RGM CORE ANALYSIS LTD.

834 NORTH THIRD STREET • ABILENE, TEXAS
P. O. BOX 1038 PHONE ORCHARD 2-6427

HAROLD E. JOHNSON • BENNIE R. JONES

May 27, 1964

Mobil Oil Company
Production Department
300 North Broadway
Wichita, Kansas

Gentlemen:

Two cores from the Mobil Oil Company, May Schneider, Well No. 3, Ness County, Kansas, were sealed in aluminum core tubes containing drilling fluid and transported to 4359 N. W. 10th Street, Oklahoma City, Oklahoma, for analysis by representatives of RGM Core Analysis, Ltd. Cores 3-1/2" in diameter were cut using diamond coring equipment and water base mud with oil added.

The full diameter samples were faced with a diamond saw using water as the coolant. After the initial weights were taken, the samples were preserved in sealed containers having a high relative humidity atmosphere. The lengths in centimeters of the full diameter samples are presented in tabular form following this letter.

The water saturations were determined by direct measurements from distillation extraction in toluene. No salinity correction was applied to the water volumes. The residual oil saturations were determined from weight losses using the oil density factor for a 36.0° API gravity crude oil. Salt extraction was by leeching with water and methanol. Some difficulty was experienced in cleaning the core samples of their relatively high residual oil saturations.

Maximum horizontal, 90 degree to maximum, and vertical air permeabilities were measured using a Hassler-type cell. No slippage correction was applied. The surfaces of the samples were deglazed by sand blasting.

Porosities of the full diameter samples were determined by direct void volume measurements in a Hassler-type cell using a high-pressure volume transfer porosimeter. The bulk volumes were calculated from physical measurements.

Thank you for this opportunity to be of service.

Very truly yours,

RGM CORE ANALYSIS, LTD.

Harold E. Johnson

Harold E. Johnson
Petroleum Engineer

HEJ:vm

Mobil Oil Company
May Schneider, Well No. 3
Ness County, Kansas

SAMPLE LENGTHS

Sample No.	Length Centimeters	Sample No.	Length Centimeters
1	20.30	17	21.65
2	14.50	18	17.90
3	14.85	19	19.40
4	19.20	20	17.90
5	14.15	21	15.20
6	16.25	22	17.30
7	21.10	23	15.10
8	12.05	24	16.15
9	14.05	25	20.75
10	17.15	26	10.25
11	14.05	27	17.30
12	10.80	28	22.60
13	16.15	29	11.25
14	18.90	30	15.70
15	20.50	31	16.80
16	22.55	32	11.75

RGM CORE ANALYSIS LTD.

