SHELL ALEXANDRA No. 4

Drilling Authority No.
Date Issued

WELL NAME Shell Alexandra No. 4
FIELD Wildcat **Area:** Alexandra Falls
LOCATION: Unit 4 **Section** 50 **Grid** 60 - 20 - 117 - 45
Latitude 60°13' 46.59" N. **Longitude** 117°54' 16.49" W.
From Established Reference Marker

Rig Release Date: 25-2-59
Status D & A
Information Release Date 25-2-64

CHANGE OF NAME:

DATE RECEIVED	INDEX
	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well.
	Well History Supplement.
	Well Completion Data.
	Work-over Report No.
	Application to Commingle Production before Measurement.
	Approval to Commingle Production before Measurement.
	Application to Amend Approval No. . . . to Commingle Production before Measurement.
	Application for M.P.R.—Oil.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Field Abandonment Programme and Approval.
	Well Card.
	Well Visit.
	Daily Drilling Reports.

#53.

CANADA

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION AND LANDS BRANCH

Mr Lapadton PFD
Mr Christie

(ABANDONMENT)
(~~COMPLETION~~)
(~~SUSPENSION~~)

REPORT

(Stroke out operations which do not apply)

To be submitted in triplicate in accordance with Section 70 of the Territorial Oil and Gas Regulations to the Conservation Engineer at Edmonton, Alberta.

Name of well Shell Alexandra No. 4 . . . . . Permit No. 1395 ~~Lease No.~~ . . . . . .

Registered owner Shell Oil Company of Canada . . . . . Drilling Company Regent Drilling . . . . . .

Location: (Survey description) 60°19'40.59" N. Lat. 117°54'16.49" W. Long. 22,516.61' South and 17,321.00' East of the Northeast corner of S13-131-1-W6M . . . . . .

Elevation: Ground 1102.32' . . . . . Kelly bushing +1112.49' . . . . . Depth 4088' . . . . . .

Spudded Feb. 5. 1959 4:30 A.M. . . . . Finished drilling 2/22/59 . . . . Rig released 2/25/59 . . . .

Deviations from vertical 1/2° @ 2175' 3-1/2° @ 3100' 3° @ 3348' 2-3/4° @ 3420' 1-1/4° @ 3665' 1° @ 3940' . . . . . .

CASING

	Date	Size O.D.	Weight lbs/foot	Grade	Set at feet	Sacks cement
1.	2/7/59	7"	20.00	J-55	520.77'	236
2.						
3.						

TUBING

. . . . . .

Status of well on completion of drilling Abandoned . . . . . .

Producing zone . . . . . .

Cored intervals . . . . . .

. . . . . .

. . . . . .

Interval logged: E-log 522 - 4090' . . . . . M-log -Caliper 3100 - 4088' . . . . . .

R-log 150 - 4089' . . . . . Other . . . . . .

DRILLSTEM TESTS

Test No.	Date	Interval tested	Duration	Results
None				

(Over)

Test No.	Date	Interval tested	Duration	Results
No drill stem tests run.				

Perforations: (Gun.....)
(Det.....)

Shootings:

Hydraulically fracturing:

Chemical treatment:

Date Initial Production tests:

Initial production data

Pumping or flowing

Plug back: To surface.

Other:

CEMENT PLUGS SET

Date	Plug set at	Sacks cement	Method	Top found at
2/24/59	3575 - 3675'	26	Displacement.	3569'
2/24/59	470 - 570'	26	Displacement.	463'
2/25/59	Surface	5	Dropped surface	

Put 5 sacks in mousehole - cut off casing 3' below G.L. Welded on steel plate. Installed monument.

Well samples have been sent to: Shell Oil Company of Canada Ltd., Edmonton

Cores will be stored at: none taken.

Electric log is appended: Yes . . . . No . x . .

Radioactivity log is appended: Yes . . . . No . x . .

Micrometer log is appended: Yes . . . . No . x . .

Geologic record or strip log (is / will be) submitted Yes . . . . No . x . .

Results of tests for porousity, permeability, and saturation of each stratum containing oil, gas or water (are / will be) submitted Yes . . . . No . x . .

With respect to abandonment we have complied with Section ~~60(3)~~ 68(5) and ~~(4)~~ (6) of the Regulations ... E.R. ... (Initial here)

none made

ADDITIONAL DETAILS AND COMMENTS

Cut off casing 3' below G.L. Put 5 sacks cement in top of casing and 3 sacks cement in rathole. Welded plate on casing. Installed marker post 4' above G.L.

Signed E. R. Shorey Jr. Address P.O. Box 186, Edmonton, Alberta.

E. R. Shorey, Jr.

C A N A D A

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION AND LANDS BRANCH

NOTICE OF INTENTION TO [redacted]) A WELL
(ABANDON)
[redacted]G))
[redacted])
[redacted])

(Stroke out operations which do not apply).

To be submitted in triplicate to the Conservation Engineer at Edmonton, Alberta.

In accordance with Sections 60, 61, or 62 of the Territorial Oil and Gas Regulations, notice is hereby given of our intention to

. . . Abandon . . . . . the well named Shell Alexandra No. 4 . . . on Oil and Gas (Permit No.1395....) [redacted] registered in the name of Shell Oil Company of Canada Ltd.

Depth .4088 . . . feet. Elevation above sea level: Ground surface +1101.99 . .ft. Kelly bushing +1112.49 .. ft.

Location (if not accurately stated in Notice of Intention to Begin Drilling Operations):

. . . . . (N of S boundary) (S of N boundary) of (Permit No.....) (Lease No.....) at approx 60°19'40.59" N Lat.

. . . . . (W of E boundary) (E of W boundary) of (Permit No.....) (Lease No.....) at approx 117°54'16.49" W Long.

Survey description .22,516.61' South and 17,321.00' East of the Northeast Corner of S13-131-1-W6M

CASING RECORD

Size O.D. inches	Weight lbs/ft.	Amount feet	Set at feet	Sacks cement	Method	To be Withdrawn
1. 7"...	20.0...	.506.7..	.520.77'	..236...	Cemented to surface.	..No.....
2.	.....	.....	.....	.....	.....	.....
3.	.....	.....	.....	.....	.....	.....

OIL, GAS and WATER

Encountered		Cement plugs to be set		
Oil from .....feet to.....feet.		From .....feet to .....feet with.....sacks		
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
Gas from ..... feet to.....feet.		From .....feet to.....feet with.....sacks.		
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

(Over)

Water from.....feet to .....feet. From.....feet to.....feet with...[illegible]sacks.

....

....

Bottom plug from 3575...feet to 3675 feet with ...26...sacks

Surface plug from 470...feet to 570 feet with.....26...sacks.

Date of last operations February 25, 1959 . . . . . Total depth. 4088 . . . . . .

Nature of liquid in well . . mud . . . . . Level from surface at surface . .

Present condition of well in addition to above: Cemented back to surface. . . . . .

. . . . . .

. . . . . .

An electric log (will be / ~~[illegible]~~) run. (strike out what is non-applicable)

On abandonment we shall comply with Section 60 (3) and (4) of the Regulations with respect to filling excavations and marking the well site . E. R. S. . . . (Please Initial)

Program of operation not included above . . . . . .

. . . . . .

. . . . . .

. . . . . .

Responsible agents of permittee or lessee in charge of operation:

At well H. Taylor . . . . . At registered office: E. R. Shorey, Jr. . . . . .

Postal Address P.O. Box 186. Postal Address . . . P. O. Box 186 . . . . . .

. . Edmonton, Alta. . . . . Edmonton, Alta. . . . . .

It is understood that if changes in this Notice of Intention become necessary we will promptly notify you.

Dated at Edmonton . . . this . . 2nd ~~[illegible]~~ . . day of . . . March ~~February~~ . . . . . 1959...

Signed by E. R. Shorey, Jr. . . . . .
E. R. Shorey, Jr.
Manager
Edmonton Division Production

This program is approved subject to the following provisions:

. . . . . This confirms oral approval . . . . . .

. . . . . .

. . . . . .m. .

4 March, 1959. . . . . B. H. Thoms . . . .
Date Conservation Engineer

C A N A D A

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION AND LANDS BRANCH

NOTICE OF INTENTION TO BEGIN DRILLING OPERATIONS

(To be submitted in triplicate to the Conservation Engineer at Edmonton, Alberta at least 15 days prior to the commencement of drilling).

In accordance with Section 58 of the Territorial Oil and Gas Regulations, notice is hereby given of our intention to begin drilling a well on Oil and Gas Permit No. 1395...registered in the name of
Lease No. . . . . .

Shell Oil Company of Canada Ltd.

