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**GEOPHYSICAL LOGS OF SELECTED WELLS IN
EASTERN WASHINGTON**

By
Keith L. Stoffel
Scott Widness

December 1983

Work Performed Under Contract No. AC07-79ET27014

Department of Natural Resources
Olympia, Washington
and
Washington State University
Pullman, Washington

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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
BRIAN J. BOYLE, Commissioner of Public Lands
JAMES A. STEARNS, Department Supervisor

DIVISION OF GEOLOGY AND EARTH RESOURCES
Raymond Lasmanis, State Geologist

GEOPHYSICAL LOGS OF SELECTED WELLS IN EASTERN WASHINGTON

December 1983

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Introduction

This open-file report consists of geophysical well logs compiled during studies of the geohydrology and low temperature geothermal resources of eastern Washington. The work was carried out by personnel of the Geological Engineering Section, Department of Civil and Environmental Engineering, Washington State University and the Division of Geology and Earth Resources, Department of Natural Resources, with funding provided by the U.S. Department of Energy.

The geophysical logs are divided into two groups. Part A consists of wells which were studied by Scott Widness, Washington State University, and are concentrated in the Moses Lake-Ritzville-Connell area. Results of the geohydrologic study are discussed in Widness (1983, 1984). Part B consists of wells outside of the Moses Lake-Ritzville-Connell study area.

A previous study of eastern Washington geohydrology by John Biggane, Washington State University, examined well logs for the Yakima area. Fluid temperature and other geophysical logs for these wells are presented and discussed in Biggane (1982a, 1982b, 1983).

Part A:

Geophysical Well Logs for portions of Adams, Franklin, Grant, southern Douglas, and southern Lincoln Counties. These logs were collected as part of a geohydrologic-geothermal study of the Moses Lake-Ritzville-Connell area (see figure 1). They are listed in table 2 and organized by ascending township, range, and section. For additional information about the study see Widness (1983 and 1984).

FIGURE 1 LOCATION OF THE STUDY AREA

Table 1. List of Wells with a full suite of geophysical logs for Part A, the Moses Lake-Ritzville-Connell Study area.

<u>Location T./R.-Sec.</u>	<u>Well Name</u>	<u>Elevation (meters)</u>	<u>Depth^{1/} (meters)</u>	<u>BHT^{2/} (°C)</u>
14N/31E-08M1	Rathbun, Corrin	347.5	758.0	43.1
14N/31E-09J1	Rathbun, Corrin, #3	342.9	332.2	22.2
14N/31E-15C1	Kummer Farms	339.9	413.3	20.3
14N/32E-30P1	Connell City #7	265.2	252.4	17.8
14N/33E-21N1	Heider, Walter	423.7	351.1	28.2
14N/36E-19N1	Vernon Gillis	412.1	265.2	-
15N/29E-03P1	Othello City #5	320.7	298.4	29.4
15N/29E-04A1	Othello City #6	321.6	367.3	24.7
15N/30E-12K1	Meldrin, Ted	382.5	408.7	17.8
15N/31E-05L1	McKay, Ed	379.5	404.4	26.8
15N/31E-19A1	Johnson, Arthur	378.6	341.7	27.6
15N/32E-20D1	Hatton City #2	365.8	214.9	18.2
15N/34E-27R1	Watson, Leroy	455.7	242.6	19.9
16N/31E-15Q1	Lyle, Rex (South)	429.2	409.9	27.5
16N/32E-15D1	Phillips, D. E., #17	455.7	439.5	34.0
16N/32E-25N1	Phillips, D. E., #16	402.3	381.9	31.4
16N/32E-34E1	Phillips, D. E., C-34	424.6	772.6	41.4
16N/33E-20A1	Phillips, J. Boyd	484.6	444.4	19.8
16N/35E-31Q1	Baumann Farms	484.6	599.5	22.4
17N/30E-10P1	Warden City #6	390.1	253.3	14.8
17N/31E-12D1	Phillips, D. E., C-12	384.0	591.9	27.5
17N/36E-07N1	Kautz, William B.	527.3	274.3	13.3
18N/29E-06Q1	American Potato #2	355.1	204.8	21.7
18N/31E-33D1	Phillips, D. E., C-33	432.8	727.5	30.2

^{1/}Depth logged.

^{2/}Bottom Hole Temperature, temperature at maximum depth logged, or highest measured temperature.

Table 1. (Cont'd)

<u>Location T./R.-Sec.</u>	<u>Well Name</u>	<u>Elevation (meters)</u>	<u>Depth^{1/} (meters)</u>	<u>BHT^{2/} (°C)</u>
18N/36E-04A1	Heinemann, Don	539.2	281.0	16.3
19N/28E-28K1	Moses Lake City #4	327.7	293.5	16.2
19N/29E-15A1	Masto Farms	416.1	288.6	21.1
19N/30E-15L1	Radach, Jerry	439.5	359.6	16.6
19N/32E-24N1	J & M Farms.	510.2	694.9	32.5
19N/33E-08Q2	Hoefel, Paul, #2	556.3	745.2	42.3
19N/36E-09K1	Gering, Gale	566.9	229.2	21.1
19N/36E-15A1	Gering, Gale	580.6	380.4	19.7
20N/29E-07H1	Cole, E. B.	94.7	214.9	21.0
20N/29E-25C1	Reinke Farms	433.4	405.7	26.3
20N/30E-21G1	Claasen, Clint	475.5	469.7	28.7
20N/30E-32K1	Neibaur/West	445.0	382.5	21.1
20N/35E-27A1	Kagele, Richard	611.1	364.8	15.6
21N/31E-10M1	Basalt Explorer #1	490.7	1340.1	64.5
21N/31E-32D2	Kissler, Bob	509.0	365.7	18.9
21N/33E-09E1	Odessa City	490.7	201.2	14.5

^{1/}Depth logged.

^{2/}Bottom Hole Temperature, temperature at maximum depth logged, or highest measured temperature.

Part B:

Geophysical Well Logs for wells throughout the rest of eastern Washington (i.e., areas outside the study area of Part A). The wells are listed in table 2 and arranged by county and ascending township, range, and section.

Table 2. List of wells with a full suite of geophysical logs for Part B,
(areas outside the Moses Lake-Ritzville-Connell study area).

