0-44.0	1.06	0.32	<0.01	4.2	0.0	54.7	2.67	SS, BF F-MG	V&HF
1244	13144.0-45.0	0.02	*	0.02	6.4	0.0	62.2	2.65	SS, BF F-MG	
1245	13145.0-46.0	0.11	0.05	<0.01	5.6	0.0	5.7	2.67	SS, BF F-MG	
1246	13146.0-47.0	0.04	0.04	0.01	5.4	0.0	7.1	2.66	SS, BF F-MG	
1247	13147.0-48.0	0.09	0.06	<0.01	3.5	0.0	19.4	2.65	SS, BF F-MG	
1248	13148.0-49.0	0.05	0.03	<0.01	6.8	3.8	11.5	2.66	SS, BF F-MG	
1249	13149.0-50.0	0.14	0.05	<0.01	6.8	0.0	19.0	2.66	SS, BF F-MG	
1250	13150.0-51.0	0.04	<0.01	<0.01	6.3	0.0	10.3	2.67	SS, BF F-MG	
1251	13151.0-52.0	1.07	0.37	<0.01	6.8	0.0	13.1	2.67	SS, BF F-MG	
1252	13152.0-53.0	0.22	<0.01	<0.01	5.8	0.0	8.2	2.67	SS, BF F-MG	
1253	13153.0-54.0	0.02	*	0.02	5.9	0.0	9.8	2.65	SS, BF F-MG	
1254	13154.0-55.0	<0.01	<0.01	<0.01	6.2	0.0	18.8	2.68	SS, LTRD F-MG	
1255	13155.0-56.0	<0.01	<0.01	0.42	6.1	0.0	7.0	2.66	SS, LTRD F-MG	
1256	13156.0-57.0	<0.01	<0.01	<0.01	6.7	0.0	10.0	2.67	SS, LTRD F-MG	
1257	13157.0-58.0	<0.01	<0.01	<0.01	5.3	0.0	5.9	2.67	SS, LTRD F-MG	
1258	13158.0-59.0	<0.01	<0.01	<0.01	5.4	0.0	26.8	2.67	SS, LTRD F-MG	
1259	13159.0-60.0	<0.01	<0.01	0.99	5.7	0.0	18.4	2.67	SS, LTRD F-MG	VF
1260	13160.0-61.0	<0.01	<0.01	<0.01	5.1	0.0	20.5	2.66	SS, LTRD F-MG	
1261	13161.0-62.0	<0.01	<0.01	0.02	6.1	0.0	27.4	2.69	SS, LTRD F-MG	HF
1262	13162.0-63.0	0.02	0.01	0.01	4.0	0.0	32.7	2.67	SS, LTRD F-MG	V&HF
1263	13163.0-64.0	<0.01	<0.01	0.06	4.1	0.0	9.5	2.68	SS, BF F-MG	

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Petroleum Reservoir Engineering

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
1264	13164.0-65.0	607.	<0.01	0.04	8.9	0.0	8.6	2.80	SS, BF F-MG HF
1265	13165.0-66.0	5.23	0.26	0.69	6.3	0.0	8.0	2.70	SS, BF F-MG HF
)1266	13166.0-67.0	3.00	<0.01	0.01	8.4	0.0	7.7	2.66	SS, BF F-MG HF
1267	13167.0-68.0	<0.01	<0.01	0.02	7.0	0.0	6.9	2.67	SS, BF F-MG
1268	13168.0-69.0	<0.01	<0.01	<0.01	5.5	0.0	32.6	2.65	SS, BF F-MG
1269	13169.0-70.0	0.02	*	0.02	6.2	0.0	15.3	2.66	SS, BF F-MG
1270	13170.0-71.0	<0.01	<0.01	<0.01	6.1	0.0	10.3	2.66	SS, BF F-MG
1271	13171.0-72.0	<0.01	<0.01	<0.01	5.7	0.0	19.8	2.67	SS, BF F-MG
1272	13172.0-73.0	<0.01	*	<0.01	7.9	0.0	50.9	2.65	SS, BF F-MG
1273	13173.0-74.0	1304.	<0.01	<0.01	7.2	0.0	8.2	2.66	SS, BF F-MG HF
1274	13174.0-75.0	<0.01	<0.01	<0.01	8.4	3.9	3.9	2.65	SS, BF F-MG
1275	13175.0-76.0	0.02	*	0.02	8.7	3.0	3.0	2.65	SS, BF F-MG
	13176.0-83.0								TOO BROKEN FOR ANALYSIS
1276	13183.0-84.0	<0.01	<0.01	<0.01	9.2	8.9	3.0	2.67	SS, BF F-MG
1277	13184.0-85.0	0.06	<0.01	0.62	9.1	3.9	3.9	2.67	SS, BF F-MG VF
1278	13185.0-86.0	0.03	<0.01	<0.01	10.6	7.7	2.6	2.78	SS, GY F-MG SL/SHY SL/DOL
1279	13186.0-87.0	<0.01	<0.01	<0.01	10.1	7.2	1.8	2.66	SS, GY F-MG SL/SHY SL/DOL
1280	13187.0-88.0	0.02	*	0.02	10.5	6.7	2.2	2.66	SS, GY F-MG
)1281	13188.0-89.0	2.48	0.23	0.76	11.5	3.8	3.8	2.66	SS, GY VFG V&HF
1282	13189.0-90.0	0.24	<0.01	0.24	6.5	0.0	12.0	2.65	SS, GY VFG
1283	13190.0-91.0	0.05	*	0.02	7.1	0.0	14.9	2.67	SS, GY VFG
1284	13191.0-92.0	5.30	0.36	0.02	7.3	0.0	14.0	2.67	SS, GY VFG VF
1285	13192.0-93.0	17.	<0.01	<0.01	5.8	6.6	6.6	2.67	SS, GY VFG VF
1286	13193.0-94.0	0.14	0.02	<0.01	6.0	19.8	19.8	2.67	SS, GY VFG VF
1287	13194.0-95.0	0.15	0.05	<0.01	6.3	0.0	19.2	2.67	SS, GY VFG
1288	13195.0-96.0	26.	6.96	<0.01	5.7	15.3	15.3	2.67	SS, GY VFG VF
1289	13196.0-97.0	1.01	<0.01	<0.01	6.2	0.0	8.2	2.67	SS, GY VFG
1290	13197.0-98.0	2.57	<0.01	0.27	7.0	15.4	15.4	2.68	SS, GY VFG VF
1291	13198.0-99.0	0.09	0.07	<0.01	5.6	0.0	16.2	2.67	SS, GY VFG
1292	13199.0-00.0	0.02	*	0.02	5.3	0.0	29.2	2.66	SS, GY VFG

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Petroleum Reservoir Engineering

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1293	13200.0-01.0	0.02	<0.01	<0.01	5.3	0.0	17.4	2.67	SS, GY VFG	
1294	13201.0-02.0	0.05	0.03	<0.01	5.9	0.0	6.9	2.67	SS, GY VFG	
1295	13202.0-03.0	0.32	0.05	0.01	6.5	9.5	4.8	2.67	SS, GY VFG	
1296	13203.0-04.0	0.02	*	0.02	6.1	4.5	4.5	2.65	SS, GY VFG	
1297	13204.0-05.0	0.05	0.03	<0.01	5.2	0.0	7.4	2.66	SS, GY VFG	
1298	13205.0-06.0	1.10	0.79	<0.01	5.3	0.0	27.3	2.67	SS, GY VFG	
1299	13206.0-07.0	0.84	0.11	<0.01	5.1	0.0	29.9	2.67	SS, GY VFG	
1300	13207.0-08.0	2.30	0.26	<0.01	5.6	0.0	14.6	2.67	SS, GY VFG	
1301	13208.0-09.0	2.64	0.06	0.01	4.5	0.0	28.9	2.67	SS, LTRD VFG	
	13209.0-10.0								TOO BROKEN FOR ANALYSIS	
	13210.0-12.0								LOST CORE	
1302	13212.0-13.0	1.15	<0.01	0.33	6.2	0.0	27.5	2.67	SS, LTRD VFG	
1303	13213.0-14.0	0.02	*	0.02	6.3	0.0	13.5	2.66	SS, LTRD VFG	
1304	13214.0-15.0	0.02	*	0.02	5.7	0.0	5.3	2.67	SS, LTRD VFG	
1305	13215.0-16.0	0.02	*	0.02	6.3	0.0	6.0	2.66	SS, LTRD VFG	
1306	13216.0-17.0	1.24	<0.01	<0.01	6.5	0.0	10.5	2.67	SS, LTRD VFG	VF
1307	13217.0-18.0	0.02	*	0.03	5.1	0.0	21.1	2.66	SS, LTRD VFG	
1308	13218.0-19.0	0.11	0.11	<0.01	5.6	0.0	27.5	2.66	SS, LTRD VFG	VF
1309	13219.0-20.0	0.02	0.02	1.04	5.5	0.0	32.5	2.67	SS, LTRD VFG	VF
1310	13220.0-21.0	0.01	<0.01	<0.01	5.3	0.0	23.8	2.67	SS, LTRD VFG	
1311	13221.0-22.0	0.02	<0.01	<0.01	6.1	0.0	36.1	2.72	SS, LTRD VFG	VF
1312	13222.0-23.0	0.04	<0.01	<0.01	5.0	0.0	17.3	2.67	SS, LTRD VFG	VF
1313	13223.0-24.0	<0.01	<0.01	<0.01	4.8	0.0	23.6	2.67	SS, LTRD VFG	VF
1314	13224.0-25.0	0.04	0.04	0.01	4.5	0.0	28.2	2.66	SS, LTRD VFG	VF
1315	13225.0-26.0	<0.01	<0.01	<0.01	5.9	0.0	11.0	2.67	SS, LTRD VFG	VF
1316	13226.0-27.0	<0.01	<0.01	<0.01	5.1	0.0	7.4	2.66	SS, LTRD VFG	VF
1317	13227.0-28.0	0.01	<0.01	<0.01	6.0	0.0	6.0	2.67	SS, LTRD VFG	
1318	13228.0-29.0	0.01	<0.01	<0.01	6.2	0.0	10.8	2.67	SS, LTRD VFG	
1319	13229.0-30.0	0.02	0.01	<0.01	4.1	0.0	13.0	2.59	SS, LTRD VFG	HF
1320	13230.0-31.0	0.01	<0.01	<0.01	5.9	0.0	8.3	2.67	SS, LTRD VFG	

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SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1321	13231.0-32.0	<0.01	<0.01	<0.01	6.7	4.8	14.5	2.67	SS, LTRD VFG	
1322	13232.0-33.0	<0.01	<0.01	<0.01	5.7	4.2	4.2	2.66	SS, LTRD VFG	
1323	13233.0-34.0	0.01	<0.01	<0.01	5.9	4.8	4.8	2.67	SS, LTRD VFG	VF
1324	13234.0-35.0	<0.01	<0.01	<0.01	7.0	0.0	7.9	2.66	SS, LTRD VFG	
1325	13235.0-36.0	0.03	0.01	0.01	7.1	4.0	8.0	2.66	SS, LTRD VFG	VF
1326	13236.0-37.0	2.72	2.39	0.01	6.5	4.0	7.9	2.66	SS, LTRD VFG	V&HF
1327	13237.0-38.0	0.02	<0.01	<0.01	5.8	4.7	4.7	2.65	SS, LTRD VFG	VF
1328	13238.0-39.0	0.83	0.23	<0.01	6.2	0.0	3.3	2.67	SS, LTRD VFG	VF
	13239.0-40.0								LOST CORE	
1329	13240.0-41.0	0.01	*	0.03	5.9	4.0	19.8	2.68	SS, LTRD VFG	
1330	13241.0-42.0	<0.01	<0.01	<0.01	6.3	0.0	20.1	2.66	SS, LTRD VFG	
1331	13242.0-43.0	0.03	<0.01	<0.01	6.3	3.0	15.2	2.66	SS, LTRD VFG	VF
1332	13243.0-44.0	0.02	*	0.02	6.6	0.0	9.1	2.66	SS, LTRD VFG	
1333	13244.0-45.0	0.02	*	0.03	6.1	0.0	25.4	2.67	SS, LTRD VFG	
1334	13245.0-46.0	0.02	*	0.02	5.8	0.0	42.2	2.68	SS, LTRD VFG	
1335	13246.0-47.0	0.03	*	0.03	9.7	0.0	7.7	2.67	SS, LTRD VFG	
1336	13247.0-48.0	<0.01	<0.01	37.	5.4	0.0	39.0	2.67	SS, LTRD VFG	VF
1337	13248.0-49.0	1.08	<0.01	0.02	6.6	5.8	11.6	2.66	SS, LTRD VFG	VF
1338	13249.0-50.0	<0.01	<0.01	0.08	6.0	0.0	16.7	2.66	SS, LTRD VFG	VF
1339	13250.0-51.0	0.19	<0.01	<0.01	6.3	8.1	16.3	2.66	SS, LTRD VFG	VF
1340	13251.0-52.0	0.08	<0.01	<0.01	6.6	0.0	12.5	2.66	SS, LTRD VFG	VF
1341	13252.0-53.0	0.03	*	0.03	6.6	0.0	22.3	2.66	SS, GY VFG	
1342	13253.0-54.0	0.03	*	0.03	5.9	0.0	21.0	2.62	SS, GY VFG	
1343	13254.0-55.0	<0.01	<0.01	<0.01	8.7	3.7	11.2	2.67	SS, GY VFG	
1344	13255.0-56.0	0.09	<0.01	5.05	9.3	4.5	6.7	2.66	SS, GY VFG	VF
1345	13256.0-57.0	7.81	<0.01	0.44	9.1	4.6	6.9	2.66	SS, GY VFG	VF
1346	13257.0-58.0	0.03	*	0.03	9.5	4.3	6.5	2.65	SS, GY VFG	
	13258.0-30.0								LOST CORE	
1347	13330.0-31.0	<0.01	<0.01	0.03	10.3	0.0	17.8	2.66	SS, GY VFG	
1348	13331.0-32.0	<0.01	<0.01	0.02	11.1	4.9	12.2	2.66	SS, GY VFG	

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1349	13332.0-33.0	0.09	<0.01	0.03	10.8	2.5	2.5	2.67	SS, GY VFG	VF
1350	13333.0-34.0	<0.01	<0.01	0.34	11.9	3.2	4.8	2.65	SS, GY VFG	VF
)1351	13334.0-35.0	17.	<0.01	0.04	12.0	4.5	11.2	2.68	SS, GY VFG	VF
1352	13335.0-36.0	<0.01	<0.01	0.04	11.1	4.4	8.9	2.66	SS, GY VFG	
1353	13336.0-37.0	<0.01	<0.01	0.17	10.3	3.4	5.0	2.66	SS, GY VFG	
1354	13337.0-38.0	<0.01	<0.01	0.04	12.2	3.3	4.9	2.66	SS, GY VFG	
1355	13338.0-39.0	<0.01	<0.01	0.49	10.7	3.5	5.2	2.67	SS, GY VFG	
1356	13339.0-40.0	<0.01	<0.01	0.09	11.3	3.3	8.2	2.66	SS, GY VFG	VF
1357	13340.0-41.0	<0.01	<0.01	0.95	9.9	3.7	5.6	2.66	SS, GY VFG	
1358	13341.0-42.0	<0.01	<0.01	0.01	10.9	3.1	6.3	2.66	SS, GY VFG	
1359	13342.0-43.0	0.03	*	0.03	9.3	6.3	6.3	2.66	SS, GY VFG	
1360	13343.0-44.0	<0.01	<0.01	0.04	10.1	6.1	10.2	2.66	SS, GY VFG	
1361	13344.0-45.0	0.03	*	0.03	7.9	2.8	2.8	2.65	SS, GY FG	
1362	13345.0-46.0	<0.01	<0.01	<0.01	5.9	0.0	7.8	2.66	SS, GY FG	
1363	13346.0-47.0	<0.01	<0.01	<0.01	6.0	0.0	5.1	2.66	SS, GY FG	
1364	13347.0-48.0	0.03	*	0.03	8.3	0.0	3.6	2.65	SS, GY FG	
1365	13348.0-49.0	<0.01	<0.01	0.09	7.1	5.0	2.5	2.66	SS, GY FG	
1366	13349.0-50.0	<0.01	<0.01	0.86	10.1	4.5	2.3	2.65	SS, GY FG	
)1367	13350.0-51.0	<0.01	<0.01	<0.01	10.9	7.8	2.0	2.66	SS, GY FG	
1368	13351.0-52.0	<0.01	<0.01	<0.01	11.5	3.5	3.5	2.65	SS, GY F-MG	
1369	13352.0-53.0	<0.01	<0.01	0.06	10.9	4.2	4.2	2.66	SS, GY F-MG	
1370	13353.0-54.0	<0.01	<0.01	<0.01	10.2	0.0	12.7	2.66	SS, GY FG	
1371	13354.0-55.0	<0.01	<0.01	1.04	10.7	4.4	6.6	2.66	SS, GY VFG	
1372	13355.0-56.0	49.	<0.01	0.04	8.5	0.0	17.0	2.66	SS, GY VFG	VF
1373	13356.0-57.0	<0.01	<0.01	29.	7.9	0.0	13.5	2.67	SS, GY VFG	VF
1374	13357.0-58.0	<0.01	<0.01	0.05	8.6	5.1	7.7	2.67	SS, GY VFG	
1375	13358.0-59.0	<0.01	<0.01	<0.01	11.1	6.3	10.4	2.66	SS, GY VFG	
1376	13359.0-60.0	<0.01	<0.01	<0.01	9.9	5.4	7.1	2.66	SS, GY VFG	
1377	13360.0-61.0	<0.01	<0.01	0.04	10.6	4.5	11.3	2.69	SS, GY VFG	
1378	13361.0-62.0	<0.01	<0.01	0.05	12.3	1.9	5.8	2.65	SS, GY VFG	

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1379	13362.0-63.0	<0.01	<0.01	0.01	11.6	7.2	1.8	2.65	SS, GY VFG	
1380	13363.0-64.0	<0.01	<0.01	0.92	10.4	6.0	2.0	2.66	SS, GY VFG	
)1381	13364.0-65.0	<0.01	<0.01	4.22	10.4	4.5	2.3	2.66	SS, GY VFG	
1382	13365.0-66.0	<0.01	<0.01	0.19	9.7	13.0	4.3	2.67	SS, GY VFG	
1383	13366.0-67.0	<0.01	<0.01	0.05	11.5	6.9	1.7	2.66	SS, GY VFG	
1384	13367.0-68.0	<0.01	<0.01	0.02	10.8	9.6	1.6	2.66	SS, GY VFG	
1385	13368.0-69.0	<0.01	<0.01	0.02	10.1	13.8	2.3	2.66	SS, GY VFG	
1386	13369.0-70.0	<0.01	<0.01	0.03	10.2	12.8	4.3	2.66	SS, GY VFG	
1387	13370.0-71.0	<0.01	<0.01	<0.01	11.2	9.9	7.4	2.65	SS, GY VFG	
1388	13371.0-72.0	<0.01	<0.01	<0.01	10.1	7.9	2.0	2.66	SS, GY VFG	HF
1389	13372.0-73.0	1270.	<0.01	<0.01	11.4	7.0	1.7	2.65	SS, GY VFG	
1390	13373.0-74.0	<0.01	<0.01	<0.01	10.2	7.8	2.0	2.66	SS, GY VFG	
1391	13374.0-75.0	<0.01	<0.01	<0.01	10.2	5.3	2.6	2.66	SS, GY VFG	
1392	13375.0-76.0	<0.01	<0.01	<0.01	10.7	3.9	3.9	2.65	SS, GY VFG	VF
1393	13376.0-77.0	0.29	<0.01	3.91	10.6	4.0	4.0	2.65	SS, GY VFG	VF
1394	13377.0-78.0	<0.01	<0.01	4.58	11.0	11.7	3.9	2.65	SS, GY VFG	
1395	13378.0-79.0	<0.01	<0.01	<0.01	11.6	8.3	2.1	2.68	SS, GY VFG	
1396	13379.0-80.0	<0.01	<0.01	<0.01	10.1	10.5	3.5	2.66	SS, GY VFG	
)1397	13380.0-81.0	<0.01	<0.01	2.84	10.1	0.0	3.1	2.66	SS, GY VFG	VF
1398	13381.0-82.0	<0.01	<0.01	<0.01	10.0	5.2	5.2	2.66	SS, GY VFG	
1399	13382.0-83.0	0.03	*	0.03	10.4	6.6	1.7	2.64	SS, GY VFG	
1400	13383.0-84.0	0.03	*	0.03	7.2	0.0	9.4	2.64	SS, GY VFG	
1401	13384.0-85.0	0.02	*	0.03	6.9	3.7	3.7	2.65	SS, GY VF-FG	
1402	13385.0-86.0	<0.01	<0.01	<0.01	6.4	0.0	14.8	2.66	SS, GY VF-FG	
1403	13386.0-87.0	0.02	*	0.04	8.0	2.6	13.0	2.68	SS, GY VF-FG SL/DOL	
1404	13387.0-88.0	<0.01	<0.01	<0.01	7.2	0.0	14.8	2.68	SS, GY VF-FG SL/DOL	
1405	13388.0-89.0	<0.01	<0.01	<0.01	6.7	4.6	23.2	2.68	SS, GY VF-FG SL/DOL	
1406	13389.0-90.0	<0.01	<0.01	<0.01	7.3	8.4	16.8	2.68	SS, GY VF-FG SL/DOL	
1407	13390.0-91.0	<0.01	<0.01	<0.01	7.4	0.0	23.4	2.67	SS, GY VF-FG SL/DOL	
1408	13391.0-92.0	<0.01	<0.01	<0.01	8.0	3.9	23.1	2.68	SS, GY VF-FG SL/DOL	

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
1409	13392.0-93.0	<0.01	*	0.09	7.2	5.1	15.3	2.68	SS, GY VF-FG SL/DOL VF
1410	13393.0-94.0	<0.01	<0.01	<0.01	7.0	5.9	5.9	2.68	SS, GY VF-FG SL/DOL
1411	13394.0-95.0	<0.01	<0.01	<0.01	7.2	3.9	3.9	2.68	SS, GY VF-FG SL/DOL
1412	13395.0-96.0	<0.01	<0.01	<0.01	7.4	4.4	4.4	2.68	SS, GY VF-FG SL/DOL
1413	13396.0-97.0	<0.01	<0.01	<0.01	7.7	0.0	3.8	2.67	SS, GY VF-FG SL/DOL
1414	13397.0-98.0	<0.01	<0.01	<0.01	7.7	0.0	4.6	2.67	SS, GY VF-FG SL/DOL
1415	13398.0-99.0	<0.01	<0.01	<0.01	7.5	0.0	3.4	2.67	SS, GY VF-FG SL/DOL
1416	13399.0-00.0	<0.01	<0.01	<0.01	9.6	6.3	3.2	2.69	SS, GY VF-FG SL/DOL
1417	13400.0-01.0	1589.	<0.01	1455.	7.7	7.4	1.9	2.66	SS, GY VF-FG VF
1418	13401.0-02.0	<0.01	<0.01	<0.01	8.8	8.3	2.8	2.66	SS, GY VF-FG
1419	13402.0-03.0	<0.01	<0.01	<0.01	10.3	8.8	4.4	2.66	SS, GY VF-FG
1420	13403.0-04.0	<0.01	<0.01	<0.01	0.3	8.6	2.9	2.66	SS, GY VF-FG
1421	13404.0-05.0	<0.01	<0.01	<0.01	9.5	7.5	1.9	2.65	SS, GY VF-FG
1422	13405.0-06.0	<0.01	<0.01	<0.01	10.4	6.9	4.6	2.65	SS, GY VF-FG
1423	13406.0-07.0	<0.01	<0.01	<0.01	10.5	8.1	2.0	2.65	SS, GY VF-FG
1424	13407.0-08.0	0.03	*	0.02	7.0	8.0	2.0	2.66	SS, GY VF-FG
1425	13408.0-09.0	<0.01	<0.01	<0.01	9.4	4.1	2.1	2.66	SS, GY VF-FG
1426	13409.0-10.0	<0.01	<0.01	<0.01	10.6	5.8	1.9	2.65	SS, GY VF-FG
1427	13410.0-11.0	<0.01	<0.01	<0.01	8.9	11.3	5.6	2.66	SS, GY VF-FG
1428	13411.0-12.0	<0.01	<0.01	<0.01	10.4	0.0	3.0	2.66	SS, GY VF-FG
1429	13412.0-13.0	<0.01	<0.01	<0.01	8.9	2.4	7.1	2.65	SS, GY VF-FG
1430	13413.0-14.0	<0.01	<0.01	<0.01	11.3	10.4	2.6	2.69	SS, GY VF-FG
1431	13414.0-15.0	<0.01	<0.01	<0.01	8.9	6.2	2.1	2.66	SS, GY VF-FG
1432	13415.0-16.0	<0.01	<0.01	<0.01	9.3	9.5	9.5	2.66	SS, GY VF-FG
1433	13416.0-17.0	<0.01	<0.01	<0.01	10.2	11.6	6.6	2.66	SS, GY VF-FG
1434	13417.0-18.0	<0.01	<0.01	<0.01	9.6	11.0	9.2	2.65	SS, GY VF-FG
1435	13418.0-19.0	<0.01	<0.01	<0.01	10.9	12.1	5.2	2.65	SS, GY VF-FG
	13419.0-20.0								LOST CORE
1436	13420.0-21.0	<0.01	<0.01	<0.01	10.1	7.0	2.3	2.65	SS, GY VF-FG
1437	13421.0-22.0	<0.01	<0.01	<0.01	9.9	4.1	4.1	2.66	SS, GY VF-FG