TYPE OF WELL:
Stratigraphic test: yes . . . . . Wildcat: . . . . . .
Structure Test: . . . . . Development: . . . . . .
Anticipated number of holes . . . . . (Required for Structure Test Only)
Expected total depth: 2500 . . . . . feet.

The well will be located:
23,309.47'S of N.E. corner Sec. 13-131-1-W6M
.....([redacted]) of (Permit No.....) at approx. 60°19'32.77" N Lat.
([redacted]) (Lease No. ....)
17,930.4'E .....([redacted]) of (Permit No.....) at approx. 117°54'4.41" W Long.
([redacted]) (Lease No.....)

Survey description of location . Survey plan will be submitted when plotting of data completed. . . . . .

Approximate surface elevation of . 1101 . . .feet above sea level.

Name of well: , Shell Alexandra No. 4 . . . . . .

Type of drilling rig: Rotary . . . . . .

Expected date of commencement: January 30, 1959 . . . . . .

We propose to use the following strings of casing, cementing them as indicated below:

Size O.D. inches	Weight lbs/feet	Grade	Brand	New or used	Estimated depth	Sacks of cement
1. 7"	20 lbs.	J-55	Domestic	New	500'	200 + 2% CaCl2
2.						
3.						

Expected depth of water, gas and oil horizons and method of control:
Objective below 3100'. Control by drilling and and blow out preventors.
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

(Over)

An electric log (will / ~~will not~~) be run.

The well will be drilled by: Regent Drilling Company . . . . . (name of company)

CONTRACTOR:

Responsible agents of permittee or lessee in charge of operation:

At well C. A. Whitaker . . . . . At registered office: E. R. Shorey, Jr.

Postal address: Hay River, N.W.T. Postal address: P. O. Box 186, Edmonton

It is understood that if changes in this Notice of Intention become necessary we will promptly notify you.

Dated at Edmonton . . . . . this 26th . . . day of January 19 59

Signed by E. R. Shorey, Jr.

This program is approved subject to the following provisions (if any):

27th January 1959
Date

Conservation Engineer

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 21 DATE FEB 25, 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.

CONTRACTOR: Digent Drlg Co. Ltd. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT 4¾ OD TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: Lt. Whittaker
CONTRACTOR'S TOOL PUSHER: J. Nomm

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL			
REAMING			
CIRCULATING			
TRIPS			
DEVIATION SURVEY			
TEST B.O.P.			
CUT OFF DRILL LINE			
REPAIR RIG			
CORING			
WIRE LINE LOGGING			
OTHER	8	13	13
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	13	13

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES SIZE
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO.	
	SNGLS. DP	FT.	SIZE	
	D.C ID		MFG.	
	D.C OD	FT.	TYPE	
	RMR BODY OD	FT.	NOZ. NO.	
	STB BODY OD	FT.	NOZ. SIZE	
	SUBS OD	FT.	SER. NO.	
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT.	COND. OF BIT	
	TOTAL	FT.	REAMER CUTTER NO.	
WT OF STRING		LBS.	TYPE	

DRILLER: Blake Doerksen

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN

DEVIATION RECORD: DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION

REMARKS

12th 7:00 W.O.C. & LAY DOWN PIPE
7:00 8:00 FEEL PLUG No. 2 & TEAR OUT.
Rig Released @ 12.00 NOON. Lt. Whittaker
8:00 - 5:00 Moved & Set up Camp

FELT PLUG # 2 @ 463' K.B. Lowd
Depth of Plug = 109'

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK.	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT.	SIZE	
	D.C ID		MFG	
	D.C OD	FT	TYPE	
	RMR BODY OD	FT	NOZ NO.	
	STB BODY OD	FT	NOZ SIZE	
	SUBS OD	FT	SER. NO	
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT	COND OF BIT	
	TOTAL	FT	REAMER CUTTER NO.	
WT OF STRING		LBS.	TYPE	

DRILLER: F. Hlava

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN

DEVIATION RECORD: DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION

REMARKS

18 9:00 9:00 Tear Out & Move Rig
Cut off casing 3' below G.L. Put 5-sx. cement in top of casing, 3-sx. ~~cement~~ in ~~hole~~ hole. ~~move hole~~ Welded plate w/ marker post on Cement 11-sx. casing. Rig Released @ 12:00 Noon. FEBRUARY 25, 1959
Well D&A. LAST REPORT.

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT	SIZE	
	D.C ID		MFG	
	D.C OD	FT	TYPE	
	RMR BODY OD	FT	NOZ NO	
	STB BODY OD	FT	NOZ SIZE	
	SUBS OD	FT	SER NO	
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT.	COND. OF BIT	
	TOTAL	FT	REAMER CUTTER NO.	
WT OF STRING		LBS.	TYPE	

DRILLER: Z. Klatt.

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S P M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN

DEVIATION RECORD: DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION

REMARKS

13, 8:00 - 9:00, Tearing Out, Moving Rig.

MUD RECORD

TIME	
WEIGHT	
VISC.	
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 20 DATE FEB 24, 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.
CONTRACTOR: REGENT DRIG. CO. LTD. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT 4¾ OD TYPE THD J.F.
OPERATOR'S REPRESENTATIVE: Ed. Whitaker
CONTRACTOR'S TOOL PUSHER: J. Womzy

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL			
REAMING			
CIRCULATING	8	6¼	
TRIPS		¼	
DEVIATION SURVEY			
~~TEST B.O.P.~~ WOC			5¾
CUT OFF DRILL LINE			
REPAIR RIG			
CORING			
WIRE LINE LOGGING			
OTHER		1½	2¼
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	9	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES SIZE
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD
59	STANDS DP	FT	RUN NO
1	SNGLS. DP	3646.53 FT.	SIZE
	D.C ID / OD	FT.	MFG.
	RMR BODY OD	FT.	TYPE
	STB BODY OD	FT.	NOZ. NO. / SIZE
	SUBS OD	FT.	SER. NO.
	BIT OR C.B.	FT.	DEPTH OUT
		FT.	CUMULATIVE HOURS RUN
	KELLY DOWN	28.47 FT.	COND. OF BIT
	TOTAL	3675.00 FT.	REAMER CUTTER NO.
WT OF STRING		38,000 LBS.	TYPE

DRILLER: Blake Tuckerite

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
							350	5½	50			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3940	1°							

REMARKS

12:00 8:00 CIRC. WAIT ON CEMENT TRUCK

400 GAL. GAS
4700 GAL. DIESEL

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK.	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD
	STANDS DP	FT.	RUN NO
	SNGLS. DP	FT.	SIZE
	D.C ID / OD	FT	MFG
	RMR BODY OD	FT	TYPE
	STB BODY OD	FT	NOZ NO. / SIZE
	SUBS OD	FT	SER. NO
	BIT OR C.B	FT	DEPTH OUT
		FT	CUMULATIVE HOURS RUN
	KELLY DOWN	FT	COND OF BIT
	TOTAL	FT	REAMER CUTTER NO.
WT OF STRING		LBS.	TYPE

DRILLER: R. Nobles

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRES.	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
							400	5½	46			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

3½ 8:00 11:30 CIR. & WAIT ON DOWELL
1¼ 11:30 12:45 HOOK UP DOWELL
¼ 12:45 1:00 RUN PLUG No. 1 W/26 sks Cement w/2% CaCl₂
¼ 1:00 1:15 PULL 8 STDS. Plug down at 1:05 PM.
2¾ 1:15 4:00 C.I.R. Interval 3675-3575 Low.

MUD RECORD

TIME	10 / 12 / 2
WEIGHT	10.2
VISC	60
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT	

Continued

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Cement	26 sx		
CaCl₂	½ sx.		

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD
	STANDS DP	FT.	RUN NO
	SNGLS. DP	FT	SIZE
	D.C ID / OD	FT	MFG
	RMR BODY OD	FT	TYPE
	STB BODY OD	FT	NOZ NO / SIZE
	SUBS OD	FT	SER NO
	BIT OR C.B	FT	DEPTH OUT
		FT	CUMULATIVE HOURS RUN
	KELLY DOWN	FT.	COND. OF BIT
	TOTAL	FT	REAMER CUTTER NO.
WT OF STRING		LBS.	TYPE

DRILLER: H. Platt.

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
			4088				400	5½	46			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
3940.								

REMARKS

4:00 = 9.00 W. O. C., Circ.
9.00 = 9.20 FELT PLUG # 2 @ 3569' DEPTH OF PLUG = 106'
9:20 = 11:00, pulled up 50 stds & Run #2 plug w/26 sx. cement
11:00 = 12:00 W. O. C. +2% CaCl₂. (470' to 570')

MUD RECORD

TIME	4.00	6.00
WEIGHT	10.2	10.2
VISC.	60	60
W.L.-C.C.		
FLTR. CK		
PH		
SD. CONT.		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
Cement	26 sx.		
CaCl₂	½ sx.		