<u>County</u>	<u>Name</u>	<u>Location T./R.-Sec.</u>	<u>Bottom Hole Temperature</u>	<u>Total Depth Logged feet (meters)</u>
Adams	FRED BLAUERT	15N/36E-34F1	25.3	699 (213.1)
	CONNELL	17N/37E-27D1	21.7.	554 (168.9)
Asotin	WWP	11N/46E-32E1	24.1	1288 (392.6)
Benton	TOM POWERS	05N/26E-05D1	26.7	1002 (305.4)
	HORRIGAN FARMS	07N/24E-08D1	23.4	1108 (337.7)
	DR. PALMER #2	07N/25E-23F1	19.4	1249 (380.7)
	HORSE HEAVEN TEST	07N/27E-36A1	29.4	1209 (368.5)
	PROSSER EXPT. STN.	09N/25E-06B1	26.2	1202 (366.4)
	DNR-79-07	09N/27E-25M1	23.8	1057 (322.2)
	PIXLEE TEST WELL	23N/26E-20D1	17.9	1339 (408.1)
Franklin	H. NAKAMURA	11N/31E-21H1	24.8	1168 (356.0)
	LLOYD COCKRANE	13N/34E-30M1	33.3	1179 (359.4)
Grant	GEORGE TEST WELL	18N/25E-15E1	30.3	1604 (488.9)
	EPHRATA CITY #10	21N/26E-15H1	20.9	1856 (565.7)
	BUD KING	22N/30E-26G1	23.7	1565 (477.0)
	JERRY SCHAFER	23N/28E-27E1	22.5	643 (196.0)
Kittitas	LARSON FRUIT WELL	15N/19E-22P1	31.3	1289 (392.9)
	UMTANUM CREEK	16N/19E-28C1	28.6	1018 (310.3)
	ELLENSBURG CITY	18N/18E-35E1	20.9	899 (274.0)
Klickitat	LEROY VAN BELLE	04N/14E-21C1	15.9	957 (291.7)
	GOLDENDALE CITY #1	04N/16E-16Q1	24.6	889 (271.0)
	TOM POWERS	05N/23E-13J1	27.2	1083 (330.1)
	C. MCBRIDE	05N/23E-29D1	25.2	876 (267.0)
	ROBERT ANDREWS	06N/23E-22J1	22.3	1046 (318.8)

Table 2. (Cont'd)

<u>County</u>	<u>Name</u>	<u>Location T./R.-Sec.</u>	<u>Bottom Hole Temperature</u>	<u>Total Depth Logged feet (meters)</u>
Lincoln	W. WEISHAAR #1	23N/32E-04J1	16.1	697 (212.4)
	ALVIN SCHMIERER	24N/33E-23P1	27.0	1017 (310.0)
Spokane	CHENEY CITY #5	23N/41E-23B2	33.1	2135 (650.7)
Walla Walla	E. CHVATEL	06N/34E-06B1	36.0	1588 (484.0)
	WALLA WALLA WELL	06N/35E-18A1	28.7	1305 (397.8)
Whitman	PULLMAN TEST WELL	14N/45E-01F1	16.7	977 (297.8)

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WASHINGTON STATE
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TEOLOGICAL ENGINEERING SECTION
MAIL BOX 80000-0000

NAME OF WELL	CORBIN PATHWATER
DATE LOGGED	2/1/82
STATE	WASHINGTON
COUNTY	FRANKLIN
LOCATION	1/4-23-23N1
SURFACE ELEVATION	1148
TOTAL DEPTH LOGGED	2487
DEPTH TO WATER LEVEL	216
CASING & LINES	
# 115-28	

LEGEND

LOG TITLES

DATE	DATE	TIME
CD	CD	CD
NO	NO	NO
PT	PT	PT
CHAP	CHAP	CHAP
UNIT	UNIT	UNIT
SAIC	SAIC	SAIC
LR	LR	LR

IDENTITY LOG LOGS INCREASES

PROBABILITY LOG LOGS INCREASES

WATER LEVEL

0.75% SCALE MAY INCREASE REVERSE WATER LEVEL

: 4N/31E-RPM1

14N/31E-28M

WASHINGTON STATE
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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: OREBUN #3
DATE LOGGED: 2/11/79
STATE: WASHINGTON
COUNTY: FRANKLIN
LOCATION: 14N/31E-09J1
SURFACE ELEVATION: 1125
TOTAL DEPTH LOGGED: 1250
DEPTH TO WATER LEVEL: 520
CASING & LINERS: 4" 19-16

LEGEND

LOG TITLES

- CG - Gamma Ray
- NG - Neutron
- NN - Neutron
- NR1G - Neutron
- FMTR - Formation
- SCLP - Sonic
- FT - Formation
- FR - Formation
- WRES - Water
- SP - Spontaneous

DENSITY LOG: INCREASES

POSSIBILITY: IN LOG: INCREASES

WATER LEVEL

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

14N/31E-09J1

14N/31E-15C1

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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: CO'NELL CITY #7
DATE LOGGED: 06/16/76
STATE: WASHINGTON
COUNTY: FRANKLIN
LOCATION: 14N/32E/30P1
SURFACE ELEVATION: 962
TOTAL DEPTH LOGGED: 828
DEPTH TO WATER LEVEL: 205
CASING & LINERS: 8" 105-12

LEGEND
LOG TITLES
GR - GRAB SAMPLE
NG - GRAB SAMPLE
NN - GRAB SAMPLE
NR - GRAB SAMPLE
FM - GRAB SAMPLE
CALP - GRAB SAMPLE
FT - GRAB SAMPLE
GR - GRAB SAMPLE
NG - GRAB SAMPLE
NN - GRAB SAMPLE
NR - GRAB SAMPLE
FM - GRAB SAMPLE
CALP - GRAB SAMPLE
FT - GRAB SAMPLE
GR - GRAB SAMPLE
NG - GRAB SAMPLE
NN - GRAB SAMPLE
NR - GRAB SAMPLE
FM - GRAB SAMPLE
CALP - GRAB SAMPLE
FT - GRAB SAMPLE

NOTE: SCALE 100' CHANGE ABOVE WATER LEVEL

WASHINGTON STATE
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WELL LOG PROCESSING SYSTEM

NAME OF WELL: WALTER HEIDER
DATE LOGGED: 02/15/75
STATE: WASHINGTON
COUNTY: FRANKLIN
LOCATION: 14N/33E-21N1
SURFACE ELEVATION: 1332
TOTAL DEPTH LOGGED: 1152
DEPTH TO WATER LEVEL: 929
CASING & LINERS: 8" 138-5

LEGEND
LOG TITLES
GG: GRAY
NG: GREEN
NN: NAVY
NATG: NATURAL GAS
CALP: CALIFORNIA
FT: FINE TUFF
FR: FINE SAND
WRES: WRECKED
SP: SAND

DENSITY (LOG-LOG) INCREASES: ———
POROSITY (LOG-LOG) INCREASES: ———
WATER LEVEL: - - - - -
NOTE: SCALE ONLY CHANGE ABOVE WATER LEVEL

14N/33E-21N1

WASHINGTON STATE
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WELL LOG PROCESSING SYSTEM

NAME OF WELL: OTHELLO CITY #8
DATE LOGGED: 10/13/77
STATE: WASHINGTON
COUNTY: CHWAS
LOCATION: 15N 29E 24A1
SURFACE ELEVATION: 1055
TOTAL DEPTH LOGGED: 1200
DEPTH TO WATER LEVEL: 231
CASING & LINERS: 8" 220-28
CALP, FT, AND FMTR LOGGED 02/15/79
(SCALE @ 247 FT.)