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
1438	13422.0-23.0	<0.01	<0.01	<0.01	8.8	0.0	2.1	2.67	SS, GY VF-FG
1439	13423.0-24.0	<0.01	<0.01	<0.01	8.9	6.8	4.5	2.67	SS, GY VF-FG
1440	13424.0-25.0	0.56	<0.01	<0.01	10.2	13.3	2.2	2.66	SS, GY VF-FG
1441	13425.0-26.0	<0.01	<0.01	<0.01	10.6	1.7	1.7	2.65	SS, GY VF-FG
1442	13426.0-27.0	<0.01	<0.01	<0.01	9.3	2.8	2.8	2.65	SS, GY VF-FG
1443	13427.0-28.0	<0.01	<0.01	<0.01	11.6	9.4	1.6	2.65	SS, GY VF-FG
1444	13428.0-29.0	<0.01	<0.01	<0.01	11.3	2.0	2.0	2.65	SS, GY VF-FG
1445	13429.0-30.0	<0.01	<0.01	<0.01	10.3	3.0	3.0	2.65	SS, GY VF-FG
1446	13430.0-31.0	<0.01	<0.01	<0.01	9.4	2.3	2.3	2.65	SS, GY VF-FG
1447	13431.0-32.0	<0.01	<0.01	<0.01	7.8	8.1	8.1	2.67	SS, GY VF-FG
1448	13432.0-33.0	0.07	<0.01	<0.01	8.9	2.1	2.1	2.66	SS, GY VF-FG
1449	13433.0-34.0	<0.01	<0.01	<0.01	8.3	6.5	2.2	2.66	SS, GY VF-FG
1450	13434.0-35.0	<0.01	<0.01	<0.01	8.4	0.0	3.3	2.67	SS, GY VF-FG
1451	13435.0-36.0	<0.01	<0.01	<0.01	7.8	7.2	2.4	2.65	SS, GY VF-FG
1452	13436.0-37.0	<0.01	<0.01	<0.01	8.4	0.0	9.0	2.66	SS, GY VF-FG
1453	13437.0-38.0	0.02	*	0.02	8.9	8.1	2.7	2.65	SS, GY VF-FG
1454	13438.0-39.0	1.16	<0.01	<0.01	10.2	0.0	2.2	2.66	SS, GY VF-FG
1455	13439.0-40.0	<0.01	<0.01	<0.01	11.0	8.1	2.7	2.65	SS, GY VF-FG
1456	13440.0-41.0	<0.01	<0.01	<0.01	10.2	6.0	3.0	2.66	SS, GY VF-FG
1457	13441.0-42.0	<0.01	<0.01	<0.01	7.5	6.6	4.4	2.66	SS, GY VF-FG
1458	13442.0-43.0	<0.01	<0.01	<0.01	9.9	7.8	2.6	2.65	SS, GY VF-FG
1459	13443.0-44.0	<0.01	<0.01	<0.01	10.4	7.1	2.4	2.66	SS, GY VF-FG
1460	13444.0-45.0	<0.01	<0.01	<0.01	8.9	4.0	2.0	2.67	SS, GY VF-FG
1461	13445.0-46.0	<0.01	<0.01	<0.01	9.4	0.0	2.4	2.66	SS, GY VF-FG
1462	13446.0-47.0	<0.01	<0.01	<0.01	10.2	6.5	2.2	2.62	SS, GY VF-FG
1463	13447.0-48.0	0.02	*	0.02	8.9	9.0	4.5	2.65	SS, GY VF-FG
1464	13448.0-49.0	0.02	*	0.02	6.9	0.0	5.2	2.67	SS, GY VF-FG
1465	13449.0-50.0	<0.01	<0.01	<0.01	9.1	4.6	2.3	2.62	SS, GY VF-FG
1466	13450.0-51.0	<0.01	<0.01	<0.01	10.5	4.3	2.2	2.66	SS, GY VF-FG
1467	13451.0-52.0	<0.01	<0.01	<0.01	8.8	2.0	2.0	2.66	SS, GY VF-FG

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Petroleum Reservoir Engineering

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
1468	13452.0-53.0	<0.01	<0.01	<0.01	10.7	7.2	2.4	2.65	SS, GY VF-FG
1469	13453.0-54.0	<0.01	<0.01	<0.01	8.7	7.0	2.3	2.66	SS, GY VF-FG
1470	13454.0-55.0	0.13	<0.01	<0.01	9.6	5.8	1.9	2.66	SS, GY VF-FG
1471	13455.0-56.0	0.36	<0.01	<0.01	10.2	11.2	1.9	2.66	SS, GY VF-FG
1472	13456.0-57.0	<0.01	<0.01	<0.01	11.6	1.3	2.6	2.65	SS, GY VF-FG
1473	13457.0-58.0	<0.01	<0.01	<0.01	11.0	6.9	1.7	2.65	SS, GY VF-FG
1474	13458.0-59.0	<0.01	<0.01	<0.01	10.8	5.9	2.0	2.65	SS, GY VF-FG
1475	13459.0-60.0	<0.01	<0.01	<0.01	10.8	5.0	1.7	2.65	SS, GY VF-FG
1476	13460.0-61.0	<0.01	<0.01	<0.01	11.5	0.0	3.3	2.65	SS, GY VF-FG
1477	13461.0-62.0	<0.01	<0.01	<0.01	10.9	6.6	3.3	2.65	SS, GY VF-FG
1478	13462.0-63.0	<0.01	<0.01	<0.01	11.7	0.0	2.0	2.65	SS, GY VF-FG
1479	13463.0-64.0	<0.01	<0.01	<0.01	12.0	0.0	5.3	2.65	SS, GY VF-FG
1480	13464.0-65.0	0.03	*	0.02	10.6	7.8	1.9	2.65	SS, GY VF-FG
1481	13465.0-66.0	<0.01	<0.01	<0.01	9.7	8.8	2.2	2.66	SS, GY VF-FG
1482	13466.0-67.0	0.02	*	0.02	10.3	4.6	2.3	2.63	SS, GY VF-FG
1483	13467.0-68.0	0.01	<0.01	<0.01	11.3	11.7	2.9	2.65	SS, GY VF-FG
1484	13468.0-69.0	0.03	*	0.02	9.8	8.8	2.2	2.64	SS, GY VF-FG
1485	13469.0-70.0	0.03	<0.01	0.02	9.9	6.3	2.1	2.67	SS, GY VF-FG
1486	13470.0-71.0	<0.01	<0.01	<0.01	11.4	8.1	2.0	2.66	SS, GY VF-FG
1487	13471.0-72.0	<0.01	<0.01	<0.01	11.6	5.5	1.8	2.66	SS, GY VF-FG
	13472.0-73.0								TOO BROKEN FOR ANALYSIS
	13473.0-76.0								LOST CORE
1488	13476.0-77.0	<0.01	<0.01	<0.01	12.1	11.9	2.0	2.66	SS, GY VF-FG
1489	13477.0-78.0	<0.01	<0.01	<0.01	11.4	0.0	1.8	2.65	SS, GY VF-FG
1490	13478.0-79.0	<0.01	<0.01	<0.01	12.5	12.3	6.1	2.68	SS, GY VF-FG
1491	13479.0-80.0	<0.01	<0.01	<0.01	9.5	6.5	4.9	2.68	SS, GY VF-FG
1492	13480.0-81.0	<0.01	<0.01	<0.01	11.9	0.0	5.8	2.65	SS, GY VF-FG
1493	13481.0-82.0	<0.01	<0.01	<0.01	11.4	7.6	3.8	2.65	SS, GY VF-FG
1494	13482.0-83.0	<0.01	<0.01	<0.01	11.2	0.0	8.4	2.65	SS, GY VF-FG
1495	13483.0-84.0	<0.01	<0.01	<0.01	10.9	0.0	4.2	2.65	SS, GY VF-FG

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1496	13484.0-85.0	<0.01	<0.01	<0.01	11.4	0.0	2.0	2.65	SS, GY VF-FG	
1497	13485.0-86.0	<0.01	<0.01	<0.01	12.1	0.0	1.7	2.65	SS, GY VF-FG	
1498	13486.0-87.0	<0.01	<0.01	<0.01	11.7	0.0	3.4	2.65	SS, GY VF-FG	
1499	13487.0-88.0	<0.01	<0.01	<0.01	11.8	2.1	2.1	2.66	SS, GY VF-FG	
1500	13488.0-89.0	<0.01	<0.01	0.02	10.8	3.6	5.5	2.66	SS, GY VF-FG	
1501	13489.0-90.0	<0.01	<0.01	<0.01	10.1	0.0	3.6	2.64	SS, GY VFG	
1502	13490.0-91.0	<0.01	<0.01	<0.01	11.0	12.2	2.0	2.65	SS, GY VFG	
1503	13491.0-92.0	<0.01	<0.01	<0.01	11.5	13.9	2.0	2.65	SS, GY VFG	
1504	13492.0-93.0	<0.01	<0.01	<0.01	10.1	15.9	2.6	2.66	SS, GY VFG	VF
1505	13493.0-94.0	<0.01	<0.01	<0.01	8.9	0.0	5.7	2.68	SS, GY VFG	
1506	13494.0-95.0	0.04	*	0.05	12.0	9.1	3.0	2.64	SS, GY VFG	
1507	13495.0-96.0	<0.01	<0.01	<0.01	11.3	7.7	1.9	2.68	SS, GY VFG	
1508	13496.0-97.0	<0.01	<0.01	<0.01	9.6	14.3	7.1	2.67	SS, GY VFG	
1509	13497.0-98.0	<0.01	<0.01	<0.01	11.3	5.3	3.6	2.66	SS, GY VFG	VF
1510	13498.0-99.0	<0.01	<0.01	<0.01	8.9	10.3	2.6	2.68	SS, GY VFG	
1511	13499.0-00.0	<0.01	<0.01	<0.01	11.6	7.3	7.3	2.67	SS, GY VFG	
1512	13500.0-01.0	<0.01	<0.01	<0.01	8.8	10.5	7.9	2.66	SS, GY VFG	
1513	13501.0-02.0	0.04	*	0.03	6.9	20.3	16.9	2.66	SS, GY VFG	
1514	13502.0-03.0	0.04	*	0.03	6.6	20.7	10.3	2.66	SS, GY VFG	
1515	13503.0-04.0	0.04	*	0.03	7.5	10.6	17.6	2.65	SS, GY VFG	
1516	13504.0-05.0	0.04	*	0.02	6.8	4.7	23.3	2.65	SS, GY VFG	
	13505.0-07.0								LOST CORE	
1517	13507.0-08.0	<0.01	<0.01	<0.01	6.3	12.0	8.0	2.68	SS, GY VFG	
1518	13508.0-09.0	<0.01	<0.01	<0.01	7.0	0.0	5.7	2.68	SS, GY VFG	
1519	13509.0-10.0	<0.01	<0.01	<0.01	8.4	0.0	4.7	2.74	SS, GY VFG SL/DOL	
1520	13510.0-11.0	<0.01	<0.01	<0.01	7.1	0.0	8.9	2.66	SS, GY VFG	
1521	13511.0-12.0	0.04	*	0.03	8.0	0.0	9.1	2.66	SS, GY VFG	
1522	13512.0-13.0	<0.01	<0.01	<0.01	6.5	0.0	3.6	2.66	SS, GY VFG	
1523	13513.0-14.0	<0.01	<0.01	<0.01	8.7	6.5	3.3	2.72	SS, GY VFG	
1524	13514.0-15.0	<0.01	<0.01	<0.01	4.6	0.0	3.5	2.64	SS, GY VFG	

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16-20U ANSCHUTZ RANCH E.

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1525	13515.0-16.0	<0.01	<0.01	<0.01	5.7	0.0	9.2	2.67	SS, GY VFG	HF
1526	13516.0-17.0	<0.01	<0.01	<0.01	6.8	0.0	8.8	2.68	SS, GY VFG	
1527	13517.0-18.0	<0.01	<0.01	<0.01	7.6	0.0	6.3	2.68	SS, GY VFG	HF
	13518.0-19.0								LOST CORE	
1528	13519.0-20.0	0.02	*	0.02	6.8	0.0	51.8	2.69	SS, GY VF-FG	
1529	13520.0-21.0	<0.01	<0.01	<0.01	7.1	0.0	64.5	2.67	SS, GY VF-FG	
1530	13521.0-22.0	0.06	*	0.02	2.7	0.0	67.8	2.65	SS, GY VF-FG	
1531	13522.0-23.0	0.02	0.01	<0.01	4.6	12.1	44.4	2.64	SS, GY VF-FG	HF
1532	13523.0-24.0	<0.01	<0.01	<0.01	6.2	10.5	45.3	2.64	SS, GY VF-FG	
1533	13524.0-25.0	1.44	0.81	<0.01	6.0	10.7	17.9	2.65	SS, GY VF-FG	HF
1534	13525.0-26.0	<0.01	<0.01	<0.01	7.2	10.0	12.4	2.65	SS, GY VF-FG	
1535	13526.0-27.0	<0.01	<0.01	<0.01	6.2	17.3	74.8	2.65	SS, GY VF-FG	
1536	13527.0-28.0	<0.01	<0.01	<0.01	5.5	0.0	35.0	2.66	SS, GY VF-FG	
1537	13528.0-29.0	<0.01	<0.01	<0.01	7.1	12.0	45.0	2.65	SS, GY VF-FG	
1538	13529.0-30.0	0.06	*	0.07	14.9	10.5	36.9	2.65	SS, GY VFG	
1539	13530.0-31.0	<0.01	<0.01	<0.01	6.5	8.7	40.5	2.65	SS, GY VFG	
1540	13531.0-32.0	<0.01	<0.01	<0.01	6.5	10.2	47.8	2.66	SS, GY VFG	
1541	13532.0-33.0	<0.01	<0.01	<0.01	5.2	0.0	64.0	2.64	SS, GY VFG	
1542	13533.0-34.0	<0.01	<0.01	<0.01	5.8	0.0	54.7	2.65	SS, GY VFG	
1543	13534.0-35.0	<0.01	<0.01	<0.01	6.6	0.0	47.6	2.65	SS, GY VFG	
1544	13535.0-36.0	<0.01	<0.01	<0.01	6.6	0.0	52.2	2.66	SS, GY VFG	
1545	13536.0-37.0	<0.01	<0.01	<0.01	7.8	6.9	22.9	2.65	SS, GY VFG	
1546	13537.0-38.0	<0.01	<0.01	<0.01	8.0	10.5	28.8	2.65	SS, GY VFG	
1547	13538.0-39.0	<0.01	<0.01	<0.01	7.3	7.8	19.4	2.65	SS, GY VFG	
1548	13539.0-40.0	<0.01	<0.01	<0.01	8.0	9.8	29.5	2.65	SS, GY VFG	
1549	13540.0-41.0	<0.01	<0.01	<0.01	7.9	7.4	27.2	2.65	SS, GY VFG	
1550	13541.0-42.0	<0.01	<0.01	0.01	7.3	11.5	28.8	2.65	SS, GY VFG	
1551	13542.0-43.0	<0.01	<0.01	<0.01	6.4	0.0	59.7	2.65	SS, GY VFG	
1552	13543.0-44.0	<0.01	<0.01	<0.01	7.2	0.0	60.8	2.65	SS, GY VFG	
1553	13544.0-45.0	<0.01	<0.01	<0.01	8.3	10.1	25.4	2.67	SS, GY VFG	

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Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1554	13545.0-46.0	<0.01	<0.01	<0.01	7.9	10.4	22.5	2.65	SS, GY VFG	
1555	13546.0-47.0	0.42	<0.01	167.	8.0	10.1	27.8	2.65	SS, GY VFG	VF
1556	13547.0-48.0	<0.01	<0.01	<0.01	9.0	8.2	26.7	2.65	SS, GY VFG	
1557	13548.0-49.0	<0.01	<0.01	<0.01	10.1	11.8	21.9	2.65	SS, GY VFG	
1558	13549.0-50.0	<0.01	<0.01	<0.01	10.0	11.3	24.5	2.65	SS, GY VFG	
1559	13550.0-51.0	0.07	0.01	<0.01	10.2	7.9	17.8	2.65	SS, GY VFG	HF
1560	13551.0-52.0	0.05	<0.01	<0.01	9.6	9.2	22.9	2.64	SS, GY VFG	
1561	13552.0-53.0	<0.01	<0.01	<0.01	9.5	8.9	28.8	2.65	SS, GY VFG	
1562	13553.0-54.0	<0.01	<0.01	<0.01	7.9	10.4	36.3	2.60	SS, GY VFG	
1563	13554.0-55.0	<0.01	<0.01	<0.01	9.0	0.0	51.7	2.65	SS, GY VFG	
1564	13555.0-56.0	<0.01	<0.01	<0.01	10.4	12.9	22.0	2.64	SS, GY VFG	
1565	13556.0-57.0	<0.01	<0.01	<0.01	10.1	10.6	16.7	2.64	SS, GY VFG	
1566	13557.0-58.0	<0.01	<0.01	<0.01	9.0	10.1	23.7	2.60	SS, GY VFG	
1567	13558.0-59.0	<0.01	<0.01	<0.01	10.5	17.4	37.7	2.64	SS, GY VFG	
1568	13559.0-60.0	<0.01	<0.01	<0.01	9.9	10.0	21.7	2.65	SS, GY VFG	
1569	13560.0-61.0	<0.01	<0.01	<0.01	10.5	7.0	24.3	2.65	SS, GY VFG	
1570	13561.0-62.0	<0.01	<0.01	<0.01	10.2	18.1	33.1	2.64	SS, GY VFG	
1571	13562.0-63.0	<0.01	<0.01	<0.01	9.7	9.8	22.8	2.65	SS, GY VFG	
1572	13563.0-64.0	<0.01	<0.01	0.02	9.6	12.1	32.4	2.65	SS, GY VFG	
1573	13564.0-65.0	<0.01	<0.01	<0.01	10.4	11.2	36.5	2.63	SS, GY VFG	
1574	13565.0-66.0	<0.01	<0.01	0.03	8.0	10.0	21.7	2.65	SS, GY VFG	
1575	13566.0-67.0	<0.01	<0.01	<0.01	9.5	11.8	21.6	2.64	SS, GY VFG	
1576	13567.0-68.0	<0.01	<0.01	<0.01	9.9	14.4	38.5	2.65	SS, GY VFG	
1577	13568.0-69.0	<0.01	<0.01	<0.01	11.3	10.1	25.2	2.64	SS, GY VFG	
1578	13569.0-70.0	<0.01	<0.01	<0.01	9.9	7.7	41.0	2.65	SS, GY VFG	
1579	13570.0-71.0	<0.01	<0.01	<0.01	9.6	8.6	42.8	2.65	SS, GY VFG	
1580	13571.0-72.0	<0.01	<0.01	0.01	9.8	10.1	21.8	2.64	SS, GY VFG	
1581	13572.0-73.0	0.08	*	0.05	9.5	11.6	21.3	2.65	SS, GY VFG	
1582	13573.0-74.0	<0.01	<0.01	<0.01	8.4	10.7	23.1	2.64	SS, GY VFG	
1583	13574.0-75.0	<0.01	<0.01	<0.01	8.3	10.8	32.4	2.64	SS, GY VFG	

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Petroleum Reservoir Engineering

DALLAS, TEXAS

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FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION	
1584	13575.0-76.0	<0.01	<0.01	<0.01	7.6	8.8	35.0	2.65	SS, GY VFG	
1585	13576.0-77.0	0.01	*	<0.01	7.1	13.8	41.3	2.66	SS, GY VFG	
1586	13577.0-78.0	<0.01	*	<0.01	7.5	8.0	29.3	2.64	SS, GY VFG	
	13578.0-79.0								LOST CORE	
1587	13579.0-80.0	<0.01	<0.01	<0.01	9.6	1.4	2.8	2.65	SS, GY VFG	
1588	13580.0-81.0	<0.01	<0.01	<0.01	7.3	0.0	6.6	2.63	SS, GY VFG	
1589	13581.0-82.0	<0.01	<0.01	<0.01	8.8	3.3	6.7	2.63	SS, GY VFG	
1590	13582.0-83.0	<0.01	<0.01	<0.01	8.7	2.4	2.4	2.64	SS, GY VFG	
1591	13583.0-84.0	0.08	*	0.05	9.4	4.1	2.0	2.64	SS, GY VFG	
1592	13584.0-85.0	<0.01	<0.01	<0.01	8.5	1.6	3.1	2.63	SS, GY VFG	
1593	13585.0-86.0	0.08	*	0.02	11.9	6.3	2.1	2.73	SS, GY VFG	
1594	13586.0-87.0	<0.01	<0.01	<0.01	9.1	3.8	1.9	2.63	SS, GY VFG	
1595	13587.0-88.0	<0.01	<0.01	<0.01	7.8	10.5	10.5	2.64	SS, GY VFG	
1596	13588.0-89.0	<0.01	<0.01	0.01	7.0	7.0	14.1	2.66	SS, GY VFG	
1597	13589.0-90.0	<0.01	<0.01	<0.01	8.1	5.8	14.5	2.65	SS, GY VFG	
1598	13590.0-91.0	<0.01	<0.01	<0.01	8.1	10.3	10.3	2.65	SS, GY VF-FG	
1599	13591.0-92.0	<0.01	<0.01	0.02	6.4	0.0	20.4	2.65	SS, GY VF-FG	
1600	13592.0-93.0	<0.01	<0.01	<0.01	6.4	0.0	5.5	2.65	SS, GY FG	
1601	13593.0-94.0	<0.01	<0.01	<0.01	6.7	0.0	2.5	2.63	SS, GY FG	
1602	13594.0-95.0	0.06	<0.01	<0.01	7.6	5.6	5.6	2.65	SS, GY FG	
1603	13595.0-96.0	<0.01	<0.01	<0.01	8.2	1.7	3.4	2.65	SS, GY F-MG	
1604	13596.0-97.0	<0.01	<0.01	<0.01	7.0	1.3	2.7	2.65	SS, GY F-MG	
1605	13597.0-98.0	<0.01	<0.01	<0.01	5.9	0.0	7.2	2.64	SS, BF F-MG	
1606	13598.0-99.0	15.	<0.01	<0.01	5.3	0.0	10.2	2.66	SS, LTRD F-MG	HF
1607	13599.0-00.0	<0.01	<0.01	<0.01	5.0	0.0	6.8	2.66	SS, LTRD F-MG	
1608	13600.0-01.0	<0.01	<0.01	<0.01	5.0	0.0	11.2	2.66	SS, LTRD F-MG	
1609	13601.0-02.0	<0.01	<0.01	<0.01	6.0	0.0	5.8	2.66	SS, GY F-MG	
1610	13602.0-03.0	<0.01	<0.01	<0.01	5.0	0.0	6.7	2.64	SS, LTRD F-MG	
1611	13603.0-04.0	0.04	*	0.02	4.5	0.0	25.8	2.67	SS, LTRD F-MG	
1612	13604.0-05.0	1.40	<0.01	<0.01	4.7	0.0	6.0	2.66	SS, LTRD F-MG	HF

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1613	13605.0-06.0	<0.01	<0.01	<0.01	5.5	0.0	22.4	2.67	SS, GY F-MG	
1614	13606.0-07.0	<0.01	<0.01	<0.01	5.9	0.0	4.4	2.67	SS, GY F-MG	
1615	13607.0-08.0	<0.01	<0.01	<0.01	5.3	0.0	4.1	2.66	SS, LTRD F-MG	
1616	13608.0-09.0	10.	2.91	0.05	5.8	0.0	8.3	2.67	SS, GY F-MG	HF
1617	13609.0-10.0	<0.01	<0.01	<0.01	6.2	0.0	4.4	2.68	SS, LTRD F-MG	
1618	13610.0-11.0	<0.01	<0.01	<0.01	6.1	0.0	6.9	2.67	SS, LTRD F-MG	
1619	13611.0-12.0	<0.01	<0.01	<0.01	5.8	0.0	5.9	2.66	SS, GY F-MG	
1620	13612.0-13.0	<0.01	<0.01	<0.01	5.7	0.0	8.4	2.66	SS, GY F-MG	
1621	13613.0-14.0	<0.01	<0.01	<0.01	5.7	0.0	4.8	2.65	SS, LTRD F-MG	
1622	13614.0-15.0	<0.01	<0.01	<0.01	5.6	0.0	18.7	2.66	SS, LTRD F-MG	
1623	13615.0-16.0	35.	<0.01	<0.01	5.2	0.0	17.2	2.66	SS, LTRD F-MG	HF
1624	13616.0-17.0	<0.01	<0.01	<0.01	5.6	0.0	31.9	2.67	SS, LTRD F-MG	
1625	13617.0-18.0	<0.01	<0.01	<0.01	5.0	0.0	25.0	2.66	SS, LTRD F-MG	
1626	13618.0-19.0	0.59	<0.01	<0.01	4.4	0.0	18.0	2.63	SS, LTRD F-MG	VF
1627	13619.0-20.0	0.31	0.02	<0.01	5.1	0.0	31.1	2.66	SS, LTRD F-MG	
1628	13620.0-21.0	<0.01	<0.01	<0.01	5.1	0.0	33.1	2.65	SS, LTRD F-MG	
1629	13621.0-22.0	0.02	<0.01	<0.01	4.9	0.0	12.1	2.65	SS, LTRD F-MG	
1630	13622.0-23.0	<0.01	<0.01	<0.01	5.9	0.0	21.3	2.68	SS, LTRD F-MG	
1631	13623.0-24.0	<0.01	<0.01	<0.01	5.0	0.0	8.3	2.66	SS, LTRD F-MG	
1632	13624.0-25.0	<0.01	<0.01	<0.01	4.4	0.0	5.8	2.67	SS, LTRD F-MG	
1633	13625.0-26.0	<0.01	<0.01	<0.01	5.0	0.0	15.7	2.66	SS, LTRD F-MG	
1634	13626.0-27.0	<0.01	<0.01	<0.01	5.9	0.0	10.5	2.65	SS, LTRD F-MG	
1635	13627.0-28.0	<0.01	<0.01	<0.01	6.3	0.0	8.9	2.68	SS, LTRD F-MG	
1636	13628.0-29.0	0.17	<0.01	<0.01	5.7	0.0	16.4	2.67	SS, LTRD F-MG	
1637	13629.0-30.0	<0.01	<0.01	<0.01	4.6	0.0	24.2	2.66	SS, LTRD F-MG	
1638	13630.0-31.0	<0.01	<0.01	<0.01	5.4	0.0	6.5	2.66	SS, LTRD F-MG	
1639	13631.0-32.0	<0.01	<0.01	<0.01	5.0	0.0	5.9	2.64	SS, LTRD F-MG	
1640	13632.0-33.0	<0.01	<0.01	<0.01	6.7	4.0	4.0	2.67	SS, LTRD F-MG	
1641	13633.0-34.0	0.19	<0.01	<0.01	6.6	0.0	3.0	2.66	SS, LTRD F-MG	VF
1642	13634.0-35.0	<0.01	<0.01	<0.01	6.9	0.0	3.4	2.66	SS, LTRD F-MG	

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO : RP-4-6029
ANALYSTS : BERNDT

FULL DIAMETER ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	90 DEG	VERTICAL	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
1643	13635.0-36.0	<0.01	<0.01	<0.01	5.9	0.0	3.2	2.63	SS, LTRD F-MG
1644	13636.0-37.0	<0.01	<0.01	<0.01	6.6	0.0	4.7	2.65	SS, LTRD F-MG
1645	13637.0-38.0	<0.01	<0.01	<0.01	7.0	0.0	4.8	2.66	SS, LTRD F-MG
1646	13638.0-39.0	2.39	<0.01	<0.01	7.5	0.0	4.5	2.68	SS, LTRD F-MG
1647	13639.0-40.0	<0.01	<0.01	<0.01	6.6	0.0	3.3	2.68	SS, LTRD F-MG
1648	13640.0-41.0	<0.01	<0.01	<0.01	6.6	0.0	3.5	2.68	SS, LTRD F-MG
1649	13641.0-42.0	<0.01	<0.01	<0.01	5.4	6.8	6.8	2.67	SS, LTRD F-MG
1650	13642.0-43.0	<0.01	<0.01	<0.01	5.2	0.0	6.0	2.66	SS, LTRD F-MG
1651	13643.0-44.0	<0.01	<0.01	<0.01	5.3	0.0	16.0	2.65	SS, LTRD F-MG
1652	13644.0-45.0	<0.01	<0.01	<0.01	5.7	0.0	6.7	2.67	SS, LTRD F-MG
1653	13645.0-46.0	<0.01	<0.01	<0.01	4.2	0.0	13.6	2.65	SS, LTRD F-MG
1654	13646.0-47.0	0.04	*	0.02	7.1	0.0	12.2	2.65	SS, LTRD F-MG
1655	13647.0-48.0	<0.01	<0.01	<0.01	6.2	0.0	9.0	2.65	SS, LTRD F-MG
1656	13648.0-49.0	<0.01	<0.01	<0.01	7.9	0.0	4.0	2.68	SS, LTRD F-MG
1657	13649.0-50.0	<0.01	<0.01	<0.01	6.6	0.0	4.3	2.67	SS, LTRD F-MG
1658	13650.0-51.0	<0.01	<0.01	<0.01	6.6	0.0	4.0	2.67	SS, LTRD F-MG
1659	13651.0-52.0	0.04	*	0.02	5.4	0.0	4.6	2.65	SS, LTRD F-MG
1660	13652.0-53.0	<0.01	<0.01	<0.01	5.5	0.0	12.4	2.67	SS, LTRD F-MG
1661	13653.0-54.0	<0.01	<0.01	<0.01	5.9	0.0	9.8	2.67	SS, LTRD F-MG
1662	13654.0-55.0	<0.01	<0.01	<0.01	5.4	0.0	10.3	2.65	SS, LTRD F-MG
1663	13655.0-56.0	<0.01	<0.01	<0.01	6.1	0.0	17.3	2.68	SS, LTRD F-MG
1664	13656.0-57.0	<0.01	<0.01	<0.01	5.7	0.0	16.4	2.68	SS, LTRD F-MG
1665	13657.0-58.0	<0.01	<0.01	<0.01	5.7	0.0	20.0	2.67	SS, LTRD F-MG
1666	13658.0-59.0	<0.01	<0.01	<0.01	4.5	0.0	5.0	2.64	SS, LTRD F-MG
	13659.0-62.0								TOO BROKEN FOR ANALYSIS

* SAMPLE NOT SUITABLE FOR FULL DIAMETER ANALYSIS

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CORE LABORATORIES, INC.