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 19 DATE FEB 23, 1959

OPERATOR: Shell Oil Company of Canada, Limited

LOCATION LSD. SEC. TWP RGE. W

WELL NAME: SHELL ALEXANDRA No. 4

PROVINCE: N.W.T.

CONTRACTOR: REGENT DRLG. Co. LTD. RIG No. 21

DRILL PIPE STRING NO. SIZE: 3½

TOOL JOINT: 4¾ OD TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: H. Taylor

CONTRACTOR'S TOOL PUSHER: J. Kenny

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"	0	0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL			
REAMING			
CIRCULATING	6		5
TRIPS	6		1½
DEVIATION SURVEY			
TEST B.O.P Sc. U. A.G.			½
CUT OFF DRILL LINE			
REPAIR RIG			
CORING			
WIRE LINE LOGGING	9	8	
OTHER			1½
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:

OPERATOR'S TIME:

HRS. W/D.P.

HRS. WO/D.P:

HRS. STANDBY

WIRE LINE RECORD

REEL NO.

NO. OF LINES 6 SIZE ,"

FEET SLIPPED

FEET CUT OFF

PRESENT LENGTH

TON MI. or TRIPS SINCE LAST CUT

CUMULATIVE TON MI. or TRIPS

NO. OF DAYS FROM SPUD

CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
56	STANDS DP	FT.	RUN NO.	
1	SNGLS. DP	3463.58 FT.	SIZE	
20	D.C 3¼ ID, 4¾ OD	615.68 FT.	MFG.	
	RMR BODY OD	FT.	TYPE	
	STB BODY OD	FT.	NOZ. NO. / SIZE	
	SUBS OD	FT.	SER. NO.	
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	
	KELLY DOWN	8.44 FT.	COND. OF BIT	
	TOTAL	4088.00 FT.	REAMER CUTTER NO.	
	WT OF STRING	56,000 LBS.	TYPE	

DRILLER: Blake Freckerity

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
		7						5½				

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
	3940	1°							

REMARKS

12:00 8:00 LOGGING DIESEL - 480 Gal.
GAS — 530 Gal.

MUD RECORD

TIME				
WEIGHT				
VISC				
W.L.-C.C.				
FLTR. CK.				
PH				
SD. CONT.				

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT.	SIZE	
	D.C ID		MFG	
	OD	FT	TYPE	
	RMR BODY OD	FT	NOZ NO. / SIZE	
	STB BODY OD	FT		
	SUBS OD	FT	SER. NO	
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT	COND OF BIT	
	TOTAL	FT	REAMER CUTTER NO.	
	WT OF STRING	LBS.	TYPE	

DRILLER: B Hobbs

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

8 8:00 4:00 Logging

MUD RECORD

TIME				
WEIGHT				
VISC				
W.L.-C.C.				
FLTR. CK				
PH				
SD. CONT				

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
59	STANDS DP	FT.	RUN NO	
1	SNGLS. DP	3646.53 FT.	SIZE	
	D.C ID		MFG	
	OD	FT	TYPE	
	RMR BODY OD	FT	NOZ NO. / SIZE	
	STB BODY OD	FT		
	SUBS OD	FT	SER NO	
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	28.47 FT.	COND. OF BIT	
	TOTAL	3675.00 FT	REAMER CUTTER NO.	
	WT OF STRING	LBS.	TYPE	

DRILLER: J Klatt

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
		4088			—		500	5½	56			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
	3940	1°							

REMARKS

4:00 = 4:15, Service Rig.
4:15 = 5:45, Run D.C. In, Lay Down Same.
5:45 = 7:00 Run In Open End pipe, pick up 6 Singles.
7:00 = 12:00, Circ. wait on Cement Truck.

MUD RECORD

TIME	8:00	10:00		
WEIGHT	10.2	10.2		
VISC.	72	71		
W.L.-C.C.		6.8		
FLTR. CK		3.2		
PH		7.0		
SD. CONT.				

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 18 DATE FEB 22, 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION: LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.

CONTRACTOR: REGENT DRLG. Co. LTD. RIG No. 21
DRILL PIPE STRING NO. SIZE 3½
TOOL JOINT 4 3/4 OD
TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: T. Boyle
CONTRACTOR'S TOOL PUSHER: J. Dempsey

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	5 3/4	3 3/4	
REAMING			
CIRCULATING		1	2 3/4
TRIPS	2		2
DEVIATION SURVEY			
TEST B.O.P. N.C. SER.	1/4	1/4	1/4
CUT OFF DRILL LINE			
REPAIR RIG		1/2	
CORING			
WIRE LINE LOGGING			3
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P.:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE 1"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON-MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
56	STANDS DP	FT	RUN NO.	19
	SNGLS. DP	3433.32 FT.	SIZE	6 1/4
	D.C 2 1/4 ID 4 3/4 OD	615.68 FT.	MFG.	H.T.C.
20			TYPE	OWS
	RMR BODY OD	FT.	NOZ. NO.	1
	STB BODY OD	FT.	SIZE	1 1/2
	SUBS OD	FT.	SER. NO.	52986
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	5 3/4
	KELLY DOWN	21.00 FT.	COND. OF BIT	RUN
	TOTAL	4070.00 FT.	REAMER CUTTER NO.	
WT OF STRING	56000 LBS.		TYPE	

DRILLER: Blake Koeckerit

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
5 3/4		4044	4070		100	26	800	5½	54			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
	3940	1°							

REMARKS

12:00	2:00	FINISH PULLING OUT & RUN IN.
2:00	2:15	SERVICE RIG
2:15	4:00	DRILLING

Diesel = 5300 Gal.
Gas = 580 Gal.

MUD RECORD

	2:00	4:00	6:00
TIME			
WEIGHT	10.2	10.2	10.2
VISC	68	78	77
W.L.-C.C.	6.6		
FLTR. CK.	2/32		
PH	7.4		
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL.	700 lbs.		
WATER.			

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
56	STANDS DP	3463.88 FT.	RUN NO	19
1	SNGLS. DP	FT.	SIZE	6 1/4
	D.C ID		MFG	H.T.C.
20	OD	615.68 FT.	TYPE	OWS
	RMR BODY OD	FT	NOZ NO.	1
	STB BODY OD	FT	SIZE	1 1/2
	SUBS OD	FT	SER. NO	52986
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	10
	KELLY DOWN	8.44 FT	COND OF BIT	
	TOTAL	4088.00 FT	REAMER CUTTER NO.	
WT OF STRING	67000 LBS.		TYPE	

DRILLER: Bob. Nelson

HRS. DRLD	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
3 1/4		4070	4088		100	26	850	5½	54			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

1/4	8:00	8:15 SER. RIG & CHECK B.O.P.
1/4	8:15	8:30 DRILLING
1/2	8:30	9:00 WORK ON ROTARY CHAIN
3	9:00	12:00 DRILLING
4	12:00	4:00 CIRCULATE WAIT ON LOG TRUCK

MUD RECORD

	10	12	2
TIME			
WEIGHT	10.2	10.2	10.2
VISC.	77	76	76
W.L.C.C.	6.0		
FLTR. CK	3/32		
PH	6.8		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
PERSER	25 lbs.		
NATIVE			

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
56	STANDS DP	FT.	RUN NO	19
1	SNGLS. DP	3463.88 FT	SIZE	6 1/4
	D.C 2 1/4 ID 4 3/4 OD	615.68 FT	MFG	H.T.C.
20			TYPE	OWS
	RMR BODY OD	FT	NOZ NO	1
	STB BODY OD	FT	SIZE	1 1/2
	SUBS OD	FT	SER NO	52986
	BIT OR C.B	FT	DEPTH OUT	4088
		FT	CUMULATIVE HOURS RUN	10
	KELLY DOWN	8.44 FT.	COND. OF BIT	Dull.
	TOTAL	4088.00 FT	REAMER CUTTER NO.	
WT OF STRING	56,000 LBS.		TYPE	

DRILLER: Klatt.

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
—			4088		Circ	500	50					

DEVIATION RECORD	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
	3940'	1°							

REMARKS

4:00	4:15	Service Rig
4:15	7:00	Circ. wait on Log Truck
7:00	9:00	Measured out.
9:00	12:00	Rig up Schlumberger & Logging

pipe Tally = 346388
S.L.M. = 346336
Drillers Measurement 3463.88
Drill Collars = 615.68
Kelly In = 8.44
T.D = 4088 FT. 4088.00 No Change

MUD RECORD

	4:00	6:00	
TIME			
WEIGHT	10.2	10.2	
VISC.	82	79	
W.L.-C.C.		6.4	
FLTR. CK		3/32	
PH		7.0	
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 17 DATE Feb. 21-59

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: Shell Alexandra No. 4
PROVINCE: N.W.T.

