0183613-B

June 16, 1976

Subject: Earthquake - May 16, 1976

On May 16, 1976 at 1:37 a.m. an earthquake with a magnitude of 5.3 (Richter) occurred near Southern Vancouver Island. Its epicenter is believed to have been directly under Pender Island, with its focus occurring at a relatively shallow depth of between 5 and 10 miles. This earthquake has been recorded (through movement of water level caused by seismic waves) on a number of Observation well hydrographs from water level recorders situated near the northern tip of the Saanich Peninsula, near Duncan, Chemainus and Mayne Island (nearest the epicenter) (re. attached maps of Saanich Peninsula and Southern Vancouver Island and Mainland).

Attached are hydrographs that show this anomaly quite strikingly. Other recorders that were expected to be affected due to proximity to the earthquake, but showed little or no reaction are as follows: WR-4, WR-13A, F.V.T.H. #3, F.V.T.H. #5 (Abbotsford), 72-3, 72-5 (Gabriola Island), 72-1, 72-2 (Saanich Peninsula), WR-104-71, WR-111-73 (Mayne Island) and 74-7 (Alert Bay).

Wells 72-1, 72-2 (Saanich Peninsula), and WR-104-71 and WR-111-73 (Mayne Island) may have recorded the tremor slightly but the fluctuation here is almost impossible to distinguish between seasonal movement at that time.

Precipitation was practically nil in the following locations during the period May 12 - May 16, 1976.

Duncan	.08
Chemainus	.05
Mayne Island	-
Victoria Airport	0.13

It can be therefore assumed that there was a negligible contribution from precipitation to water level fluctuations recorded at this time.

An attempt to try and explain the recording of this anomaly on the recorders mentioned has also been included:

WR-109-73 (Rainsford Well - Mayne Island)

The rapid decline of water level recorded prior to the earthquake was thought to be directly attributed to the earthquake, but has now been attributed to instrument malfunction.

Mr Hoyle - Please continue with this interesting study
J.J. Stacy 16

It was disappointing in that this recorder is closest to the epicenter and the decline of water level prior to the earthquake was hopefully related directly to the earthquake.

Unfortunately the last 30 hours of records prior to the earthquake are lost due to the float hanging up in the casing or the graduated tape slipping on the recorder pulley. It must be pointed out also, that this well WR-109-73 has an unusually elevated stickup of 10.4' and was in a flowing state (water level above ground) when this earthquake occurred.

A rapid decline in water level just before an earthquake is common in earthquakes of greater magnitude (usually 6 or greater on the Richter).

From the "Drifting Continents" by Alan H. Anderson Jr. we find in Hawaii the sides of Mount Kilawea were found to heave and sink just before volcanic eruptions. The Japanese, whose country is often rocked by strong earthquakes, found that just before their biggest quake of the decade, in Nugata in 1964, the ground rose very quickly. Later it began to subside and just before the onset of the tremors it sank quickly.

Duncan and Chemainus Wells

There are 3 recorders in Duncan and one in Chemainus which have recorded the earthquake through a simple water level fluctuation, returning to their normal trends almost immediately. These wells are relatively shallow, are monitoring sand and gravel aquifers and were not expected to register anything spectacular, rather than the recording of the tremor itself.

72-3 (Airport Well- North Saanich)

The recording of the earthquake on this hydrograph is very interesting in that it is the only recorder showing what appears to be recharge after the earthquake occurred. This recharge continues over an 8-hour period then the water level continues to follow its seasonal downward trend. This may indicate a rock fracture opening or closing at some place in its depth.

WR-119-75 (Pemberton Holmes Well - North Saanich)

The recorder here has shown a distinct water level fluctuation caused by the earthquake. The hydrograph then returned almost immediately to its normal seasonal trend. No anomaly has been noticed other than the water level movement itself.

Remarks:

Although the recording of the earthquake on water level recorders was not as spectacular as hoped for (without being to spectacular!) it is interesting to note that it has, at least been recorded. It is also interesting to note, that although some recorders are located very close to the epicenter of the earthquake they were unaffected, and some, although being further from the epicenter were affected quite dramatically (e.g. Beacon Avenue well, 72-3).

The recorders on Mayne Island (4) were expected to show affects of the earthquake most notably of all, as all are monitoring relatively deep bedrock aquifers, and all are geographically closer to the epicenter than others more directly influenced.

This however, did not happen, and the recordings all showed minute fluctuations, hardly distinguishable from seasonal groundwater movement or no recording whatsoever.

Examination of the hydrographs shows there may be a direct relationship between size and pattern of fluctuation and instrument locations, in respect to major bedrock fracture zones. Two observation wells (WR-119-75 and 72-3) are both located directly on, or very close to reported bedrock fracture zones. The Beacon Avenue well is almost directly located on a fracture zone which is laterally extensive and extends in a northwesterly direction towards Pender Island.

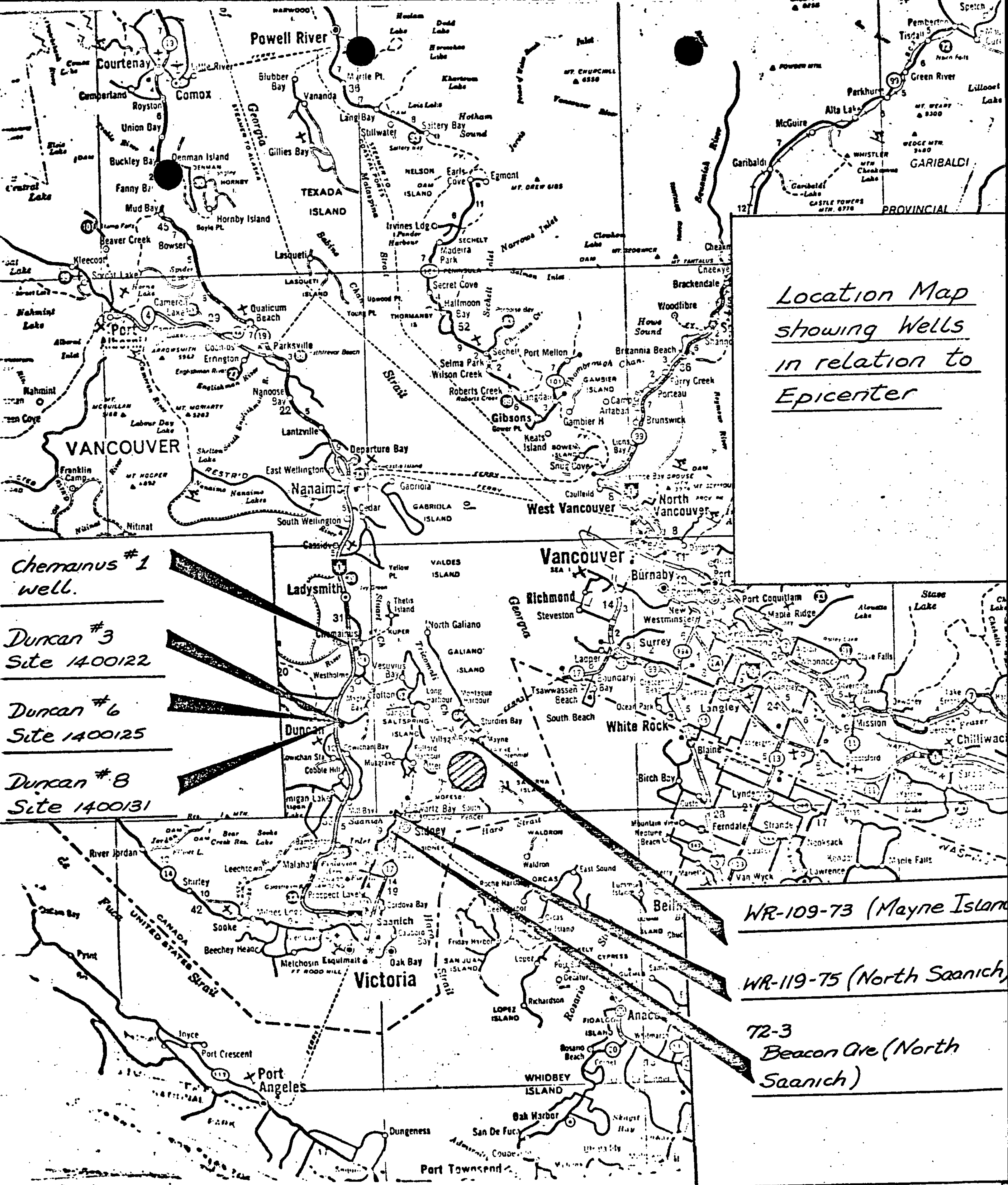
The Pemberton Holmes well is located near many minor fracture zones in North Saanich. These minor fractures appear to be scattered and situated between two major zones which extend northwest towards Pender Island. No noticeable recordings were seen on the Bowerbank well (72-2) or on the Whitebirch well (72-1) in North Saanich. This may possibly be atributed to their being situated a significant distance from these major faults.