104 GLENN ROAD • CASPER, WYOMING • 82601

ANALYTICAL REPORT

Company: THE ANSCHUTZ CORPORATION

Sample Identification: ARE 16-20U
ANSCHUTZ RANCH EAST FIELD

Remarks: SUMMIT COUNTY, UTAH
SW SE SEC 20 T4N-R8E ELEVATION 7504 GL

File: RP-4-6029

Date Report: 10/1/81

Analysts: CARR

SAMPLE NUMBER	DEPTH	FULL DIAMETER PERM. TO AIR MAX	FULL DIAMETER PERM. TO AIR 90°	FULL DIAMETER POR. HE	PLUG HORIZONTAL PERMEABILITY	PLUG POR. HE
3	11850	12.0	0.07	13.9	9.67	12.7
24	11871	10.0	9.20	14.3	18.0	14.4
44	11891	0.06	0.04	5.8	0.05	5.7
62	11910	0.03	0.01	8.6	0.17	7.8
83	11932	153.0	137.0	15.6	234.0	16.0
101	11950	26.0	5.71	9.3	2.01	8.0
118	11968	0.17	0.11	7.0	0.13	6.3
139	11989	0.34	0.26	7.7	18.0	12.1
160	12010	2.25	2.21	12.0	5.85	11.3
178	12029	0.03	0.02	6.5	0.15	6.0
199	12050	0.10	0.09	8.2	1.78	7.5
219	12070	0.02	0.01	5.8	0.02	5.2
235	12089	0.20	0.17	14.1	2.49	14.4
248	12110	8.96	8.21	16.9	8.69	16.1
268	12130	0.68	0.45	13.6	0.82	12.9
289	12151	6.57	5.39	15.2	25.0	13.8
307	12171	32.0	12.0	15.7	20.0	15.9
324	12188	7.39	5.66	14.5	13.0	14.5
347	12211	0.69	0.56	5.8	0.59	12.0
360	12230	0.84	0.61	13.3	1.20	11.3
380	12250	0.12	0.12	9.5	0.07	8.4
399	12269	0.14	0.14	9.6	0.14	7.4
420	12291	1.43	0.87	10.5	2.24	10.3
439	12310	0.08	0.03	10.5	1.69	9.9
459	12330	0.96	0.32	9.3	2.80	9.7

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CORE LABORATORIES, INC.

104 GLENN ROAD • CASPER, WYOMING • 82601

ANALYTICAL REPORT

Company: THE ANSCHUTZ CORPORATION

Sample Identification: ARE 16-20U
ANSCHUTZ RANCH EAST FIELD
SUMMIT COUNTY, UTAH
SW SE SEC 20 T4N-R8E ELEVATION 7504 GL

File: RP-4-6029

Date Report: 10/1/81

Analysts: CARR

Remarks:

SAMPLE NUMBER	DEPTH	FULL DIAMETER PERM. TO AIR MAX	FULL DIAMETER PERM. TO AIR 90°	FULL DIAMETER POR. HE	PLUG HORIZONTAL PERMEABILITY	PLUG POR. HE
477	12350	1.45	0.80	11.8	2.56	12.4
497	12370	0.02	0.02	12.6	0.45	11.9
515	12394	0.53	0.53	13.2	1.65	12.9
529	12410	0.16	0.16	8.6	0.10	7.9
549	12430	0.48	0.43	12.1	0.53	11.5
569	12450	0.68	0.58	13.0	1.37	13.1
586	12472	0.16	0.10	9.5	0.39	9.7
604	12490	0.01	<0.01	8.7	0.10	8.6
624	12510	0.06	0.03	5.9	0.02	5.3
644	12530	0.02	0.02	6.4	0.11	6.8
664	12550	4.47	0.08	8.9	0.08	7.6
684	12570	0.11	0.02	4.2	0.07	5.2
705	12591	0.03	0.03	5.6	0.03	5.6
724	12610	1.00	0.12	9.3	0.21	9.0
744	12630	0.10	0.08	7.5	0.03	6.3
764	12650	0.21	0.09	11.4	0.13	10.0
785	12671	0.03	0.03	10.7	0.20	10.2
802	12688	0.02	0.01	9.1	0.05	8.1
824	12710	0.01	<0.01	10.7	0.13	9.4
844	12730	0.24	<0.01	5.2	0.02	4.3
864	12754	9.64	0.07	8.7	20.0	7.5
879	12769	1.16	<0.01	8.4	0.13	6.1
901	12791	0.03	0.03	10.6	0.07	9.3
920	12811	3.35	0.04	9.3	0.23	8.7
940	12831	0.12	0.09	6.6	0.07	6.8

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CORE LABORATORIES, INC.

104 GLENN ROAD • CASPER, WYOMING • 82601

ANALYTICAL REPORT

Company: THE ANSCHUTZ CORPORATION

Sample Identification: ARE 16-20U
ANSCHUTZ RANCH EAST FIELD

Remarks: SUMMIT COUNTY, UTAH
SW SE SEC 20 T4N-R8E ELEVATION 7504 GL

File: RP-4-6029

Date Report: 10/1/81

Analysts: CARR

SAMPLE NUMBER	DEPTH	FULL DIAMETER PERM. TO AIR MAX	FULL DIAMETER PERM. TO AIR 90°	FULL DIAMETER POR. HE	PLUG HORIZONTAL PERMEABILITY	PLUG POR. HE
958	12849	0.13	0.09	5.9	1.07	4.8
977	12870	<0.01	<0.01	6.2	0.03	6.1
997	12890	0.74	0.53	5.3	0.02	4.8
1018	12911	0.63	0.03	5.7	0.03	3.4
1035	12930	35.0	13.0	6.7	0.03	5.6
1055	12950	0.01	<0.01	6.7	0.03	5.6
1075	12970	0.03	0.03	6.2	0.05	4.8
1089	12986	0.03	0.01	7.7	0.05	6.8
1113	13010	0.03	0.02	6.6	0.03	6.1
1133	13030	0.09	0.05	7.8	0.05	7.2
1171	13069	0.30	0.08	6.8	0.02	5.6
1190	13088	0.87	0.07	7.6	0.61	6.6
1210	13111	0.03	0.01	6.8	0.03	6.2
1229	13130	0.32	0.05	7.0	0.06	6.8
1250	13151	0.04	<0.01	6.3	0.03	6.2
1270	13170	<0.01	<0.01	6.1	0.03	6.8
1284	13192	5.30	0.36	7.3	0.03	7.4
1302	13213	1.15	<0.01	6.2	0.07	4.5
1319	13230	0.02	0.01	4.1	0.03	6.7
1338	13250	<0.01	<0.01	6.0	0.13	5.4
1347	13331	<0.01	<0.01	10.3	0.08	10.4
1366	13350	<0.01	<0.01	10.1	0.08	10.3
1387	13371	<0.01	<0.01	11.2	0.11	11.6
1406	13390	<0.01	<0.01	7.3	0.03	7.1
1427	13411	<0.01	<0.01	8.9	0.06	8.1

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CORE LABORATORIES, INC.

104 GLENN ROAD • CASPER, WYOMING • 82601

ANALYTICAL REPORT

Company: THE ANSCHUTZ CORPORATION

Sample Identification: ARE 16-20U — File: RP-4-6029

ANSCHUTZ RANCH EAST FIELD — Date Report: 10/1/81

Remarks: SUMMIT COUNTY, UTAH — Analysts: CARR

SW SE SEC 20 T4N-R8E ELEVATION 7504 GL

SAMPLE NUMBER	DEPTH	FULL DIAMETER PERM. TO AIR MAX	FULL DIAMETER PERM. TO AIR 90°	FULL DIAMETER POR. HE	PLUG HORIZONTAL PERMEABILITY	PLUG POR. HE
1445	13430	< 0.01	<0.01	10.3	0.03	9.6
1465	13450	< 0.01	<0.01	9.1	0.05	8.9
1485	13470	0.03	<0.01	9.9	0.27	8.4
1501	13490	< 0.01	<0.01	10.1	0.26	10.7
1520	13511	< 0.01	<0.01	7.1	0.02	6.2
1539	13531	< 0.01	<0.01	6.5	0.13	6.7
1559	13551	0.07	0.01	10.2	0.05	9.9
1579	13571	< 0.01	<0.01	9.6	0.06	10.0
1598	13591	< 0.01	<0.01	8.1	0.02	7.6
1618	13611	< 0.01	<0.01	6.1	0.03	5.2
1638	13631	< 0.01	<0.01	5.4	0.02	6.7
1658	13651	< 0.01	<0.01	6.6	0.02	7.2

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.

DATE : 24-MAY-81
FORMATION : NUGGET

FILE NO. : RP-4-6029
ANALYSTS : BERNDT

*** CORE SUMMARY AVERAGES FOR 1 ZONE ***

DEPTH INTERVAL: 11847.0 TO 13659.0

FEET OF CORE ANALYZED : 1666.0 FEET OF CORE INCLUDED IN AVERAGES: 1666.0

-- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED --

PERMEABILITY MAXIMUM RANGE (MD.)	:	0.00 TO 1961.	(UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%)	:	0.0 TO 100.0	
OIL SATURATION RANGE (%)	:	0.0 TO 100.0	
WATER SATURATION RANGE (%)	:	0.0 TO 100.0	

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 11847.0 TO 13659.0

AVERAGE PERMEABILITY (MILLIDARCIES)			PRODUCTIVE CAPACITY (MILLIDARCY-FEET)	
ARITHMETIC PERMEABILITY	:	14.	ARITHMETIC CAPACITY	:23926.
GEOMETRIC PERMEABILITY	:	0.13	GEOMETRIC CAPACITY	: 215.
HARMONIC PERMEABILITY	:	0.02	HARMONIC CAPACITY	: 27.
GEOMETRIC MAXIMUM & 90 DEG PERM.	:	0.06	GEOMETRIC MAXIMUM & 90 DEG CAPACITY	: 108.
AVERAGE POROSITY (PERCENT)	:	9.0	AVERAGE TOTAL WATER SATURATION (PERCENT OF PORE SPACE)	: 21.1
AVERAGE RESIDUAL OIL SATURATION (PERCENT OF PORE SPACE)	:	6.1	AVERAGE CONNATE WATER SATURATION (PERCENT OF PORE SPACE)	:

INTERPRETATION OF DATA

11847' - 13659' - Gas productive accompanied by condensate.

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

PERMEABILITY VS POROSITY

COMPANY: ANSCHUTZ CORPORATION
FIELD : ANSCHUTZ RANCH E. FIELD

WELL : 16-20U ANSCHUTZ RANCH E.
COUNTY, STATE: SUMMIT COUNTY, UTAH

AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
POROSITY : PERCENT (HELIUM)

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY MINIMUM	PERMEABILITY MAXIMUM	POROSITY MIN.	POROSITY MAX.	POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC	HARMONIC	GEOMETRIC
11847.0 - 13662.0	1 (+)	0.001	1961.0	0.3	19.1	9.0	14.	0.02	0.13

EQUATION OF REDUCED LINE RELATING PERMEABILITY(K) TO POROSITY :

LOG(K) = (SLOPE)(POROSITY) + LOG OF INTERCEPT

K = ANTILOG((SLOPE)(POROSITY) + LOG OF INTERCEPT)

RANGE	EQUATION OF THE LINE
1	PERM = ANTILOG((0.3896)(POROSITY) + -4.3828)

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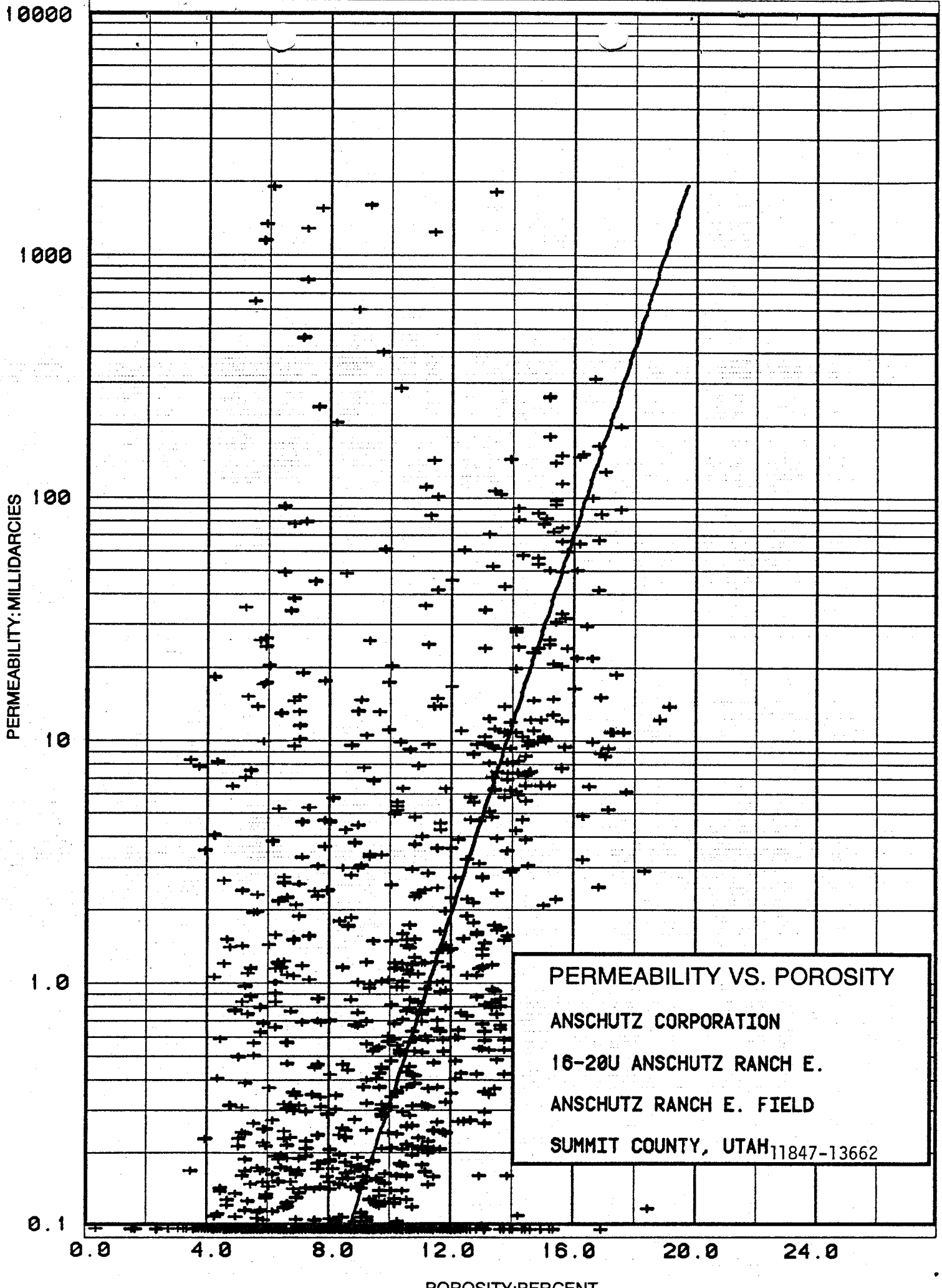

CL 1132/9/78/500

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: ANSCHUTZ CORPORATION
FIELD : ANSCHUTZ RANCH E. FIELD

WELL : 16-20U ANSCHUTZ RANCH E.
COUNTY, STATE: SUMMIT COUNTY, UTAH

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.001 TO 1961.
POROSITY : PERCENT (HELIUM) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 11847.0 - 13662.0 INTERVAL LENGTH : 1815.0
FEET ANALYZED IN ZONE : 1666.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC	HARMONIC	GEOMETRIC
9.0	14.	0.02	0.13

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: ANSCHUTZ CORPORATION
FIELD : ANSCHUTZ RANCH E. FIELD

WELL : 16-20U ANSCHUTZ RANCH E.
COUNTY, STATE: SUMMIT COUNTY, UTAH

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.0 - 2.0	3.0	1.1	0.007	0.007	0.2	0.2
2.0 - 4.0	18.0	3.5	0.075	1.1	1.1	1.3
4.0 - 6.0	288.0	5.2	0.050	12.	17.3	18.6
6.0 - 8.0	419.0	6.9	0.064	17.	25.2	43.8
8.0 - 10.0	325.0	8.9	0.071	9.8	19.6	63.4
10.0 - 12.0	319.0	10.8	0.109	7.4	19.2	82.6
12.0 - 14.0	148.0	13.0	1.1	20.	8.9	91.5
14.0 - 16.0	101.0	14.8	6.7	30.	6.1	97.5
16.0 - 18.0	36.0	16.8	18.	52.	2.2	99.7
18.0 - 20.0	5.0	18.6	1.9	6.0	0.3	100.0

TOTAL NUMBER OF FEET = 1662.0

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: ANSCHUTZ CORPORATION
FIELD : ANSCHUTZ RANCH E. FIELD

WELL : 16-20U ANSCHUTZ RANCH E.
COUNTY, STATE: SUMMIT COUNTY, UTAH

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.005 - 0.010	334.0	0.005	0.005	8.1	20.1	20.1
0.010 - 0.020	109.0	0.015	0.015	7.1	6.6	26.7
0.020 - 0.039	245.0	0.026	0.027	7.3	14.7	41.4
0.039 - 0.078	167.0	0.053	0.054	7.9	10.0	51.4
0.078 - 0.156	124.0	0.109	0.112	8.1	7.5	58.9
0.156 - 0.312	132.0	0.214	0.219	9.0	7.9	66.8
0.312 - 0.625	95.0	0.444	0.454	10.3	5.7	72.6
0.625 - 1.250	114.0	0.894	0.916	10.1	6.9	79.4
1.250 - 2.500	65.0	1.7	1.8	10.6	3.9	83.3
2.500 - 5.000	54.0	3.5	3.6	10.7	3.2	86.6
5.- 10.	65.0	7.3	7.4	12.2	3.9	90.5
10.- 20.	57.0	13.	13.	12.1	3.4	93.9
20.- 40.	30.0	27.	27.	12.3	1.8	95.7
40.- 80.	25.0	57.	58.	13.3	1.5	97.2
80.- 160.	24.0	108.	110.	14.0	1.4	98.7
160.- 320.	9.0	233.	238.	13.6	0.5	99.2
320.- 640.	3.0	488.	495.	8.6	0.2	99.4
640.- 1280.	4.0	946.	979.	7.5	0.2	99.6
1280.- 2560.	6.0	1604.	1621.	8.3	0.4	100.0

TOTAL NUMBER OF FEET = 1662.0

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: ANSCHUTZ CORPORATION
FIELD : ANSCHUTZ RANCH E. FIELD

WELL : 16-20U ANSCHUTZ RANCH E.
COUNTY, STATE: SUMMIT COUNTY, UTAH

POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

POROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	1662.0	100.0	9.0	8.6
2.0	3.0	0.0	1659.0	100.0	9.0	8.6
4.0	21.0	0.4	1641.0	99.6	9.1	8.7
6.0	309.0	10.5	1353.0	89.5	9.9	9.6
8.0	728.0	29.8	934.0	70.2	11.2	10.9
10.0	1053.0	49.3	609.0	50.7	12.4	
12.0	1372.0	72.4	290.0	27.6	14.2	
14.0	1520.0	85.3	142.0	14.7	15.4	
16.0	1621.0	95.3	41.0	4.7	17.0	
18.0	1657.0	99.4	5.0	0.6	18.6	
20.0	1662.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 14926.9

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: ANSCHUTZ CORPORATION
FIELD : ANSCHUTZ RANCH E. FIELD

WELL : 16-20U ANSCHUTZ RANCH E.
COUNTY, STATE: SUMMIT COUNTY, UTAH

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN	MEDIAN
0.005	0.0	0.0	1662.0	100.0	0.13	0.07
0.010	334.0	0.0	1328.0	100.0	0.30	0.17
0.020	443.0	0.0	1219.0	100.0	0.40	0.23
0.039	688.0	0.0	974.0	100.0	0.79	0.50
0.078	855.0	0.1	807.0	99.9	1.38	0.86
0.156	979.0	0.1	683.0	99.9	2.19	1.26
0.312	1111.0	0.3	551.0	99.7	3.83	2.55
0.625	1206.0	0.4	456.0	99.6	6.00	4.69
1.250	1320.0	0.9	342.0	99.1	11.31	8.71
2.500	1385.0	1.4	277.0	98.6	17.53	12.68
5.	1439.0	2.2	223.0	97.8	25.88	17.60
10.	1504.0	4.2	158.0	95.8	43.63	33.25
20.	1561.0	7.3	101.0	92.7	87.01	70.62
40.	1591.0	10.7	71.0	89.3	143.73	108.34
80.	1616.0	16.8	46.0	83.2	237.33	
160.	1640.0	27.8	22.0	72.2	562.66	507.97
320.	1649.0	36.8	13.0	63.2	1035.96	1173.77
640.	1652.0	43.0	10.0	57.0	1298.51	1436.75
1280.	1656.0	59.4	6.0	40.6	1603.52	
2560.	1662.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET(ARITHMETIC) = 23926.35

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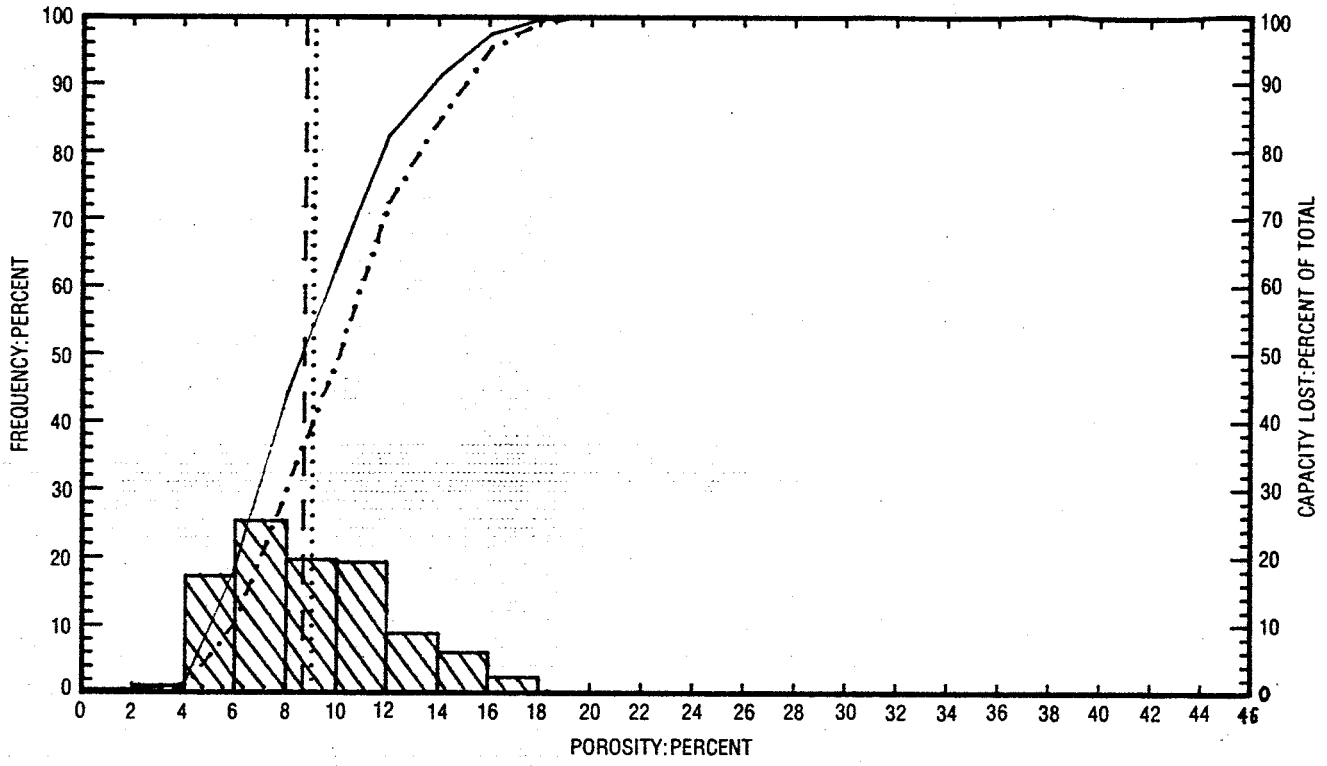