CONTRACTOR: Regent Drlg. Co. Ltd. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½"
TOOL JOINT 4 3/4 OD
TYPE THD L.F.

OPERATOR'S REPRESENTATIVE: A. Taylor
CONTRACTOR'S TOOL PUSHER: J. Lowry

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

	SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
	7"		0	526.				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7¼	4½	6¾
REAMING			
CIRCULATING			
TRIPS		3	1
DEVIATION SURVEY			
TEST B.O.P. Rig Serv.	¼	½	¼
CUT OFF DRILL LINE			
REPAIR RIG	½		
CORING			
WIRE LINE LOGGING			
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO.D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE 1"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

DRILLING ASSEMBLY

NO.			FT.
54	STANDS DP		
1	SNGLS. DP	3342.85	FT.
20	D.C 2¼ ID, 4¾ OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B.		FT.
			FT.
	KELLY DOWN	38.00	FT.
	TOTAL	3996.53	FT.
	WT OF STRING	56,000	LBS.

DRILLER: Klatt.

BIT RECORD

RUN NO.	17
SIZE	6¼
MFG.	H.T.C.
TYPE	OWS
NOZ. NO.	1
NOZ. SIZE	1½
SER. NO.	54124
DEPTH OUT	
CUMULATIVE HOURS RUN	8¾
COND. OF BIT	Run.
REAMER CUTTER NO.	
TYPE	

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7¼		3955	3996		100	24	800	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3940'	1°							

REMARKS

12:00 = 12:15, Serv. Rig
12:15 = 4:00, Drilling
4:00 = 4:15, work on pump
4:15 = 6:00, Drilling
6:00 = 6:15, work on pump
6:15 = 8:00, Drilling

Diesel = 6000 gal.
Gas = 600 gal.

MUD RECORD

TIME	12:00	2:00	6:00
WEIGHT	10-2	10-1	10.2
VISC	63	62	79
W.L.-C.C.	8.2		6.0
FLTR. CK.	2/32		2/32
PH	7.0		7.0
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
starch	350 lbs.		
Gel	1500 lbs.		
water to increase volume			

DAY TOUR

DRILLING ASSEMBLY

NO.			FT.
55	STANDS DP		
	SNGLS. DP	3373.02	FT.
20	D.C 2¼ ID, 4¾ OD	615.68	FT
	RMR BODY OD		FT
	STB BODY OD		FT
	SUBS OD		FT
	BIT OR C.B		FT
			FT
	KELLY DOWN	31.24	FT
	TOTAL	4020.00	FT
	WT OF STRING	56,000	LBS.

DRILLER: Blair Tookenit

BIT RECORD

RUN NO	17	18
SIZE	6¼	6¼
MFG	H.T.C.	H.T.C.
TYPE	OWS	OWS
NOZ. NO.	1	1
NOZ. SIZE	1½	1½
SER. NO	54124	40397
DEPTH OUT	4015	
CUMULATIVE HOURS RUN	11¾	1½
COND. OF BIT	Dull Loose	Run
REAMER CUTTER NO.		
TYPE		

HRS. DRLD	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN
4½		3996	4020		100	26	800	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3940	1°							

REMARKS

8:00 8:15 Service Rig & Check B.O.P.s
8:15 9:45 Drilling
9:45 10:00 Check new valve on Accumulator
10:00 11:30 Drilling
11:30 2:30 Tripping
2:30 4:00 Drilling

MUD RECORD

TIME	8:00	10:00	2:00
WEIGHT	10-2	10.2	10.2
VISC	90	73	74
W.L.-C.C.	6.6		
FLTR. CK	2/32		
PH	7.6		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
WATER			

EVENING TOUR

DRILLING ASSEMBLY

NO.			FT.
55	STANDS DP	3402.92	FT.
1	SNGLS. DP		FT
20	D.C 2¼ ID, 4¾ OD	615.68	FT
	RMR BODY OD		FT
	STB BODY OD		FT
	SUBS OD		FT
	BIT OR C.B		FT
			FT
	KELLY DOWN	28.40	FT.
	TOTAL	4044	FT
	WT OF STRING	56,000	LBS.

DRILLER: K. Kehoe.

BIT RECORD

RUN NO	18
SIZE	6¼
MFG	HTC
TYPE	OWS
NOZ. NO	1
NOZ. SIZE	1½
SER NO	40397
DEPTH OUT	4044
CUMULATIVE HOURS RUN	8¼
COND. OF BIT	
REAMER CUTTER NO.	
TYPE	

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
6¾		4025	4044		90	26	800	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION

REMARKS

1¼ 4:00 4:15 Ser. Rig
6¾ 4:15 11:00 Drilling
1 11:00 12:00 Pulling Out

MUD RECORD

TIME	6	8	10
WEIGHT	10.2	10.1	10.2
VISC.	68	65	82
W.L.-C.C.	6.8		
FLTR. CK	2/32		
PH	7.0		
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	6 Sax		

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 16 DATE Feb 20-59

OPERATOR: Shell Oil Company of Canada, Limited | LOCATION LSD. SEC. TWP RGE. W | WELL NAME: Shell Alexandra No. 4 | PROVINCE: N.W.T

CONTRACTOR: Regent Drlg. Co. Ltd. RIG No. 21 | DRILL PIPE STRING NO. SIZE 3½ | TOOL JOINT 4¾ OD | TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: H. Taylor | CONTRACTOR'S TOOL PUSHER: J. Lamoy

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7¾	4¼	½
REAMING			¾
CIRCULATING			
TRIPS		¾	1½
DEVIATION SURVEY		¼	
TEST B.O.P. Rig Serv.	¼	¼	¼
CUT OFF DRILL LINE			
REPAIR RIG			
CORING			
WIRE LINE LOGGING			
OTHER			1
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:

OPERATOR'S TIME:

HRS. W/D.P.

HRS. WO/D.P:

HRS. STANDBY

WIRE LINE RECORD

REEL NO.

NO. OF LINES 6 SIZE 7"

FEET SLIPPED

FEET CUT OFF

PRESENT LENGTH

TON MI. or TRIPS SINCE LAST CUT

CUMULATIVE TON MI. or TRIPS

NO. OF DAYS FROM SPUD

CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
53	STANDS DP	FT	RUN NO.	16
1	SNGLS. DP	3280.96 FT.	SIZE	6¼
	D.C ID		MFG.	H.T.C.
20	D.C OD	615.68 FT.	TYPE	OWS
	RMR BODY OD	FT.	NOZ. NO.	1
	STB BODY OD	FT.	NOZ. SIZE	1½
	SUBS OD	FT.	SER. NO.	53040
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	7¾
	KELLY DOWN	20.00 FT.	COND. OF BIT	Run
	TOTAL	3916.64 FT.	REAMER CUTTER NO.	
	WT OF STRING	56,000 LBS.	TYPE	

DRILLER: H. Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7¾		3868	3916.		100	24	800	5½	54			

DEVIATION RECORD: 3850' 1¼°

REMARKS

12:00 = 12:15, Serv. Rig Break Circ. Diesel = 3300 gal

12:15 = 8:00, Drilling Gas = 200 gal.

MUD RECORD

TIME	1:00	2:00	6:00
WEIGHT	10.0	10.1	10.1
VISC	76	76	79
W.L.C.C.	7.8		
FLTR. CK.	2/32		
PH	7.0		
SD. CONT.	pres. cent. 4		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Pacs. 25 lbs.			
Starch 250 lbs			

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
54	STANDS DP	FT	RUN NO	16	17
	SNGLS. DP	3311.91 FT.	SIZE	6¼	6¼
	D.C 2¼ ID 4¾ OD		MFG	H.T.C.	H.T.C.
20	D.C	615.68 FT	TYPE	OWS	OWS
	RMR BODY OD	FT	NOZ. NO.	1	1
	STB BODY OD	FT	NOZ. SIZE	1½	1½
	SUBS OD	FT	SER. NO	53040	54124
	BIT OR C.B	FT	DEPTH OUT	3943	
		FT	CUMULATIVE HOURS RUN	12½	NEW
	KELLY DOWN	15.41 FT	COND. OF BIT	DULL	GOOD NEW
	TOTAL	3943.00 FT	REAMER CUTTER NO.		
	WT OF STRING	56,000 LBS.	TYPE		

DRILLER: Blake Lockerith

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN
4¾		3916	3943		100	26	800	5½	54			

DEVIATION RECORD: 3850 1/4 | 3940 1°

REMARKS

8:00 8:15 SERVICE RIG & CHECK B.O.P.S.