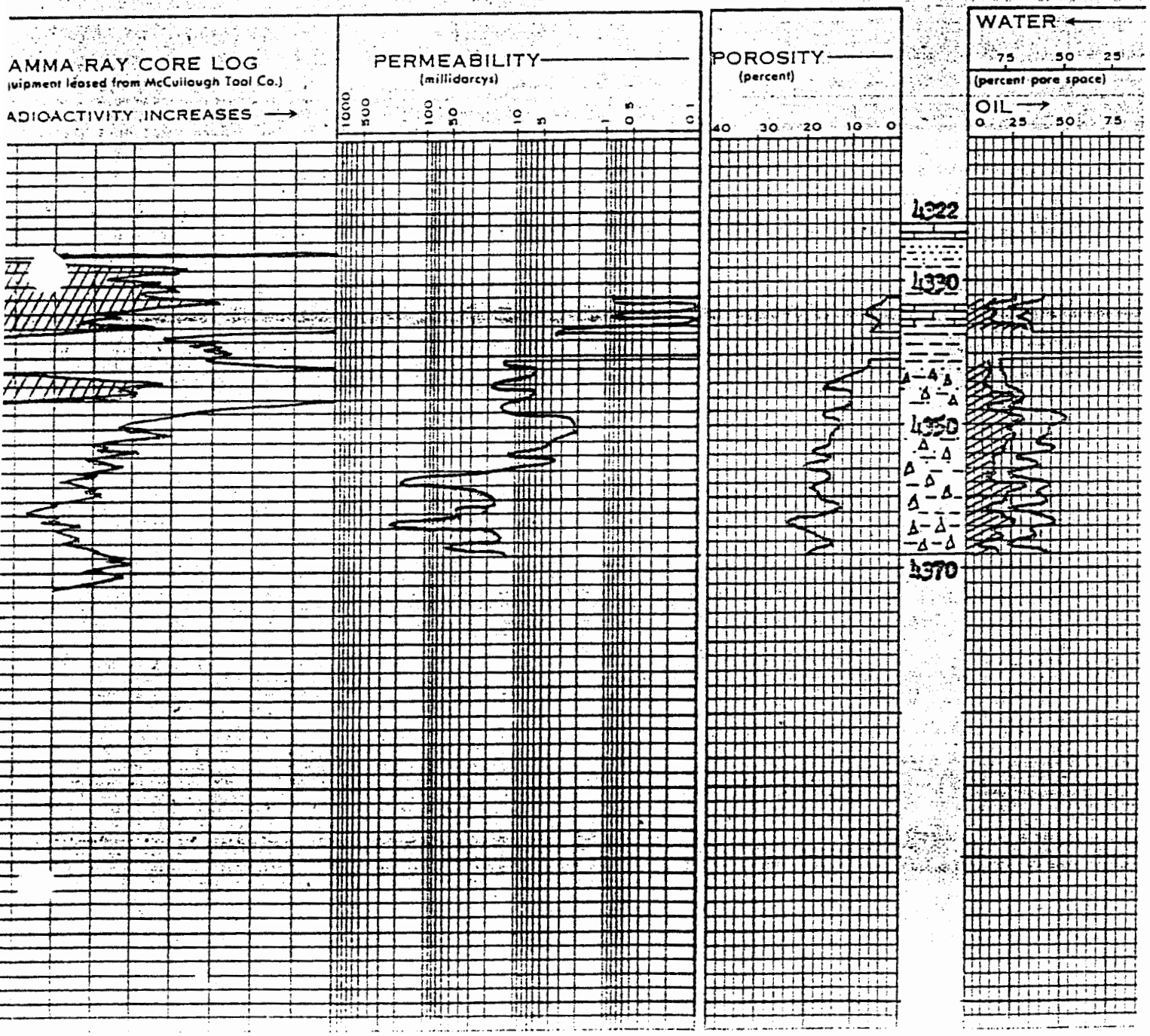
ABILENE, TEXAS — MONAHANS, TEXAS — HOBBS, NEW MEXICO
OKLAHOMA CITY, OKLAHOMA — MIDLAND, TEXAS

REPORT OF CORE ANALYSIS

MPANY MOBIL OIL COMPANY
E MAY SCHNEIDER WELL NO. 3
ELD SCHAEN SOUTH
CATION C SE NE
SECTION 12-20S-22W
UNTY NESS STATE KANSAS

ELEVATION 2114' DF
DRILLING FLUID WBM W/OIL ADDED
FORMATION MISS - OSAGE
TYPE OF CORE DIAMOND 3⅜"
ANALYST HUNT-EVATT SERVICE II
LAB NO OC-288 DATE 5-18-64

GRAPHICAL PRESENTATION OF RESULTS



RGM CORE ANALYSIS LTD.