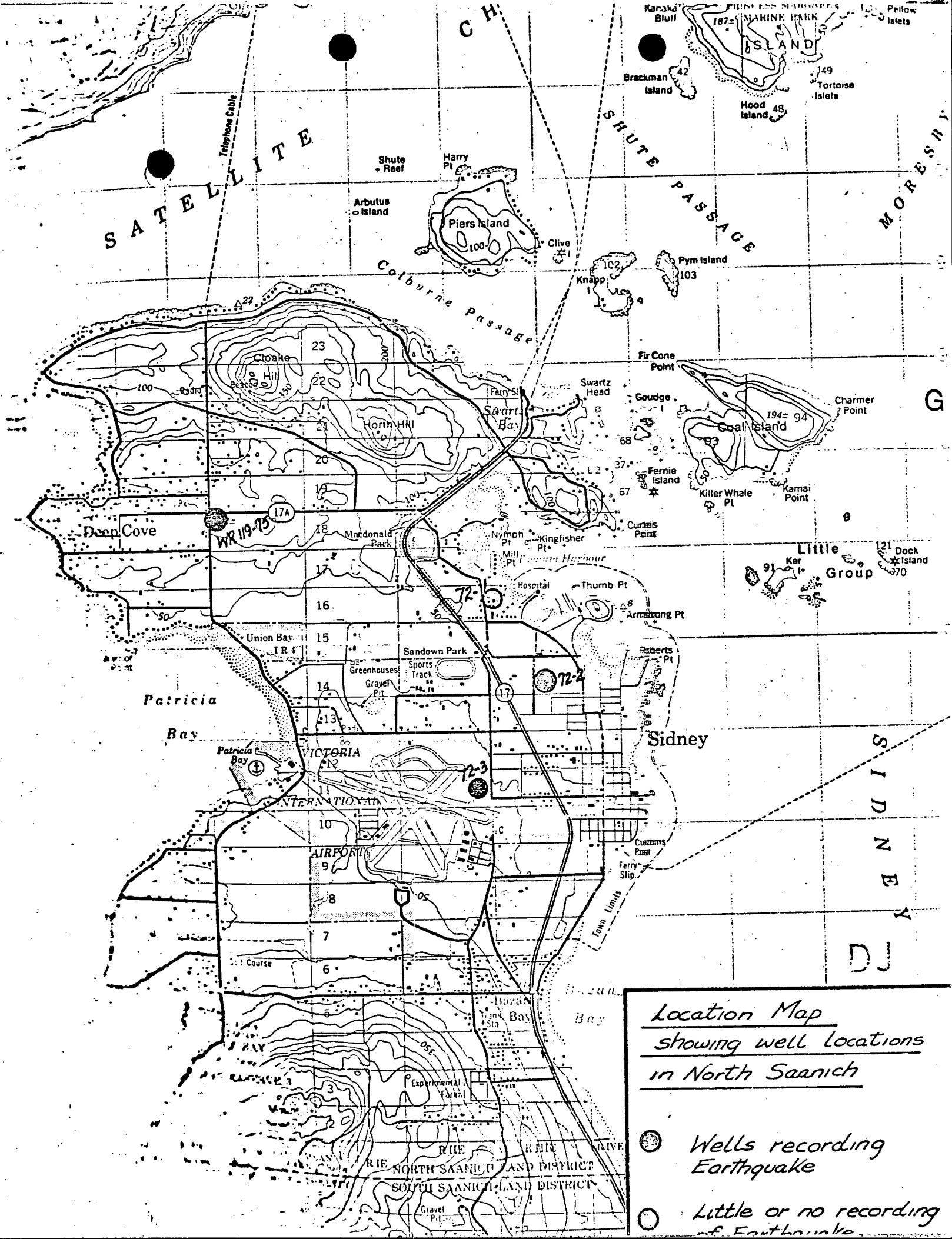
Mr. G. Rogers (Seismologist) of Victoria has stressed interest in our observation well network and we should continue to work in conjunction with him should another earthquake occur.

Mr. Gary Rogers
Victoria Geophysical Observatory
5071 West Saanich Road
Victoria, B.C. Phone: 388-3208