8:15 1:00 DRILLING

1:00 1:15 TO T.C.O

1:15 4:00 TRIPPING

MUD RECORD

TIME	8:00	12:00	12:00
WEIGHT	10.3	10.3	10.2
VISC	90	85	85
W.L.C.C.	6.6		
FLTR. CK	2/32		
PH	7.6		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel.	5 bags		
Starch	1 bag.		
WATER			

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
54	STANDS DP	3311.91 FT.	RUN NO	17
	SNGLS. DP	FT	SIZE	6¼
	D.C 2¼ ID 4¾ OD		MFG	HTC
20	D.C	615.68 FT	TYPE	OWS
	RMR BODY OD	FT	NOZ. NO	1
	STB BODY OD	FT	NOZ. SIZE	1 1/2
	SUBS OD	FT	SER NO	54124
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	27.41 FT.	COND. OF BIT	Good
	TOTAL	3955.00 FT	REAMER CUTTER NO.	
	WT OF STRING	56,000 LBS.	TYPE	

DRILLER: B. Fuhrer

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
1½		3943	3955		90	26	800	5½	54			B+F

DEVIATION RECORD:

REMARKS

7:1 4:00 4:45 FINISH RUNNING IN

7:1 4:45 11:30 SER. RIG

1/2 4:30 5:00 WORK PLUGGED BIT.

3 5:00 8:00 PULL OUT (WET)

1/2 8:00 8:30 CLEAN UP FLOOR

1 1/4 8:30 9:45 RUN IN

3/4 9:45 10:30 REAM TO BOTTOM

10:30 DRILLING

MUD RECORD

TIME	6	8	10
WEIGHT			10.1
VISC.		Tripping	76
W.L.C.C.			8.6
FLTR. CK			3/32
PH			7.0
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 15 DATE Feb. 19-59

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: Shell, Alexandra No. 4
PROVINCE: N. W. T.

CONTRACTOR: Regent Drlg. Co. Ltd. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT: 4¾ OD
TYPE THD: I.F.

OPERATOR'S REPRESENTATIVE: H. Taylor
CONTRACTOR'S TOOL PUSHER: J. Lowry

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520.				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	5	7¼	3¾
REAMING			
CIRCULATING			
TRIPS	2¾	7½	
DEVIATION SURVEY			¼
TEST B.O.P. Rig Service	¼	¼	¼
CUT OFF DRILL LINE			
REPAIR RIG			¼
CORING			
WIRE LINE LOGGING			
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE 4"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

DRILLING ASSEMBLY

NO.			FT.
51	STANDS DP		FT.
1	SNGLS. DP	3158.50	FT.
	D.C 2¾ ID		
20	D.C 4¾ OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B.		FT.
			FT.
	KELLY DOWN	23.00	FT.
	TOTAL	3797.18	FT.
	WT OF STRING	58,000	LBS.

DRILLER: Zeglotti

BIT RECORD

RUN NO.	14	15
SIZE	6¼	6¼
MFG.	H.T.C.	H.T.C.
TYPE	OWV.	OWV.
NOZ. NO.	1	1
NOZ. SIZE	1½	1½
SER. NO.	62162	62185
DEPTH OUT	3793	
CUMULATIVE HOURS RUN	14¾	½
COND. OF BIT	Dull Loose	New
REAMER CUTTER NO.		
TYPE		

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000=	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
5		3761	3797		100	24	800	5½	56			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3665'	1¼							

REMARKS

12:00 = 12:15, Service Rig.
12:15 = 4:45, Drilling
4:45 = 7:30, Trip, Break Circ.
7:30 = 8:00, Drilling.

Diesel = 3900 gal.
Gas = 250 gal.

MUD RECORD

TIME	12:00	2:00	4:00
WEIGHT	10.0	9.9	10.0
VISC	76	78	78
W.L.-C.C.	6.6		
FLTR. CK.	2/32		
PH	7.0		
SD. CONT.			

Pres. Content .4

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

DRILLING ASSEMBLY

NO.			FT.
52	STANDS DP		FT.
	SNGLS. DP	3189.39	FT.
	D.C 2¼ ID		
20	D.C 4¾ OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B		FT.
			FT.
	KELLY DOWN	38.93	FT.
	TOTAL	3844.00	FT.
	WT OF STRING	55,000	LBS.

DRILLER: Blake Zaeckerity

BIT RECORD

RUN NO	15
SIZE	6¼
MFG	H.T.C.
TYPE	OWV
NOZ. NO.	1
NOZ. SIZE	1½
SER NO	62185
DEPTH OUT	
CUMULATIVE HOURS RUN	7¾
COND OF BIT	Run.
REAMER CUTTER NO.	
TYPE	

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000=	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN
7¾		3791	3844		100	26	750	5½	52			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3665	1¼							

REMARKS

8:00 8:15 SERVICE RIG & CHECK B.O.P.S
8:15 4:00 DRILLING

MUD RECORD

TIME	8:00	12:00	2:00
WEIGHT	10.1	10.1	10.2
VISC	79	80	87
W.L.-C.C.	1.8		
FLTR. CK	2/32		
PH	7.0		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

EVENING TOUR

DRILLING ASSEMBLY

NO.			FT.
52	STANDS DP	3219.03	FT.
1	SNGLS. DP		FT.
	D.C ID		
20	D.C OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B		FT.
			FT.
	KELLY DOWN	33.29	FT.
	TOTAL	3868	FT.
	WT OF STRING	55000	LBS.

DRILLER: R. Hatfield

BIT RECORD

RUN NO	15
SIZE	6¼
MFG	HTC
TYPE	OWV
NOZ. NO	1
NOZ. SIZE	1½
SER NO	62185
DEPTH OUT	3868
CUMULATIVE HOURS RUN	13
COND. OF BIT	Dull
REAMER CUTTER NO.	
TYPE	

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
4¾		3844	3868		95	24	800	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
3850		1¼						

REMARKS

¼ 4:00 4:15 SER. RIG
1¼ 4:15 5:30 DRILLING
¼ 5:30 5:45 WORK ON PUMP
3½ 5:45 9:15 DRILLING
¼ 9:15 9:30 SURVEY
2½ 9:30 2:00 TRIPPING

MUD RECORD

TIME	4	8	10
WEIGHT	10.2	10.1	
VISC.	70	68	
W.L.-C.C.	7		
FLTR. CK	2/32		
PH	7.0		
SD. CONT.			

Rig Up & Trip

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
GEL	10 SAX.		
WATER			

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 14 DATE Feb. 18-59.

OPERATOR: Shell Oil Company of Canada, Limited | LOCATION LSD. SEC. TWP RGE. W | WELL NAME: Shell, Alexandra No. 4 | PROVINCE: N.W.T.

CONTRACTOR: Regent Drlg. Co. Ltd. | RIG No. 21 | DRILL PIPE STRING NO. SIZE 3½ | TOOL JOINT 4¾ OD | TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: N. Taylor | CONTRACTOR'S TOOL PUSHER: J. Thorny

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	6	11¼	7¾
REAMING		¼	
CIRCULATING			
TRIPS		2¾	
DEVIATION SURVEY		¼	
TEST B.O.P. Rig Serv	¼	1½	1¼
CUT OFF DRILL LINE			
REPAIR RIG	1¾		
CORING			
WIRE LINE LOGGING			
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE "
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
49	STANDS DP	3005.40 FT.	RUN NO.	13
	SNGLS. DP	FT.	SIZE	6¼
	D.C 2¼ ID		MFG.	H.T.C
20	D.C 4¾ OD	615.68 FT.	TYPE	OSC
	RMR BODY OD	FT.	NOZ. NO.	1
	STB BODY OD	FT.	NOZ. SIZE	1 1/2"
	SUBS OD	FT.	SER. NO.	63056
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	10¾
	KELLY DOWN	37.00 FT.	COND. OF BIT	Run.
	TOTAL	3658.08 FT.	REAMER CUTTER NO.	
WT OF STRING	54,000 LBS.		TYPE	

DRILLER: Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000±	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
6		3621	3658		90	24	850	5½	58			

DEVIATION RECORD: DEPTH 3570' DEV 1¾ | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION

REMARKS

12:00 = 12:15, Service Rig. Diesel = 4400 gal.
12:15 = 4:45, Drilling. Gas = 300 gal.
4:45 = 5:45, work on pump.
5:45 = 6:15, Drilling.
6:15 = 7:00, work on pump.
7:00 = 8:00, Drilling.