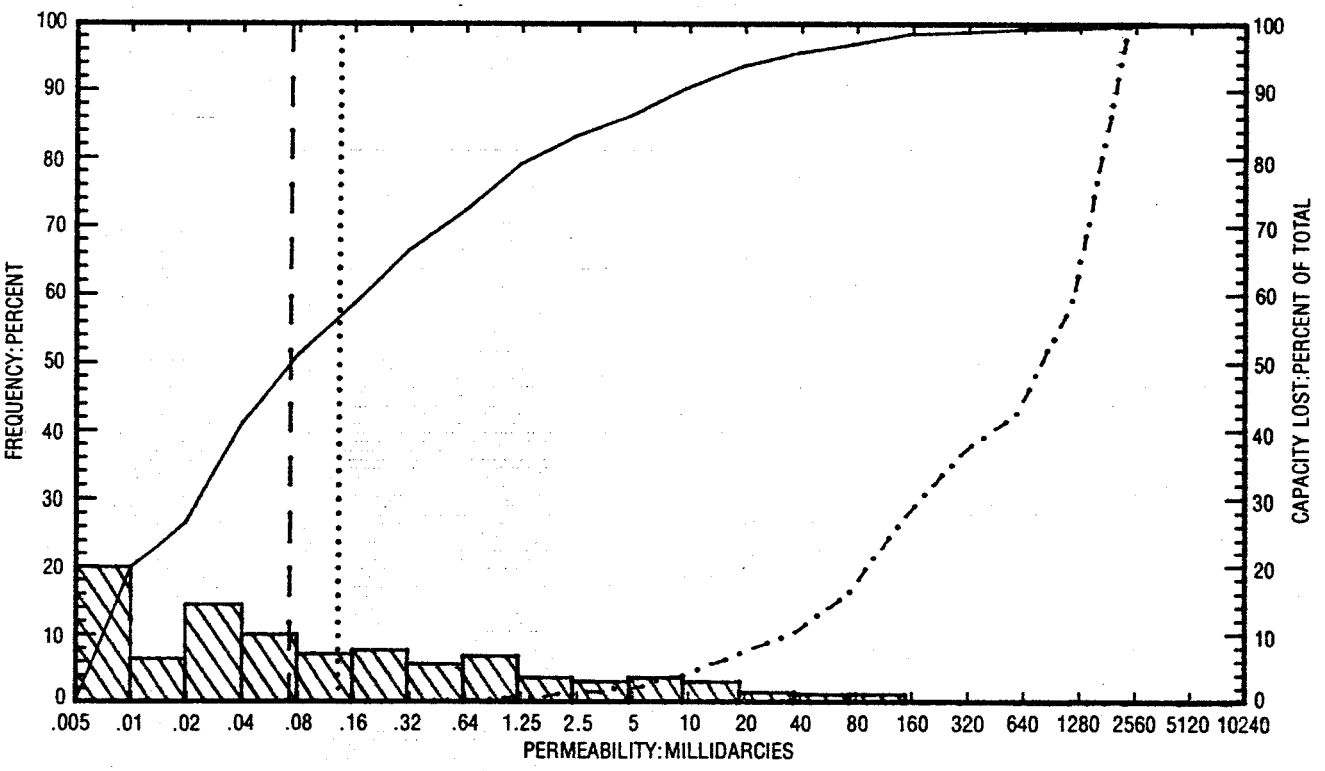

PERMEABILITY AND POROSITY HISTOGRAMS

ANSCHUTZ CORPORATION
16-20U ANSCHUTZ RANCH E.
ANSCHUTZ RANCH E. FIELD
SUMMIT COUNTY, UTAH

LEGEND

- ARITHMETIC MEAN POROSITY
- GEOMETRIC MEAN PERMEABILITY
- MEDIAN VALUE
- CUMULATIVE FREQUENCY
- CUMULATIVE CAPACITY LOST

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CORE # 18

CORE ORIENTING LOG

Date September 21, 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: ..... Core Barrel: .....
Formation Name: NUGGET
Formation Description: .....

PERFORMANCE

Interval Cored: Finish 12961
Start 12901

Footage Cored: 60 Feet

Remarks: .....

MULTISHOT INSTRUMENT

Make: .....
Serial No. .....
Clock Interval: ..... Min.
Station Record By: .....
Film Read By: .....

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 37 Degrees [ ] Right [X] Left of Orientation Lug.
[ ] Right Add to Lug Azimuth
[X] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
A	6:51	507	12903	103/4	S21E	S6E	NONE GIVEN	86	15	101	37	64	N64E	S46E	12°	N44E-S44W	BEDDING PLANE
A	8:20	547	12918	11	S20E	S5E	NONE GIVEN	346	15	1	37	324	N36W	N45E	44°	N45E-S45W	BEDDING PLANE
A	9:32	582	12933	11	S21E	S6E	NONE GIVEN	14	15	29	37	352	N8W	N8E	37°	N92W-S92E	FRACTURE
A	12:28	670	12948	11	S22E	S7E	NONE GIVEN	83	15	98	37	61	N61E	N2E	25°	N97W-S97E	BEDDING PLANE
2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE ORIENTING LOG

CORE # 20

Date September 21. 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: ..... Core Barrel: .....
Formation Name: NUGGET
Formation Description: .....

PERFORMANCE

Interval Cored: Finish 13080
Start 13019

Footage Cored: .....

Remarks: .....

MULTISHOT INSTRUMENT

Make: .....

Serial No. .....

Clock Interval: ..... Min.

Station Record By: .....

Film Read By: .....

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 37 Degrees [ ] Right [X] Left of Orientation Lug.
[ ] Right Add to Lug Azimuth
[X] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
994A	6:15	295	13034	11½	S23E	S08E	N12E	12	15	27	37	350	N10W	N35E	22°	N55W-S55E	CROSS BEDDING
B	6:15	295	13034	11½	S23E	S08E	N12E	12	15	27	37	350	N10W	N30E	19°	N60W-S60E	CROSS BEDDING
C	6:15	295	13034	11½	S23E	S08E	N12E	12	15	27	37	350	N10W	N27E	31°	N63W-S63E	CROSS BEDDING
D	6:15	295	13034	11½	S23E	S08E	N12E	12	15	27	37	350	N10W	N3E	23°	N87W-S87E	CROSS BEDDING
1016	8:11	353	13055	11½	S23E	S08E	N71E	71	15	86	37	49	N49E	----	----	----------	RUBBLE
1030	10:10	413	13070	11½	S23E	S08E	N66W	294	15	309	37	272	N88W	S87E	16°	N3E-S3E	BEDDING PLANE
---	12:00	468	13080	12	S23E	S08E	N07W	353	15	008	37	331	N29W	LOST	RECOVERY	NO CORE	----------
2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 17

CORE ORIENTING LOG

Date September 18, 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: ..... Core Barrel: .....
Formation Name: NUGGET
Formation Description: .....

PERFORMANCE

Interval Cored: Finish 12900
Start 12882

Footage Cored: .....

Remarks: .....

MULTISHOT INSTRUMENT

Make: .....

Serial No. .....

Clock Interval: ..... Min.

Station Record By: .....

Film Read By: .....

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [XX] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 37 Degrees [ ] Right [X] Left
of Orientation Lug.
[ ] Right Add to Lug Azimuth
[X] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
A	4:58	183	12885	10½	S20E	S5E	NONE GIVEN	22	15	37	37	0	NOE	S7W	4°	N93W-S93E	Bedding Plane
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 15

CORE ORIENTING LOG

Date September 18, 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: Core Barrel:
Formation Name: NUGGET
Formation Description:

PERFORMANCE

Interval Cored: Finish 12820
Start 12775

Footage Cored: 45 Feet

Remarks: 43 feet recovered:
12808' - 12820' --- RUBBLE

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [ ] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 37 Degrees of Orientation Lug. [ ] Right [X] Left
[ ] Right Add to Lug Azimuth
[X] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
A	6:33	255	12775	10½	S19E	S4E	NONE GIVEN	161	15	176	37	139	S41E	S78W	44°	N12W-S12E	BEDDING PLANE
A	7:20	280	12779	10½	S19E	S4E	NONE GIVEN	289	15	304	37	267	S87W	N59E	33°	N31W-S31E	BEDDING PLANE
A	8:15	302	12790	10½	S19E	S4E	NONE GIVEN	302	15	317	37	280	S80W	S47W	08°	N43W-S43E	BEDDING (CROSS)
B	8:15	302	12790	10½	S19E	S4E	NONE GIVEN	302	15	317	37	280	S80W	S01E	07°	N89E-S89W	BEDDING (CROSS)
C	8:15	302	12790	10½	S19E	S4E	NONE GIVEN	302	15	317	37	280	S80W	N84E	09°	N6W-S6E	BEDDING (CROSS)
2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 16

CORE ORIENTING LOG

Date September 18. 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMET State: UTAH
Hole Size: Core Barrel:
Formation Name: NUGGET
Formation Description: SANDSTONE

PERFORMANCE

Interval Cored: Finish 12882
Start 12825

Footage Cored:

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 37 Degrees of Orientation Lug. [ ] Right [X] Left
[ ] Right Add to Lug Azimuth
[X] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
A	8:50	462	12825	10¼	S20E	S5E	NONE GIVEN	255	15	270	37	233	S53W	S77E	34	N13E-S13W	BEDDING PLANE
A	10:08	501	12840	103/4	S20E	S5E	NONE GIVEN	25	15	40	37	3	N3E	S50W	32	N40W-S40E	BEDDING PLANE
A	11:59	557	12855	103/4	S21E	S6E	NONE GIVEN	21	15	36	37	359	N1W	S53W	25	N37W-S37E	BEDDING PLANE
B	11:59	557	12855	103/4	S21E	S6E	NONE GIVEN	21	15	36	37	359	N1W	S84E	76	N6E-S6W	FRACTURE
A	13:27	601	12870	11	S20E	S5E	NONE GIVEN	46	15	61	37	24	N24E	S67W	26	N23W-S23E	BEDDING PLANE
A	15:37	666	12882	11	S21E	S6E	NONE GIVEN	337	15	352	37	315	N45W	----	----	----------	RUBBLE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 13

CORE ORIENTING LOG

Date September 18, 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: ..... Core Barrel: .....
Formation Name: NUGGET
Formation Description: .....

PERFORMANCE

Interval Cored: Finish 12715
Start 12655

Footage Cored: .....

Remarks: .....

MULTISHOT INSTRUMENT

Make: .....

Serial No. .....

Clock Interval: ..... Min.

Station Record By: .....

Film Read By: .....

CORRECTIONS

Declination 15 Degrees [XX] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 58 Degrees [X] Right [ ] Left of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
632	8:24	144	12655	93/4	S22E	S7E	NOT GIVEN	320	15	335	58	33	N33E	N46E	45°	N44E-S44W	BEDDING PLANE
646	10:28	215	12670	93/4	S19E	S4E	NOT GIVEN	327	15	327	58	40	N40E	S16W	15°	N74W-S74E	BEDDING PLANE
B	10:28	215	12670	93/4	S19E	S4E	NOT GIVEN	327	15	327	58	40	N40E	S68E	68°	N22E-S22W	FRACTURE
671	12:12	267	12685	93/4	S19E	S4E	NOT GIVEN	305	15	320	58	18	N18E	N52E	19°	N38W-S38E	BEDDING PLANE
686	14:28	334	12700	93/4	S19E	S4E	NOT GIVEN	252	15	267	58	325	N35W	N52E	28°	N38W-S38E	BEDDING PLANE
691	16:28	392	12715	93/4	S19E	S4E	NOT GIVEN	218	15	233	58	291	N69W	----	----	---------	RUBBLE
2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 12

CORE ORIENTING LOG

Date September 18, 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: ..... Core Barrel: .....
Formation Name: .....
Formation Description: .....

PERFORMANCE

Interval Cored: Finish 12641
Start 12581

Footage Cored: 60

Remarks: .....

MULTISHOT INSTRUMENT

Make: .....
Serial No. .....
Clock Interval: ..... Min.
Station Record By: .....
Film Read By: .....

CORRECTIONS

Declination 15 Degrees ☒ East ☐ West

Azimuth Correction for Declination
East Declination ☒ Add to Azimuth
West Declination ☐ Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 59 Degrees ☒ Right ☐ Left of Orientation Lug.
☒ Right Add to Lug Azimuth
☐ Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	14:42	246	12596	9	S20E	S05E	NOT GIVEN	193	15	208	58	266	S86W	N74E	22°	N16W-S16E	BEDDING PLANE
2A	16:08	289	12611	9	S20E	S05E	NOT GIVEN	156	15	171	58	229	S49W	N58E	23°	N32W-S32E	BEDDING PLANE
B	16:08	289	12611	9	S20E	S05E	NOT GIVEN	156	15	171	58	229	S49W	S78W	35°	N12W-S12E	FRACTURE
C	16:08	289	12611	9	S20E	S05E	NOT GIVEN	156	15	171	58	229	S49W	S77W	65°	N13W-S13E	FRACTURE
3	16:58	314	12616	9	S23E	S08E	NOT GIVEN	130	15	145	58	203	S23W	N46E	25°	N44W-S44E	BEDDING PLANE
4	18:04	347	12627	9	S20E	S05E	NOT GIVEN	269	15	284	58	342	N18W	N77E	35°	N13W-S13E	BEDDING PLANE
5A	19:34	392	12641	9	S19E	S04E	NOT GIVEN	234	15	249	58	307	N53W	S86E	29°	N4E-S4W	BEDDING PLANE
B	19:34	392	12641	9	S19E	S04E	NOT GIVEN	234	15	249	58	307	N53W	S84E	22°	N6E-S6W	BEDDING PLANE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

WHITE - CUSTOMER COPY

CORE # 9

CORE ORIENTING LOG

Date September 17, 1981

Page ..... of .....

WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: ..... Core Barrel: .....
Formation Name: NUGGET
Formation Description: .....

PERFORMANCE

Interval Cored: Finish 12458'
Start 12398'

Footage Cored: .....

Remarks: .....

MULTISHOT INSTRUMENT

Make: .....

Serial No. .....

Clock Interval: ..... Min.

Station Record By: .....

Film Read By: .....

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 59 Degrees [X] Right [ ] Left of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	24:25	284	12413	9	S23E	S8E	S60E	120	15	135	59	194	S14W	N79E	35°	N11W-S11E	BEDDING PLANE
2A	3:02	363	12428	9	S22E	S7E	S76E	104	15	119	59	178	S02E	N78E	34°	N12W-S12E	BEDDING PLANE
B	3:02	363	12428	9	S22E	S7E	S76E	104	15	119	59	178	S02E	S74W	47°	N16W-S16E	FRACTURE
3A	6:04	457	12443	9	S22E	S7E	S32W	212	15	227	59	286	N74W	N68E	40°	N22W-S22E	BEDDING PLANE
B	6:04	457	12443	9	S22E	S7E	S32W	212	15	227	59	286	N74W	S69W	56°	N21W-S21E	FRACTURE
4	9:20	557	12458	9	S23E	S8E	S32W	212	15	227	59	286	N74W	N12E	42°	N78W-S78E	BEDDING PLANE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 8

CORE ORIENTING LOG

Date September 17, 1981

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WELL INFORMATION

Company: THE ANSCHUTZ CORP.
Contractor: BS 83
Well Name: 16-30U
County: Summit State: Utah
Hole Size: Core Barrel:
Formation Name: Nugget
Formation Description:

PERFORMANCE

Interval Cored: Finish 12397'
Start 12337'

Footage Cored: 60

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees ☒ East ☐ West

Azimuth Correction for Declination
East Declination ☒ Add to Azimuth
West Declination ☐ Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 59 Degrees ☒ Right ☐ Left of Orientation Lug.
☒ Right Add to Lug Azimuth
☐ Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	23:10	307	12353	8½	S26E	S11E	S47W	227	15	242	59	301	N59W	N47W	33	N43W-S43E	BEDDING PLANE
2	2:17	470	12368	8½	S26E	S11E	S63E	117	15	132	59	191	S11W	N63E	08	N27W-S27E	BEDDING PLANE
B	2:17	470	12368	8½	S26E	S11E	S63E	117	15	132	59	191	S11W	N5E	39	N85W-S85E	BEDDING PLANE
C	2:17	470	12368	8½	S26E	S11E	S63E	117	15	132	59	191	S11W	S44W	57	N46W-S46E	FRACTURE
D	2:17	470	12368	8½	S26E	S11E	S63E	117	15	132	59	191	S11W	S42W	75	N48W-S48E	FRACTURE
3	5:00	482	12383	83/4	S25E	S10E	S58E	122	15	137	59	196	S16W	N35E	41	N55W-S55E	BEDDING PLANE
4	8:32	591	12398	83/4	S25E	S10E	S32E	32	15	47	59	106	S74E	N31E	40	N59W-S59E	BEDDING PLANE
2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE # 7

CORE ORIENTING LOG

Date September 17, 1981

Page ..... of .....

WELL INFORMATION

Company: Anschutz Corp.
Contractor: BS 83
Well Name: 16-30U
County: Summit State: Utah
Hole Size: Core Barrel:
Formation Name: Nugget
Formation Description:

PERFORMANCE

Interval Cored: Finish 12337'
Start 12277'

Footage Cored: 60

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 59 Degrees [X] Right [ ] Left of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1A	21:00	250	12292	8	S27E	S12E	N77W	283	15	298	59	357	N03W	N15E	37°	N75W-S75E	BEDDING PLANE
B	21:00	250	12292	8	S27E	S12E	N77W	283	15	298	59	357	N03W	VERTICAL		N80W-S80E	FRACTURE
2	24:35	357	12307	8	S26E	S11E	N57E	57	15	72	59	131	S49E	N3E	31°	N87W-S87E	BEDDING PLANE
3	03:00	430	12322	8	S27E	S12E	N52E	52	15	67	59	126	S54E	N23E	41°	N67W-S67E	BEDDING PLANE
4	06:45	543	12337	8	S28E	S13E	S13W	193	15	208	59	267	S87W	N25E	36	N75W-S75E	BEDDING PLANE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE ORIENTING LOG

Date 9/29/81

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CORE #3

WELL INFORMATION

Company: THE ANSCHUTZ CORPORATION
Contractor: BS-83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: 81/2 Core Barrel:
Formation Name: NUGGET
Formation Description: SS

PERFORMANCE

Interval Cored: Finish 12122
Start 12063

Footage Cored:

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 127 Degrees [X] Right [ ] Left of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	8:30	165	12063	73/4	S27E	S12E	S60E	186	15	201	127	328	N32W	N23E	30°	N67W-S67E	BEDDING PLANE
2	10:18	224	12069	8	S28E	S13E	S34W	214	15	229	127	356	N04W	N13E	15°	N8W-S87E	BEDDING PLANE
3	12:32	286	12074	8	S28E	S13E	S60W	240	15	255	127	22	N22E	N18E	9°	N82W-S82E	BEDDING PLANE
4	2:02	335	12077	8	S26E	S11E	S40W	220	15	235	127	2	N02E	N47W	30°	N43E-S43W	BEDDING PLANE
5	3:08	365	12079	8	S26E	S11E	N43W	317	15	332	127	99	S81E	N48E	37°	N43E-S43W	BEDDING PLANE
6	5:06	428	12084	8	S27E	S12E	N40W	320	15	335	127	102	S78E	N44E	23°	N46W-S46E	BEDDING PLANE
7	7:28	495	12089	8	S26E	S11E	N37W	323	15	338	127	105	S75E	S84E	23°	N06E-S06W	BEDDING PLANE
8	9:05	542	12094	8	S26E	S11E	N31W	329	15	344	127	111	S69E	S70E	21°	N20E-S20W	BEDDING PLANE
9	11:55	627	12099	8	S25E	S10E	N33W	327	15	342	127	109	S71E	N75E	20°	N15W-S15E	BEDDING PLANE
10	2:00	689	12104	8	S25E	S10E	N15W	345	15	360	127	127	S53E	N89E	32°	N1W-S1E	BEDDING PLANE
11	4:00	765	12110	8	S23E	S08E	S65E	115	15	130	127	257	S77W	N04E	19°	N86W-S86E	BEDDING PLANE
12	6:32	826	12115	8	S24E	S09E	S64E	116	15	131	127	258	S78W	N21E	7°	N69W-S69E	BEDDING PLANE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

WHITE—CUSTOMER COPY PINK—DISTRICT COPY

CORE ORIENTING LOG

Date 8/4/81

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CORE #2

PERFORMANCE

Interval Cored: Finish 12063
Start 12014

Footage Cored:

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 70 Degrees [ ] Right X [ ] Left of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

WELL INFORMATION

Company: THE ANSCHUTZ CORPORATION
Contractor: BS-83
Well Name: ARE 16-20E
County: SUMMIT State: UTAH
Hole Size: 81/2 Core Barrel:
Formation Name: NUGGET
Formation Description:

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
	10:34	211	12014	8°	S26E	S11E	N89E	89	15	104	70L	34	N34E	----ORIENTATION GROOVES			DRIFTING AROUND
	12:38	272	12020	8°	S26E	S11E	S62E	118	15	133	70L	63	N63E	----ORIENTATION GROOVES			DRIFTING AROUND
	3:15	351	12025	8°	S24E	S09E	S60E	120	15	135	70L	65	N65E	----ORIENTATION GROOVES			DRIFTING AROUND
26	5:04	407	12030	8°	S24E	S09E	N66E	66	15	81	70L	11	N11E	S77E	26°	N13E-S13W	BEDDING PLANE
31	6:52	460	12035	8°	S28E	S13E	S78W	258	15	173	70L	203	S23W	S35E	14°	N55E-S55W	BEDDING PLANE
31B	6:52	460	12035	8°	S28E	S13E	S78W	258	15	173	70L	203	S23W	S23E	6°	N23E-S23W	BEDDING PLANE
36	8:30	508	12040	8°	S29E	S14E	N89W	271	15	286	70L	216	S36W	N99W	34°	N1E-S1W	BEDDING PLANE
40	10:10	557	12045	8°	S29E	S14E	N67W	293	15	308	70L	238	S58W	----------RUBBLE----------			----------
	12:41	634	12050	8°	S25E	S10E	S60E	120	15	135	70L	65	N65E	----------RUBBLE----------			----------
	2:47	697	12055	8°	S28E	S13E	N15W	345	15	360	70L	290	N70W	----------RUBBLE----------			----------
	4:52	759	12060	8°	S27E	S12E	S30E	150	15	165	70L	95	S85E	----------RUBBLE----------			----------
	7:30	840	12063	8°	S27E	S12E	N01W	359	15	14	70L	304	N56W	----------RUBBLE----------			----------
						NOTE:	NORTH LINE MARKED ON INTERVAL 12033' - 12049'										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

WHITE—CUSTOMER COPY PINK—DISTRICT COPY

CORE ORIENTING LOG

Date 10/1/81

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CORE #1

WELL INFORMATION

Company: THE ANSCHUTZ CORPORATION
Contractor: BS-83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: 81/2 Core Barrel:
Formation Name: NUGGET
Formation Description:

PERFORMANCE

Interval Cored: Finish 12014
Start 12005

Footage Cored:

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 70 Degrees [ ] Right X [ ] Left of Orientation Lug.
[ ] Right Add to Lug Azimuth
[X] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	7:15	260	12005	8°	S26E	S11E	S40W	220	+15	235	70L	165	S15E	N34W	26°	N56E-S56N	BEDDING PLANE
6	7:42	274	12010	8°	S24E	S9E	S33E	147	+15	162	70L	92	S88E	N35E	19°	N55W-S55E	BEDDING PLANE
10	8:22	293	12014	8°	S25E	S10E	S75E	105	+15	120	70L	50	N50E	N56E	33°	N34W-S34E	BEDDING PLANE
						NOTE: 12011 to Bottom Reference groove drifting											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

WHITE - CUSTOMER COPY

CORE ORIENTING LOG

Date 10/1/81

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CORE #6

PERFORMANCE

Interval Cored: Finish 12277

Start

Footage Cored:

Remarks:

WELL INFORMATION

Company: THE ANSCHUTZ CORPORATION

Contractor: BS-83

Well Name: ARE 16-30U

County: SUMMIT State: UTAH

Hole Size: 81/2 Core Barrel:

Formation Name: NUGGET

Formation Description: SS

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees ☒ East ☐ West

Azimuth Correction for Declination

East Declination ☒ Add to Azimuth

West Declination ☐ Subtract from Azimuth

Reference Groove Correction:

From Above, Groove is 59 Degrees of Orientation Lug. ☒ Right ☐ Left

☒ Right Add to Lug Azimuth

☐ Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	4:47	125	12219	8	S26E	S11E	N15E	15	15	30	59	89	N89E	N23W	28°	N67E-S67W	BEDDING PLANE
2	6:34	182	12233	8	S27E	S12E	N05W	355	15	10	59	69	N69E	S20W	14°	N80W-S80E	BEDDING PLANE
3	1:55	251	12263	8	S30E	S15E	N49E	49	15	64	59	123	S57E	N7W	24°	N93E-S93W	BEDDING PLANE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE ORIENTING LOG

Date 10/1/81

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CORE #5

WELL INFORMATION

Company: THE ANSCHUTZ CORPORATION
Contractor: BS-83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: 81/2 Core Barrel:
Formation Name: NUGGET
Formation Description: SS

PERFORMANCE

Interval Cored: Finish 12217
Start 12186

Footage Cored:

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 147 Degrees [X] Right [ ] Left
of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	6:10	190	12189	8	S24E	S9E	S49E	131	15	146	147	293	N67W	N74W	28°	N16E-S16W	BEDDING PLANE
2	12:46	387	12204	8	S24E	S9E	S37E	143	15	158	147	305	N55W	N83W	32°	N7E-S7W	BEDDING PLANE
3	3:40	477	12210	8	S25E	S10E	S79E	101	15	116	147	263	N83W	S15W	31°	N75W-S75E	BEDDING PLANE
4	8:28	625	12217	8	S25E	S10E	S10E	170	15	185	147	332	N28W	------RUBBLE----------			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CORE ORIENTING LOG

Date 10/1/81

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CORE #4

WELL INFORMATION

Company: THE ANSCHUTZ CORPORATION
Contractor: BS-83
Well Name: ARE 16-30U
County: SUMMIT State: UTAH
Hole Size: 81/2 Core Barrel:
Formation Name: NUGGET
Formation Description: SS

PERFORMANCE

Interval Cored: Finish 12183
Start 12123

Footage Cored:

Remarks:

MULTISHOT INSTRUMENT

Make:

Serial No.