LEGEND
LOG TITLES
GR - GAMMA RAY
NG - NEUTRON
NN - NEUTRON
NATG - NEUTRON
FMTR - FORMATION
CALP - CALIPER
FT - FORMATION
FR - FORMATION
WRES - WIRELINE
SP - SPONTANEOUS

DENSITY (LOG) INCREASES
POROSITY (LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

15N/29E-84R1

WASHINGTON STATE
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WELL LOG PROCESSING SYSTEM

NAME OF WELL: TED HELLERIN
DATE LOGGED: 8/12/78
STATE: WASHINGTON
COUNTY: FRANKLIN
LOCATION: 15N/30E-12K1
SURFACE ELEVATION: 1255
TOTAL DEPTH LOGGED: 1341
DEPTH TO WATER LEVEL: 139
CASING & LINERS: 8" 425+16

LEGEND
LOG TITLES
GG: GROUNDWATER
NG: NEUTRON LOG
NN: NEUTRON LOG
NATG: NEUTRON LOG
CRLP: CALIPER LOG
FT: FLOW TEMPERATURE
FR: FLOW RATE
WRES: WELL RESISTANCE
SP: SPONTANEOUS POTENTIAL

DENSITY LOG (LOG) INCREASES →
RESISTIVITY LOG (LOG) INCREASES ←
WATER LEVEL: - - - - -

NOTE: SCALE MAY CHANGE DEPENDING ON WATER LEVEL

8/12/78 - 304

15N/30E-12K1

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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: ARTHUR JOHNSON
DATE LOGGED: 05/11/75
STATE: WASHINGTON
COUNTY: ADAMS
LOCATION: 15W/31E-19R1
SURFACE ELEVATION: 1242
TOTAL DEPTH LOGGED: 1121
DEPTH TO WATER LEVEL: 255
CASING & LINERS: 8" 57-15 8" 425-15

LEGEND
LOG TITLES
NG - NATURAL GAMMA
CC - CEMENT CEMENT
NN - NATURAL NEUTRON
NATC - NATURAL THERM
FT - THERM
FR - THERM
WRES - THERM
SP - THERM
CALP - CALIPER
NN - NATURAL NEUTRON
NATC - NATURAL THERM
FT - THERM
FR - THERM
WRES - THERM
SP - THERM
CALP - CALIPER

DENSITY LOG LOG INCREASES
PULSING LOG LOG INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

02/28/75

15W/31E-19R1

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WELL LOG PROCESSING SYSTEM

NAME OF WELL: LEROY WATSON
DATE LOGGED: 11/27/72
LOG TYPE: LITHOLOGY
COUNT: 10000
LOCATION: 15N-34E-72W
SURFACE ELEVATION: 1450
TOTAL DEPTH LOGGED: 540
DEPTH TO WATER LEVEL: 475
DRILLING COMPANY: [illegible]

LEGEND
LOG TITLES
NG: NEUTRON LOG
NN: NATURAL NEUTRON LOG
NATG: NATURAL GAMMA LOG
CALP: CALIPER LOG
FT: FATHOM LOG
DENSITY: DENSITY LOG
PERMEABILITY: PERMEABILITY LOG
WATER LEVEL: WATER LEVEL
NOTE: SURF. PRT. CHANGE FROM WATER LEVEL

11/28/72 22

WASHINGTON STATE
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WELL LOG PROCESSING SYSTEM

NAME OF WELL: D.E. PHILLIPS -17
DATE LOGGED: 03/10/75
STATE: WASHINGTON
COUNTY: KEMEC
LOCATION: 16N/32E-1501
SURFACE ELEVATION: 1495
TOTAL DEPTH LOGGED: 1442
DEPTH TO WATER LEVEL: 394
CASING & LINERS: 8" 36-28

LEGEND
LOG TITLES
GC - GAMMA RAY
NC - NEUTRON
NN - NEUTRON
NRTG - NEUTRON
CALP - CALIPER
FT - FORMATION TIME
FR - FORMATION RESISTIVITY
WRES - WIRELINE RESISTANCE
SP - SPONTANEOUS POTENTIAL
DENSITY (LOG-LOG) INCREASES
POROSITY (MM-LOG) INCREASES
WATER LEVEL
NOTE: SCALE ANY CHANGE ABOVE WATER LEVEL

11/25/83 801

16N/32E-1501

WASHINGTON STATE
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WELL LOG PROCESSING SYSTEM

NAME OF WELL	D.E. PHILLIPS #16
DATE LOGGED	03/09/75
STATE	WASHINGTON
COUNTY	ACRES
LOCATION	16N/32E-25N1
SURFACE ELEVATION	1520
TOTAL DEPTH LOGGED	1253
DEPTH TO WATER LEVEL	217
CASING & LOGGING	0 - 19.28

LEGEND
LOG TITLES

DENSITY LOG (G/CM ³)	INCHES
RESISTIVITY LOG (OHM-IN)	INCHES
WATER LEVEL	INCHES

NOTE: SCALE 1/4" = 10' ABOVE WATER LEVEL

02/27/83 JEN

16N/32E-25N1

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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SHEET

NAME OF WELL: PHILLIPS, C-34
DATE LOGGED: 2/5/1970
STATE: WASHINGTON
COUNTY: POKAN
LOCATION: 16W/32E-34E1
SURFACE ELEVATION: 1393
TOTAL DEPTH LOGGED: 2535
DEPTH TO WATER LEVEL: 368
CASING & LINERS: 8 7/8" 15 868-1358-13

LEGEND
LOG TITLES
DENSITY LOGGING INTERVALS
PERMEABILITY LOGGING INTERVALS
WATER LEVEL
NOTE: ONLY LOGGING ABOVE WATER LEVEL

16W/32E-34E1

Phillips C-34

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WELL LOG PROCESSING SYSTEM

NAME OF WELL: BOYD PHILLIPS
DATE LOGGED: 04/18/78
STATE: WASHINGTON
COUNTY: KENOSHA
LOCATION: 16N/33E-20R1
SURFACE ELEVATION: 1500
TOTAL DEPTH LOGGED: 1450
DEPTH TO WATER LEVEL: 510
CASING & LINERS: 8" 75-16

LEGEND
LOG TITLES
GG - GRAMMEL, GROUND
NG - GRAMMEL, GROUND
NN - GRAMMEL, GROUND
NATC - GRAMMEL, GROUND
FMR - GRAMMEL, GROUND
CALP - GRAMMEL, GROUND
FT - GRAMMEL, GROUND
FR - GRAMMEL, GROUND
WRES - GRAMMEL, GROUND
SP - GRAMMEL, GROUND

DENSITY (LOG-LOG) INCREASES
POROSITY (MA-LOG) INCREASES
WATER LEVEL

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/25/80 804

16N/33E-20R1

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WELL LOG PROCESSING SYSTEM

NAME OF WELL: 184/35E-3101
DATE LOGGED: 02/19/76
STATE: WASHINGTON
COUNTY: ADAMS
LOCATION: 184/35E-3101
SURFACE ELEVATION: 1500
TOTAL DEPTH LOGGED: 1971
DEPTH TO WATER LEVEL: 987
CASING & LINERS:
6" - 5320

IN AND OUT LOGGED 08/21/75 (34.8 877 FT)

LEGEND

LOG TYPES

CG: CEMENT GROUT
IC: IRON CEMENT
NW: NEUTRON
NATC: NATURAL GAMMA
FNTR: FORMATION NEUTRON
CALP: CEMENTATION LOG
FT: FORMATION TEMPERATURE
FR: FORMATION RESISTIVITY
WRES: WIRELINE RESISTANCE
SP: SPONTANEOUS POTENTIAL

DENSITY LOG LOG INCREASES →
POROSITY LOG LOG INCREASES ←
WATER LEVEL: - - - - -
WELL SCALE AND SHOWN WITH LOG

184/35E-3101

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL PHILLIPS, C-12
DATE LOGGED 05/25/76
STATE WASHINGTON
COUNTY SPAN
LOCATION 17N/31E-1201
SURFACE ELEVATION 1268
TOTAL DEPTH LOGGED 1942
DEPTH TO WATER LEVEL 209
CASING & LINES
D= 50" 0= 36" 16 069" 1245" 13