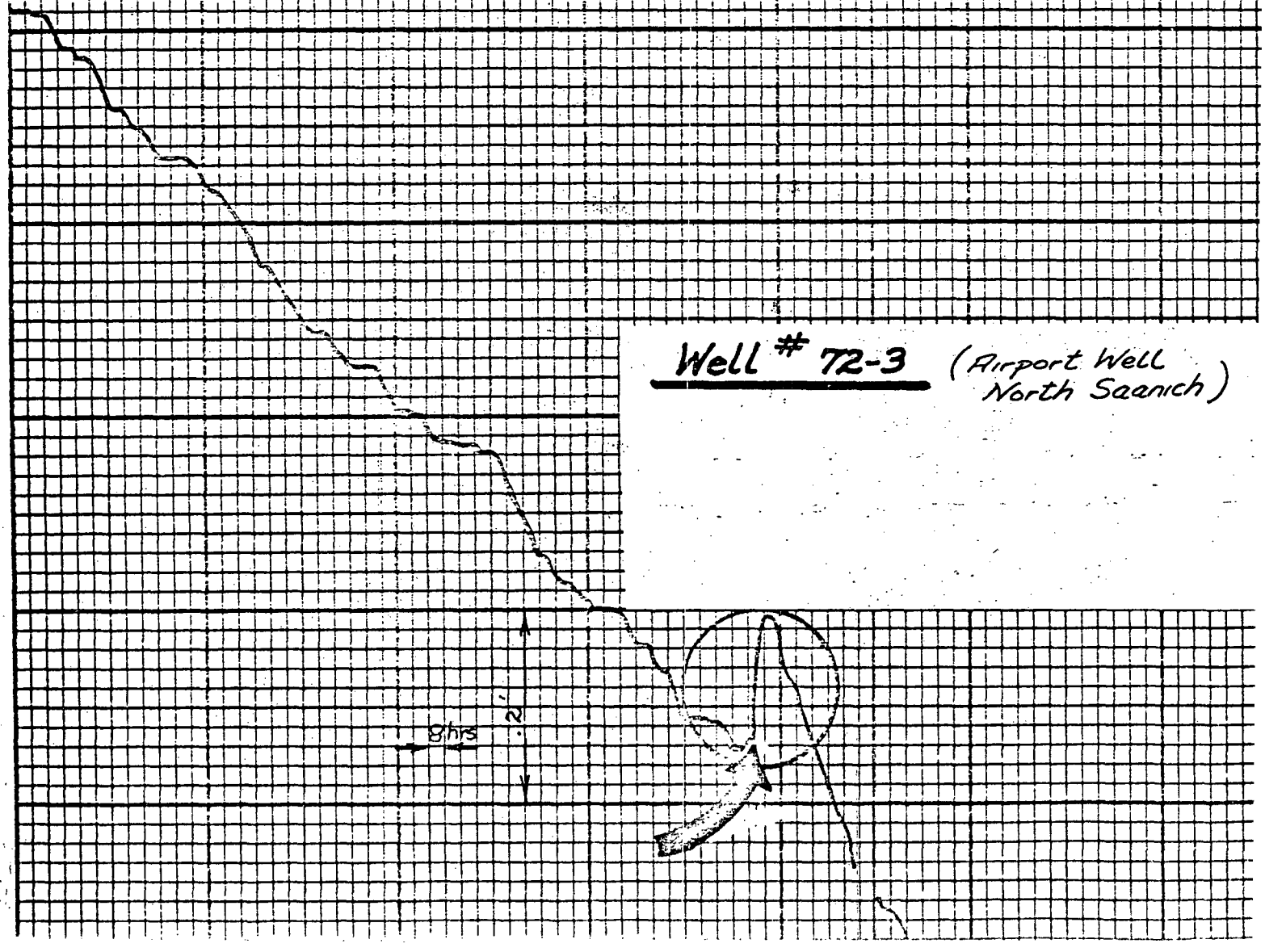
W. S. Hodge

W.S.Hodge
Engineering Asst.


Location Map
showing Wells
in relation to
Epicenter
Chemainus #1
well.
Duncan #3
Site 1400122
Duncan #6
Site 1400125
Duncan #8
Site 1400131
WR-109-73 (Mayne Island
WR-119-75 (North Saanich)
72-3
Beacon Ave (North
Saanich)
Powell River
Courtenay
Comox
Cumberland
Royston
Union Bay
Buckley Bay
Denman Island
Fanny Bay
Hornby Island
Mud Bay
Bowser
Qualicum Beach
Parksville
Errington
Nanoose Bay
Lantzville
Departure Bay
Nanaimo
Gabriola
GABRIOLA ISLAND
Cedar
South Wellington
Cassidy
Ladysmith
Chemainus
Westholme
Crofton
Duncan
Cobble Hill
Mill Bay
Shawnigan Lake
VANCOUVER
Franklin Camp
Nitinat
TEXADA ISLAND
Lasqueti
Gillies Bay
Vananda
Blubber Bay
Lang Bay
Stillwater
Saltery Bay
Earls Cove
Egmont
Irvines Ldg.
Madeira Park
Secret Cove
Halfmoon Bay
Sechelt
Selma Park
Wilson Creek
Roberts Creek
Gibsons
Port Mellon
Keats Island
Gambier H
Britannia Beach
Woodfibre
Brackendale
Squamish
Porteau
Brunswick
Lions Bay
Horseshoe Bay
West Vancouver
North Vancouver
Vancouver
Burnaby
Richmond
Steveston
New Westminster
Port Coquitlam
Maple Ridge
Surrey
Ladner
Tsawwassen Beach
Boundary Bay
South Beach
White Rock
Langley
Mission
Chilliwack
Blaine
Birch Bay
Lynden
Ferndale
Bellingham
Van Wyck
North Galiano
GALIANO ISLAND
SALTSPRING ISLAND
Vesuvius Bay
Sturdies Bay
Mayne
Swartz Bay
Sidney
River Jordan
Shirley
Sooke
Leechtown
Malahat
Prospect Lake
Saanich
Cordova Bay
Beechey Head
Metchosin
Esquimalt
Oak Bay
Victoria
WALDRON
ORCAS
East Sound
Friday Harbor
SAN JUAN ISLAND
LOPEZ ISLAND
Richardson
Anacortes
WHIDBEY ISLAND
Oak Harbor
Joyce
Port Crescent
Port Angeles
Dungeness
San De Fuca
Coupeville
Port Townsend
Pemberton
Green River
Parkhurst
Alta Lake
McGuire
Garibaldi
GARIBALDI
PROVINCIAL


Kanaka Bluff
PRINCESS MARGARET MARINE PARK
Pellow Islets
ISLAND
Brackman Island
42
149
Tortoise Islets
Hood Island
48
SATELLITE CH
Telephone Cable
SHUTE PASSAGE
MORESBY
Shute Reef
Harry Pt
Arbutus Island
Piers Island
100
Clive
Pym Island
103
102
Knapp
Colburne Passage
Cloake Hill
Beacon
Ferry Slip
Swartz Bay
Swartz Head
Goudge
Fir Cone Point
Charmer Point
Coal Island
194±
94
68
37
67
Fernie Island
Killer Whale Pt
Kamai Point
Curteis Point
Nymph Pt
Kingfisher Pt
Mill Pt
Little Group
Ker
91
Dock Island
121
70
Hospital
Thumb Pt
Armstrong Pt
Roberts Pt
Deep Cove
WR 119-75
17A
Macdonald Park
Union Bay IR 4
Sandown Park
Sports Track
Greenhouses
Gravel Pit
72-1
72-2
72-3
17
Patricia Bay
Patricia Bay
VICTORIA INTERNATIONAL AIRPORT
Sidney
Customs Post
Ferry Slip
Town Limits
Course
Experimental Farm
NORTH SAANICH LAND DISTRICT
SOUTH SAANICH LAND DISTRICT
Gravel Pit
Location Map
showing well locations
in North Saanich
Wells recording Earthquake
Little or no recording of Earthquake

Well # 72-3 (Airport Well North Saanich)



Static water level 6.69'

Bottom 16" casing 45'

Notes:

xxxx = Fractures
= Sill
(10 gpm) = Total water blown while drilling

Total Depth 505'

CLAY

45

GRANODIORITE

xxxx 108 (8 gpm)

xxx 150 (11 gpm)