Clock Interval: Min.

Station Record By:

Film Read By:

CORRECTIONS

Declination 15 Degrees [X] East [ ] West

Azimuth Correction for Declination
East Declination [X] Add to Azimuth
West Declination [ ] Subtract from Azimuth

Reference Groove Correction:
From Above, Groove is 138 Degrees [X] Right [ ] Left of Orientation Lug.
[X] Right Add to Lug Azimuth
[ ] Left Subtract from Lug Azimuth

STATION				DRIFT			ORIENTATION							DIP, STRIKE			REMARKS
No.	Time	Picture No.	Depth	Angle	Direction Magnetic	Direction True	Orienting Lug, Magnetic Direction	Orienting Lug, Magnetic Azimuth	Declin. Corr.	Or. Lug Az. True	Reference Groove Corr.	Reference Groove Az. True	Reference Groove Direction True	Dip Dir.	Dip Angle	Strike	
1	3:36	229	12129	8	S25E	S10E	N22W	338	15	353	138	131	S49E	S76W	26°	N14W-S14E	BEDDING PLANE
2	6:18	311	12144	8	S26E	S11E	S52E	128	15	142	138	280	N80W	N54E	29°	N36W-S36E	BEDDING PLANE
3	8:56	394	12159	8	S25E	S10E	S73W	253	15	268	138	46	N46E	N41E	28°	N49W-S49E	BEDDING PLANE
4	12:17	490	12173	8	S27E	S12E	S63W	243	15	258	138	36	N36E	N90E	27°	NON-SOS	BEDDING PLANE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

** FILE NOTATIONS **

DATE: May 15, 1980

OPERATOR: Anschutz Corporation

WELL NO: Anschutz Ranch East #16-20U

Location: Sec. 20 T. 4N R. 8E County: Summit

File Prepared: ☐ Entered on N.I.D: ☐

Card Indexed: ☐ Completion Sheet: ☐

API Number 43-043-30148

CHECKED BY:

Petroleum Engineer: M.J. Minder 9-25-80

Director:

Administrative Aide: Hold for survey plat + verified location

APPROVAL LETTER:

Bond Required: ☑ Survey Plat Required: ☑ forwarding

Order No. 183-2 4/10/80 O.K. Rule C-3 ☐

Rule C-3(c), Topographic Exception - company owns or controls acreage within a 660' radius of proposed site

Lease Designation ☐ Plotted on Map ☑

Approval Letter Written ☑

Hot Line ☑ P.I. ☑

October 16, 1980

The Anschutz Corporation
555 17th Street, Suite 2400
Denver, Colorado 80202

Re: Well No. Anschutz Ranch East 16-20U
Sec. 20, T. 4N, R. 8E,
Summit County, Utah

Insofar as this office is concerned, approval to drill the above referred to oil well is hereby granted in accordance with the Order issued in Cause No. 183-2 dated April 10, 1980.

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

MICHAEL T. MINDER - Petroleum Engineer
Office: 533-5771
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (acquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

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

The API number assigned to this well is 43-043-30148.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

M. T. Minder

Michael T. Minder,
Petroleum Engineer

/ka
cc:

SCOTT M. MATHESON
Governor

GORDON E. HARMSTON
Executive Director,
NATURAL RESOURCES

CLEON B. FEIGHT
Director

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

OIL, GAS, AND MINING BOARD

CHARLES R. HENDERSON
Chairman

JOHN L. BELL
C. RAY JUVELIN
THADIS W. BOX
MAXILIAN A. FARBMAN
EDWARD T. BECK
E. STEELE McINTYRE

April 3, 1981

Anschutz Corporation
555-17th Street Suite 2400
Denver, Colrado 80202

Re; SEE ATTACHED SHEET

Gentlemen:

In reference to above mentioned wells, considerable time has gone by since approval was obtained from this office.

This office has not recieved any notification of spudding. If you do not intend to drill these wells, please notify this Division. If spudding or any other activity has taken place, please send necessary forms. (If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill these wells and action will be taken to terminate the application.) If you plan on drilling this location at a later date, please notify as such.

Your prompt attention to the above will be rgeatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Sandy Bates

SANDY BATES
CLERK-TYPIST

ATTACHED SHEET

1. Well No. Anschutz Ranch East #8-30U
   Sec. 30, T. 4N. R. 8E.
   Summit County, Utah

2. Well No. Yellow Creek #12-4
   Sec. 4, T. 5N. R. 8E.
   Summit County, UTah

3. Well No.#14-20-U
   Sec. 20, T. 4N. R. 8E.
   Summit County, Utah

4. Well No. Anschutz Ranch East 16-20U
   Sec. 20, T. 4N. R. 8E.
   Summit, County, Utah

Form OGC-1b

IN TRIPLICATE*
(Other instructions on reverse side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

2. NAME OF OPERATOR: The Anschutz Corp.

3. ADDRESS OF OPERATOR: 2400 Anaconda Tower, 555 17th. St. Denver, Colo. 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 257' FSL 1640' FEL

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Anschutz Ranch East

9. WELL NO.: 16-20U

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20-T4N-R8E

14. PERMIT NO.: 43-043-31048

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7420' GR

12. COUNTY OR PARISH: Summit

13. STATE: Utah

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

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

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

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

RECEIVED
MAY 4 1981
DIVISION OF OIL, GAS & MINING

ETD= 14,700'
FM= Nugget (Subthrust)
Rig # Brinkerhoff/Signal #40
SPUD: 1030 hrs. 11/5/80 (17½" hole)
Ø
Lost circ. between 1380' & 2005'
Coal @3335'
Ran 13 3/8" csg. set at 3507'. Cmt by innerstring method. Lost returns after 80% cmt in hole. Ran 1" to 400' to re-cement.
Ran Dynadrill at 4020' to orient and turn hole N20°E in target direction.
Tops:
Gannet @5230'
Bear River @4310'
Pruess @9070'
Top of Salt @ 10179'
Twin Creek @ 10375'
Logged w/Schlumberger @ 10030'
Logged w/Schlumberger @ 10375'
Ran 9 5/8" csg. @ 10650'. Cmt w/700 sx Cl. "G" (TOC= 10150')
→ DST #1 @ 11120 - 11217'
Set plug #1 @ 11217' w/235 sx. Tagged plug @ 10776'
Set plug #2 @ 10950' w/160 sx. Cl "G"
DEPTH TO DATE: 10950', LAST SUV: 4 3/4° @ 11217 (N82°E)

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

SIGNED Maggie Grigsby (Maggie Grigsby) TITLE Drilling Tech. Assistant DATE 4/29/81

(This space for Federal or State office use)

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

*See Instructions on Reverse Side

December 16, 1981

Anschutz Corporation
555 17th Street, Suite 2400
Denver, Colorado 80202

Re: Well No. Anshhutz Ranch East 16-20U
Sec. 20, T. 4N, R. 8E
Summit County, Utah
(May 1981 - December 1981)

Gentlemen:

Our records indicate that you have not filed the monthly drilling reports for the months indicated above on the subject well.

Rule C-22, Genral Rules and Regulations and Rules of Practice and Procedure, requires that said reports be filed on or before the sixteenth (16) day of the succeeding month. This report may be filed on Form 9-331 (U.S. Geological Survey Form 9-331) "Sundry Notices and Reports on Wells", or on company forms containing substantially the same information. We are enclosing forms for your convenience.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS AND MINING

Cari Furse

CARI FURSE
CLERK TYPIST

Form OGCC-1 b

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

2. NAME OF OPERATOR: The Anschutz Corporation

3. ADDRESS OF OPERATOR: 2400 Anaconda Tower, 555-17th St., Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 257' FSL and 1640' FEL

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Anschutz Ranch East

9. WELL NO.: 16-20U

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Section 20., T4N-R8E

14. PERMIT NO.: 43-043-30148

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7420 GR (Est.)

12. COUNTY OR PARISH: Summit

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Well Report			[X]
(Other)			[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

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

4/29/81 - 8/29/81

Cut cores from 11,847' to 13,662'.
Ran 7" csg. through bad 9-5/8" csg. @ 13,662'.
Logged with Schlumberger @ 14,984'.
Ran McCullough csg. logs @ 15,692'.
Logged with Schlumberger @ 15,912'.
Ran 5" liner to 15,930'.
Rig released 1200 hrs. 8/29/81.

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

SIGNED David Bengston TITLE _____ DATE 2/8/82

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SPECIAL CORE ANALYSIS

for

ANSCHUTZ CORPORATION
Well No. 16-20 U
Anschutz Ranch East Field

RECEIVED
APR 06 1982
DIVISION OF
OIL, GAS & MINING

7501 STEMMONS FREEWAY, BOX 47547, DALLAS, TEXAS 75247 • 214/631-8270

CORE LABORATORIES, INC.

Reply To:
10703 E. BETHANY DRIVE
AURORA, COLORADO 80014

March 15, 1982

Anschutz Corporation
Anaconda Tower, Suite 2400
555-17th Street
Denver, Colorado 80202

Attention: Mr. Al Livingston

Subject: Special Core Analysis
Well No. ARE 16-20U
Anschutz Ranch East Field
Summit County, Utah
Sec 20 T4N R8E
Nugget Formation
CLI File Number: 203820016

Gentlemen:

At the request of Mr. Al Livingston, Core Laboratories performed formation resistivity factor at overburden pressures on core samples from the subject well. The core plug samples used in this report were selected of the samples used in an earlier special core analysis study, CLI file number 10381063, dated November 16, 1981. The reason for this study was to determine the effects of weathering on the core material after it had been in storage for several months.

The core plug samples were leached of salt with methyl alcohol and dried. The permeability, porosity and grain density was measured as in the previous study and are reported in tabular form on Page 1, with the lithology.

The samples for formation resistivity factor measurements were then evacuated and pressure saturated with simulated formation brine. The brine was reconstituted according to the water analysis on Page 2. The electrical resistivities of the brine and saturated core plug samples was measured at regular intervals of two to three days until results stabilized, indicating ionic equilibrium had occurred. The electrical resistivities of the core plug samples were then measured at an effective overburden pressure of 200, 6000, 7000 and 8000 psig. The results are presented in tabular form on Page 3 and in graphical form on Pages 4 through 8.

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

ROUTINE DATA

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MD., AIR	POROSITY PERCENT	GRAIN DENSITY	LITHOLOGY
2	12004-05	3.3	11.6	2.64	Sst, qztz bu fgrn wl/consol slily/slty
5	12142-43	6.1	16.6	2.63	Sst, qztz bu-wh vf-fgrn wl/consol slty
8	12275-76	0.85	10.1	2.64	Sst, qztz bu fgrn wl/consol slty pyr
10	12427-28	0.33	12.0	2.64	Sst, qztz bu-brn vfgrn wl/consol slty
12	12607-08	0.05	7.0	2.66	Sst, qztz bu-rdsh fgrn wl/consol slily/slty
20	13151-52	0.02	6.6	2.65	Sst, qztz bu-rdsh vfgrn wl/consol slty
24	13490-91	0.18	10.9	2.63	Sst, qztz gry vfgrn wl/consol slty frac
25	13627-28	0.05	7.0	2.65	Sst, qztz bu-rdsh vfgrn wl/consol slty

This report, based on observations and materials supplied by the client, is prepared for the exclusive and confidential use by the client. The analyses, opinions, or interpretations contained herein represent the judgement of Core Laboratories, Inc.; however, Core Laboratories, Inc., and its employees assume no responsibility and make no warranties or representations as to the utility of this report to the client or as to the productivity, proper operation, or profitableness of any oil, gas, or other mineral formation or well in connection with which such report may be used or relied upon.

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

SIMULATED BRINE COMPOSITION

Constituents	CONCENTRATION, gm/l
Sodium Chloride (NaCl)	38.52
Calcium Chloride ($CaCl_2 \cdot 2H_2O$)	5.86
Sodium Bicarbonate ($NaHCO_3$)	0.22
Sodium Sulfate (Na_2SO_4)	1.82
Magnesium Sulfate ($MgSO_4 \cdot 7H_2O$)	1.72

The brine compositions was prepared from the following analysis:

Company: Amoco Production Co.
Well: Bountiful Livestock No. 1
Formation: Nugget
Field: Anschutz Ranch East
County: Summit
State: Utah

Constituent	Concentration, mg/l	Constituent	Concentration, mg/l
Sodium	15820	Chloride	26233
Calcium	1600	Bicarbonate	160
Magnesium	170	Sulfate	1930
		Carbonate	-0-

This report, based on observations and materials supplied by the client, is prepared for the exclusive and confidential use by the client. The analyses, opinions, or interpretations contained herein represent the judgement of Core Laboratories, Inc.; however, Core Laboratories, Inc., and its employees assume no responsibility and make no warranties or representations as to the utility of this report to the client or as to the productivity, proper operation, or profitableness of any oil, gas, or other mineral formation or well in connection with which such report may be used or relied upon.

Company Anschutz Corporation
Well ARE 16-20U
Field Anschutz Ranch East
Formation Nugget
County Summit
State Utah

FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN PRESSURE

Saturant: Simulated Formation Brine

Resistivity Of Saturant, Ohm-Meters: 0.161 @ 75.0°F

SAMPLE NUMBER	POROSITY PERCENT	EFFECTIVE OVERBURDEN PRESSURE, PSIG 0	200	6000	7000	8000
2	11.6	49.2	91.0	104	108	110
5	16.6	27.4	30.5	39.6	40.5	40.8
8	10.1	53.0	65.8	100	103	105
10	12.0	49.9	60.3	90.7	93.9	95.5
12	7.0	91.7	112	197	207	218
20	6.6	137	158	276	292	310
24	10.9	56.5	61.3	96.1	98.8	100
25	7.0	96.2	103	166	176	181

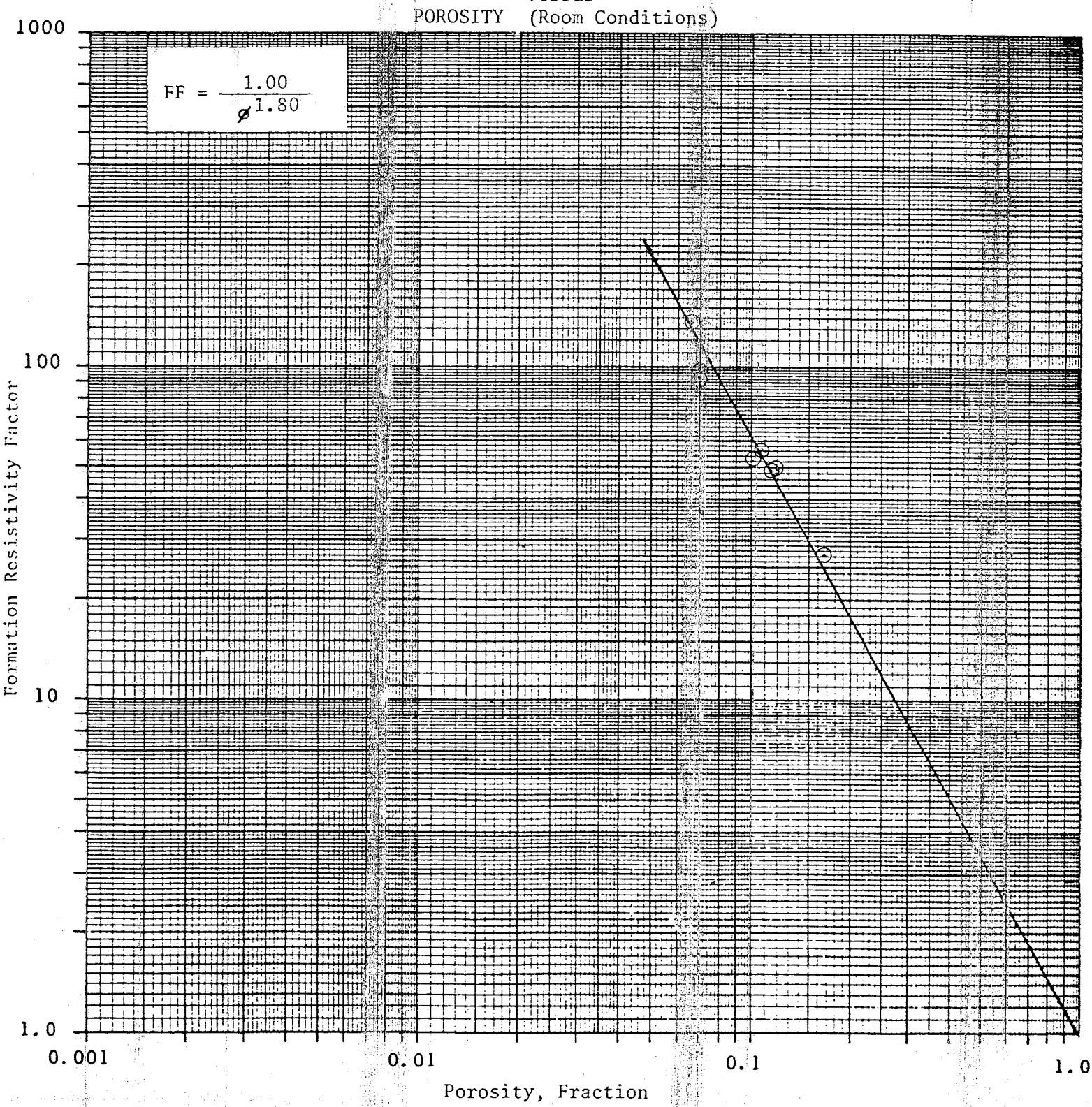
This report, based on observations and materials supplied by the client, is prepared for the exclusive and confidential use by the client. The analyses, opinions, or interpretations contained herein represent the judgement of Core Laboratories, Inc.; however, Core Laboratories, Inc., and its employees assume no responsibility and make no warranties or representations as to the utility of this report to the client or as to the productivity, proper operation, or profitableness of any oil, gas, or other mineral formation or well in connection with which such report may be used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203820016

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

FORMATION RESISTIVITY FACTOR
versus
POROSITY (Room Conditions)

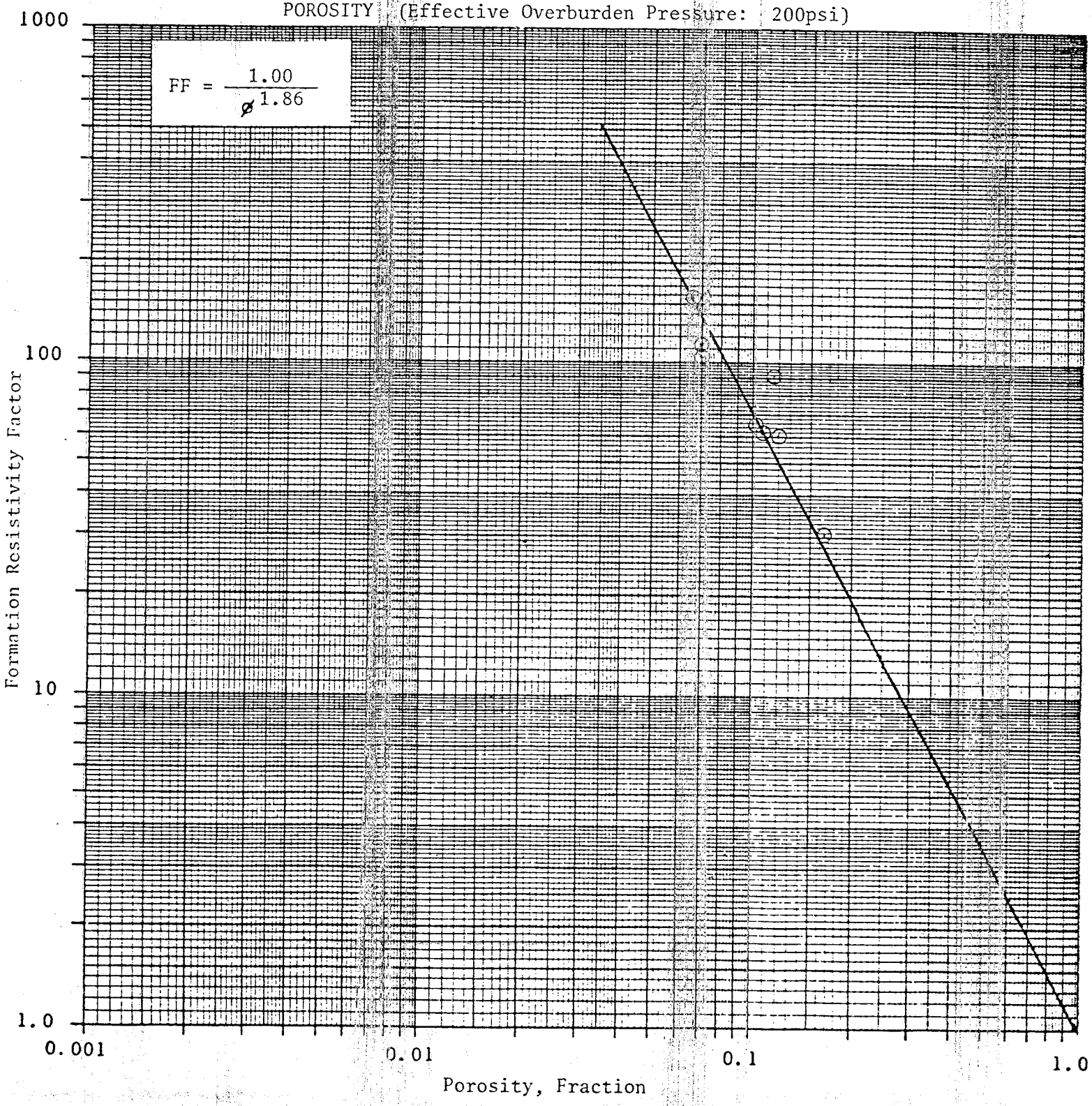


CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 205820016

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

FORMATION RESISTIVITY FACTOR
versus
POROSITY (Effective Overburden Pressure: 200psi)

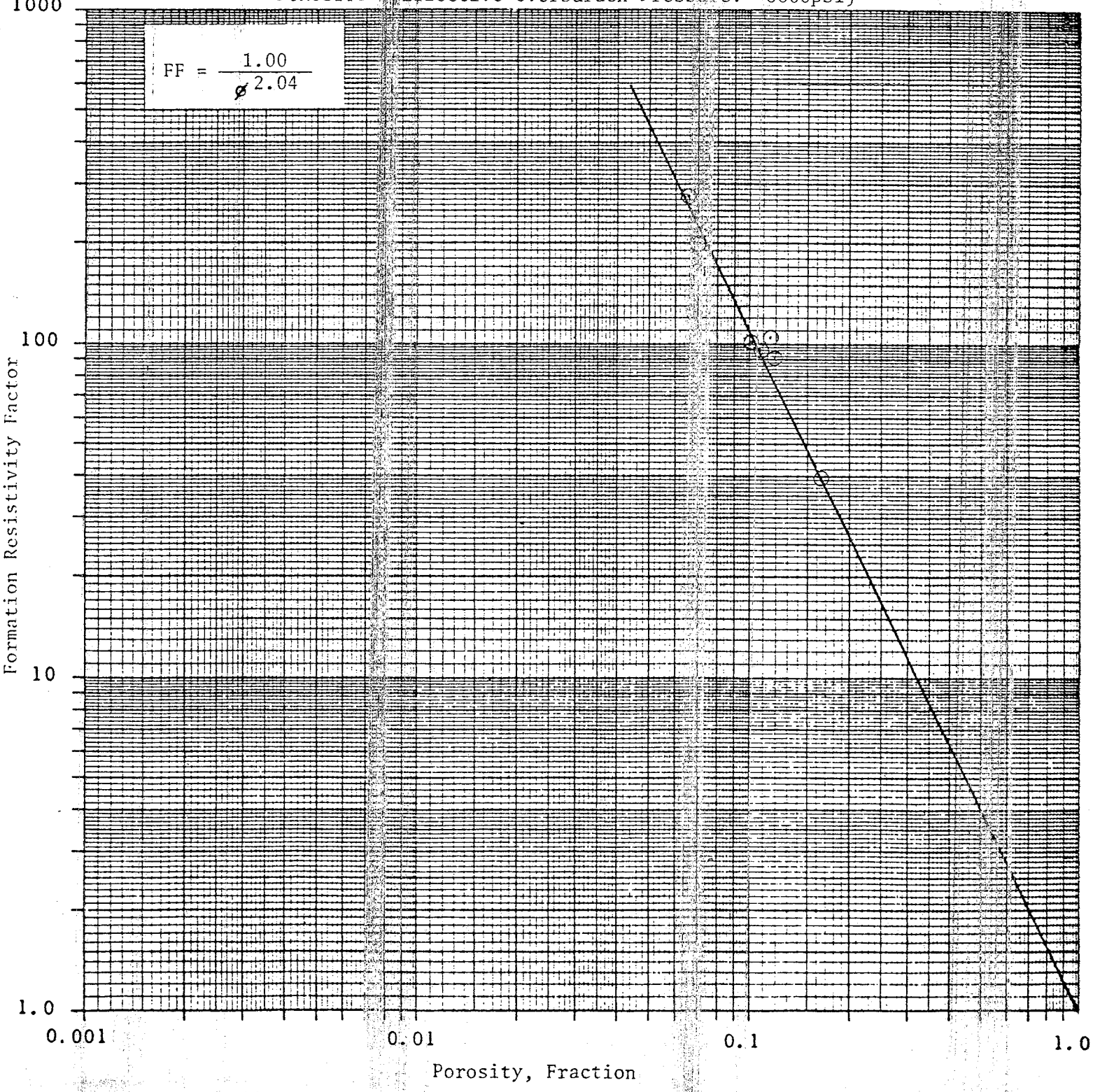


CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203820016

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

FORMATION RESISTIVITY FACTOR
versus
POROSITY (Effective Overburden Pressure: 6000psi)