ABILENE, TEXAS — MONAHANS, TEXAS — HOBBS, NEW MEXICO
OKLAHOMA CITY, OKLAHOMA — PAMPA, TEXAS

REPORT OF CORE ANALYSIS
OKLAHOMA CITY LABORATORY

MPANY MOBIL OIL COMPANY
MAY SCHNEIDER WELL NO. 3
LD SCHAEN SOUTH
CATION C SE NE
SECTION 12 - 20S - 22W
UNTY NESS STATE KANSAS

ELEVATION 2114' DF
DRILLING FLUID WBM W/OIL ADDED
FORMATION MISS - OSAGE
TYPE OF CORE DIAMOND 3½"
ANALYST HUNT - EVATT SERVICE 11
LAB. NO. OC-288 DATE 5-18-64

THESE ANALYSES ARE BASED UPON ACCEPTED LABORATORY TECHNIQUES. THE OPINIONS ADVANCED REPRESENT OUR BEST JUDGMENT IN INTERPRETATION OF THE RESULTS BUT NO WARRANTY IS EXPRESSED OR IMPLIED.

L DIAMETER MOBIL METHOD

AMPLE NO.	DEPTH OF SAMPLE	POROSITY %	PERMEABILITY (millidarcys) HORIZONTAL OR MAXIMUM	PERMEABILITY OR 90° TO MAX.	SATURATION DATA (% pore space) OIL	SATURATION DATA TOTAL WATER	VERTICAL PERM	LITHOLOGY
								CORE NO.1 FROM 4322' to 4348' RECOVERED 26'
	4322-24							Lm sdy shy w/sh stks
	4324-27.5							Sd arg w/sh stks
	4327.5-33							Sh
1	4333-34	2.5	0.7	0.5	26.6	60.0	-0.1	Lm sl shy
2	34-35	5.1	-0.1	-0.1	11.1	79.9	-0.1	Lm sl shy
3	35-36	7.6	0.7	0.6	16.0	68.1	-0.1	Lm sl shy
4	36-37	4.6	0.1	-0.1	14.8	70.5	-0.1	Lm sl shy
5	4337-38	5.0	3.5	0.5	28.7	71.8	-0.1	Lm sl shy
	4338-41							Sh w/lm incl
6	4341-42	6.8	12	9.6	13.4	86.1	5.1	Cong w/chert nog shy
7	42-43	8.2	6.8	6.0	13.3	83.0	1.1	Cong
8	43-44	12.5	9.0	4.4	14.2	84.5	1.2	Cong
9	44-45	16.1	18	9.7	10.9	84.1	1.4	Cong
0	45-46	10.1	5.0	4.3	16.2	78.1	1.6	Cong
1	46-47	10.1	10	6.4	28.7	71.1	2.4	Cong
2	4347-48	10.2	15	12	14.2	76.4	1.1	Cong
								CORE NO.2 FROM 4348' to 4368' RECOVERED 20'
	4348-49	16.3	4.8	3.9	25.6	52.5	-0.1	Dol w/chert
	49-50	13.3	2.9	2.6	30.7	49.3	0.8	Dol
	50-51	13.2	2.1	2.0	24.2	55.1	-0.1	Dol
	51-52	14.2	3.2	3.0	26.3	55.1	0.6	Dol
	52-53	14.8	4.9	4.9	21.6	60.1	0.7	Dol
	53-54	18.2	12	8.8	21.3	53.1	0.4	Dol
	54-55	14.2	4.5	3.5	15.0	72.4	0.6	Chert
	55-56	20.4	11	7.5	15.9	62.4	0.6	Chert
	56-57	15.2	74	46	15.7	78.2	2.4	Chert
	57-58	14.8	192	27	13.5	75.0	1.9	Chert
	58-59	19.6	40	32	33.8	58.5	7.0	Chert
	59-60	17.0	26	24	24.6	62.8	0.6	Dol
	60-61	16.9	18	17	23.4	58.6	0.4	Chert
	61-62	12.8	46	19	11.4	87.5	0.3	Chert w/dol stks
	62-63	18.9	40	20	24.6	61.0	2.2	Chert
	63-64	24.3	206	176	26.7	53.4	4.7	Chert
	4364-65	19.3	20	12	16.7	65.0	0.6	Chert