155
158 SILL

xxxx 195 CALCITE: Filled

225

xxxx
xxx
xxx
xxx 250 FRACTURES: Small but numerous

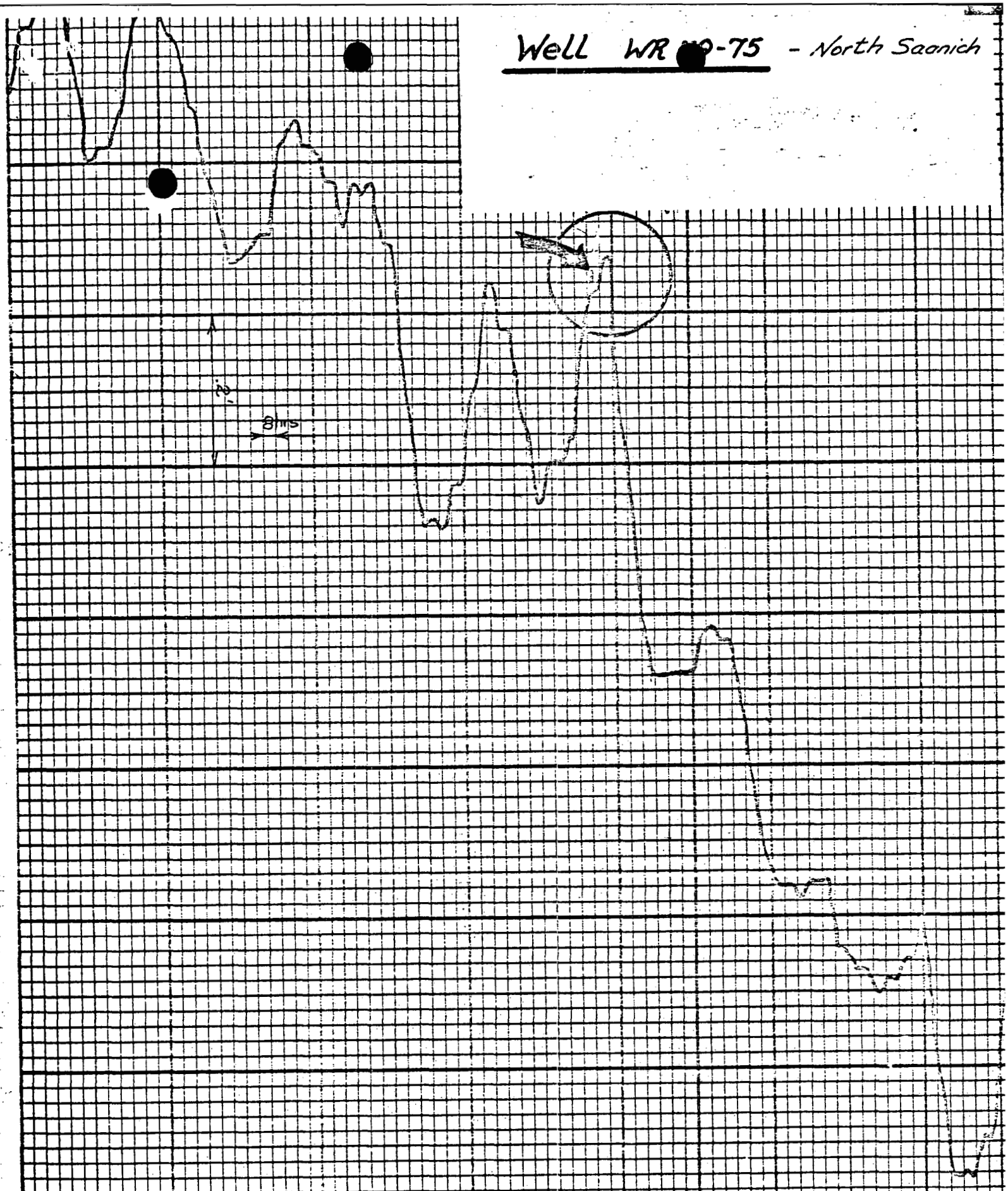
(12.5 gpm)

xxx 460 FRACTURES: Small but numerous
xxx 465
xxx

(15 gpm).

SIDNEY WATERWORKS DISTRICT | LOG OF TEST WELL 72-3 (Beacon Ave)

Well WR [redacted]-75 - North Saanich



WATER INVESTIGATIONS BRANCH, DEPT. OF LANDS, FORESTS, AND WATER RESOURCES, VICTORIA, B.C.

#3

LEGAL LOCATION SEC 18 R1W — WELL LOCATION MAP COORDINATES

LAND DISTRICT NORTH SAANICH

LICENCE NO. — DATE LICENCE — AMOUNT — N.T.S. GRID SHEET

OWNER'S NAME EDMERTON HOLMES — ADDRESS WEINS X RD

DRILLER'S NAME T&J - K — ADDRESS — DATE OF COMPLETION 6 70 68

DEPTH 255 — ELEVATION OF 156.16' ☐ ESTIMATED ☐ SURVEYED — CASING DIAM. 6" — LENGTH — TYPE S.U. 0.5'

METHOD OF CONSTRUCTION DRILLED — SCREEN ☐ SIZE — LENGTH — TYPE

LOCATION OF SCREEN — DEVELOPED ☐ DESCRIBE

PERFORATED CASING ☐ LENGTH — LOCATION OF PERFORATIONS

GRAVEL PACK ☐ LENGTH — DIAM. — SIZE GRAVEL, ETC.

DISTANCE TO WATER FROM [illegible] — ☐ ESTIMATED ☒ MEASURED — WATER LEVEL ELEVATION — ARTESIAN PRESSURE — P.S.I. DATE

JUST FLOWING @ GROUND LEVEL

WATER USE

CHEMISTRY

TEST BY — DATE

TOTAL DISSOLVED SOLIDS — mg/l — TEMPERATURE — °C — pH — CONDUCTANCE — μmhos/cm AT 25°C

IRON (Fe) — mg/l — SILICA (SiO_2) — mg/l — TOTAL HARDNESS ($CaCO_3$) — mg/l

TOTAL ALKALINITY ($CaCO_3$) — mg/l — PHEN. ALKALINITY ($CaCO_3$) — mg/l — MANGANESE (Mn) — mg/l

ANIONS	mg/l	epm	% epm	CATIONS	mg/l	epm	% epm
CARBONATE (CO_3)				CALCIUM (Ca)			
BICARBONATE (AS CO_3)				MAGNESIUM (Mg)			
SULPHATE (SO_4)				SODIUM (Na)			
CHLORIDE (Cl)				POTASSIUM (K)			
NITRATE ($NO_2 + NO_3$)							
* TKN (NO_3)							
PHOSPHORUS (P)							
TOTAL				TOTAL			

* TKN : TOTAL KJELDAHL NITROGEN

CHEMISTRY FIELD TESTS

TEST BY — DATE — EQUIPMENT USED

CONTENTS OF FOLDER

☒ DRILL LOG ☐ PUMP TEST DATA ☐ CHEMICAL ANALYSIS

☐ SIEVE ANALYSIS ☐ GEOPHYSICAL LOGS ☐ REPORT

OTHER

SOURCES OF INFORMATION SITE I.D. "1400059" OBS. WELL WR-119-75

W.R.D. REF. NO. 247290 110070

PRODUCTION TEST SUMMARY

DATE

TEST BY

BAIL TEST ☐ DURATION OF TEST

PUMP TEST ☐ RATE

WATER LEVEL AT COMPLETION OF TEST

DRAWDOWN — AVAILABLE DRAWDOWN

SPECIFIC CAPACITY

PERMEABILITY — USgpd/ft² STORAGE COEF

TRANSMISSIVITY (DRAWDOWN / RECOVERY)