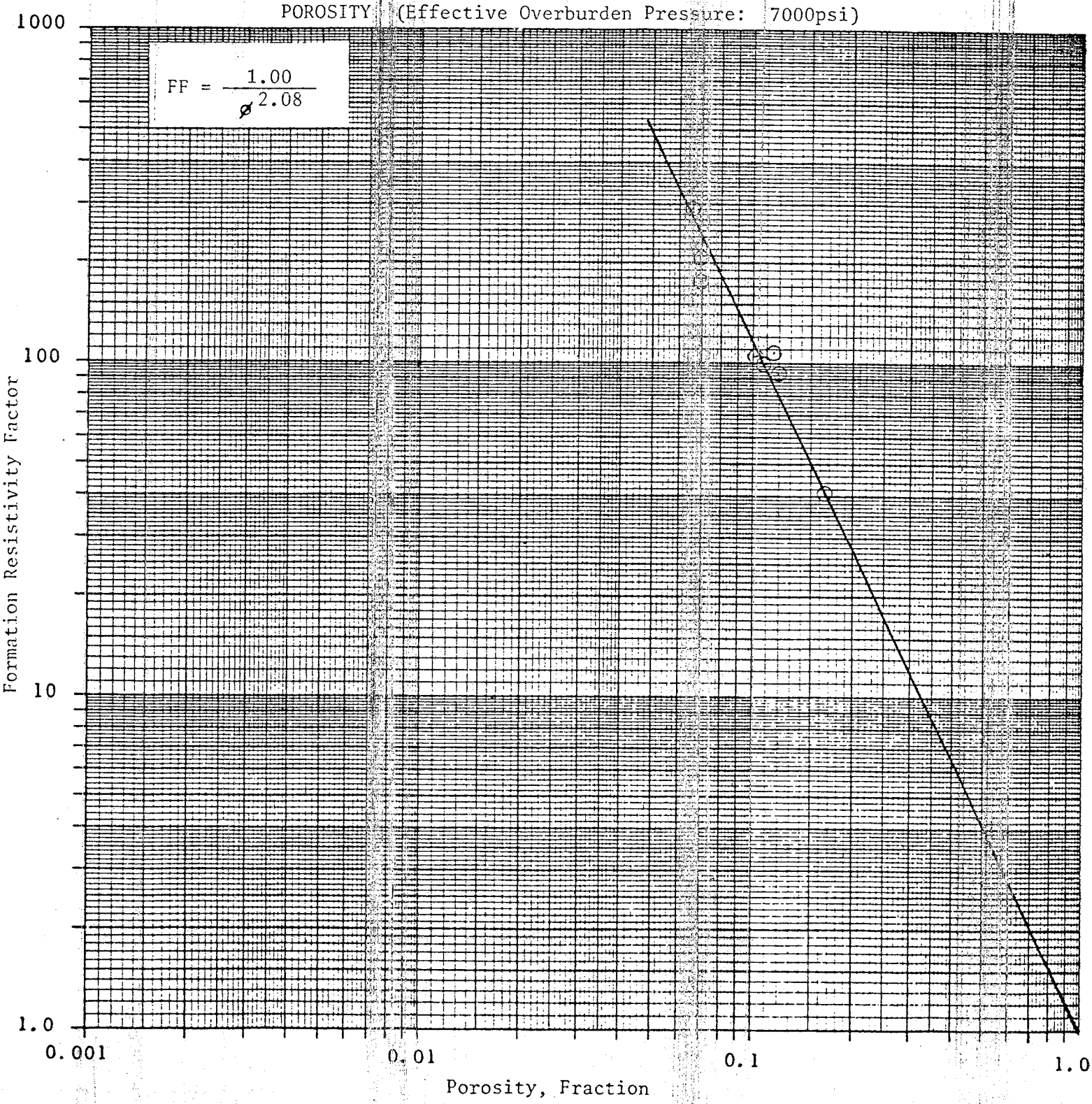


CORE LABORATORIES, INC
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203820016

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

FORMATION RESISTIVITY FACTOR
versus
POROSITY (Effective Overburden Pressure: 7000psi)

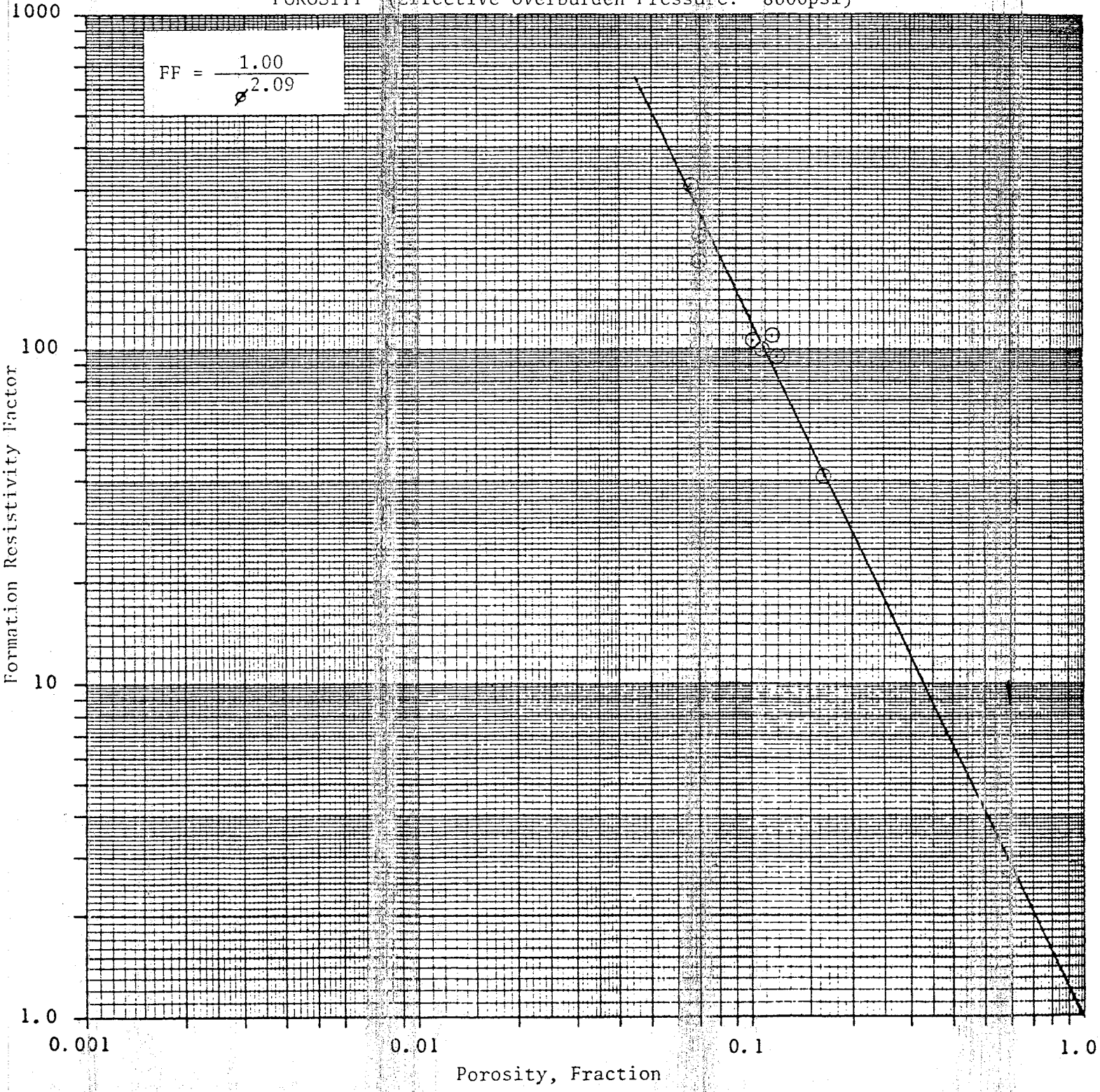


CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203820016

Company Anschutz Corporation
Formation Nugget
Well ARE 16-20U
County Summit
Field Anschutz Ranch East
State Utah

FORMATION RESISTIVITY FACTOR
versus
POROSITY (Effective Overburden Pressure: 8000psi)



STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

September 13, 1982

Anschutz Corporation
Att: Mark Buckland
2400 Anaconda Tower
555 Seventeenth Street
Denver, Colorado 80202

Re: Well No. Anschutz Ranch East #6-20U
Well No. Anschutz Ranch East #16-20U
Sec. 20, T. 4N, R. 8E.
Summit County, Utah
(March - August 1982)

Well No. Anschutz Ranch East #8-30UA
Sec. 30, T. 4N, R. 8E.
Summit County, Utah
(May- August 1982)

Well No. Anschutz Ranch East #16-30U
Sec. 30, T. 4N, R. 8E.
Summit County, Utah
(March- August 1982)

Gentlemen:

Our records indicate that you have not filed the monthly drilling reports for the months indicated above on the subject wells.

Rule C-22, General Rules and Regulations and Rules of Practice and Prcoedure, requires that said reports be filed on or before the sixteenth (16) day of the succeeding month. This report may be filed on Form OGC-1B, (U.S. Geological Survey Form 9-331) "Sundry Notices and Reports on Wells", or on company forms containing substantially the same information. We are enclosing forms for your convenience.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS AND MINING

Cari Furse

Cari Furse
Clerk Typist

Board/Charles R. Henderson, Chairman • John L. Bell • E. Steele McIntyre • Edward T. Beck
Robert R. Norman • Margaret R. Bird • Herm Olsen

an equal opportunity employer • please recycle paper

THE ANSCHUTZ CORPORATION

2400 ANACONDA TOWER
555 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-825-6100
TWX 910-931-2620

September 29, 1982

State of Utah
Natural Resources and Energy
4241 State Office Building
Salt Lake City, Utah 84114

Attention: Cari Furse

Dear Ms. Furse

In regards to your notice dated September 13, 1982, the following wells have finished drilling on the dates shown:

ARE 6-20U	-	12/30/81	These are all located in sections
ARE 16-20U	-	8/29/81	20 and 30; T4N R8E, Summit County,
ARE 8-30UA	-	5/26/82	Utah.
ARE 16-30A	-	12/23/81	

Our records show that all sundries were submitted up to rig release date and all rigs released were shown on the final sundry notices for each well. As we intend to complete these wells, all sundries to show intent have been filed 9-17-82.

If you have any questions, please contact me at (303) 825-6100.

Sincerely yours,

Mark Buckland

Mark Buckland
Jr. Drilling Engineer

MB/ahs

RECEIVED
OCT 04 1982
DIVISION OF
OIL, GAS & MINING

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO.: Anschutz Ranch East

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

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

2. NAME OF OPERATOR: The Anschutz Corporation

8. FARM OR LEASE NAME: Anschutz Ranch East

3. ADDRESS OF OPERATOR: 555 Seventeenth Street, Suite 2400; Denver, Colorado 80202

9. WELL NO.: 16-20U

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 257' FSL & 1640' FEL

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20-T4N-R8E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7568 KB

12. COUNTY OR PARISH: Summit

13. STATE: Utah

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			[ ]
(Other) Isolate Perfs.			[X]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

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

We plan to run a dual packer system that will isolate zones 2 and 3 from zone 1. Zones 2 and 3 will be the producing zone, with zone 1 isolated for future gas injection. PBTD is 12,750'. Perforations are listed below:

Zone 1

11,830-866', 11,873-879', 11,906-928', 11,960-998'

Zone 2 and 3

12,078-098', 12,114-126', 12,135-145', 12,152-160',
12,235-245', 12,253-261', 12,270-278', 12,318-328',
12,336-344', 12,403-447', 12,645-678', 12,694-710'.

Zones 2 and 3 will be flow tested 48 hours to confirm IP.

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

SIGNED David Holder TITLE Drilling Engineer DATE 11-1-82

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

2. NAME OF OPERATOR: The Anschutz Corp.

3. ADDRESS OF OPERATOR: 555 17th St., Suite 2400, Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 257 FSL and 1640 FEL

5. LEASE DESIGNATION AND SERIAL NO.: FEE

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Anschutz Ranch East

9. WELL NO.: 16-20U

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 20 T4N R8E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7586 KB

12. COUNTY OR PARISH: Summit

13. STATE: Utah

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

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

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

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

This well has been completed as per the sundry notice dated 11/1/82 except that the PBTD is 12762'. A Baker model FHL has been set at 11710' and a model FH packer as been set at 12,010'. The initial production rate for this well from the gross interval 12078-12710' calculated to be 7272 MCFD X 2400 BCPD X 20 BWPD on a 34/64" choke with the FTP = 2300 psi.

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

SIGNED David Hobbs TITLE Drilling Engineer DATE 1-17-83

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Amoco Production Company
Post Office Box 17675
Salt Lake City, Utah 84117
801-272-9253

T. G. Doss
District Superintendent

February 9, 1983

DIVISION OF
GAS & MINING

State of Utah
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

File: DSD-251-031.190

Anschutz Ranch East Unit Operations - Summit County, Utah

Amoco Production Company herewith advises that the following wells within the subject unit have been renamed as noted:

Old Well Name:	New Well Name/Location:
√ Anschutz U2-30	Anschutz Ranch East Unit W30-02 Sec. 30, T4N, R8E
Anschutz U6-20	Anschutz Ranch East Unit W20-06 Sec. 20, T4N, R8E
Anschutz U30-06	Anschutz Ranch East Unit W30-06 Sec. 30, T4N, R8E
Anschutz U8-20	Anschutz Ranch East Unit W20-08 Sec. 20, T4N, R8E
Anschutz U8-30	Anschutz Ranch East Unit W30-08 Sec. 30, T4N, R8E
Anschutz U10-20	Anschutz Ranch East Unit W20-10 Sec. 20, T4N, R8E
Anschutz U10-30	Anschutz Ranch East Unit W30-10 Sec. 30, T4N, R8E
Anschutz U12-20	Anschutz Ranch East Unit W20-12 Sec. 20, T4N, R8E

Old Well Name:	New Well Name/Location:
Anschutz U14-20	Anschutz Ranch East Unit W20-14 Sec. 20, T4N, R8E
Anschutz U14-30	Anschutz Ranch East Unit W30-14 Sec. 30, T4N, R8E
Anschutz U16-20	Anschutz Ranch East Unit W20-16 Sec. 20, T4N, R8E
Anschutz U16-30	Anschutz Ranch East Unit W30-16 Sec. 30, T4N, R8E
Bountiful Livestock #1	Anschutz Ranch East Unit W16-14 Sec. 16, T4N, R8E
Bountiful Livestock "A" #1	Anschutz Ranch East Unit W16-06 Sec. 16, T4N, R8E
Champlin 458 Amoco "D" #1	Anschutz Ranch East Unit W29-04 Sec. 29, T4N, R8E
Champlin 458 Amoco "D" #2	Anschutz Ranch East Unit W29-02 Sec. 29, T4N, R8E
Champlin 458 Amoco "D" #3	Anschutz Ranch East Unit W29-12 Sec. 29, T4N, R8E
Champlin 458 Amoco "D" #5	Anschutz Ranch East Unit W29-14 Sec. 29, T4N, R8E
Champlin 458 Amoco "D" #6	Anschutz Ranch East Unit W29-06 Sec. 29, T4N, R8E
Champlin 458 Amoco "E" #1	Anschutz Ranch East Unit W31-08 Sec. 31, T4N, R8E
Champlin 458 Amoco "E" #2	Anschutz Ranch East Unit W31-04 Sec. 31, T4N, R8E
Champlin 458 Amoco "E" #5	Anschutz Ranch East Unit W31-02 Sec. 31, T4N, R8E
Champlin 458 Amoco "E" #6	Anschutz Ranch East Unit W31-06 Sec. 31, T4N, R8E
Champlin 458 Amoco "F" #1	Anschutz Ranch East Unit W21-04 Sec. 21, T4N, R8E
Champlin 458 Amoco "F" #2	Anschutz Ranch East Unit E21-14 Sec. 21, T4N, R8E
Island Ranching "E" #2	Anschutz Ranch East Unit W36-08 Sec. 36, T3N, R7E
Thousand Peaks Ranches #1	Anschutz Ranch East Unit W32-04 Sec. 32, T4N, R8E

For your information the letter preceding the well number (W-E) refers to the West/East Nugget structure within the Anschutz Ranch East Unit. Should you have questions concerning the well name changes, please contact Scheree Wilcox at this office, 801-264-2200.

T.G. Doss

T.G. Doss
District Superintendent

SW/

cc: State of Wyoming
Oil and Gas Conservation Commission
P.O. Box 2640
Casper, Wyoming 82601

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

March 21, 1983

Anschutz Corporation
Att: Mark Buckland
2400 Anaconda Tower
555 17th Street
Denver, Colorado 80202

Re: Anschutz Ranch East Unit # W20-06
Sec. 20, T. 4N, R. 8E.
Summit County, Utah

Well No. AREU # W 20-16
Sec. 20, T. 4N,. R. 8E.
Summit County, Utah

Well No. AREU # W 30-16
Sec. 30, T. 4N, R. 8E.
Summit County, Utah

Gentlemen:

This letter is to advise you that the Well Completion or Recompletion Report and Log for the above mentioned wells are due and have not been filed with this office as required by our rules and regulations.

Please complete the enclosed Form OGC-3, in duplicate, and forward them to this office as soon as possible.

We will be happy to acknowledge receipt of response to this notice if you will include an extra copy of the transmittal letter with a place for our signature, and a self addressed envelope for the return. Such acknowledgement should avoid unnecessary mailing of a firm second notice from our agency.

Your prompt attention to the above will be greatly appreciated.

Respectfully,

DIVISION OF OIL, GAS AND MINING

Cari Furse

Cari Furse
Well Records Specialist

CF/cf
Enclosure

Board/Charles R. Henderson, Chairman • John L. Bell • E. Steele McIntyre • Edward T. Beck
Robert R. Norman • Margaret R. Bird • Herm Olsen

an equal opportunity employer • please recycle paper

Form OGCC-3

15

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

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

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

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

2. NAME OF OPERATOR: The Anschutz Corporation

3. ADDRESS OF OPERATOR: 555 17th St. Suite 2400, Denver, CO 80202

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*

At surface 257' FSl, 1640' FEL

At top prod. interval reported below 956' FSL, 880' FEL

At total depth 1430' FSL, 1443' FEL

5. LEASE DESIGNATION AND SERIAL NO.: FEE

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Anschutz Ranch East

9. WELL NO.: 16-20U

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec 20, T4N, R8E

12. COUNTY OR PARISH: Summit

13. STATE: Utah

14. PERMIT NO.: 43-043-30148 DATE ISSUED: 10/16/80

15. DATE SPUDDED: 11/5/80

16. DATE T.D. REACHED: 8/26/81

17. DATE COMPL. (*Ready to prod.*): 2/15/82

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*: KB 7586' GL 7563'

19. ELEV. CASINGHEAD: 7563'

20. TOTAL DEPTH, MD & TVD: 15940

21. PLUG, BACK T.D., MD & TVD: 12762

22. IF MULTIPLE COMPL., HOW MANY*:

23. INTERVALS DRILLED BY: → ROTARY TOOLS: 0-TD CABLE TOOLS:

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

12078-098, 12114-126, 12135-145, 12152-160, 12235-245, 12253-261, 12270-278, 12318-328, 12336-344, 12403-447, 12645-678, 12694-710

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

DIL, FIL, GR, CNL, FDC, BHC, TDT, VDL, RFT (Sample)

27. WAS WELL CORED: Yes

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8	61-72	3507	17 1/2	2532 Sx	
9 5/8	43.5-47	10650	12 1/4	700 Sx	
7	32	13662	8 1/2	1800 Sx	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
4	13078	15930	100	

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
3 1/2	11750	11700

31. PERFORATION RECORD (*Interval, size and number*)

As above Plus 11830-866, 11873-879 11906-928, 11960-998, 12832-882, 12991-13031, 13194-224, 13450-495, 13539-565, 13737-708, 13840-860, 13885-914.

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
All perforated intervals	100 gal/ft 15% HCL

33.* PRODUCTION

DATE FIRST PRODUCTION: 2/15/82

PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*): Flowing

WELL STATUS (*Producing or shut-in*): Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
11/17/81	24	34/64	→	2400	7272	20	3030

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
2300		→	2400	7272	20	

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

TEST WITNESSED BY: T. Heidrich

35. LIST OF ATTACHMENTS

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

SIGNED Mark L. Buckland TITLE Jr. Drilling Engineer DATE 3/30/83

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

INSTRUCTIONS

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

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

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

Item 29: *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

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

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Nugget	13948	15692	water
Nugget	11844	13914	oil and gas

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Aspen	3755	3755
Gannet	5175	5163
Pruess	9029	8972
Salt	10173	10103
Twin Creek	10353	10282
Boundary Ridge	11340	11258
Nugget	11827	11737
Ankareh	15940	15732

Amoco Production Company
Post Office Box 829
Evanston, Wyoming 82930
307-789-1700

T. G. Doss
District Superintendent

RECEIVED
OCT 18 1983
DIVISION OF
OIL, GAS & MINING

October 14, 1983

Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, UT 84114

Attn: Mary Alice Peterson

File: JEK-630-416

This letter is in response to a phone conversation on October 11, 1983, with Mary Alice Peterson, an employee of the Division of Oil, Gas, and Mining for the State of Utah. The wells listed below were formerly operated by the Anschutz Corporation and are now operated by Amoco Production Company as a part of the Anschutz Ranch East Unit. The wells are shown with their before unitization and after unitization names.

Before Unitization	After Unitization
Anschutz U2-30	Anschutz W30-02
Anschutz U6-20	Anschutz W20-06
Anschutz U6-30	Anschutz W30-06
Anschutz U8-20	Anschutz W20-08
Anschutz U8-30	Anschutz W30-08
Anschutz U10-20	Anschutz W20-10
Anschutz U10-30	Anschutz W30-10
Anschutz U12-20	Anschutz W20-12
Anschutz U14-20	Anschutz W20-14
Anschutz U14-30	Anschutz W30-14
Anschutz U16-20	Anschutz W20-16 4N 8E sec 20
Anschutz U16-30	Anschutz W30-16

If there are any questions please contact John Sprague at 307-789-1700, extension 2118.

T. G. Doss

T. G. Doss

JCS/sh

Claudia:
Wells that we (Amoco) took over from Anschutz Corp.
George

RECEIVED
FEB 9 1984
DIVISION OF
OIL, GAS & MINING

ONGF FILE C

02/06/83

ANSCHUTZ RANCH EAST UNIT NEW NUMBERING SYSTEM

UTAH/WEST NUGGET

Our

OLD WELL NAME	NEW WELL NAME
ANSCHUTZ U06-20	ANSCHUTZ W20-06
ANSCHUTZ U06-30	ANSCHUTZ W30-06
ANSCHUTZ U08-20	ANSCHUTZ W20-08
ANSCHUTZ U08-30	ANSCHUTZ W30-08
ANSCHUTZ U14-20	ANSCHUTZ W20-14
ANSCHUTZ U14-30	ANSCHUTZ W30-14
ANSCHUTZ U16-20	ANSCHUTZ W20-16
ANSCHUTZ U16-30	ANSCHUTZ W30-16

WYOMING/EAST NUGGET

MORE... TIMESHAR

OLD WELL NAME	NEW WELL NAME
ANSCHUTZ U11-26	ANSCHUTZ E26-11
ANSCHUTZ U12-26	ANSCHUTZ E26-12

R; T=0.01/0.01 16:51:39

RUNNING TIMESHAR

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 11, 1985

Amoco Production Company
PO Box 829
Evanston, Wyoming 82930

Gentlemen:

Re: Well No. AREU #20-16 - Sec. 20, T. 4N., R. 8E., Summit County, Utah - API #43-043-30148

According to a Sundry Notice submitted to this office dated April 29, 1981, a Drill Stem Test was run on the above referenced well.

Please send a copy of this test to our office as soon as possible, but no later than April 24, 1985.

Thank you for your cooperation in this matter.

Sincerely,

Pam Kenna

Pam Kenna
Well Records Specialist

cc: Dianne R. Nielson
Ronald J. Firth
John R. Baza
File

0170S/48

Form OGCC-1 b

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

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

RECEIVED

OCT 21 1985

DIVISION OF OIL GAS & MINING

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

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P. O. BOX 829, EVANSTON, WYOMING 82930

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 257' FSL & 1640' FEL

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Anschutz Ranch East

8. FARM OR LEASE NAME: W20-16

9. WELL NO.: W20-16

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20, T4N, R8E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7586' KB 7563 GL

12. COUNTY OR PARISH: Summit

13. STATE: Utah

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

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

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

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

To Improve Sweep:

Perforate - 12,190'-12,230'

Produce from 11,825' to 12,750' (gross)

Estimated start date is November 4, 1985

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

SIGNED J. R. Adams TITLE Sr Drilling Eng Supervisor DATE 10/17/85

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Amoco Production Company

May 16, 1986

RECEIVED
MAY 21 1986
DIVISION OF
OIL, GAS & MINING

Utah Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180

Re: **Name change on wells being brought into the Anschutz Ranch East Unit**

Attn: Claudia Jones

Dear Claudia:

The following is a list of all wells, East & West Lobe (production and Injection) at Anschtuz Ranch East referenced by well name, API No. and legal description, that should be rolled over from Amoco Production Company to Amoco Rockmount Company upon completion and being brought into the Unit.

Production wells

Well Name	API No.	Legal Description
W01-04	43-043-30270	NWNW, Sec 1, T3N, R7E
W01-06	43-043-30188	SENW, Sec 1, T3N, R7E
W01-12	43-043-30271	NWSW, Sec 1, T3N, R7E
W20-04	43-043-30238	NWNW, Sec 20, T4N, R8E
W16-~~60~~ 06	43-043-30138	NENE, Sec 16, T4N, R8E
W16-12	43-043-30231	SWNW, Sec 16, T4N, R8E
W17-~~12~~ 16	43-043-30176	NWSE, Sec 17, T4N, R8E
W19-16	43-043-95008 ? 30204	SWSE, Sec 19, T4N, R8E
W20-02	43-043-30228	NWNE, Sec 20, T4N, R8E
W20-06	43-043-30159	NWNW, Sec 20, T4N, R8E
W20-10	43-043-30229	SENW, Sec 20, T4N, R8E
W20-12	43-043-30220	NWSW, Sec 20, T4N, R8E
W20-16	43-043-30148	SWSE, Sec 20, T4N, R8E
W21-04	43-043-30135	NWNW, Sec 21, T4N, R8E
W29-04	43-043-30129	NWNW, Sec 29, T4N, R8E
W29-06A	43-043-30250	SENW, Sec 29, T4N, R8E
W29-14A	43-043-30251	NWSW, Sec 29, T4N, R8E
W30-06	43-043-30273	NESW, Sec 30, T4N, R8E
W30-08	43-043-30183	SENE, Sec 30, T4N, R8E
W30-10	43-043-30215	NWSE, Sec 30, T4N, R8E
W30-14	43-043-30185	SESW, Sec 30, T4N, R8E
W30-16	43-043-30156	NESE, SEc 30, T4N, R8E

Production wells (cont.)