LEGEND
LOG TITLES
GR - GAMMA RAY
NC - NEUTRON CAPTURE
NN - NEUTRON NEUTRON
NATG - NEUTRON ATTENUATION TIME
FNTR - FAST NEUTRON TIME
CALP - CASING LOG
FT - FLOW TIME
DENSITY LOG - DENSITY INCREASES
POTASSIUM LOG - POTASSIUM INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE FROM LOG TO LOG

17N/31E-1201

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: KAUTZ, WILLIAM B.
DATE LOGGED: 09/19/76
STATE: WASHINGTON
COUNTY: ADAMS
LOCATION: 17N/35E-8W/1
SURFACE ELEVATION: 1728
TOTAL DEPTH LOGGED: 592
DEPTH TO WATER LEVEL: 524
CASING & LINERS:
B- 77-15

LEGEND
LOG TITLES
NATG - NATURAL GAMMA
NG - NATURAL GAMMA
NN - NATURAL GAMMA
NATG - NATURAL GAMMA
FMTR - FORMATION TRANSMISSION
CRLP - CRATER LOG
FT - FORMATION TRANSMISSION
FR - FORMATION RESISTIVITY
WRES - WATER RESISTIVITY
SP - SPONTANEOUS POTENTIAL

DENSITY (LOG-LOG) INCREASES
POROSITY (LN-LOG) INCREASES
WATER LEVEL

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

8/1/76/83 304

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL AMERICAN POTATO #2
DATE LOGGED 8/23/75
STATE WASHINGTON
COUNTY GRANT
LOCATION 18N/29E/0501
SURFACE ELEVATION 1165
LOGP. DEPTH LOGGED 672
DEPTH TO WATER LEVEL 114
CASING & LINERS
250115
MUD BELOW 662 FT.

LEGEND
LOG TITLES
NATG - NATURAL GAMMA
GG - GRAMM GRAMM
NG - NATURAL GRAMM
NN - NATURAL GRAMM
FT - FLOW TEMPERATURE
FR - FLOW RESISTIVITY
CALP - CALP
WRES - WRES
SP - SP
DENSITY LOG-LOG INCREASES
POROSITY (NA-LOG) INCREASES
WATER LEVEL
NOTE: SCALE FOR CHANGE ABOVE WATER LEVEL

11/25/82 SDH

184/31E-3301

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: DON HEINEMANN
DATE LOGGED: 02/19/76
STATE: WASHINGTON
COUNTY: KODIAK
LOCATION: 18N/36E-S4R1
SURFACE ELEVATION: 1760
TOTAL DEPTH LOGGED: 922
DEPTH TO WATER LEVEL: 231
CASING & LINERS: 8" 10# 15

LEGEND
LOG TITLES
GC - GRAMMEL CORRELATION
NC - NEUTRON CAPTURE
NN - NEUTRON LOG
NATG - NATURAL GAMMA
FNTR - FIDUCIAL NEUTRON
CALP - CALIBRATION LOG
FT - FLUID TEMPERATURE
FR - FLUID RESISTIVITY
WRES - WELL RESISTIVITY
SP - SPONTANEOUS POTENTIAL
DENS - DENSITY
PORO - POROSITY
WATER - WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

02/25/82

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: ROSES LAKE #4
DATE LOGGED: 03/26/74
STATE: WASHINGTON
COUNTY: GRANT
LOCATION: 19N/28E-20K1
SURFACE ELEVATION: 1075
TOTAL DEPTH LOGGED: 953
DEPTH TO WATER LEVEL: 72
CASING & LINERS:
0- 395-12 362- 711- 0

LEGEND
LOG TITLES
DATE: 03/26/74
STATE: WASHINGTON
COUNTY: GRANT
LOCATION: 19N/28E-20K1
SURFACE ELEVATION: 1075
TOTAL DEPTH LOGGED: 953
DEPTH TO WATER LEVEL: 72
CASING & LINERS:
0- 395-12 362- 711- 0
DENSITY LOG LOG IN PERCENTS
POROSITY LOG LOG IN PERCENTS
WATER LEVEL
NOTE: SCALE MAY VARY FROM WELL TO WELL

11-22-73 304

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: MASTO FARMS
DATE LOGGED: 11/26/74
STATE: WASHINGTON
COUNTY: GRANT
LOCATION: 19N/29E-15W
SURFACE ELEVATION: 1365
TOTAL DEPTH LOGGED: 947
DEPTH TO WATER LEVEL: 277
CASING & LINERS:
Ø = 785 = Ø

LEGEND

DENSITY (GG-LOG) INCREASES
POROSITY (NN-LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL JERRY RADACH
DATE LOGGED 12/28/74
STATE WASHINGTON
COUNTY GRANT
LOCATION 19N/38E-15L1
SURFACE ELEVATION 1442
TOTAL DEPTH LOGGED 1198
DEPTH TO WATER LEVEL 978
CASING & LINERS
8" 20-19

LEGEND
LOG TITLES
GG - GEOPHYSICAL GRAPHS
NG - NEUTRON LOG
NN - NEUTRON LOG
NATG - NEUTRON LOG
FHTR - FLUID TEMPERATURE
CALP - CALIBRATION LOG
FT - FLUID TEMPERATURE
FR - FLUID RESISTIVITY
WRES - WIRELINE RESISTIVITY
SP - SPONTANEOUS POTENTIAL
POT - PORE PRESSURE
LOG - LOGGING
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/22/88 884

19N/38E-15L1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
NATIONAL ENGINEERING DIVISION
WELL LOG PROCESSING SYSTEM

NAME OF WELL J. H. H. FARM
DATE LOGGED 08/07/75
STATE WASHINGTON
COUNTY KENNECOTT
LOCATION 19W/32E-20N
SURFACE ELEVATION 1674
TOTAL DEPTH LOGGED 1700
DEPTH TO WATER LEVEL 630
CASING & LINES 8" 3470 8" 840-16 8" 1640-19

LEGEND
LOG TITLES
SPONTANEOUS POTENTIAL
TRUE RESISTIVITY
FORMATION TEMPERATURE
CORE RESISTIVITY
NATURAL GAMMA
NEUTRON NEUTRON
NEUTRON GAMMA
GAMMA COUNT

DENSITY LOGS: 1.00-1.80 G/CC
POSITIVE: 1.00-1.80 INCREASING
WATER LEVEL
NOTE: MAKE ANY CORRECTIONS AFTER LOG

19W/32E-20N

WASHINGTON STATE UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: HOFFEL #2
DATE LOGGED: 01/18/75
STATE: WASHINGTON
COUNTY: BROWN
LOCATION: 19N/33E-0802
SURFACE ELEVATION: 1025
TOTAL DEPTH LOGGED: 2445
DEPTH TO WATER LEVEL: 500
CRISING & LINERS: 8" 70-10 8" 700-10 700-1000-10

LEGEND
LOG TYPES:
- NC: NEUTRON CAPTURE
- NN: NEUTRON NEUTRON
- NRIC: NEUTRON RESONANCE INTEGRAL COUNT
- CRIP: CADMIUM RESONANCE INTEGRAL COUNT
- FT: FORMATION TEMPERATURE
- FR: FORMATION RESISTIVITY
- NPES: NEUTRON POROSITY
- SP: SPONTANEOUS POTENTIAL