REMARKS

LITHOLOGY

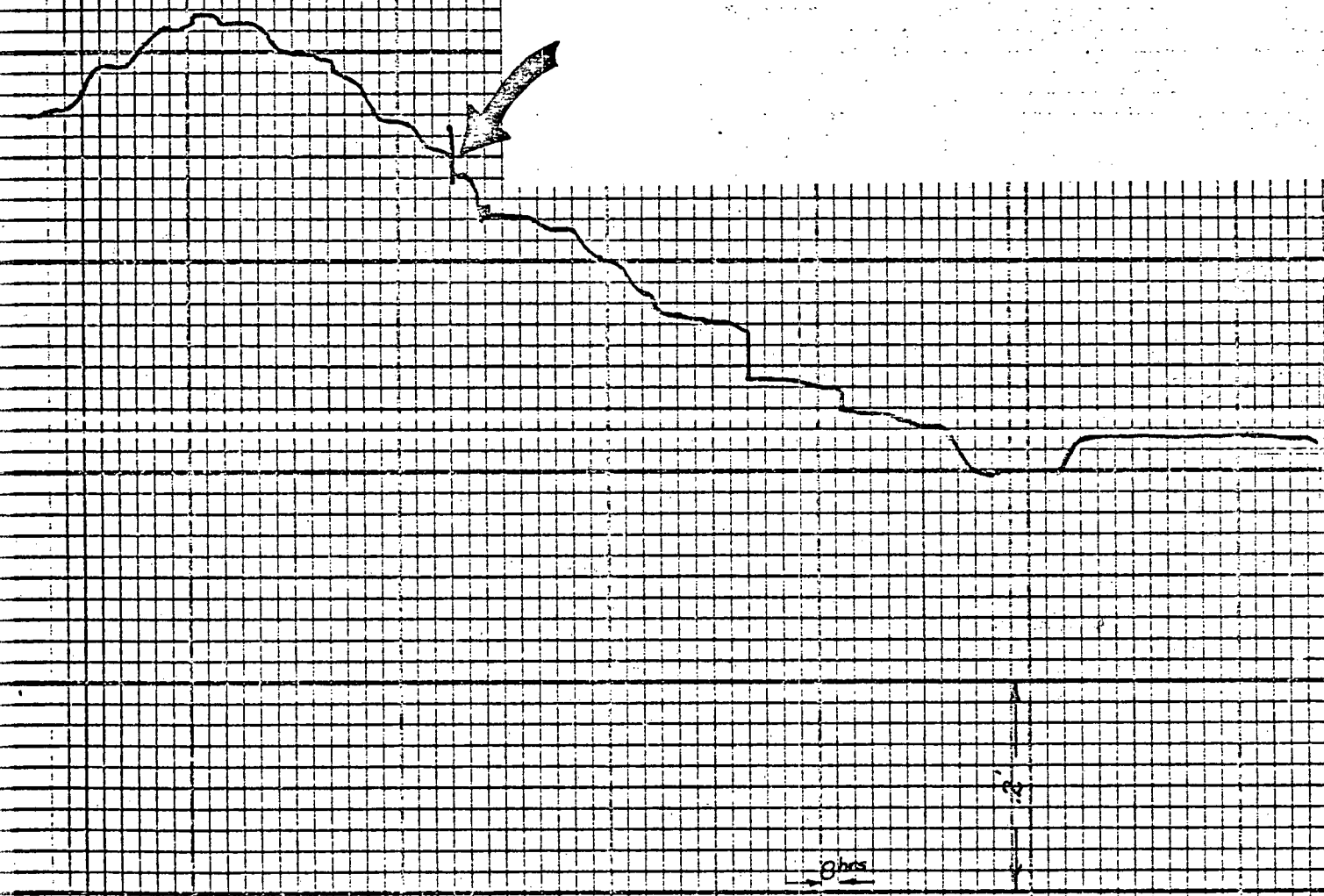
FROM	TO	DESCRIPTION
0	16	OVER BURDEN
16	235	GRENODIORITE
235	255	QUARTZ [illegible] FRACTURED ZONE
		W. B.
2ND		WELL IN BUSH.
		TEST - HAFER BROS
		100 U.S. gpm TEST
		TRIPLEX @ 1200 gpm
		4.5 hours, DRAWDOWN
		RECOVERED IN 25 MIN
		SAFE YIELD 30 gpm

REMARKS MAY/75

PUT 10 gallons of H2 down extra well, origin statics were a[illegible]

Duncan Well #6 (Rg. 7 Sec. 15)

Site 1400125



WATER INVESTIGATIONS BRANCH, DEPT. OF LANDS, FORESTS, AND WATER RESOURCES, VICTORIA, B.C.

IL LOCATION _____ WELL LOCATION MAP COORDINATES R.7, SEC. 15 #15

LAND DISTRICT _____

NCE NO. _____ DATE LICENCE _____ AMOUNT _____ N.T.S. GRID SHEET _____

I'S NAME GROUNDWATER SECTION ADDRESS VICTORIA

:R'S NAME DRILLWELL ENTERP. ADDRESS COWICHAN STATION DATE OF COMPLETION SEPT. 23/76

36 ELEVATION OF _____ ☐ ESTIMATED ☐ SURVEYED CASING DIAM. 6" LENGTH _____ TYPE _____

ID OF CONSTRUCTION CABLE TOOL SCREEN ☐ SIZE _____ LENGTH _____ TYPE _____

ION OF SCREEN _____ DEVELOPED ☐ DESCRIBE _____

RATED CASING ☐ LENGTH _____ LOCATION OF PERFORATIONS _____

L PACK ☐ LENGTH _____ DIAM. _____ SIZE GRAVEL, ETC. _____

ICE WATER _____ ☐ ESTIMATED ☐ MEASURED WATER LEVEL ELEVATION _____ ARTESIAN PRESSURE _____ P.S.I. DATE _____

I USE _____

STRY

BY _____ DATE _____

DISSOLVED SOLIDS _____ mg/l TEMPERATURE _____ °C pH _____ CONDUCTANCE _____ μmhos/cm AT 25°C

Fe) _____ mg/l SILICA (SiO_2) _____ mg/l TOTAL HARDNESS ($CaCO_3$) _____ mg/l

ALKALINITY ($CaCO_3$) _____ mg/l PHEN. ALKALINITY ($CaCO_3$) _____ mg/l MANGANESE (Mn) _____ mg/l

NIONS	mg/l	epm	% epm	CATIONS	mg/l	epm	% epm
NATE (CO_3)				CALCIUM (Ca)			
BONATE (AS CO_3)				MAGNESIUM (Mg)			
ATE (SO_4)				SODIUM (Na)			
IDE (Cl)				POTASSIUM (K)			
TE (NO_2 + NO_3)							
I (NO_3)							
HORUS (P)							
TOTAL				TOTAL			

TOTAL KJELDAHL NITROGEN

STRY FIELD TESTS

BY _____ DATE _____ EQUIPMENT USED _____

ENTS OF FOLDER

- ☑ DRILL LOG
- ☑ SIEVE ANALYSIS
- ☐ PUMP TEST DATA
- ☐ GEOPHYSICAL LOGS
- ☑ CHEMICAL ANALYSIS
- ☐ REPORT

R _____

CES OF INFORMATION FINAL REPORT - COWICHAN RIVER AQUIFERS, FILES: 0239013 : 025-4128-2-A

PRODUCTION TEST SUMMARY

DATE _____

TEST BY _____

BAIL TEST ☐ DURATION OF TEST _____

PUMP TEST ☐ RATE _____ G.P.M

WATER LEVEL AT COMPLETION OF TEST _____

DRAWDOWN _____ AVAILABLE DRAWDOWN _____

SPECIFIC CAPACITY _____ gpm/ft. dd

PERMEABILITY _____ USgpd/ft² STORAGE COEFF. _____

TRANSMISSIVITY < DRAWDOWN _____ USgpd/ft RECOVERY _____ USgpd/ft.