Well Name	API NO.	Legal Description
W31-04	43-043-30165	NWNW, Sec 31, T4N, R8E
W31-06	43-043-30217	SENW, Sec 31, T4N, R8E
W31-08	43-043-30164	NWNE, Sec 31, T4N, R8E
W31-12	43-043-30190	SWNW, Sec 31, T4N, R8E
W32-04	43-043-30162	NWNW, Sec 32, T4N, R8E
W36-10	43-043-30227	NESW, Sec 36, T4N, R7E
W36-16	43-043-30157	SESE, Sec 36, T4N, R7E

Injection wells

W01-02	43-043-30209	? NWNE, Sec 1, T3N, R7E
W02-10	43-043-30265	NWSE, Sec 2, T3N, R7E
W16-14	43-043-30096	NWSW, Sec 16, T4N, R8E
W19-08	43-043-30272	SENE, Sec 19, T4N, R8E
W20-08	43-043-30212 ? 30123	SWNW, Sec 20, T4N, R8E
W20-14	43-043-30145	NWSW, Sec 20, T4N, R8E
W29-02	43-043-30220 ? 30136	NWNE, Sec 29, T4N, R8E
W29-12	43-043-30154	NWSW, Sec 29, T4N, R8E
W30-02	43-043-95014 ? 30218	NWNE, Sec 30, T4N, R8E
W30-12A	43-043-30248 ? 30230	NWSW, Sec 30, T4N, R8E
W30-15	43-043-95012 ? 30216	? NWNE, Sec 30, T4N, R8E
W36-08	43-043-30167	SENE, Sec 36, T4N, R7E
W36-14	43-043-30255	SESW. Sec 36, T4N, R7E

This should help to clarify your files and if any changes are necessary we will notify you of such.

If further information is needed please contact Louis F. Lozzie of this office at 307-789-1700 ext. 2226.

Thank you,

R. M. Ramsey

R. M. Ramsey
District Admn. Supervisor

/kg

cc: Pam Collier - Amoco Denver

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

POW

SUNDRY NOTICES AND REPORTS ON WELLS

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

RECEIVED
MAY 18 1987
DIVISION OF OIL, GAS & MINING

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

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P. O. BOX 829, EVANSTON, WYOMING 82930

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 257' FSL & 1640' FEL

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 051917

7. UNIT AGREEMENT NAME: Anschutz Ranch East

8. FARM OR LEASE NAME: W20-16

9. WELL NO.: W20-16

10. FIELD AND POOL, OR WILDCAT: Nugget

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20, T4N, R8E

14. PERMIT NO.: 43-043-30148

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7586' KB

12. COUNTY OR PARISH:

13. STATE:

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[X]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			[ ]
(Other)			[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

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

The castiron bridge plugs @ 12,800' and 13,110' will be drilled out and the well will be perforated in the Nugget overturn over the following intervals:

12,904' - 12,920'
13,172' - 13,186'
13,250' - 13,260'
13,310' - 13,380'
13,404' - 13,462'
13,569' - 13,584'
13,650' - 13,660'
13,690' - 13,700'
13,796' - 13,818'

Work should start May 12, 1987 and should be complete by May 22, 1987. This work was discussed between Bruce Leggett (Amoco) and Bill Moore (DOGM) @ 9:05 am on May 12, 1987.

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

SIGNED [signature] TITLE Administrative Supervisor DATE 5-14-87

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 5-19-87
BY: [signature]

*See Instructions on Reverse Side

Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO.: Fee POW

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 062938

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

7. UNIT AGREEMENT NAME: Anschutz Ranch East

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

8. FARM OR LEASE NAME: W20-16

3. ADDRESS OF OPERATOR: P. O. BOX 829, EVANSTON, WYOMING 82930

9. WELL NO.: W20-16

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 257' FSL 1640' FEL

RECEIVED JUN 18 1987 DIVISION OF OIL, GAS & MINING

10. FIELD AND POOL, OR WILDCAT: Nugget

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20, T4N, R8E

14. PERMIT NO.: 43-043-30148

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7586' KB

12. COUNTY OR PARISH: Summit

13. STATE: Utah

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

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

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

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

The cast iron bridge plugs at 12,800' and 13,110' were drilled out and a plug back total depth of 13,935' was established. The following Nugget intervals were perforated with a tubing conveyed perforating system:

12,904' - 12,920'
13,172' - 13,186'
13,250' - 13,260'
13,310' - 13,380'
13,404' - 13,462'
13,569' - 13,584'
13,650' - 13,660'
13,690' - 13,700'
13,796' - 13,817'

Larger tubing (4 1/2") was placed back in the well and the well was back on production on June 13, 1987.

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

SIGNED [signature] TITLE Adminsitrative Supervisor DATE 6-16-87

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

FORM 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

DEC 20 1993
DIVISION OF OIL, GAS & MINING

5. Lease Designation and Serial Number: Fee

SUNDRY NOTICES AND REPORTS ON WELLS

6. If Indian, Allottee or Tribe Name:

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

7. Unit Agreement Name: Anschutz Ranch East Unit

1. Type of Well: OIL ☐ GAS ☑ OTHER:

8. Well Name and Number: W20-16

2. Name of Operator: Amoco Production Company

9. API Well Number: 43-043-30148

3. Address and Telephone Number: P.O. Box 800, Rm 1842, Denver, CO 80201 (303) 830-4728

10. Field and Pool, or Wildcat: Anschutz Ranch East

4. Location of Well Footages: 257' FSL, 1640' FEL

County: Summit

QQ, Sec.,T.,R.,M.: Sec 20, T4N, R8E

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- ☐ Abandonment
- ☐ Casing Repair
- ☐ Change of Plans
- ☐ Conversion to Injection
- ☐ Fracture Treat
- ☐ Multiple Completion
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recompletion
- ☐ Shoot or Acidize
- ☐ Vent or Flare
- ☐ Water Shut-Off

Approximate date work will start

SUBSEQUENT REPORT
(Submit Original Form Only)

- ☐ Abandonment *
- ☐ Casing Repair
- ☐ Change of Plans
- ☐ Conversion to Injection
- ☐ Fracture Treat
- ☑ Other Workover
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Shoot or Acidize
- ☐ Vent or Flare
- ☐ Water Shut-Off

Date of work completion 11-17-93

Report results of **Multiple Completions** and **Recompletions** to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Amoco Production Company performed a workover to the subject well using the following procedure:

1. Pull tbg, & pkr.
2. Rerun tbg string and reset pkr. Pressure test pkr to 1000 psi.
3. RTP 11-17-93 with rate of 42.8MCFPD, 646 BOPD & 38BWPD.

If you require any additional information, please contact Ellen Simon at (303) 830-4728 or Rick Ross (Project Engineer) at (303) 830-4957.

13.

Name & Signature: Ellen Simon Title: Regulatory Analyst Date: 12/16/93

(This space for State use only)

(1\93)

(See Instructions on Reverse Side)

FORM 10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801

MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

DEMETRIA MARTINEZ
AMOCO ROCMOUNT COMPANY
PO BOX 800
DENVER CO 80201

UTAH ACCOUNT NUMBER: N1390

REPORT PERIOD (MONTH/YEAR): 12 / 97

AMENDED REPORT ☐ **(Highlight Changes)**

Well Name / API Number / Entity / Location	Producing Zone	Well Status	Days Oper	Production Volumes OIL(BBL)	GAS(MCF)	WATER(BBL)
ANSCHUTZ RANCH EAST W20-08 4304330123 04540 04N 08E 20	NGSD			Fee	Anschutz Ranch	East Unit
ANSCHUTZ RANCH EAST 29-04ST1 4304330129 04540 04N 08E 29	NGSD			"		
ANSCHUTZ RANCH EAST E21-14 4304330130 04540 04N 08E 21	TWNCR			"		
ANSCHUTZ RANCH EAST W21-04 4304330135 04540 04N 08E 21	NGSD			"		
ANSCHUTZ RANCH EAST W29-02 4304330136 04540 04N 08E 29	NGSD			"		
ANSCHUTZ RANCH EAST W16-06 4304330138 04540 04N 08E 16	NGSD			"		
ANSCHUTZ RANCH EAST W20-16 4304330148 04540 04N 08E 20	NGSD			"		
ANSCHUTZ RANCH EAST W30-16 4304330156 04540 04N 08E 30	NGSD			"		
ANSCHUTZ RANCH EAST W36-16 4304330157 04540 04N 07E 36	NGSD			"		
ANSCHUTZ RANCH EAST W20-06 4304330159 04540 04N 08E 20	NGSD			"		
ANSCHUTZ RANCH EAST W32-04 4304330162 04540 04N 08E 32	NGSD			"		
ANSCHUTZ RANCH EAST W31-08 4304330164 04540 04N 08E 31	NGSD			"		
ANSCHUTZ RANCH EAST W31-04 4304330165 04540 04N 08E 31	NGSD			"		
			TOTALS			

COMMENTS:

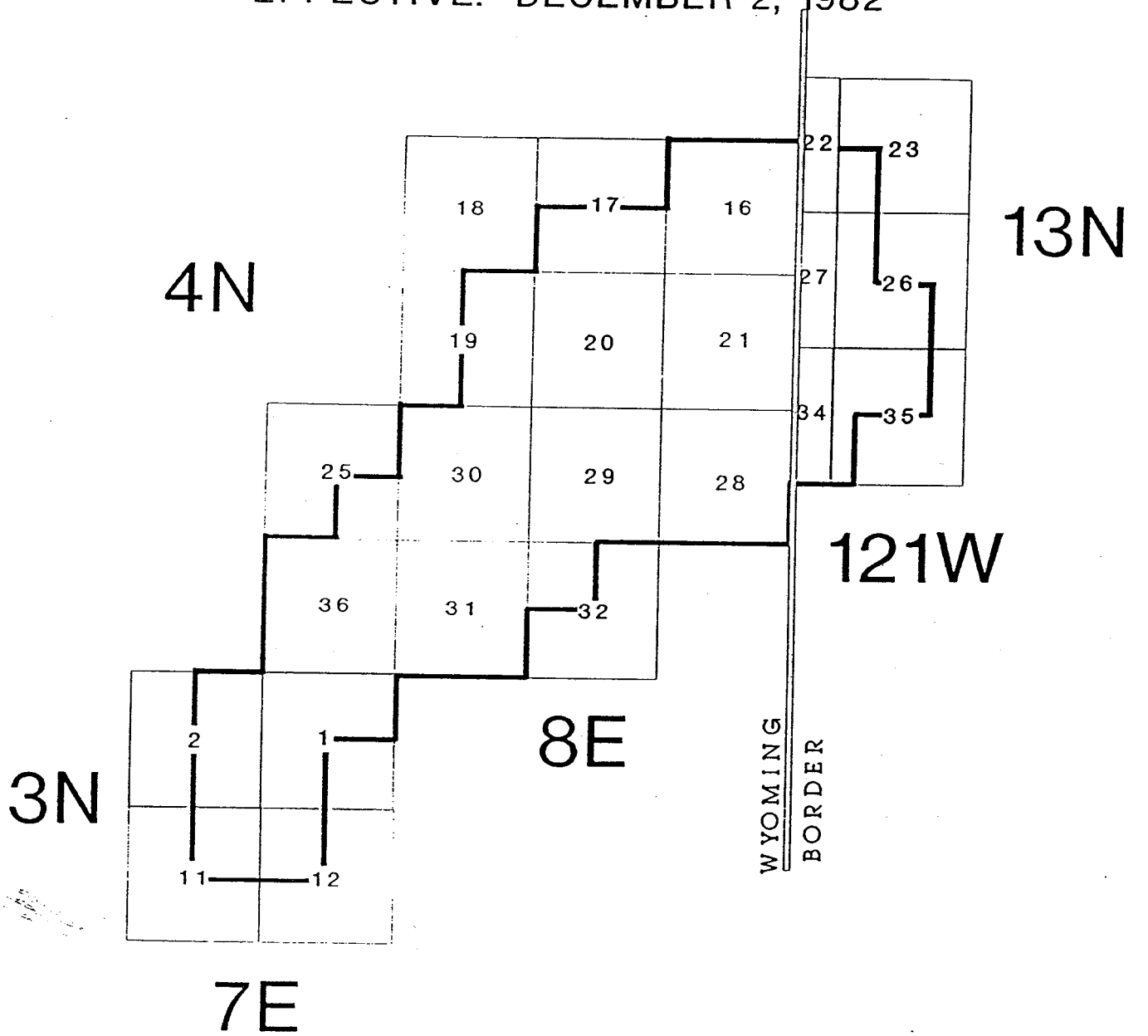
I hereby certify that this report is true and complete to the best of my knowledge. Date:

Name and Signature: Telephone Number:

ANSCHUTZ RANCH EAST UNIT

Summit County, Utah

EFFECTIVE: DECEMBER 2, 1982



UNIT OUTLINE (UTU67938X)

AS CONTRACTED DECEMBER 1, 1992

22,158.00 ACRES

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 26, 1998

G. G. Martinez
Amoco Production Company
P. O. Box 800, Room 812B
Denver, Colorado 80201

Re: Notification of Sale or Transfer of Fee Lease Interest

The Division has received notification of a change of operator from Amoco Rocmount Company to Amoco Production Company for the following wells which are located on fee leases:

Well Name	Sec.-T.-R.	API Number
(Anschutz Ranch East "ARE")		
ARE W20-08	20-04N-08E	43-043-30123
ARE 29-04ST1	29-04N-08E	43-043-30129
ARE E21-14	21-04N-08E	43-043-30130
ARE W21-04	21-04N-08E	43-043-30135
ARE W29-02	29-04N-08E	43-043-30136
ARE W16-06	16-04N-08E	43-043-30138
ARE W20-16	20-04N-08E	43-043-30148
ARE W30-16	30-04N-08E	43-043-30156
ARE W36-16	36-04N-07E	43-043-30157
ARE W20-06	20-04N-08E	43-043-30159
ARE W32-04	32-04N-08E	43-043-30162
ARE W31-08	31-04N-08E	43-043-30164
ARE W31-04	31-04N-08E	43-043-30165
ARE W17-16	17-04N-08E	43-043-30176
ARE W30-08	30-04N-08E	43-043-30183
ARE W30-14	30-04N-08E	43-043-30185
ARE W01-06	01-03N-07E	43-043-30188
ARE W31-12	31-04N-08E	43-043-30190
ARE W19-16	19-04N-08E	43-043-30204
ARE W30-10	30-04N-08E	43-043-30215
ARE W31-06	31-04N-08E	43-043-30217

ARE W20-12	20-04N-08E	43-043-30220
ARE E28-06	28-04N-08E	43-043-30226
ARE W36-10	36-04N-07E	43-043-30227
ARE W20-02	20-04N-08E	43-043-30228
ARE W20-10	20-04N-08E	43-043-30229
ARE W16-12	16-04N-08E	43-043-30231
ARE W20-04	20-04N-08E	43-043-30238
ARE W29-06A	29-04N-08E	43-043-30250
ARE W29-14A	29-04N-08E	43-043-30251
ARE E28-12	28-04N-08E	43-043-30257
ARE W01-04	01-03N-07E	43-043-30270
ARE W01-12	01-03N-07E	43-043-30271
ARE W30-06	30-04N-08E	43-043-30273
ARE W11-1	11-03N-07E	43-043-30277
ARE W30-13	25-04N-07E	43-043-30279
ARE W12-04	02-03N-07E	43-043-30283
ARE W20-09	20-04N-08E	43-043-30286
ARE W20-03	20-04N-08E	43-043-30291

Utah Administrative Rule R649-2-10 states; the owner of a lease shall provide notification to any person with an interest in such lease, when all or part of that interest in the lease is sold or transferred.

This letter is written to advise Amoco Production Company of its responsibility to notify all individuals with an interest in these leases (royalty interest and working interest) of the change of operator. Please provide written documentation of this notification to:

Utah Royalty Owners Association
Box 1292
Roosevelt, Utah 84066

Your assistance in this matter is appreciated.

Sincerely,

Lisha Cordova

Lisha Cordova
Admin. Analyst, Oil & Gas

cc: Amoco Rocmount Company, Ed Hadlock
Utah Royalty Owners Association, Stephen Evans
John R. Baza, Associate Director
Operator File(s)

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name: Anschutz Ranch East

7. Unit Agreement Name: W20-16

8. Well Name and Number:

9. API Well Number: 43-043-30148

10. Field and Pool, or Wildcat: ARE

Type of Well: OIL ☐ GAS ☒ OTHER:

Name of Operator: Amoco Production Company

Address and Telephone Number: P.O. Box 800, Rm 812B, Denver, CO 80201 (303) 830-4781

Location of Well

Footages: 257' FSL, 1640' FEL

County: Summit

QQ, Sec., T., R., M.: Sec 20, T4N, R8E

State: Utah

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- ☐ Abandonment
- ☐ Casing Repair
- ☐ Change of Plans
- ☐ Conversion to Injection
- ☐ Fracture Treat
- ☐ Multiple Completion
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recompletion
- ☐ Shoot or Acidize
- ☐ Vent or Flare
- ☐ Water Shut-Off

Approximate date work will start

SUBSEQUENT REPORT
(Submit Original Form Only)

- ☐ Abandonment *
- ☐ Casing Repair
- ☐ Change of Plans
- ☐ Conversion to Injection
- ☐ Fracture Treat
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Shoot or Acidize
- ☐ Vent or Flare
- ☐ Water Shut-Off

Date of work completion

Report results of **Multiple Completions** and **Recompletions** to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Amoco Production Company is now the operator of the above mentioned well. We will be operating under Utah Bond # 831094. This is effective 1/31/95.

If you require additional information, please contact Gigi Martinez @ (303) 830-4781.

RECEIVED

Name & Signature: G. G. Martinez Title: Permit Agent Date: 2/5/98

(Space for State use only)

State of Delaware

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF DISSOLUTION OF "AMOCO ROCMOUNT COMPANY", FILED IN THIS OFFICE ON THE THIRTY-FIRST DAY OF JANUARY, A.D. 1995, AT 10 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.

Change of operator. Amoco Rocmount to Amoco Production Co Effective 1/31/95

Edward J. Freel

Edward J. Freel, Secretary of State

0934277 8100

950022938

AUTHENTICATION: 7391913

DATE: 01-31-95

ATTN: Usha Cordova
801-359-3904

4 pages

Ed Hadlock
Amoco Prod. Co
303-830-4993

CERTIFICATE OF DISSOLUTION

OF

AMOCO ROCMOUNT COMPANY

AMOCO ROCMOUNT COMPANY, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That dissolution was authorized on January 19, 1995.

SECOND: That dissolution has been authorized by the unanimous written consent of all of the stockholders of the corporation entitled to vote on a dissolution in accordance with the provisions of subsection (c) of section 275 of the General Corporation Law of the State of Delaware.

THIRD: That the names and addresses of the directors and officers of AMOCO ROCMOUNT COMPANY are as follows:

DIRECTORS

NAMES	ADDRESSES
J. M. Brown	501 WestLake Park Boulevard Houston, TX 77079
J. M. Gross	501 WestLake Park Boulevard Houston, TX 77079
D. H. Welch	200 East Randolph Drive Chicago, IL 60601

OFFICERS

NAMES	OFFICES	ADDRESS
J. M. Brown	President	501 WestLake Park Blvd. Houston, TX 77079
M. R. Gile	Vice President	1670 Broadway Denver, CO 80202
J. N. Jaggers	Vice President	1670 Broadway Denver, CO 80202

NAMES	OFFICES	ADDRESS
D. H. Welch	Vice President	200 East Randolph Drive Chicago, IL 60601
J. M. Gross	Secretary	501 WestLake Park Blvd. Houston, TX 77079
R. B. Wilson	Assistant Secretary	1670 Broadway Denver, CO 80202
Rebecca Gormezano	Assistant Secretary	200 East Randolph Drive Chicago, IL 60601
C. F. Helm	Assistant Secretary	519 S. Boston Tulsa, OK 74103
A. L. Haws	Assistant Secretary	501 WestLake Park Blvd. Houston, TX 77079
Daniel B. Pinkert	Assistant Secretary	200 East Randolph Drive Chicago, IL 60601
G. L. Paulson	Assistant Secretary	1670 Broadway Denver, CO 80202
J. E. Rutter	Assistant Secretary	501 WestLake Park Blvd. Houston, TX 77079
J. L. Siddall	Assistant Secretary	200 East Randolph Drive Chicago, IL 60601
M. J. Stonecipher	Assistant Secretary	519 S. Boston Tulsa, OK 74103
Rebecca S. McGee	Assistant Secretary	1670 Broadway Denver, CO 80202
Gerald M. Wilson	Assistant Secretary	200 East Randolph Drive Chicago, IL 60601
Marsha Williams	Treasurer	200 East Randolph Drive Chicago, IL 60601

IN WITNESS WHEREOF, said AMOCO ROCMOUNT COMPANY has caused this certificate to be signed by M. R. Gile, its Vice President, and attested by Rebecca S. McGee, its Assistant Secretary, this 26th day of January, 1995.

AMOCO ROCMOUNT COMPANY

ATTEST:

By _____
M. R. Gile, Vice President

By Rebecca S. McGee
Assistant Secretary

STATE OF COLORADO)
) ss.
CITY OF DENVER)

I, Sheryl A. White, a Notary Public, do hereby certify that M. R. GILE and Robert S. McGee of the above named AMOCO ROCMOUNT COMPANY, personally known to me to be the same persons whose names are subscribed to the foregoing instrument as Vice President and Assistant Secretary, respectively, appeared before me this day in person, and acknowledged that they signed, sealed and delivered the said instrument as the free and voluntary act of said AMOCO ROCMOUNT COMPANY, and as their own free and voluntary act as Vice President and Assistant Secretary, respectively, for the uses and purposes therein set forth.

GIVEN under my hand and official seal this 24th day of January, 1995.

Sheryl A. White
Notary Public

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

Routing:	
1-LEC	6-LEC
2-GLH	7-KAS
3-DTS	8-SI
4-VLD	9-FILE
5-JRB	

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

XXX Change of Operator (~~well sold~~)
☐ Designation of Operator
☐ Designation of Agent
☐ Operator Name Change Only

The operator of the well(s) listed below has changed, **effective:** 1-31-95

TO: (new operator) AMOCO PRODUCTION COMPANY
(address) PO BOX 800
DENVER CO 80201
Phone: (303)830-5340
Account no. N0050

FROM: (old operator) AMOCO ROCMOUNT COMPANY
(address) PO BOX 800
DENVER CO 80201
ED HADLOCK
Phone: (303)830-5340
Account no. N1390

WELL(S) attach additional page if needed: *ANSCHUTZ RANCH EAST UNIT

Name:	API:	Entity:	S	T	R	Lease:
SEE ATTACHED	43-043-30148					

OPERATOR CHANGE DOCUMENTATION

LEC 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). (Req. 2-19-98) (Rec'd 2-26-98)

LEC 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). (Rec'd 2-11-98)

N/A 3. The **Department of Commerce** has been contacted if the new operator above is not currently operating any wells in Utah. Is the company **registered with the state?** (yes/no) _____ If yes, show company file number: _____.

N/A 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of **Federal** and **Indian** well operator changes should ordinarily take place prior to the division's approval, and before the completion of **steps 5 through 9** below.

LEC 5. Changes have been entered in the **Oil and Gas Information System** (3270) for each well listed above. (2-26-98) * QuattroPro/UIC "No Chg." , DBASE/UIC "No Chg." (See comments)

LEC 6. **Cardex** file has been updated for each well listed above. (2-26-98)

LEC 7. Well **file labels** have been updated for each well listed above. (2-26-98)

LEC 8. Changes have been included on the monthly "Operator, Address, and Account Changes" **memo** for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. (2-26-98)

LEC 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

c:\dons\wpdocs\forms\operchng

- OVER -

OPERATOR CHANGE WORKSHEET (continued) - Initial each item when completed. Write N/A if item is not applicable.

ENTITY REVIEW

Lec 1. (r649-8-7) **Entity assignments have been reviewed** for all wells listed above. Were entity changes made? (yes/no) ____ If entity assignments were changed, attach copies of Form 6, Entity Action Form.
4540 "Unit Entity"

N/A 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been **notified** through normal procedures of entity changes.

BOND VERIFICATION - (FEE WELLS ONLY)

Surety No. 831094 (80,000) Issued by Seaboard Surety Co. in behalf of Amoco Prod. Co. and Amoco Rocmount Co.

Lec 1. (r649-3-1) The **NEW** operator of any fee lease well listed above has furnished a proper bond.

Lec 2. A **copy of this form** has been placed in the new and former operator's bond files.

Lec 3. The **FORMER** operator has requested a release of liability from their bond (yes/no) ____, as of today's date 2-19-98. If yes, division response was made to this request by letter dated _____.

LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY

N/A/Lec 1. Copies of documents have been sent on _____ to _____ at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.

Lec 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated Feb. 26, 1998, of their responsibility to notify all interest owners of this change.

FILMING

VS 1. All attachments to this form have been **microfilmed**. Today's date: 3.20.98.

FILING

CAD 1. **Copies** of all attachments to this form have been filed in each **well file**.

__ 2. The **original of this form**, and the **original attachments** are now being filed in the Operator Change file.

COMMENTS

980219 Recognized open for Anschutz Ranch East Unit (State Unit) already Amoco Production Co.

* UIC Wells (Disposal & Gas Injection) were never changed to Amoco Rocmount Company, no change necessary! They were changed in 3270 and have now been changed back to Amoco Prod. Co.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME: See Attached

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached

8. WELL NAME and NUMBER: See Attached

2. NAME OF OPERATOR: Amoco Production Company

9. API NUMBER: Attached

3. ADDRESS OF OPERATOR: 501 Westlake Park Blvd CITY Houston STATE TX ZIP 77079

PHONE NUMBER: (281) 366-5328

10. FIELD AND POOL, OR WILDCAT: See Attached

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See Attached

COUNTY: See Attached

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Operator Name Change
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Amoco Production Company proposes to change its name to BP America Production Company, effective December 31, 2001. Mailing addresses and designated agents shall remain the same.