DEPTH (LOG LOG) IN FEET
POROSITY (NP LOG) IN PERCENT
WATER LEVEL: 0

WELL SCALE AND CURVE FROM WATER LEVEL

19N/33E-0802

19N/33E-0802

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL GERING, GRAYLE
DATE LOGGED 11/28/75
STATE WASHINGTON
COUNTY ADAMS
LOCATION 19N/36E-15W
SURFACE ELEVATION 1905
TOTAL DEPTH LOGGED 1248
DEPTH TO WATER LEVEL 444
CASING & LINERS
56-19

LEGEND
LOG TITLES
GR - GRAYLE
NG - NATURAL GAS
NN - NATURAL GAS
NRTG - NATURAL GAS
FMTR - FORMATION
CALP - CALIPER
FT - FORMATION
FR - FORMATION
WRES - WELLS
SP - SP
DENSITY (GG-LOG) INCREASES
POROSITY (NM-LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/28/75 SM

19N/36E-15W

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL E.B. COLE
DATE LOGGED 05-15-75
STATE WASHINGTON
COUNTY GRANT
LOCATION 20N 28E-W41
SURFACE ELEVATION 1245
TOTAL DEPTH LOGGED 192
DEPTH TO WATER LEVEL 182
CASING & LINERS 8" 20-19
NOT LOGGED TO TOTAL DEPTH
REPORTED DEPTH 1225 FT.

LEGEND
LOG TITLES
GR : GRADIENT
NN : NEUTRON LOG
NATG : NATURAL GAMMA
LALP : LOG-LOG PLACEMENT
FT : FLOW TEST
FR : FLOW RATE
WRES : WATER RESISTIVITY
SP : SLOPE
DENSITY LOG-LOG INCHES
DENSITY LOG-LOG INCHES
WATER LEVEL
WATER LEVEL FROM CHART - ABOUT WATER LEVEL

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: REINKE FARM CO.
DATE LOGGED: 8/12/76
STATE: WASHINGTON
COUNTY: GRANT
LOCATION: 20N/25E-25C1
SURFACE ELEVATION: 1422
TOTAL DEPTH LOGGED: 1331
DEPTH TO WATER LEVEL: 325
CASING & LITHO: 8-599-18

LEGEND
LOG TITLES
CC - CASING
NG - NEUTRON GAMMA
NN - NEUTRON NEUTRON
NATG - NEUTRON ATTENUATION TOTAL GAMMA
CALP - CASING LOG
FT - FORMATION TIME
SP - SPONTANEOUS POTENTIAL
DENSITY LOG - LOG IN INCHES
POROSITY LOG - LOG IN INCHES
WATER LEVEL
NOTE: SCALE MAY VARY FROM WATER LEVEL

11/22/73 WEA

20N/25E-25C1

WASHINGTON STATE UNIVERSITY

COLLEGE OF ENGINEERING

GEOLOGICAL ENGINEERING SECTION WELL LOG PROCESSING SYSTEM

NAME OF WELL: METBURN/NEST
DATE LOGGED: 02/13/76
STATE: WASHINGTON
COUNTY: CRAWFORD
LOCATION: 20N/38E-32N1
SURFACE ELEVATION: 1460
TOTAL DEPTH LOGGED: 1255
DEPTH TO WATER LEVEL: 364
CASING & LINER: 8" 20-20

LEGEND
LOG TITLES
GC - GAMMA RAY
NG - NEUTRON
NATG - NATURAL GAMMA
FMTR - FORMATION TRANSMITTANCE
CALP - CALIPER
FT - TRUE RESISTIVITY
WRES - APPARENT RESISTIVITY
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

04/25/85 304

20N/38E-32N1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: R. KIRGELE
DATE LOGGED: 8/1/87
STATE: WASHINGTON
COUNTY: KROMS
LOCATION: 20N/35E-27W1
SURFACE ELEVATION: 2205
TOTAL DEPTH LOGGED: 1217
DEPTH TO WATER LEVEL: 784
CASING & LINERS: 8" 56-19
DESCENDING WATER FROM 824 FT.

LEGEND
LOG TITLES
GG: GEOPHYSICAL LOG
NC: NEUTRON LOG
NN: NEUTRON LOG
NATG: NATURAL GAMMA LOG
FMTR: FORMATION MICRORESISTIVITY LOG
CALP: CALIBRATION LOG
FT: FORMATION TEMPERATURE LOG
FR: FORMATION RESISTIVITY LOG
WRES: WATER RESISTIVITY LOG
SP: SPONTANEOUS POTENTIAL LOG

DENSITY (GM/CC) INCREASES →
POROSITY (MM/CC) INCREASES ←
WATER LEVEL: - - - - -
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

8/1/87 101

20N/35E-27W1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL BASALT EXPLORER
DATE LOGGED 05/14/72
STATE WASHINGTON
COUNTY LINCOLN
LOCATION 21N/31E-10M1
SURFACE ELEVATION 1610
TOTAL DEPTH LOGGED 4624
DEPTH TO WATER LEVEL 223
CASING & LINERS 8" 100-118

LEGEND
LOG TITLES
RT - RESISTIVITY
GR - GAMMA-RAY
NL - NEUTRON LOG
SI - SLOPE INDICATOR
PI - PORE PRESSURE
SP - SPONTANEOUS POTENTIAL
POT - POTENTIAL
SAL - SALINITY
SW - SLOPE INDICATOR
SW - SLOPE INDICATOR

RESISTIVITY (OHM-LOG) INCREASES
POROSITY (IN-LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

11/23/82 BEM

21N/31E-10M1

Continued next sheet

Basalt Explosion
Continued from previous sheet

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: ODESSA CITY
DATE LOGGED: 11/22/77
STATE: WASHINGTON
COUNTY: LINCOLN
LOCATION: 21N/33E-09E1
SURFACE ELEVATION: 1610
TOTAL DEPTH LOGGED: 650
DEPTH TO WATER LEVEL: 117
CASING & LINERS: 8" 160-115

LEGEND
LOG TITLES
NATG - NATURAL GAMMA
GG - GAMMA RAY
NC - NEUTRON CAPTURE
NN - NEUTRON LOG
NATG - NATURAL GAMMA
FHTA - FHTA
CALP - CALP
FT - FT
FR - FR
SP - SP

DENSITY (LOG-LOG) INCREASES
POROSITY (MM-LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

84/27/80 SDH

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: FRED B. BRYANT
DATE LOGGED: 03/23/72
STATE: WASHINGTON
COUNTY: LEWIS
LOCATION: 15N 36E 24PT
SURFACE ELEVATION: 1270
TOTAL DEPTH LOGGED: 659
DEPTH TO WATER LEVEL: 55
CASING & LINERS: 8" 77-11 402-505-8

LOG TITLE:
CC - CASING
NG - NEUTRON
NN - NEUTRON
CALP - CASING LOG
FT - FORMATION
FR - FORMATION

LEGEND
RESISTIVITY LOGS - INCREASING
POROSITY LOGS - INCREASING
WATER LEVEL
NOTE: SCALE MAY CHANGE FOR WATER LEVEL

20-74-103 154

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: COVELL
DATE LOGGED: 05/07/72
WELL TYPE: OIL
LOCATION: 104 WTE-0201
STANDARD DEVIATION: 1.00
TOTAL DEPTH IN FEET: 100
DEPTH TO WATER LEVEL: 00
GRATING & COMMENTS:

LEGEND

LOG TRACKS

- GR - GAMMA RAY
- NG - NATURAL GAMMA
- NV - NEUTRON POROSITY
- NL - NEUTRON LOG
- FT - FORMATION RESISTIVITY
- RES - RESISTIVITY
- W - WATER LEVEL
- W - WATER LEVEL

DEPTH IN FEET (METERS) ———→
RESISTIVITY AND LOG TRACKS ———→
WATER LEVEL ———→
NOTE: SCALE 100 FEET = 100 METERS

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL W. H. P.
DATE LOGGED 8/27/77
STATE WASHINGTON
COUNTY FRANKLIN
LOCATION 11N/45E-32E1
SURFACE ELEVATION 1170
TOTAL DEPTH LOGGED 1270
DEPTH TO WATER LEVEL 455
CASING & LINERS P-201-24 B-201-22 Z-502-16
CLARKSON #7

LEGEND
LOG TITLES
CG - GAMMA RAY
NG - NEUTRON LOG
NN - NATURAL GAMMA
NATG - NATURAL GAMMA T
CALP - CALIBRATION LOG
FT - FLOW TEST
FR - FLOW RATE
WRES - WATER RESISTIVITY
SP - SPONTANEOUS POTENTIAL

DENSITY LOG LOG INCREASES
RESISTIVITY LOG INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11N/45E-32E1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING
WELL LOG PRODUCTION

NAME OF WELL: 104-1-1
DATE LOGGED: 12/22/77
STATE: WA
COUNTY: BENTON
LOCATION: 2 1/2 MI. N. 104-1-1
SURFACE ELEVATION: 515
TOTAL DEPTH LOGGED: 1142
DEPTH TO WATER LEVEL: 257
CLOSING & LUMPING: 8 372 11 540 645 9

LEGEND
LOG TITLES
GR: GRAMMATIC LOG
NG: NEUTRON LOG
NN: NEUTRON LOG
NATG: NATURAL GAMMA LOG
FMTR: FORMATION RESISTIVITY LOG
CALP: CALIBRATION LOG
FT: FORMATION TEMPERATURE LOG
FR: FORMATION RESISTIVITY LOG
WRES: WATER RESISTIVITY LOG
SP: SPONTANEOUS POTENTIAL LOG

RESISTIVITY LOG (OHM-FT) ———→
FORM. TEMP. LOG (°F) ———→
WATER LEVEL ———→

NOTE: SCALE AND CHANGE W/AT WATER LEVEL

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: MORRISON FARMS
DATE LOGGED: 01/19/78
STATE: WASHINGTON
COUNTY: SNOHOMISH
LOCATION: 87N/24E-BED1
SURFACE ELEVATION: 1450
TOTAL DEPTH LOGGED: 1178
DEPTH TO WATER LEVEL: 965
CASING & LINERS:

WELL DEEPENED FROM 500+ FT. TO PRESENT
DEPTH IN SUMMER OF 1977.

LEGEND
LOG TITLES
GC - GRAMMEL
NG - NORTON
NN - NORTON
NRTG - NORTON
CALP - CALP
FT - FT
FN - FN
WRES - WRES
DT - DT
FS - FS
SP - SP

DENSITY LOG OUT INCREASES
DENSITY LOG OUT INCREASES
WATER LEVEL
WATER LEVEL

87N/24E-0801

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: CR. PALMER #2
DATE LOGGED: 12/15/78
STATE: WASH. STATE
COUNTY: BEN. CO.
LOCATION: 27N 25E-23F1
SURFACE ELEVATION: 840
TOTAL DEPTH LOGGED: 1,449
DEPTH TO WATER LEVEL: 147
CASING & LINERS: 6" 60S-15 643- 683-15

LEGEND
LOG TITLES
GR - GRADIENT
NG - NEUTRON LOG
NN - NEUTRON LOG
NATG - NEUTRON LOG
FMTR - FORMATION RESISTIVITY
CALP - CALIBRATION LOG
FT - FORMATION TEMPERATURE
FR - FORMATION RESISTIVITY
WRES - WATER RESISTIVITY
SP - SPONTANEOUS POTENTIAL

DENSITY LOG - LOG INCREASES
POROSITY LOG - LOG INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE DUE TO WATER LEVEL

27N 25E-23F1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: HORSE HEAVEN TEST
DATE LOGGED: 11/16/79
STATE: WASHINGTON
COUNTY: SPOKANE
TOWNSHIP: 27N 27E 36R
SURFACE ELEVATION: 1515
TOTAL DEPTH LOGGED: 1202
DEPTH TO WATER LEVEL: 972
CASING & LINERS:
1" 2" 100-10 2" 100-10 4" 100-10
DRILL ROD IN HOLE FROM 671 TO 541'

LEGEND
LOG TITLES
NN - NEUTRON LOG
NATG - NATURAL GAMMA
CALP - CALIPER LOG
FT - FLOW TEST LOG
FR - FLOW RATE LOG
DENSITY - DENSITY LOG
P - PORE PRESSURE LOG
W - WATER LOG
S - SALT LOG
DENSITY LOG - DENSITY LOG
P - PORE PRESSURE LOG
W - WATER LOG
S - SALT LOG
NOTE: SCALE IN - CANNOT REVEAL WATER LEVEL

0714/27E-36R1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: PRAIRIE EXPT. STA.
DATE LOGGED: 8/29/77
STATE: WASHINGTON
COUNTY: SNOHOMISH
LOCATION: 2 N 25 E 10 W B1
SURFACE ELEVATION: 1272
TOTAL DEPTH LOGGED: 1202
DEPTH TO WATER LEVEL: 539
Casing & Liners: 8" 750-116 750-1213-12
NO SP/R SINCE 1 P. H. H. LOG DEPTH TO 10
FMR -- NO MEASURABLE FLUID DETECTED

LEGEND
LOG TITLES
GG - GAMMA RAY
NG - NEUTRON POROSITY
NN - NEUTRON LOG
NATG - NATURAL GAMMA
FMR - FORMATION RESISTIVITY
CALP - CALIPER
FT - TRUE RESISTIVITY
FR - FLUID RESISTIVITY
DENSITY LOG - LOG DENSITY
POROSITY LOG - LOG POROSITY
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

08/29/77-0581

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL	UNR 79-87
DATE LOGGED	09/14/68
STATE	WASHINGTON
COUNTY	BENTON
LOCATION	054271-25M
SURFACE ELEVATION	850
TOTAL DEPTH LOGGED	1257
DEPTH TO WATER LEVEL	112
CASING & LINERS	

FMIR LOG -- PROPELLER STOPPAGE BETWEEN
745 FT. AND 760 FT.