REMARKS _____

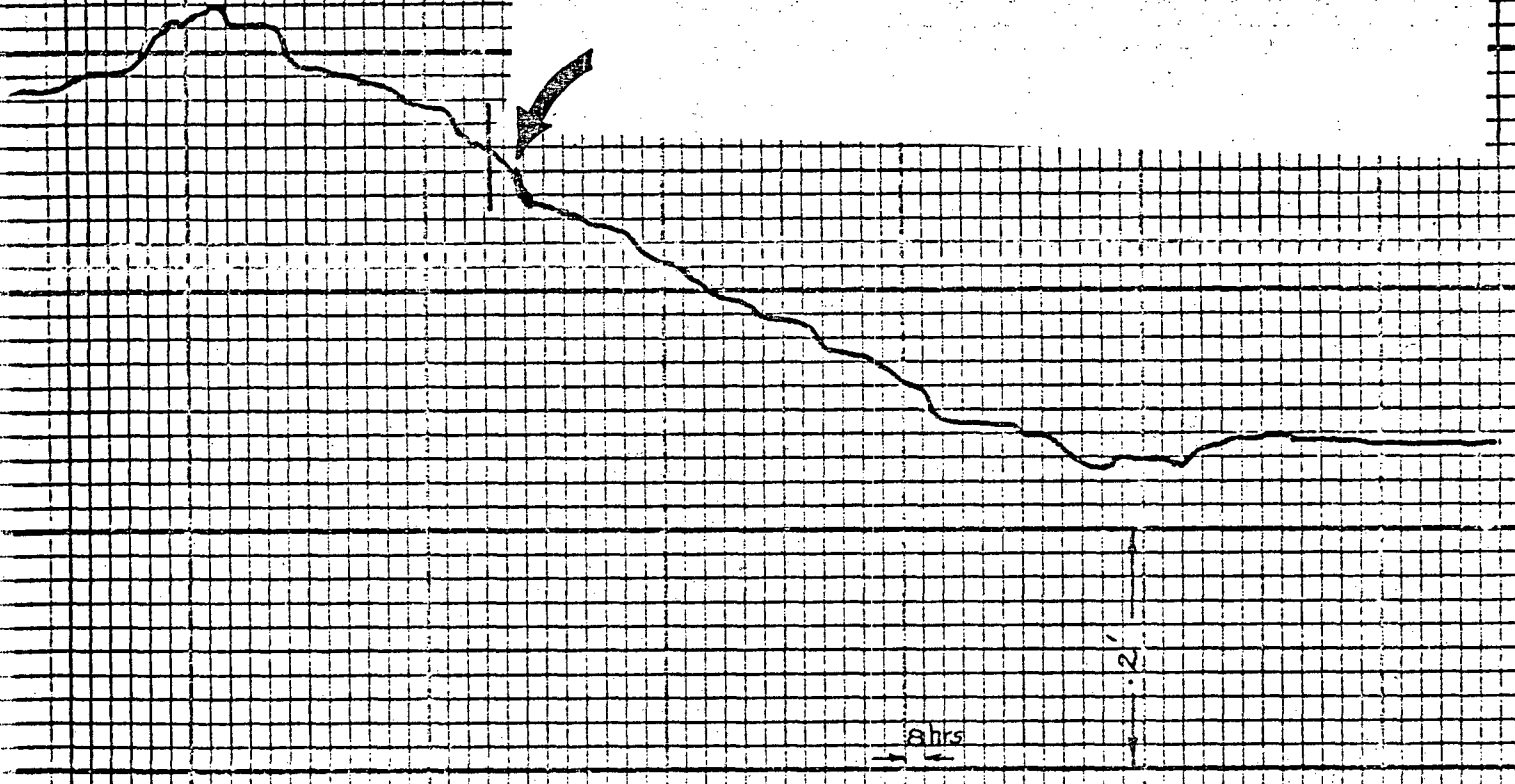
#6 LITHOLOGY 1400125

FROM	TO	DESCRIPTION
0	9	SAND & GRAVEL
9	21	LOOSE SAND AND GRAVEL
21	23	RUSTY BROWN LAYER OF GRAVEL
23	36	LOOSE SAND AND GRAVEL, BROWN AT TIMES.

REMARKS

Duncan Well # 8 (Rg. 7 Sec. 15)

Site 1400131



WATER INVESTIGATIONS BRANCH, DEPT. OF LANDS, FORESTS, AND WATER RESOURCES, VICTORIA, B.C.

LEGAL LOCATION _____ WELL LOCATION MAP COORDINATES R. 7, SEC. 15 #17

LAND DISTRICT _____

LICENCE NO. _____ DATE LICENCE _____ AMOUNT _____ N.T.S. GRID SHEET _____

OWNER'S NAME GROUNDWATER SECTION ADDRESS VICTORIA

DRILLER'S NAME DRILLWELL ENTERP. ADDRESS COWICHAN STATION DATE OF COMPLETION Oct. 9/75

DEPTH 104 ELEVATION OF _____ ☐ ESTIMATED ☐ SURVEYED CASING DIAM. 6" LENGTH _____ TYPE _____

METHOD OF CONSTRUCTION CABLE TOOL SCREEN ☐ SIZE _____ LENGTH _____ TYPE _____

LOCATION OF SCREEN _____ DEVELOPED ☐ DESCRIBE _____

PERFORATED CASING ☐ LENGTH _____ LOCATION OF PERFORATIONS _____

GRAVEL PACK ☐ LENGTH _____ DIAM. _____ SIZE GRAVEL, ETC. _____

DISTANCE TO WATER FROM _____ _____ ☐ ESTIMATED ☐ MEASURED WATER LEVEL ELEVATION _____ ARTESIAN PRESSURE _____ P.S.I. DATE _____

WATER USE _____

CHEMISTRY

TEST BY _____ DATE _____

TOTAL DISSOLVED SOLIDS _____ mg/l TEMPERATURE _____ °C pH _____ CONDUCTANCE _____ μmhos/cm AT 25°C

IRON (Fe) _____ mg/l SILICA (SiO_2) _____ mg/l TOTAL HARDNESS ($CaCO_3$) _____ mg/l

TOTAL ALKALINITY ($CaCO_3$) _____ mg/l PHEN. ALKALINITY ($CaCO_3$) _____ mg/l MANGANESE (Mn) _____ mg/l