Attached to this sundry is a listing of wells currently operated by Amoco Production Company. This list includes all wells with the exception of those wells which have a plugged or D&A status.

Also attached for the Board's file is a copy of the Board Resolution approving the name change.

NAME (PLEASE PRINT) Alan Wood

TITLE Regulatory Engineer

SIGNATURE

DATE 12/11/2001

(This space for State use only)

RECEIVED

DEC 13 2001

DIVISION OF OIL, GAS AND MINING

(5/2000)

(See Instructions on Reverse Side)

UNITED STATES OF AMERICA §
STATE OF TEXAS §
COUNTY OF HARRIS §
CITY OF HOUSTON §

CERTIFICATE

M. S. Haskins, of lawful age, first being duly sworn on oath, deposes and says:

1. That she is the duly elected, qualified and acting Assistant Secretary of Amoco Production Company, a corporation organized and existing under the laws of the State of Delaware, U.S.A.;

2. That on November 12, 2001, by consent action of the Board of Directors of Amoco Production Company (hereinafter referred to as "Company"), the following resolutions were adopted:

> WHEREAS, in connection with BP America Inc.'s ("BP") integration of Atlantic Richfield Company ("ARCO") and Vastar Resources, Inc. ("Vastar"), BP has elected to reorganize, consolidate and merge its upstream onshore Lower 48 assets into a single legal entity to align BP's legal structure with its business organization and to improve operating efficiencies; and
>
> WHEREAS, BP desires Amoco Production Company ("Company") to be such single legal entity for the purposes of such reorganization, consolidation and merger; and
>
> WHEREAS such reorganization, consolidation and merger shall be accomplished by December 31, 2001 pursuant to a Reorganization Agreement ("Agreement") by and between ARCO and BP Company North America Inc. ("BP Company NA"), the parent of Company, resulting in ARCO's upstream onshore Lower 48 assets being transferred to Company and Vastar being merged into Company; and
>
> WHEREAS, pursuant to such Agreement, asset, stock and liability transfers will occur in consideration for Class B common stock of BP Company NA and Company's agreement to assume all obligations and indemnify ARCO for all past and future liabilities relating to such transfers; and
>
> WHEREAS, in connection with such reorganization, Company desires to change its name to BP America Production Company, effective December 31, 2001 with corporate seal as follows; and

WHEREAS all officers and directors of Company will remain unchanged.

NOW, THEREFORE, BE IT,

RESOLVED, Company will accept asset, stock and liability transfers effective December 31, 2001 pursuant to the Agreement and will assume all obligations and indemnify ARCO for all past or future liabilities relating to such transfers.

FURTHER RESOLVED, Company will change its name and corporate seal to BP America Production Company, effective December 31, 2001 and all officers and directors will remain unchanged.

3. That the aforesaid resolutions have not been amended, rescinded, or annulled, but remain in full force and effect on the date hereof.

EXECUTED in the City of Houston, State of Texas, on this the 13 day of November, 2001.

[Corporate Seal]

M. S. Haskins

SUBSCRIBED and sworn to before me this 13 day of November, 2001.

(Notary Seal)

DENISE ROBERTSON
Notary Public, State of Texas
My Commission Expires
October 12, 2004

NOTARY PUBLIC, STATE OF TEXAS

API Well Number	Operator	Well Name	Well Type	Well Status	Field Name	Sec	Twp-Rng
43-043-30096-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W16-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	16	4N-8E
43-043-30106-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST 34-2	SWD	Active Well	ANSCHUTZ RANCH EAST	34	4N-7E
43-043-30123-00-00	AMOCO PRODUCTION CO	ARE W20-08	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30129-00-00	AMOCO PRODUCTION CO	ARE 29-04ST1	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	29	4N-8E
43-043-30130-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST E21-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	21	4N-8E
43-043-30135-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W21-04	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	21	4N-8E
43-043-30136-00-00	AMOCO PRODUCTION CO	ARE W29-02	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	29	4N-8E
43-043-30138-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W16-06	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	16	4N-8E
43-043-30139-00-00	AMOCO PRODUCTION CO	ISLAND RANCHING C-1	SWD	Active Well	ANSCHUTZ RANCH EAST	26	4N-7E
43-043-30143-00-00	AMOCO PRODUCTION CO	CHAMPLIN 372 AMOCO C 1	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	23	4N-7E
43-043-30145-00-00	AMOCO PRODUCTION CO	ARE W20-14	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30148-00-00	AMOCO PRODUCTION CO	ARE W20-16	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30154-00-00	AMOCO PRODUCTION CO	ARE W29-12	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	29	4N-8E
43-043-30156-00-00	AMOCO PRODUCTION CO	ARE W30-16	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30157-00-00	AMOCO PRODUCTION CO	ARE W36-16	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	36	4N-7E
43-043-30159-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-06	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30161-00-00	AMOCO PRODUCTION CO	ISLAND RANCHING D-1	Gas Well	Shut_In	**WEBER FORMATION**	14	4N-7E
43-043-30162-00-00	AMOCO PRODUCTION CO	ARE W32-04	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	32	4N-8E
43-043-30164-00-00	AMOCO PRODUCTION CO	ARE W31-08	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	31	4N-8E
43-043-30165-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W31-04 E	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	31	4N-8E
43-043-30167-00-00	AMOCO PRODUCTION CO	ARE W36-08	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	36	4N-7E
43-043-30168-00-00	AMOCO PRODUCTION CO	CHAMPLIN 387 B1A	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	9	3N-7E
43-043-30170-00-00	AMOCO PRODUCTION CO	CHAMPLIN 372 D-1	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	23	4N-7E
43-043-30176-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W17-16	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	17	4N-8E
43-043-30183-00-00	AMOCO PRODUCTION CO	ARE W30-08	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30185-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W30-14	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30188-00-00	AMOCO PRODUCTION CO	ARE W01-06	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	1	3N-7E
43-043-30190-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W31-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	31	4N-8E
43-043-30204-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W19-16	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	19	4N-8E
43-043-30209-00-00	AMOCO PRODUCTION CO	ARE W1-02	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	1	3N-7E
43-043-30215-00-00	AMOCO PRODUCTION CO	ARE W30-10	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30216-00-00	AMOCO PRODUCTION CO	ARE W30-15	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30217-00-00	AMOCO PRODUCTION CO	ARE W31-06	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	31	4N-8E
43-043-30218-00-00	AMOCO PRODUCTION CO	ARE W30-02	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	30	4N-8E

API Well Number	Operator	Well Name	Well Type	Well Status	Field Name	Sec	Twp-Rng
43-043-30220-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30226-00-00	AMOCO PRODUCTION CO	ARE E28-06	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	28	4N-8E
43-043-30227-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W36-10	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	36	4N-7E
43-043-30228-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-02	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30229-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-10	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30231-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W16-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	16	4N-8E
43-043-30238-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-04	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30248-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W30-12A	GIW	Active Well	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30250-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W29-06A	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	29	4N-8E
43-043-30251-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W29-14A	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	29	4N-8E
43-043-30255-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W36-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	36	4N-7E
43-043-30257-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST E28-12	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	28	4N-8E
43-043-30265-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W2-10	GIW	Active Well	ANSCHUTZ RANCH EAST	2	3N-7E
43-043-30270-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W01-04	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	1	3N-7E
43-043-30271-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W01-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	1	3N-7E
43-043-30272-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W19-08	GIW	Active Well	ANSCHUTZ RANCH EAST	19	4N-8E
43-043-30273-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W30-06	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	30	4N-8E
43-043-30277-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W11-1	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	11	3N-7E
43-043-30279-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W30-13	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	25	4N-7E
43-043-30280-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W31-05	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	31	4N-8E
43-043-30283-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W12-04	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	2	3N-7E
43-043-30286-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-09	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	20	4N-8E
43-043-30291-00-00	AMOCO PRODUCTION CO	ANSCHUTZ RANCH EAST W20-03	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	20	4N-8E

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING

1. GLH		4-KAS
2. CDW✓		5-LP
3. JLT		6-FILE

Enter date after each listed item is completed

Change of Operator (Well Sold) — Designation of Agent

X Operator Name Change — Merger

The operator of the well(s) listed below has changed, effective: **12-31-2001**

FROM: (Old Operator):	**TO:** (New Operator):
AMOCO PRODUCTION COMPANY	BP AMERICA PRODUCTION COMPANY
Address: 501 WESTLAKE PARK BLVD	Address: 501 WESTLAKE PARK BLVD
HOUSTON, TX 77079	HOUSTON,TX 77079
Phone: 1-(281)-366-5328	Phone: 1-(281)-366-5328
Account N0050	Account N1990

CA No. **Unit:** **ANSCHUTZ RANCH EAST**

WELL(S)

NAME	API NO.	ENTITY NO.	SEC. TWN RNG	LEASE TYPE	WELL TYPE	WELL STATUS
ANSCHUTZ RANCH EAST W01-06	43-043-30188	4540	01-3N-7E	FEE	GW	P
ANSCHUTZ RANCH EAST W01-02	43-043-30209	4540	01-3N-7E	FEE	GW	P
ANSCHUTZ RANCH EAST W01-04	43-043-30270	4540	01-3N-7E	FEE	GW	S
ANSCHUTZ RANCH EAST W01-12	43-043-30271	4540	01-3N-7E	FEE	GW	S
ANSCHUTZ RANCH EAST W12-04	43-043-30283	4540	02-3N-7E	FEE	GW	P
ANSCHUTZ RANCH EAST W11-1	43-043-30277	4540	11-3N-7E	FEE	GW	S
ANSCHUTZ RANCH EAST W30-13	43-043-30279	4540	25-4N-7E	FEE	GW	S
ANSCHUTZ RANCH EAST W36-08	43-043-30167	4540	36-4N-7E	FEE	GW	P
ANSCHUTZ RANCH EAST W36-16	43-043-30157	4540	36-4N-7E	FEE	GW	P
ANSCHUTZ RANCH EAST W36-10	43-043-30227	4540	36-4N-7E	FEE	GW	P
ANSCHUTZ RANCH EAST W36-14	43-043-30255	4540	36-4N-7E	FEE	GW	S
ANSCHUTZ RANCH EAST W16-06	43-043-30138	4540	16-4N-8E	FEE	GW	S
ANSCHUTZ RANCH EAST W16-12	43-043-30231	4540	16-4N-8E	FEE	GW	S
ANSCHUTZ RANCH EAST W16-14	43-043-30096	4540	16-4N-8E	FEE	GW	S
ANSCHUTZ RANCH EAST W17-16	43-043-30176	4540	17-4N-8E	FEE	GW	S
ANSCHUTZ RANCH EAST W19-16	43-043-30204	4540	19-4N-8E	FEE	GW	S
ANSCHUTZ RANCH EAST W20-08	43-043-30123	4540	20-4N-8E	FEE	GW	P
ANSCHUTZ RANCH EAST W20-14	43-043-30145	4540	20-4N-8E	FEE	GW	P
ANSCHUTZ RANCH EAST W20-06	43-043-30159	4540	20-4N-8E	FEE	GW	S
ANSCHUTZ RANCH EAST W20-16	43-043-30148	4540	20-4N-8E	FEE	GW	P

OPERATOR CHANGES DOCUMENTATION

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 12/13/2001

2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 12/13/2001

3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 12/14/2001

4. Is the new operator registered in the State of Utah: YES Business Number: PENDING

5. If **NO**, the operator was contacted contacted on: N/A

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change) for all wells listed on Federal or Indian leases on: N/A

7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: N/A

8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: N/A

9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 12/17/2001

2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 12/17/2001

3. Bond information entered in RBDMS on: 12/11/2001

4. Fee wells attached to bond in RBDMS on: 12/17/2001

STATE BOND VERIFICATION:

1. State well(s) covered by Bond No.: N/A

INDIAN BOND VERIFICATION:

1. Indian well(s) covered by Bond No.: N/A

FEDERAL BOND VERIFICATION:

1. Federal well(s) covered by Bond No.: N/A

FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed has furnished a bond: 103172911249

2. The **FORMER** operator has requested a release of liability from their bond on: N/A
   The Division sent response by letter on: N/A

3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 12/19/2001

COMMENTS:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME: See Attached

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached

8. WELL NAME and NUMBER: See Attached

2. NAME OF OPERATOR: BP America Production Company

9. API NUMBER: Attached

3. ADDRESS OF OPERATOR: 501 WestLake Park Blv CITY Houston STATE TX ZIP 77079

PHONE NUMBER: (281) 366-2000

10. FIELD AND POOL, OR WILDCAT: See Attached

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See Attached

COUNTY: See Attached

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

BP America Production Company, effective May 1, 2003, has transferred its interest in the attached list of properties to :

Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240

Transfer of operations is effective July 1, 2003.

By Merit Energy Company

Name Fred N. Dizm Title V.P.

Signature [signature] Date 7/1/03

BP America Production Company

NAME (PLEASE PRINT) David G. Peterson TITLE Attorney-In-Fact

SIGNATURE [signature] DATE 6/26/03

(This space for State use only)

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JUL 03 2003
DIV. OF OIL, GAS & MINING

(5/2000)

(See Instructions on Reverse Side)

BP OPERATED PROPERTIES TRANSFERRED TO MERIT ENERGY COMPANY

API Well Number	Operator	Well Name	Well Type	Well Status	Field Name	County Name	Location (Twp-Rng)	Section	Qtr/Qtr	Ft. NS	NS	Ft. EW	EW
43-043-30096-00-00	BP AMERICA PRODUCTION CO	ARE W16-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	16	NWSW	2137	S	686	W
43-043-30106-00-00	BP AMERICA PRODUCTION CO	ARE 34-2	Water Disposal	Active Well	ANSCHUTZ RANCH	SUMMIT	4N-7E	34	NWNW	1036	N	1100	W
43-043-30123-00-00	BP AMERICA PRODUCTION CO	ARE W20-08	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	SENE	2202	N	1592	E
43-043-30129-00-00	BP AMERICA PRODUCTION CO	ARE 29-04ST1	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	29	NWNW	627	N	435	W
43-043-30130-00-00	BP AMERICA PRODUCTION CO	ARE E21-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	21	NWSW	2365	S	200	W
43-043-30135-00-00	BP AMERICA PRODUCTION CO	ARE W21-04	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	21	NWNW	1063	N	401	W
43-043-30136-00-00	BP AMERICA PRODUCTION CO	ARE W29-02	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	29	NWNE	662	N	2460	E
43-043-30138-00-00	BP AMERICA PRODUCTION CO	ARE W16-06	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	16	SENE	1314	N	618	E
43-043-30139-00-00	BP AMERICA PRODUCTION CO	ISLAND RANCHING C-1	Water Disposal	Active Well	ANSCHUTZ RANCH	SUMMIT	4N-7E	26	SWSE	1324	S	1722	E
43-043-30143-00-00	BP AMERICA PRODUCTION CO	CHAMPLIN 372 AMOCO C 1	Gas Well	Shut_In	ANSCHUTZ RANCH	SUMMIT	4N-7E	23	NWNW	860	N	536	W
43-043-30145-00-00	BP AMERICA PRODUCTION CO	ARE W20-14	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	NWSW	1518	S	1283	W
43-043-30148-00-00	BP AMERICA PRODUCTION CO	ARE W20-16	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	SWSE	257	S	1640	E
43-043-30154-00-00	BP AMERICA PRODUCTION CO	ARE W29-12	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	29	NWSW	2204	S	22	W
43-043-30156-00-00	BP AMERICA PRODUCTION CO	ARE W30-16	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	NESE	1345	S	968	E
43-043-30157-00-00	BP AMERICA PRODUCTION CO	ARE W36-16	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-7E	36	SESE	890	S	447	E
43-043-30159-00-00	BP AMERICA PRODUCTION CO	ARE W20-06	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	NWNW	1291	N	936	W
43-043-30162-00-00	BP AMERICA PRODUCTION CO	ARE W32-04	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	32	NWNW	642	N	791	W
43-043-30164-00-00	BP AMERICA PRODUCTION CO	ARE W31-08	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	31	NWNE	468	N	2201	E
43-043-30165-00-00	BP AMERICA PRODUCTION CO	ARE W31-04E	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	31	NWNW	111	N	737	W
43-043-30167-00-00	BP AMERICA PRODUCTION CO	ARE W36-08	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-7E	36	SENE	1641	N	1183	E
43-043-30168-00-00	BP AMERICA PRODUCTION CO	CHAMPLIN 387 B1A	Gas Well	Shut_In	ANSCHUTZ RANCH	SUMMIT	3N-7E	9	SWNW	1837	N	1286	W
43-043-30170-00-00	BP AMERICA PRODUCTION CO	CHAMPLIN 372 D-1	Gas Well	Producing Well	ANSCHUTZ RANCH	SUMMIT	4N-7E	23	NESE	2170	S	680	E
43-043-30176-00-00	BP AMERICA PRODUCTION CO	ARE W17-16	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	17	NWSE	1765	S	1444	E
43-043-30183-00-00	BP AMERICA PRODUCTION CO	ARE W30-08	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	SENE	2109	N	665	E
43-043-30185-00-00	BP AMERICA PRODUCTION CO	ARE W30-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	SESW	1195	S	1405	W
43-043-30188-00-00	BP AMERICA PRODUCTION CO	ARE W01-06	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	1	SENW	1777	N	1666	W
43-043-30190-00-00	BP AMERICA PRODUCTION CO	ARE W31-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	31	SWNW	1778	N	640	W
43-043-30204-00-00	BP AMERICA PRODUCTION CO	ARE W19-16	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	19	SWSE	1229	S	1350	E
43-043-30209-00-00	BP AMERICA PRODUCTION CO	ARE W01-02	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	1	NENW	386	N	2013	W
43-043-30215-00-00	BP AMERICA PRODUCTION CO	ARE W30-10	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	NWSE	2230	S	2432	E
43-043-30216-00-00	BP AMERICA PRODUCTION CO	ARE W30-15	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	SESW	626	S	2848	E
43-043-30217-00-00	BP AMERICA PRODUCTION CO	ARE W31-06	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	31	SENW	1397	N	2181	W
43-043-30218-00-00	BP AMERICA PRODUCTION CO	ARE W30-02	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	NWNE	715	N	2182	E
43-043-30220-00-00	BP AMERICA PRODUCTION CO	ARE W20-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	NWSW	2531	S	7	W
43-043-30226-00-00	BP AMERICA PRODUCTION CO	ARE E28-06	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	28	SENW	1900	N	1652	W
43-043-30227-00-00	BP AMERICA PRODUCTION CO	ARE W36-10	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-7E	36	NESW	2315	S	3185	E
43-043-30228-00-00	BP AMERICA PRODUCTION CO	ARE W20-02	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	NWNE	319	N	2000	E
43-043-30229-00-00	BP AMERICA PRODUCTION CO	ARE W20-10	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	SENW	2560	N	2567	W
43-043-30231-00-00	BP AMERICA PRODUCTION CO	ARE W16-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	16	SWNW	2756	S	454	W
43-043-30238-00-00	BP AMERICA PRODUCTION CO	ARE W20-04	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20	NWNW	702	N	414	W
43-043-30248-00-00	BP AMERICA PRODUCTION CO	ARE W30-12A	Gas Injection	Inactive Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30	NWSW	1886	S	47	W
43-043-30250-00-00	BP AMERICA PRODUCTION CO	ARE W29-06A	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	29	SENW	1513	N	1548	W
43-043-30251-00-00	BP AMERICA PRODUCTION CO	ARE W29-14A	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	29	NWSW	1786	S	795	W
43-043-30255-00-00	BP AMERICA PRODUCTION CO	ARE W36-14	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-7E	36	SESW	901	S	1780	W
43-043-30257-00-00	BP AMERICA PRODUCTION CO	ARE E28-12	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	28	NWSW	1994	S	806	W
43-043-30265-00-00	BP AMERICA PRODUCTION CO	ARE W2-10	Gas Injection	Inactive Well	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	2	NWSE	1959	S	1463	E
43-043-30270-00-00	BP AMERICA PRODUCTION CO	ARE W01-04	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	1	SWNW	697	N	465	W
43-043-30271-00-00	BP AMERICA PRODUCTION CO	ARE W01-12	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	1	NWSW	2072	S	1669	W
43-043-30272-00-00	BP AMERICA PRODUCTION CO	ARE W19-08	Gas Injection	Inactive Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	19	SENE	2227	N	301	E

BP OPERATED PROPERTIES TRANSFERRED TO MERIT ENERGY COMPANY

43-043-30273-00-00	BP AMERICA PRODUCTION CO	ARE W30-06	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	30 SENW	2393 S	1645 W
43-043-30277-00-00	BP AMERICA PRODUCTION CO	ARE W11-1	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	11 NENE	533 N	1486 E
43-043-30279-00-00	BP AMERICA PRODUCTION CO	ARE W30-13	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-7E	25 SESE	597 S	382 E
43-043-30280-00-00	BP AMERICA PRODUCTION CO	ARE W31-05	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	31 SWNW	2361 N	282 E
43-043-30283-00-00	BP AMERICA PRODUCTION CO	ARE W12-04	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	3N-7E	2 SESE	373 S	865 E
43-043-30286-00-00	BP AMERICA PRODUCTION CO	ARE W20-09	Gas Well	Producing Well	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20 SENE	2360 N	430 E
43-043-30291-00-00	BP AMERICA PRODUCTION CO	ARE W20-03	Gas Well	Shut_In	ANSCHUTZ RANCH EAST	SUMMIT	4N-8E	20 SESW	641 S	1810 W

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5340 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor
Robert L. Morgan
Executive Director
Lowell P. Braxton
Division Director

August 26, 2003

Bruce Williams
BP America Production Company
501 WestLake Park Blvd
Houston, TX 77079

Subject: Notification of Sale or Transfer of Fee Lease Interest

Dear Mr. Williams:

The Division has processed your request for an operator change from BP America Production Company to Merit Energy Company effective July 1, 2003 for the attached list of fee wells.

Utah Administrative Code Rule R649-2-10 states: "The owner of a lease shall provide notification to any person with an interest in such lease, when all or part of that interest in the lease is sold or transferred".

This letter is written to advise you of your responsibility to notify all individuals with an interest in these leases (royalty interest and working interest) of the changer. Please provide written documentation of this notification to:

Utah Royalty Owners Association
PO Box 1292
Roosevelt, Utah 84066

Your assistance in this matter is appreciated.

Sincerely,

Earlene Russell

Earlene Russell
Engineering Technician

Attachment

cc: Merit Energy Company
Utah Royalty Owners Association

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. GLH
2. CDW
3. FILE

X **Change of Operator (Well Sold)** — **Designation of Agent/Operator**

Operator Name Change — Merger

The operator of the well(s) listed below has changed, effective: **7/1/2003**

FROM: (Old Operator):	**TO:** (New Operator):
N1990-BP America Production Company 501 WestLake Park Blvd Houston, TX 77079 Phone: (281) 366-2000	N4900-Merit Energy Company 13727 Noel Road, Suite 500 Dallas, TX 75240 Phone: (972) 628-1558

CA No. **Unit:** **ANSCHUTZ RANCH EAST**

WELL(S)

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
ARE W01-06	01	030N	070E	4304330188	4540	FEE	GW	P
ARE W36-16	36	040N	070E	4304330157	4540	FEE	GW	P
ARE W36-08	36	040N	070E	4304330167	4540	FEE	GW	S
ARE W16-14	16	040N	080E	4304330096	4540	FEE	GW	S
ARE W16-06	16	040N	080E	4304330138	4540	FEE	GW	S
ARE W17-16	17	040N	080E	4304330176	4540	FEE	GW	S
ARE W20-08	20	040N	080E	4304330123	4540	FEE	GW	S
ARE W20-14	20	040N	080E	4304330145	4540	FEE	GW	P
ARE W20-16	20	040N	080E	4304330148	4540	FEE	GW	P
ARE W20-06	20	040N	080E	4304330159	4540	FEE	GW	S
ARE E21-14	21	040N	080E	4304330130	4540	FEE	GW	S
ARE W21-04	21	040N	080E	4304330135	4540	FEE	GW	S
ARE 29-04ST1	29	040N	080E	4304330129	4540	FEE	GW	P
ARE W29-02	29	040N	080E	4304330136	4540	FEE	GW	P
ARE W29-12	29	040N	080E	4304330154	4540	FEE	GW	P
ARE W30-16	30	040N	080E	4304330156	4540	FEE	GW	P
ARE W30-08	30	040N	080E	4304330183	4540	FEE	GW	P
ARE W30-14	30	040N	080E	4304330185	4540	FEE	GW	S
ARE W31-08	31	040N	080E	4304330164	4540	FEE	GW	P
ARE W31-04E	31	040N	080E	4304330165	4540	FEE	GW	S
ARE W32-04	32	040N	080E	4304330162	4540	FEE	GW	P

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 7/3/2003
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 7/3/2003
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 8/7/2003
4. Is the new operator registered in the State of Utah: YES Business Number: 1348145-0143
5. If NO, the operator was contacted contacted on: _____

6. (R649-9-2)Waste Management Plan has been received on: IN PLACE

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: n/a

8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 8/26/2003
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 8/26/2003
3. Bond information entered in RBDMS on: 8/26/2003
4. Fee wells attached to bond in RBDMS on: 8/26/2003

STATE WELL(S) BOND VERIFICATION:

1. State well(s) covered by Bond Number: n/a

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: n/a

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: n/a

FEE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 103912218
2. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 8/26/2003

COMMENTS:

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: FEE

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME: WYW109406X

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: ARE W 20 16

2. NAME OF OPERATOR: Merit Energy Company

9. API NUMBER: 4304330148

3. ADDRESS OF OPERATOR: 13727 Noel Road, Suite 500 CITY Dallas STATE TX ZIP 75240

PHONE NUMBER: (972) 628-1658

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 257' FSL & 1640' FEL 6th P.M.

COUNTY: Summit

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 20 T4N R8E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
Date of work completion: 8/13/2005	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Installed Gas Lift
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Merit Energy Company installed gas lift on the aforementioned well on 8/13/2005.

CC: BLM - Utah

NAME (PLEASE PRINT) Michal Karam White TITLE Regulatory Anlayst

SIGNATURE DATE 5/15/2009

(This space for State use only)

RECEIVED
MAY 19 2009
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)