MUD RECORD

TIME	12:00	2:00	4:00
WEIGHT	9.9	9.9	9.9
VISC	73	71	69
W.L.-C.C.	5-8	6.2	
FLTR. CK.	2/32	2/32	
PH	7.0	7.0	
SD. CONT.			

MUD & CHEMICALS ADDED: TYPE Preservative AMT. Content .45

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
50	STANDS DP	FT.	RUN NO	13	14
	SNGLS. DP	3065.60 FT.	SIZE	6¼	6¼
	D.C 2¼ ID		MFG	H.T.C.	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSC	GWV
	RMR BODY OD	FT	NOZ NO.	1	1
	STB BODY OD	FT	NOZ SIZE	1-½	1½
	SUBS OD	FT	SER. NO	63056	62162
	BIT OR C.B	FT	DEPTH OUT	3665	
		FT	CUMULATIVE HOURS RUN	12½	2½
	KELLY DOWN	11.66 FT	COND OF BIT	Dull & Locked	RUN.
	TOTAL	3693.00 FT	REAMER CUTTER NO.		
WT OF STRING	54,000 LBS.		TYPE		

DRILLER: Blake Faedrich

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000±	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
4¼		3658	3693		90	24	800	5½	58			

DEVIATION RECORD: DEPTH 3665 DEV 1¼ | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION

REMARKS

8:00 - 8:30 SERVICE RIG & CHECK B.O.P.'S
8:30 - 11:15 DRILLING
11:15 - 11:30 TOTCO
11:30 - 1:15 TRIP
1:15 - 1:30 REAM TO BOTTOM.
1:30 - 4:00 DRILLING

MUD RECORD

TIME	8:00	10:00	2:00
WEIGHT	10.0	10.0	10.0
VISC	73	72	75
W.L.-C.C.	6		
FLTR. CK	2/32		
PH	7.0		
SD. CONT			

MUD & CHEMICALS ADDED: TYPE AMT. TYPE AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
51	STANDS DP	3127.54 FT.	RUN NO	14
	SNGLS. DP	FT	SIZE	6¼
	D.C ID		MFG	H.T.C
20	D.C OD	615.68 FT	TYPE	OWV
	RMR BODY OD	FT	NOZ NO	1
	STB BODY OD	FT	NOZ SIZE	1 11/2
	SUBS OD	FT	SER NO	62162
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	10¼
	KELLY DOWN	17.78 FT.	COND. OF BIT	
	TOTAL	3761.00 FT	REAMER CUTTER NO.	
WT OF STRING	54,000 LBS.		TYPE	

DRILLER: R. Holmes.

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000±	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
9¾		3695	3761		110	26	800	5½	56			

DEVIATION RECORD: DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION | DEPTH | DEV | DIRECTION

REMARKS

1/4 4:00 4:15 Ser. Rig
7¾ 4:15 12:00 Drilling

MUD RECORD

TIME	6	8	10
WEIGHT	10	10	9.9
VISC.	63	63	81
W.L.-C.C.	5.3		
FLTR. CK	2/32		
PH	7.0		
SD. CONT.			

MUD & CHEMICALS ADDED: TYPE AMT. TYPE AMT.
GEL 6 SAX

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 13 DATE Feb. 17 - 59

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: Shell, Alexandra No. 4
PROVINCE: N. W. T.

CONTRACTOR: Regent Drlg. Co Ltd. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT: 4¾ OD, TYPE THD I. F.
OPERATOR'S REPRESENTATIVE: H. Taylor
CONTRACTOR'S TOOL PUSHER: J. Dorsey

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7	6½	4¾
REAMING			
CIRCULATING			
TRIPS		1	¾
DEVIATION SURVEY		¼	
TEST B.O.P. Rig Serv.	¼	¼	¼
CUT OFF DRILL LINE			
REPAIR RIG	¾		1¼
CORING			
WIRE LINE LOGGING			
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P.
HRS. STANDBY

WIRE LINE RECORD

REEL NO.
NO. OF LINES 6 SIZE /"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
47	STANDS DP	FT.	RUN NO.	12
1	SNGLS. DP	2912.49 FT.	SIZE	6¼
	D.C 3¼ ID		MFG.	H.T.C.
20	D.C 4¾ OD	615.68 FT.	TYPE	OSC
	RMR BODY OD	FT.	NOZ. NO.	1
	STB BODY OD	FT.	NOZ. SIZE	1½
	SUBS OD	FT.	SER. NO.	63094
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	7¼
	KELLY DOWN	11.00 FT.	COND. OF BIT	Run
	TOTAL	3539.17 FT.	REAMER CUTTER NO.	
	WT OF STRING	54,000 LBS.	TYPE	

DRILLER: Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7		3490	3539		90	24	850	5½	58			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3420'	2¾°							

REMARKS { Diesel = 92 l. Gas = 425 ft³. }

12:00 = 12:15, Service Rig.
12:15 = 12:45, Change Gasket, Air Chamber To Mud Line.
12:45 = 4:45, Drilling.
4:45 = 5:00, work on pump, change valve.
5:00 = 8:00, Drilling.

MUD RECORD

TIME	12:00	5:00	6:00
WEIGHT	9.8	9.8	9.8
VISC	57	77	78
W.L.-C.C.	5.4	5.0	
FLTR. CK.	3/32	3/32	
PH	7.0	7.0	
SD. CONT.	Pres	cont.	.3

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
200# Starch			
1500# Gel			
Preservative			
content .3			

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
48	STANDS DP	FT.	RUN NO.	12
	SNGLS. DP	2943.41 FT.	SIZE	10¼
	D.C 3¼ ID		MFG	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSC
	RMR BODY OD	FT	NOZ NO.	1
	STB BODY OD	FT	NOZ SIZE	1½
	SUBS OD	FT	SER. NO	63094
	BIT OR C.B	FT	DEPTH OUT	3574
		FT	CUMULATIVE HOURS RUN	13½
	KELLY DOWN	14.91 FT.	COND OF BIT	Pulling
	TOTAL	3574.00 FT	REAMER CUTTER NO.	
	WT OF STRING	54,000 LBS.	TYPE	

DRILLER: Blake Koekerith

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN
6½		3539	3574		90	24	850	5½	58			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3420	2¾°							

REMARKS

8:00 – 8:15 SERVICE RIG & B.O.P.'S.
8:15 – 2:45 DRILLING
2:45 – 3:00 TOTCO
3:00 – 4:00 PULLING OUT.

MUD RECORD

TIME	8:00	12:00	
WEIGHT	9.7	9.7	
VISC	83	75	
W.L.-C.C.	5.2		
FLTR. CK	2/32		
PH			
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Pres. - 85 lbs.			

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
48	STANDS DP	2994.38 FT.	RUN NO	13
1	SNGLS. DP	FT	SIZE	6¼
	D.C ID		MFG	HTC
20	D.C OD	615.68 FT	TYPE	OSC
	RMR BODY OD	FT	NOZ NO	1
	STB BODY OD	FT	NOZ SIZE	½
	SUBS OD	FT	SER NO	63056
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	4¾
	KELLY DOWN	30.94 FT.	COND. OF BIT	
	TOTAL	3621.00 FT	REAMER CUTTER NO.	
	WT OF STRING	54000 LBS.	TYPE	

DRILLER: B. Nichols

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
4¾		3574	3621		100	24	800	5½	56			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION

REMARKS

¼ 11:00 – 11:15 Ser. Rig
2¾ 11:15 – 6:00 Finish Tripping
1¾ 6:00 – 7:45 Drilling
1 7:45 – 8:45 Work on Rotary Chain
¼ 8:45 – 9:30 Drilling
¼ 9:30 – 9:45 Work on low clutch
2¼ 9:45 – 12:00 Drilling

MUD RECORD

TIME	6	8	10
WEIGHT	9.7	9.7	9.8
VISC.	58	64	70
W.L.-C.C.	11.2		
FLTR. CK	2.0		
PH			
SD CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
GEL	10 SAX		

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 12 DATE Feb. 16-59.