ANIONS	mg/l	epm	% epm	CATIONS	mg/l	epm	% epm
CARBONATE (CO_3)				CALCIUM (Ca)			
BICARBONATE (AS CO_3)				MAGNESIUM (Mg)			
SULPHATE (SO_4)				SODIUM (Na)			
CHLORIDE (Cl)				POTASSIUM (K)			
NITRATE ($NO_2 + NO_3$)							
* TKN (NO_3)							
PHOSPHORUS (P)							
TOTAL				TOTAL			

* TKN = TOTAL KJELDAHL NITROGEN

CHEMISTRY FIELD TESTS

TEST BY _____ DATE _____ EQUIPMENT USED _____

CONTENTS OF FOLDER

☑ DRILL LOG ☑ PUMP TEST DATA ☐ CHEMICAL ANALYSIS

☐ SIEVE ANALYSIS ☐ GEOPHYSICAL LOGS ☐ REPORT

OTHER _____

SOURCES OF INFORMATION FINAL REPORT - COWICHAN RIVER AQUIFERS, FILES: 0239013 025412R-2-A

PRODUCTION TEST SUMMARY

DATE _____

TEST BY _____

BAIL TEST ☐ DUR. [redacted] OF TEST _____

PUMP TEST ☐ RATE _____

WATER LEVEL AT COMPLETION OF TEST _____

DRAWDOWN _____ AVAILABLE DRAWDOWN _____

SPECIFIC CAPACITY _____ gl

PERMEABILITY _____ USgpd/ft² STORAGE COEF

TRANSMISSIVITY < DRAWDOWN _____ RECOVERY _____

REMARKS _____

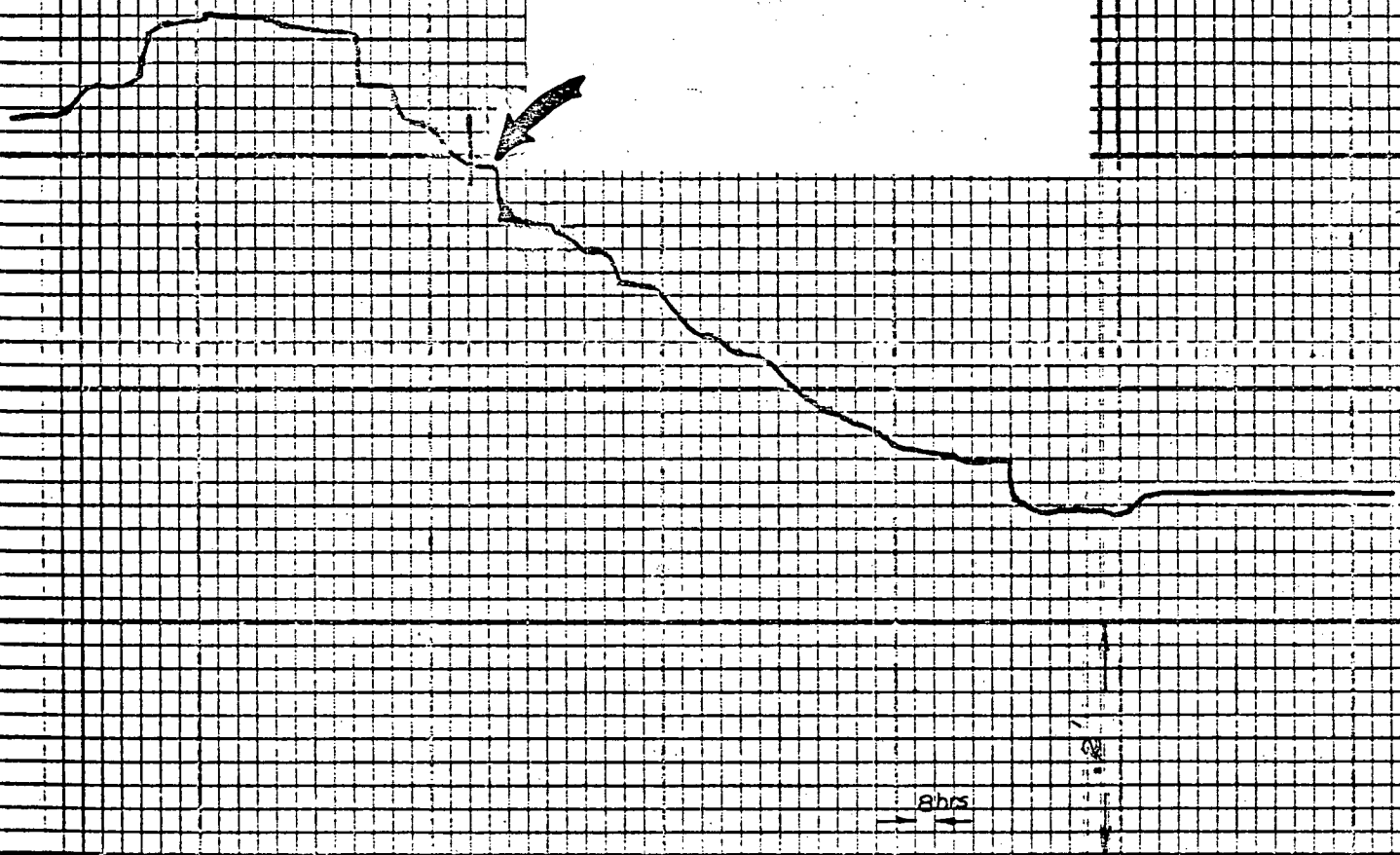
#8 LITHOLOGY 14001

FROM	TO	DESCRIPTION
0	3	SILT [redacted]
3	12	SAND AND GRAVEL
12	16	GRAVEL
16	20	MEDIUM TO COARSE GRAVEL, SOME S
20	24	COARSE SAND AND GRAVEL
24	32	COARSE SAND & VERY COARSE G
32	44	SILTY SAND AND GRAVELS WITH LENSES OF CLAY AND BLUE SILT
44	52	COARSE GRAVEL WITH SOME SA
52	54	SILT AND FINE SAND FINE TILL [redacted]
54	69	COARSE GRAVEL & SAND WITH BROWN (SILTY ?) WATER
69	70	MED. COARSE SAND, S STONES - TIGHT.
70	74	FINE - COARSE SAN WITH GRAVEL
74	90	BLUE SILTY CLAY WITH S
90	104	FINE COARSE BLUE SAND LAYERS WITH

REMARKS SOME GRAVEL LENS

Duncan Well #3 (Rg. 7 Sec. 15)

Site 1400122



WATER INVESTIGATIONS BRANCH, DEPT. OF LANDS, FORESTS, AND WATER RESOURCES, VICTORIA, B.C.