LEGEND

LOG TITLES

WATE	--	NATURAL GAMMA
GC	--	CANNED GAMMA
NH	--	NEUTRON MODIATION
NC	--	NEUTRON GAMMA
FT	--	FLUID TEMPERATURE
FR	--	FLUID RESISTIVITY
CLUP	--	CLIPPER
SP	--	SPONTANEOUS POTENTIAL
WRES	--	WELL RESISTIVITY
FMTA	--	FLOW METER
SONIC	--	SONIC

DENSITY (GG-LOG) INCREASES $\longrightarrow$
 POROSITY (NN-LOG) INCREASES $\longleftarrow$
 WATER LEVEL

 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: PIRLEE TEST WELL
DATE LOGGED: 10/20/77
STATE: WASHINGTON
COUNTY: DOUGLAS
LOCATION: 23N/26E-2801
SURFACE ELEVATION: 1500
TOTAL DEPTH LOGGED: 1330
DEPTH TO WATER LEVEL: 531
CASING & LINERS:
5016

SP AND CALP ARE HAND DIGITIZED. NW IS
FROM A PREVIOUS LOGGING -- 10/31/75.

LEGEND
LOG TITLES
GR - GAMMA RAY
NC - NEUTRON CAPTURE
NN - NEUTRON POROSITY
NATG - NEUTRON ATTENUATION TOTAL GAMMA
FMR - FORMATION MICRORESISTIVITY
CALP - CASING LOG
FT - FLOW TEST
FR - FLOW RATE
WRES - WELLBORE RESISTANCE
SP - SPONTANEOUS POTENTIAL
DENSITY (LOG-LOG) INCREASES
POROSITY (LOG-LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

23N/26E-2801

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: M. 12-10-100
DATE LOGGED: 8/18/78
STATE: WASHINGTON
COUNTY: SPokane, WA
LOCATION: 11N/31E-21H1
SURFACE ELEVATION: 780
TOTAL DEPTH LOGGED: 1168
DEPTH TO WATER LEVEL: 344
CASING & LINES: 8-20316

LEGEND
LOG TITLES
GG - GROUNDWATER
NG - NEUTRON LOG
NN - NEUTRON LOG
NTG - NEUTRON LOG
CALP - CALIPER LOG
FT - FLOW TEST
FR - FLOW TEST

DENSITY LOG LOG1 INCREASES
POROSITY LOG LOG1 INCREASES
WATER LEVEL
NOTE: SCALE 100' CHANGE ABOVE WATER LEVEL

11N/31E-21H1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL LLOYD COCKRANE
DATE LOGGED 02/15/75
STATE WASHINGTON
COUNTY FARMINGTON
LOCATION 13N/34E-30M1
SURFACE ELEVATION 1528
TOTAL DEPTH LOGGED 1179
DEPTH TO WATER LEVEL 1034
CASING & LINES*
D- 295- 6

LEGEND
LOG TITLES
CC - CASING
NG - NEUTRON GAMMA
NN - NEUTRON NEUTRON
NATG - NEUTRON ATTENUATION TOTAL GAMMA
CALP - CASING LOG
FT - FORMATION TEMPERATURE
FR - FORMATION RESISTIVITY
WRES - WIRELINE RESISTIVITY
SP - SPONTANEOUS POTENTIAL
DENSITY (LOG LOG) INCREASES
POTENTIAL (W-LOG) INCREASES
WATER LEVEL
NOTE: SCALE 1% CHANGE ABOVE WATER LEVEL

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: GEORGE TEST WELL
DATE LOGGED: 03/07/79
STATE: WASHINGTON
COUNTY: GRANT
LOCATION: 18N/25E-15E1
SURFACE ELEVATION: 1155
TOTAL DEPTH LOGGED: 1524
DEPTH TO WATER LEVEL: 303
CASING & LINERS: 8" 990-10

SECOND LOGGING

LEGEND

DENSITY (G/CC) INCREASES
POROSITY (MM-LOG) INCREASES
WATER LEVEL

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

8/2/79

18N/25E-15E1

WASHINGTON STATE UNIVERSITY

COLLEGE OF ENGINEERING

GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: EPWORTH CITY #18
DATE LOGGED: 09/18/77
STATE: WASHINGTON
COUNTY: GRANT
LOCALITY: 21N/26E-15M
SURFACE ELEVATION: 1322
TOTAL LOG LENGTH: 1956
DEPTH TO WATER LEVEL: 214
CASING & LINERS: 89016

LEGEND
LOG TITLES
RESISTIVITY (OHM-FT) INCREASES
RESISTIVITY (OHM-FT) DECREASES
WATER LEVEL
WELL LOG LENGTH INCREASES

21N/26E-15M

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL	DRILL NUMBER
DATE LOGGED	DATE LOGGED
STATE	COUNTY
LOCATION	WELL DEPTH
SURFACE ELEVATION	1000
TOTAL DEPTH LOGGED	243
DEPTH TO WATER LEVEL	223
CASING & LINER	BY
FROM -- NO PERFORABLE PL. DETECTED.	

LEGEND

LOG TITLES

WELL LOG TITLES

WATER LEVEL

WATER LEVEL

WATER LEVEL

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: LARSON FRUIT WELL
DATE LOGGED: 8/7/5/68
STATE: WASH. STATE
COUNTY: KITTITAS
LOCATION: 15N/19E-22P1
SURFACE ELEVATION: 1842
TOTAL DEPTH LOGGED: 1269
DEPTH TO WATER LEVEL: 198
CASING & LINERS:
P: 758-16 665- 8-8-12
BHA IS FROM PREVIOUS LOGGING - 6/18/68
FMR - NO MESS/REPS/CL DETECTED.

LEGEND

LOG TITLES
GG - GROUNDWATER
NG - NEUTRON LOG
NN - NEUTRON LOG
NITC - NEUTRON LOG
FMTR - FMR LOG
CALP - CALIPER LOG
FT - FLOW TEST LOG
FR - FLOW TEST LOG
WRLS - WATER LEVEL LOG
SP - SP LOG

DENSITY LOG INCREASES
PULSED LOG INCREASES
WATER LEVEL
NOTE: SURF. W. LEVEL 12.46 WATER LEVEL

15N/19E-22P1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: LUTAHUM CREEK
DATE LOGGED: 02/26/78
STATE: WASHINGTON
COUNTY: KITTITAS
LOCATION: 16N/19E-28C1
SURFACE ELEVATION: 1422
TOTAL DEPTH LOGGED: 1218
DEPTH TO WATER LEVEL: 23
CASING & LINERS: 8" 476-18
WHOLE FLOW IN THE WELL: 32 FPM AT 525'
AND 75 FPM AT 588'

LEGEND
LOG TITLES
GC - GAMMA RAY
NC - NEUTRON
NN - NEUTRON
NATG - NATURAL GAMMA
FMTR - FORMATION MICRORESISTIVITY
CALP - CALIPER
FT - FLUID TEMPERATURE
FR - FLUID RESISTIVITY
WRES - WIRELINE RESISTIVITY
SP - SPONTANEOUS POTENTIAL
DENSITY (LOG LOG) INCREASES
POROSITY (LOG LOG) INCREASES
WATER LEVEL
NOTE: SCALE 100' CHARGE FROM WATER LEVEL

16N/19E-28C1

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: ELLENBURD CITY
DATE LOGGED: 08/17/78
STATE: WASHINGTON
COUNTY: KITTITAS
TOWNSHIP: 36E1
SURFACE ELEVATION: 1055
TOTAL DEPTH LOGGED: 255
DEPTH TO WATER LEVEL: 25
CASING & LINER: 4" 300-115