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: Shell, Alexandra No. 4
PROVINCE: N.W.T.
CONTRACTOR: Regent Drlg. Co. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½ TOOL JOINT 4¾ OD TYPE THD I.F.
OPERATOR'S REPRESENTATIVE: J. Taylor
CONTRACTOR'S TOOL PUSHER: Johnson

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO.	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	EVE DAY	EVE
DRILLING ACTUAL	5½	2¼	7
REAMING			
CIRCULATING			
TRIPS	2	3¾	3¼
DEVIATION SURVEY	¼		
TEST B.O.P. Rig Serv.	¼	1¼	¼
CUT OFF DRILL LINE			
REPAIR RIG		¾	
CORING			
WIRE LINE LOGGING			
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P:
HRS STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE "
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

DRILLING ASSEMBLY

NO.			
45	STANDS DP		FT
1	SNGLS. DP	2790.73	FT
20	D.C 2¼ ID 4¾ OD	615.68	FT
	RMR BODY OD		FT
	STB BODY OD		FT
	SUBS OD		FT
	BIT OR C.B.		FT
			FT
	KELLY DOWN	26.00	FT
	TOTAL	3432.41	FT
WT OF STRING	51,000	LBS.	

DRILLER: Klatt.

BIT RECORD

RUN NO.	10	11
SIZE	6¼	6¼
MFG.	H.T.C.	H.T.C.
TYPE	OSC.	OSC-J
NOZ. NO.	1	3
NOZ. SIZE	1½	½
SER. NO.	63055	55635
DEPTH OUT	3432	
CUMULATIVE HOURS RUN	12¼	
COND. OF BIT	DULL	WORN
REAMER CUTTER NO.		
TYPE		

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
5½		3397	3432		120	20	850	5½"	58.			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3420'	2¾							

MUD RECORD

TIME	12:00	2:00	4:00
WEIGHT	9.6	9.5	9.6
VISC	64	63	64
W.L.-C.C.	4.8	4.8	
FLTR. CK.	2/32	2/32	
PH	2.8	7.8	
SD. CONT.			
	pres.	cont.	.6.

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

REMARKS

12:00 = 12:15, Serv. Rig
12:15 = 5:45, Drilling.
5:45 = 6:00, Drop Tot 20.
6:00 = 8:00, Tripping

Diesel = 1700 gal
Gas = 330 gal.

DAY TOUR

DRILLING ASSEMBLY

NO.			
46	STANDS DP		FT.
1	SNGLS. DP	2851.32	FT.
20	D.C 2¼ ID 4¾ OD	615.68	FT
	RMR BODY OD		FT
	STB BODY OD		FT
	SUBS OD		FT
	BIT OR C.B		FT
			FT
	KELLY DOWN	13.00	FT
	TOTAL	3480.00	FT
WT OF STRING	61,000	LBS.	

DRILLER: Blake Rockeith

BIT RECORD

RUN NO	11
SIZE	6¼
MFG	H.T.C.
TYPE	OSCJ
NOZ. NO.	3
NOZ. SIZE	½
SER. NO	55635
DEPTH_OUT	
CUMULATIVE HOURS RUN	7
COND OF BIT	RUN
REAMER CUTTER NO.	
TYPE	

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7		3432	3480		90	3	900	5½	58			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
3420	2¾							

MUD RECORD

TIME	8:00	12:00	2:00
WEIGHT	9.7	9.7	9.7
VISC	50	60	66
W.L.-C.C.	4.6		
FLTR. CK	2/32		
PH	7.		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL.	11 bags.		

REMARKS

8:00 8:15 SERVICE RIG & B.O.P.
8:15 9:00 RUN IN.
9:00 4:00 DRILLING

EVENING TOUR

DRILLING ASSEMBLY

NO.			
46	STANDS DP	2851.32	FT.
1	SNGLS. DP		FT
20	D.C ID OD	615.68	FT
	RMR BODY OD		FT
	STB BODY OD		FT
	SUBS OD		FT
	BIT OR C.B		FT
			FT
	KELLY DOWN	23.00	FT.
	TOTAL	3490.00	FT
WT OF STRING	53,000	LBS.	

DRILLER: K. Hobbs.

BIT RECORD

RUN NO	11	12
SIZE	6¼	6¼
MFG	HTC	HTC
TYPE	OSCJ	OSC
NOZ. NO	3	1
NOZ. SIZE	½	½
SER NO	55635	63094
DEPTH OUT	3488	
CUMULATIVE HOURS RUN	4	
COND. OF BIT		
REAMER CUTTER NO.		
TYPE		

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
2¼		3480	3490		100	20	900	5½	66			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

MUD RECORD

TIME	4	8	10
WEIGHT	9.7	9.7	
VISC.	65	64	
W.L.-C.C.	5.6		
FLTR. CK	2/32		
PH			
SD. CONT.			
			TRIP

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

REMARKS

¼ 4:00 4:15 SER RIG
½ 4:15 5:45 DRILLING
¾ 5:45 7:30 REPACK SWIVEL
½ 7:30 8:00 DRILLING
3¾ 8:00 11:45 TRIP
¼ 11:45 12:00 DRILLING

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 11 DATE Feb. 15-59

OPERATOR	LOCATION LSD. SEC. TWP RGE. W	WELL NAME	No.	PROVINCE
Shell Oil Company of Canada, Limited		Shell, Alexandra.	4	N.W.T.

CONTRACTOR	RIG No.	DRILL PIPE STRING NO. SIZE	TOOL JOINT	TYPE THD
Regent Drlg Co Ltd.	21	3½	4¾ OD	I.F.

OPERATOR'S REPRESENTATIVE	CONTRACTOR'S TOOL PUSHER
H. Taylor	D. Hongay

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14"
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	6¼	6¾	4¼
REAMING			
CIRCULATING			
TRIPS		½	2¾
DEVIATION SURVEY	¼		½
TEST B.O.P. Rig Serv.	¼	¼	½
CUT OFF DRILL LINE			
REPAIR RIG	1¼	½	
CORING			
WIRE LINE LOGGING			
OTHER			
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:	
OPERATOR'S TIME:	
HRS. W/D.P.	
HRS. WO/D.P:	
HRS. STANDBY	

WIRE LINE RECORD

REEL NO.	
NO. OF LINES	SIZE
FEET SLIPPED	
FEET CUT OFF	
PRESENT LENGTH	
TON MI. or TRIPS SINCE LAST CUT	
CUMULATIVE TON MI. or TRIPS	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
43	STANDS DP	FT.	RUN NO.	9
1	SNGLS. DP	26.67.74 FT.	SIZE	6¼
	D.C 2¼ ID		MFG.	H.T.C.
20	D.C 4¾ OD	615.68 FT.	TYPE	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	3
	STB BODY OD	FT.	NOZ. SIZE	5/8
	SUBS OD	FT.	SER. NO.	61356
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	11¾
	KELLY DOWN	30.00 FT.	COND. OF BIT	Run.
	TOTAL	3313.42 FT.	REAMER CUTTER NO.	
WT OF STRING	50,000 LBS.		TYPE	

DRILLER: K. Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
6¼		3222	3313		130	14	Mixer open	5½	64			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
	3220'	3½"							

REMARKS

12:00 = 12:30, Serv. Rig. Run Tot co. Gas = 370 gal
12:30 = 6:30, Drilling, change over mud Diesel = 2400 gal.
6:30 = 7:45, work on pump.
7:45 = 8:00, Drilling.

MUD RECORD

TIME	12:00	4:00	6:00
WEIGHT	96	9.5	9.5
VISC	38	54	63
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
1500# Plaster			
200# Preservative			
1500# Starch			

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
44	STANDS DP	FT.	RUN NO	9	10
	SNGLS. DP	2698.64 FT.	SIZE	6¼	6¾
	D.C 2¼ ID		MFG	H.T.C.	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSC-3	OSC
	RMR BODY OD	FT	NOZ NO.	3	1
	STB BODY OD	FT	NOZ SIZE	5/8	½
	SUBS OD	FT	SER. NO	61356	63055
	BIT OR C.B	FT	DEPTH OUT	3348	
		FT	CUMULATIVE HOURS RUN		
	KELLY DOWN	33.68 FT	COND OF BIT	LOOSE	NEW.
	TOTAL	3348.00 FT	REAMER CUTTER NO.		
WT OF STRING	50,000 LBS.		TYPE		

DRILLER: Blake Tockerity

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
44		3313	3348		130	14	900	5½	52			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
	3348	3°							

REMARKS

8:00 8:30 SERVICED RIG & B.O.P.
8:30 9:45 DRILL
9:45 10:00 TOTCO
10:00 1:00 DRILL
1:00 1:15 TOTCO
1:15 4:00 TRIPPING

MUD RECORD

TIME	8:00	10:00	12:00
WEIGHT	9.7	9.7	9.7
VISC	75	80	80
W.L.-C.C.	6.0		
FLTR. CK	2/32		
PH	7.0		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
50	STANDS DP	2759.82 FT.	RUN NO	10
	SNGLS. DP	FT	SIZE	6 1/4
	D.C 2¼ ID		MFG	HTC
20	D.C 4¾ OD	615.68 FT	TYPE	OSC
	RMR BODY OD	FT	NOZ NO	3
	STB BODY OD	FT	NOZ SIZE	½
	SUBS OD	FT	SER NO	63055
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	6¾
	KELLY DOWN	21.50 FT	COND. OF BIT	Run
	TOTAL	3397 FT	REAMER CUTTER NO.	
WT OF STRING	50 000 LBS.		TYPE	

DRILLER: R. Nelson

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S P M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
6¾		3348	3397		130	16	800	6½	56			

DEVIATION RECORD	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION

REMARKS

½ 4:00 4:30 RUNNING IN HOLE
¼ 4:30 4:45 SER. RIG
¼ 4:45 5:00 DRILLING
¼ 5:00 5:15 WORK ON BANG CLUTCH
¼ 5:15 9:15 DRILLING
¼ 9:15 9:30 WORK ON BREAK OUT CHAIN
2½ 9:30 12:00 DRILLING

MUD RECORD

TIME	6	8	10
WEIGHT	96	9.5	9.5
VISC.	68	66	64
W.L.-C.C.	5.0		
FLTR. CK	2/32		
PH	8.6		
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 10 DATE FEB. 11 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N. W. T.