LEGAL LOCATION _____ WELL LOCATION MAP COORDINATES R.7, SEC.15 # 12

LAND DISTRICT _____

LICENCE NO. _____ DATE LICENCE _____ AMOUNT _____ N.T.S. GRID SHEET _____

OWNER'S NAME GROUNDWATER SECTION ADDRESS VICTORIA

DRILLER'S NAME DRILLWELL ENTERPR. ADDRESS COWICHAN STATION DATE OF COMPLETION SEPT. 16/75

DEPTH 30 ELEVATION OF _____ ☐ ESTIMATED ☐ SURVEYED CASING DIAM. 6" LENGTH _____ TYPE _____

METHOD OF CONSTRUCTION CABLE TOOL SCREEN ☐ SIZE _____ LENGTH _____ TYPE _____

LOCATION OF SCREEN _____ DEVELOPED ☐ DESCRIBE _____

PERFORATED CASING ☐ LENGTH _____ LOCATION OF PERFORATIONS _____

GRAVEL PACK ☐ LENGTH _____ DIAM. _____ SIZE GRAVEL, ETC. _____

DISTANCE TO WATER FROM _____ _____ ☐ ESTIMATED ☐ MEASURED WATER LEVEL ELEVATION _____ ARTESIAN PRESSURE _____ P.S.I. DATE _____

WATER USE _____

CHEMISTRY

TEST BY _____ DATE _____

TOTAL DISSOLVED SOLIDS _____ mg/l TEMPERATURE _____ °C pH _____ CONDUCTANCE _____ μmhos/cm AT 25°C

IRON (Fe) _____ mg/l SILICA (SiO_2) _____ mg/l TOTAL HARDNESS ($CaCO_3$) _____ mg/l

TOTAL ALKALINITY ($CaCO_3$) _____ mg/l PHEN. ALKALINITY ($CaCO_3$) _____ mg/l MANGANESE (Mn) _____ mg/l

ANIONS	mg/l	epm	% epm	CATIONS	mg/l	epm	% epm
CARBONATE (CO_3)				CALCIUM (Ca)			
BICARBONATE (AS CO_3)				MAGNESIUM (Mg)			
SULPHATE (SO_4)				SODIUM (Na)			
CHLORIDE (Cl)				POTASSIUM (K)			
NITRITE (NO_2 + NO_3)							
* TKN (NO_3)							
PHOSPHORUS (P)							
TOTAL				TOTAL			

* TKN : TOTAL KJELDAHL NITROGEN

CHEMISTRY FIELD TESTS

TEST BY _____ DATE _____ EQUIPMENT USED _____

CONTENTS OF FOLDER

☑ DRILL LOG ☐ PUMP TEST DATA ☑ CHEMICAL ANALYSIS

☑ SIEVE ANALYSIS ☐ GEOPHYSICAL LOGS ☐ REPORT

OTHER _____

SOURCES OF INFORMATION FINAL REPORT - COWICHAN RIVER AQUIFERS, FILES: 0239013, 0254128-2-A

PRODUCTION TEST SUMMARY

DATE _____

TEST BY _____

BAIL TEST ☐ DURATION OF TEST _____

PUMP TEST ☐ RATE _____

WATER LEVEL AT COMPLETION OF TEST _____

DRAWDOWN _____ AVAILABLE DRAWDOWN _____

SPECIFIC CAPACITY _____ gp

PERMEABILITY _____ USgpd/ft² STORAGE COEF

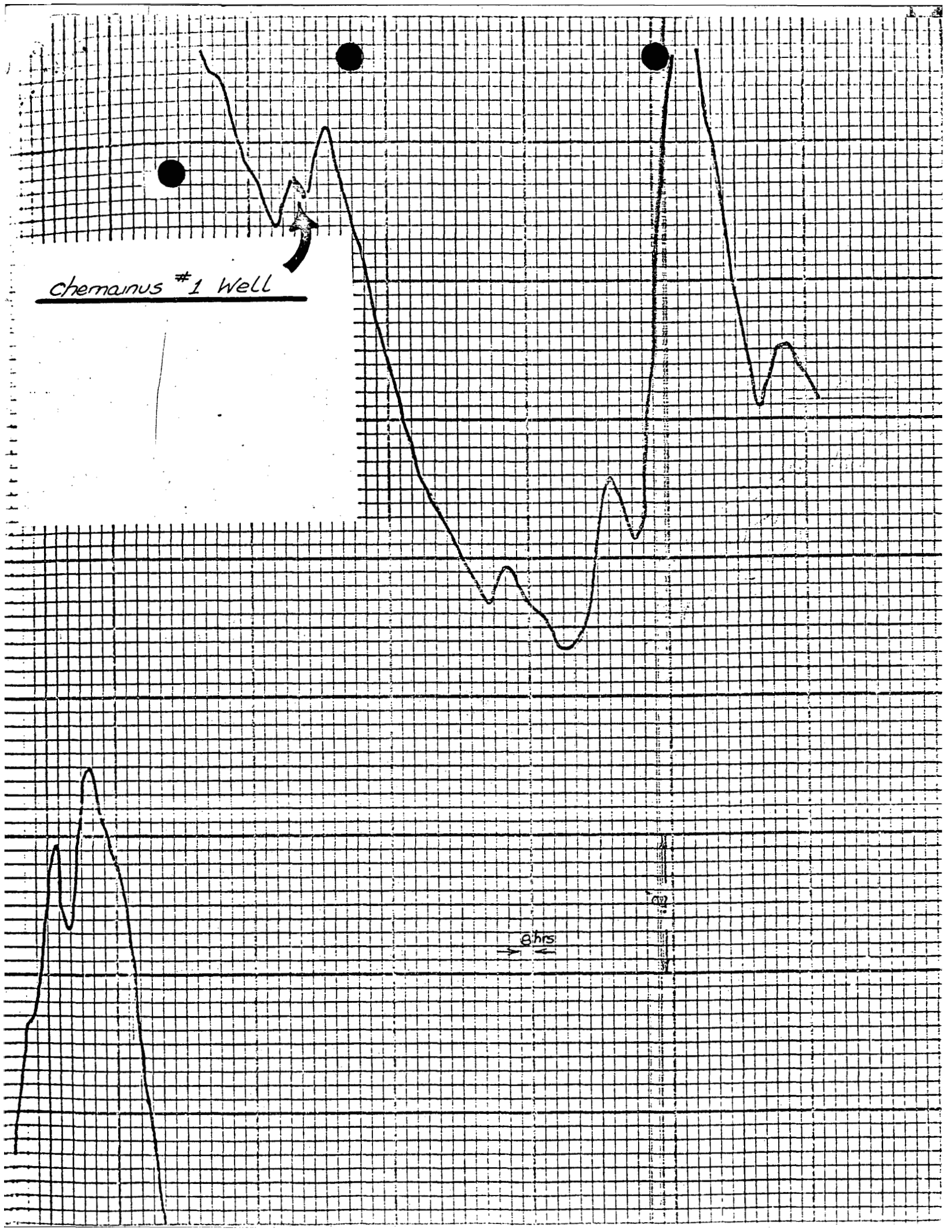
TRANSMISSIVITY < DRAWDOWN _____ U
RECOVERY _____ U

REMARKS _____

3 LITHOLOGY 14001

FROM	TO	DESCRIPTION
0	8	SILTY SAND & GR
8	12	BROWN WASHED
		SAND & GRAVEL
12	18	SILTY BLUE SA
		AND GRAVEL, WAT
		SHUTOFF
18	19	WATER BEARING
		GRAVEL AND SA
19	22	SAND AND GRAVE
AT	22	RED-BROWN CO
		TO SAMPLE AND
		WATER
22	22.5	WASHED SAND
		AND GRAVEL
25.5	26	FINE SAND
26	39	WASHED SAND & GR

REMARKS


Chemainus #1 Well
8 hrs