CORE ANALYSIS

NY MOBIL OIL COMPANY COUNTY NESS STATE KANSAS
MAY SCHREIBER WELL NO. 3 LAB. NO. OC-288 PAGE NO. 2

SAMPLE NO.	DEPTH OF SAMPLE	POROSITY %	PERMEABILITY (millidarcys)		SATURATION DATA (% pore space)		VERTICAL PERM	LITHOLOGY
			HORIZONTAL OR MAXIMUM	VERTICAL OR 90° TO MAX.	OIL	TOTAL WATER		
30	4365-66	17.9	14	13	22.8	64.1	0.5	Chert w/dol stks
31	66-67	14.1	58	41	5.8	88.1	2.1	Chert frac
32	4367-68	19.3	12	12	19.5	58.0	0.6	Dol w/chert

CORE DESCRIPTION - SCHNEIDER #3
SE NE 12-20S-23W, SCHAEBEN SOUTH
NESS Co, KANSAS

Core #1 - 4322-48', recd 26'

4322-24 - Ls gray green to gray, v argillaceous w/scattered grains medium to coarse quartzitic sd. Some brick red shale laminae interbedded.

4324-27-1/2' - Sd mostly fine to md, some v course grain, fairly well sorted, sub round, frosted, quartzitic. White clay cmt. Numerous lenses of gray argillaceous limestone w/scattered sd grains.

4327-1/2-31-1/2 - Sh, brick red waxey; hard, mottled greenish gray. Few apparent slickensides

4331-1/2-32 - Sh, jade green waxey hard, few pyrite veins and geodal quartz inclusions (1/2"-1")

4332-37 - Ls green, dense, micro-crystalline, unfossiliferous v tite w/interbedded conglomeratic green shale in upper 1'. Interval from 4333-4337 has dk brown to blk fresh oil stain along fractures & bedding planes.

4337-38 - Ls, gray green, sub lithographic, marked conchoidal fracture. No show.

4338-42 - Sh jade green, waxey, calcareous, w/ interbedded gray limestone cobbles. Abundant disseminated & vein pyrite.

4342-43 - Chat, bright green shale matrix w/ weathered, tripolitic, gray transluscent chert conglomerate. Few gray, dense limestone cobbles. Extensive vein pyrite along fracture planes. Good brown oil stain, sharp odor.

4343-48 - Chat mostly fresh unweathered angular chert in green shale matrix. Some sli weathered tripolitic. Good brown stain, good odor. Bleeding oil heavily.

Core #2 - 4348-68', recd 20'

4348-48.5 - Conglomerate as in 4343-48'. OS & OC are good throughout Core #2 except where otherwis noted.

4348.5-49 - Dol lt brown, v finely crystalline w/ numerous lt gray chert veins, oil stain & odor

4349-54 - Chat highly fractured, angular, slightl trip - olitic in part, mostly fresh wh-blue gry chert conglomerate. Geodal.

4354-58 - Chat fractured, sub angular, v tripolitic white opaque (some fresh blue gry) weathered chert conglomerate.