LEGEND
LOG TITLES
GC - GRADIENT
NG - NEUTRON LOG
NN - NEUTRON LOG
NATG - NEUTRON LOG
CALP - CALIPER LOG
FT - FLOW TEST
FR - FLOW TEST
WRES - WATER RESISTANCE
SP - SPONTANEOUS POTENTIAL

DENSITY LOG - DENSITY LOG
POROSITY LOG - POROSITY LOG
WATER LEVEL - WATER LEVEL
NOTE: SCALE MAY CHANGE RE: WATER LEVEL

11/22/78 104

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: LEROY VAN BELLE
DATE LOGGED: 2/21/87
SITE: WASHINGTON
COUNTY: KENT
LOCATION: 20N14E-21E1
SURFACE ELEVATION: 1352
TOTAL DEPTH LOGGED: 357
DEPTH TO WATER LEVEL: 237
CASING & LINERS:

LEGEND
LOG TITLES
GS: GRAIN SIZE
NG: NEUTRON LOG
NV: NEUTRON VOL
NATG: NATURAL GAMMA
CALP: CALIPER LOG
FT: FLOW TEST
FR: FLOW RATE
WRES: WATER RESISTIVITY
SP: SPONTANEOUS POTENTIAL
CONDUCTIVITY LOG
RESISTIVITY LOG
WATER LEVEL
NOTE: SCALE MAY VARY

11/15/82 154

WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: C. W. BRIDE
DATE LOGGED: 8/3/85/77
STATE: WASHINGTON
COUNTY: PULASKI
LOCATION: 14N/27E-2201
SURFACE ELEVATION: 405
TOTAL DEPTH LOGGED: 876
DEPTH TO WATER LEVEL: 0
CRDING & LINERS: 2- 228-16 330- 528-14 712- 825-18

LEGEND
LOG TITLES
DENSITY LOGS (ARROWS)
WATER LEVEL
WELL NAME AND LOCATION

11/18/85 PLS

WASHINGTON STATE
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COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: ROBERT ANDREWS
DATE LOGGED: 05/27/78
STATE: WASHINGTON
COUNTY: SNOHOMISH
LOCATION: 25N/23E/22J1
SURFACE ELEVATION: 982
TOTAL DEPTH LOGGED: 1246
DEPTH TO WATER LEVEL: 295
CASING & LINERS:

LEGEND
LOG TITLES
NG - NATURAL GAS
NATG - NATURAL GAS
CALP - CALIBRATION
FT - FEET
WRES - WELLS
SP - SPALLS

DENSITY (G/CC) INCREASES
POROSITY (VOL %) INCREASES
WATER LEVEL

NOTE: SCALE NOT CHANGING WATER LEVEL

25N/23E-22J1

WASHINGTON STATE
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COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: H. WETTER
DATE LOGGED: 12/25/13
STATE: WASHINGTON
COUNTY: LINCOLN
LOCATION: TWP. 24N
SURFACE ELEVATION: 1095
TOTAL DEPTH LOGGED: 197
DEPTH TO WATER LEVEL: 250
CASING & LITERS: 20/14
NO MEASURABLE FLOW

LEGEND
LOG TITLES
GC - GRAIN COUNT
NC - NEUTRON COUNT
NN - NEUTRON LOG
NATG - NEUTRON ATTENUATION
FNTR - FLUID NEUTRON
CALP - CALIPER LOG
FT - FLUID TEMPERATURE
WRES - WIRE RESISTANCE
SP - SPONTANEOUS POTENTIAL
DENS - DENSITY LOG
POT - POTENTIAL
WATER LEVEL
NOTE: SCALE MAY CHANGE WITH WATER LEVEL

NO. 17/13 301

WASHINGTON STATE UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: ALVIN SCHWARTZ
DATE LOGGED: 05/17/76
STATE: WASHINGTON
COUNTY: LINCOLN
LOCATION: 24N/33E-23P1
SURFACE ELEVATION: 2936
TOTAL DEPTH LOGGED: 1817
DEPTH TO WATER LEVEL: 268
CASING & LINERS: 10-19

LEGEND

LOG TITLES

- GG - GAMMA RAY
- NG - NEUTRON LOG
- NN - NATURAL RADIOACTIVITY
- NATG - NATURAL GAMMA RAY
- FMTR - FORMATION TEMPERATURE
- CALP - CALIBRATION LOG
- FT - FORMATION TEMPERATURE
- FR - FORMATION RESISTIVITY
- WRES - WATER RESISTIVITY
- SP - SPONTANEOUS POTENTIAL

NOTE: SCALE: ANY CHANGE FROM WATER LEVEL

24N/33E-23P1

WASHINGTON STATE
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COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL ED CHAYTEL
DATE LOGGED 03/01/74
STATE WASHINGTON
COUNTY WELLS
LOCATION BEN/34E-06B1
SURFACE ELEVATION 550
TOTAL DEPTH LOGGED 1500
DEPTH TO WATER LEVEL 143
CASING & LINERS
0- 620-12 1442-1450-11
FT SPIKES CAUSED BY GAS IN THE WELL.

LEGEND

LOG TITLES
GG - GAMMA RAY
NC - NEUTRON POROSITY
NN - NEUTRON LOG
NATC - NEUTRON ATTENUATION COEFFICIENT
CALP - COMPRESSIONAL WAVE VELOCITY
FT - SHEAR WAVE VELOCITY
WRES - RESISTIVITY
SP - SPONTANEOUS POTENTIAL

DENSITY (GG-LOG) INCREASES →
POROSITY (NN-LOG) INCREASES ←
WATER LEVEL - - - - -
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

03/01/74

BEN/34E-06B1

WASHINGTON STATE
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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: WLLA WLLA TEST
DATE LOGGED: 08/25/73
STATE: WASH. STATE
COUNTY: WLLA WLLA
LOCATION: 251-151-151
SURFACE ELEVATION: 530
TOTAL DEPTH LOGGED: 1705
DEPTH TO WATER LEVEL: 154
CASING & LINERS:
8- 273-12 252- 602-18 272- 732- 9

LEGEND
LOG TITLES
DENSITY LOG-LOG INCREASES
POROSITY (NN-LOG) INCREASES
WATER LEVEL
NOTE: SCALE MAY CHANGE WITH WATER LEVEL

20 GAL/WT. SEM

08/25/73-1541

WASHINGTON STATE
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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: PULLMAN TEST WELL
DATE LOGGED: 8/7/32/75
STATE: WASHINGTON
COUNTY: WHITMAN
LOCATION: LAMAR-21F1
SURFACE ELEVATION: 2475
TOTAL DEPTH LOGGED: 977
DEPTH TO WATER LEVEL: 138
CASING & LINERS: 8" 5000' G
SP/PR WERE READ DIGITIZED FROM 12/3/74.

LEGEND
LOG TITLES
GG - GRAIN GRAIN
NG - NEUTRON LOG
NN - NEUTRON LOG
NATG - NEUTRON LOG
CALP - CALIPER LOG
FT - FLOW TEST
FR - FLOW TEST
WRES - WATER RESISTANCE
SP - SPALL LOG
DENSITY LOG - DENSITY LOG
POROSITY LOG - POROSITY LOG
WATER LEVEL - WATER LEVEL
NOTE: SCALE NOT TO BE USED FOR WATER LEVEL