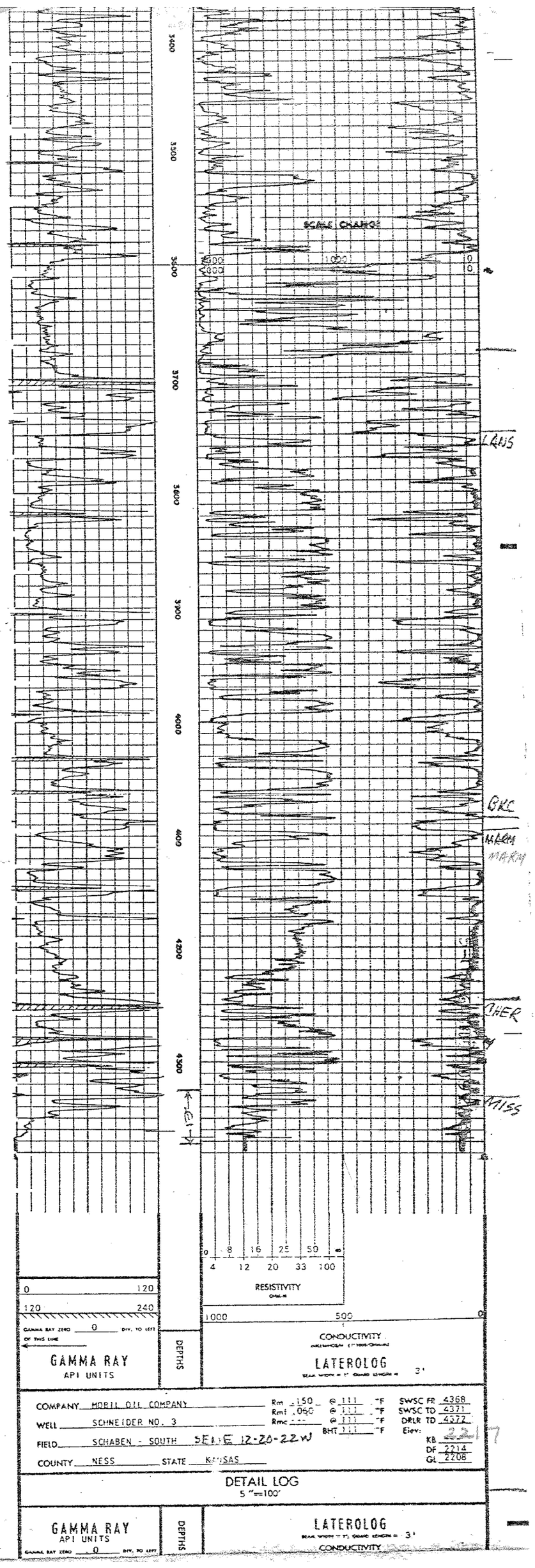
4358-59 - Dol brown, v finely crystalline, v dense.

4359-60 - Chert fresh blue white opaque. Good stain & odor along numerous fracture planes.

4360-61 - Chat highly fractured, angular, slty to heavily weathered tripolitic, white opaque ch conglomerate. Some pale green shale in matrix.

4361-62 - Chert boulder bluish white opaque mottled lt gray. Fxew fractures. Geodal. Good oil odor & stain in geodes & along fractures. Otherwise, tite.
4362-65 - Dolomite as in 4362-63, conglomeratic from 4367-67-1/2.
4365-67 - Chat fresh white angular chert conglomerate w/numerous geodes & quartz veins. Pale green shale & tripolitic chert in matrix.
4367-68 - Dol brown v f crystalline w/pale green shale streaks

W H Sorensen
5/4/64


3400
3500
3600
3700
3800
3900
4000
4100
4200
4300
SCALE CHANGE
1000
0
LANS
BKC
MARM
MARM
THER
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0
8
16
25
50
∞
4
12
20
33
100
RESISTIVITY
0
120
120
240
GAMMA RAY BAY ZERO 0 DIV. TO LEFT OF THIS LINE
GAMMA RAY
API UNITS
DEPTHS
1000
500
0
CONDUCTIVITY
LATEROLOG
3'
COMPANY MOBIL OIL COMPANY
WELL SCHNEIDER NO. 3
FIELD SCHAUBEN - SOUTH SE NE 12-20-22W
COUNTY NESS STATE KANSAS
Rm .150 @ 111 °F
Rmf .060 @ 111 °F
Rmc --- @ 111 °F
BHT 111 °F
SWSC FR 4368
SWSC TD 4371
DRLR TD 4372
Elev:
KB 2217
DF 2214
GL 2208
DETAIL LOG
5 "=100'
GAMMA RAY
API UNITS
GAMMA RAY BAY ZERO 0 DIV. TO LEFT
DEPTHS
LATEROLOG
3'
CONDUCTIVITY