CONTRACTOR: [illegible] RIG No.
DRILL PIPE STRING NO. SIZE: 3½ TOOL JOINT: 4¾ OD TYPE THD: E.F.

OPERATOR'S REPRESENTATIVE: H. Taylor
CONTRACTOR'S TOOL PUSHER: J. Mowat

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	Emsco	D-300	14
2.			
3.			

CASING & LINER RECORD

	SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
	7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7½	6½	5½
REAMING			
CIRCULATING			
TRIPS		1	1¼
DEVIATION SURVEY		¼	
TEST B.O.P. Rig Serv		¼	¼
CUT OFF DRILL LINE			
REPAIR RIG	¼		¼
CORING			
WIRE LINE LOGGING			
OTHER	¼		¼
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P.:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE 1"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
39	STANDS DP	2799.28 FT	RUN NO.	8
1	SNGLS. DP	FT.	SIZE	6¼
20	D.C ID / OD	615.68 FT.	MFG.	HTC
	RMR BODY OD	FT.	TYPE	OSC-3
	STB BODY OD	FT.	NOZ. NO.	3
	SUBS OD	FT.	NOZ. SIZE	5/8
	BIT OR C.B.	FT.	SER. NO.	61407
		FT.	DEPTH OUT	
	KELLY DOWN	35.04 FT.	CUMULATIVE HOURS RUN	9
	TOTAL	2950 — FT.	COND. OF BIT	
WT OF STRING	115000 LBS.		REAMER CUTTER NO.	
DRILLER	R. Wallace.		TYPE	

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
9½		2821	2950		110	20	800	5½	46			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

¼	1200	12'15	SER. Rig	Gas 540
2½	12'15	2'45	Drilling	Diesel 3300
¼	2'45	3'00	Work on Pump	
5	3'00	8'00	Drilling	

MUD RECORD

TIME	2 AM	4 AM	6 AM
WEIGHT	10.5	10.5	10.5
VISC	43	43	42
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Water			
Gel	1500 #		

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
40	STANDS DP	FT.	RUN NO	8
1	SNGLS. DP	24.83.29 FT.	SIZE	6¼
20	D.C 2¼ ID / 4¾ OD	615.68 FT	MFG	H.T.C
	RMR BODY OD	FT	TYPE	OSC-3
	STB BODY OD	FT	NOZ. NO.	3
	SUBS OD	FT	NOZ. SIZE	5/8
	BIT OR C.B	FT	SER. NO	61402
		FT	DEPTH OUT	3115
	KELLY DOWN	17.00 FT	CUMULATIVE HOURS RUN	15½
	TOTAL	3115.97 FT	COND OF BIT	Loose
WT OF STRING	48,000 LBS.		REAMER CUTTER NO.	
DRILLER	H. Klatt.		TYPE	

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
6½		2950	3115		110	20	900	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
2787	1½°		3100'	3½°				

REMARKS

8:00 =	8:15,	Serv. Rig & check B.O.P.
8:15 =	2:45,	Drilling.
2:45 =	3:00,	Drop Totco
3:00 =	4:00,	pulled out

MUD RECORD

TIME	8.00	12:00	2:30
WEIGHT	10.5	10.5	10.6
VISC	42	43	43
W.L.-C.C.	9.8	9.6	
FLTR. CK	2/32	2/32	
PH	7.2	7.2	
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
42	STANDS DP	FT.	RUN NO	9
	SNGLS. DP	2574.82 FT.	SIZE	6¼
20	D.C 2¼ ID / 4¾ OD	615.68 FT	MFG	H.T.C.
	RMR BODY OD	FT	TYPE	OSC3
	STB BODY OD	FT	NOZ. NO	3
	SUBS OD	FT	NOZ. SIZE	5/8
	BIT OR C.B	FT	SER. NO	61356
		FT	DEPTH OUT	
	KELLY DOWN	31.50 FT.	CUMULATIVE HOURS RUN	5½
	TOTAL	3222.00 FT	COND. OF BIT	Run
WT OF STRING	49,000 LBS.		REAMER CUTTER NO.	
DRILLER	Bill Tookrit		TYPE	

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
5½		3115	3222		140	12,000	900	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
3100	3½							

REMARKS

4:00	4:15	SERVICE RIG
4:15	5:00	JET PIT
5:00	6:15	RUN IN HOLE
6:15	6:30	WORK ON PUMP
6:30	12:00	DRILLING

MUD RECORD

TIME	7:00	10:00	12:00
WEIGHT	11.0	10.2	9.6
VISC.	47	48	38
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
Gel	33 bags.		
WATER			

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 9 DATE FEB. 13 1959

OPERATOR: Shell Oil Company of Canada, Limited | LOCATION LSD. SEC. TWP RGE. W | WELL NAME: SHELL ALEXANDRA No. 4 | PROVINCE: N. W. T.

CONTRACTOR: [illegible] | RIG No. | DRILL PIPE STRING NO. SIZE: 3½ | TOOL JOINT: 4 3/4 OD, TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: J. Taylor | CONTRACTOR'S TOOL PUSHER: [illegible]

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	4 3/4	7 3/4	3 3/4
REAMING			
CIRCULATING			
TRIPS	2 1/4		3
DEVIATION SURVEY Rig Serv.		1/4	1/4
TEST B.O.P.			
CUT OFF DRILL LINE			
REPAIR RIG	3/4		
CORING			
WIRE LINE LOGGING			
OTHER	1/4		1
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:

OPERATOR'S TIME:

HRS. W/D.P.

HRS. WO/D.P:

HRS. STANDBY

WIRE LINE RECORD

REEL NO.

NO. OF LINES SIZE

FEET SLIPPED

FEET CUT OFF

PRESENT LENGTH

TON MI. or TRIPS SINCE LAST CUT

CUMULATIVE TON MI. or TRIPS

NO. OF DAYS FROM SPUD

CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
31	STANDS DP	1933.59 FT	RUN NO.	6	7
1	SNGLS. DP	FT.	SIZE	6 1/4	6 1/4
	D.C ID		MFG.	HTC	HTC
20	D.C OD	615.68 FT.	TYPE	OSC-3	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	3	3
	STB BODY OD	FT.	NOZ. SIZE	5/8	5/8
	SUBS OD	FT.	SER. NO.	61386	61420
	BIT OR C.B.	FT.	DEPTH OUT	2495	
		FT.	CUMULATIVE HOURS RUN	13 3/4	3 1/4
	KELLY DOWN	15.73 FT.	COND. OF BIT	Pulled	Loose
	TOTAL	2564.00 FT.	REAMER CUTTER NO.		
	WT OF STRING	44,000 LBS.	TYPE		

DRILLER: R. Hebert

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
4 3/4		2466	2564		110	20	800	5½	52			

DEVIATION RECORD: DEPTH 2490 DEV ¾ DIRECTION

REMARKS

1/4	SER. RIG	12:00	12:15
1 1/2	DRILLING	12:15	1:45
1	PULL OUT	1:45	2:45
1/4	WORK ON FLOAT	2:45	3:00
1/2	WORK ON HOISTING LINES	3:00	3:30
1 1/4	RUN IN HOLE	3:30	4:45
3 1/4	DRILLING	4:45	8:00

MUD RECORD

TIME	12	4	7
WEIGHT	10.6	10.6	10.5
VISC	51	53	53
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Water			

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
34	STANDS DP	FT.	RUN NO	7	
1	SNGLS. DP	2115.17 FT.	SIZE	6 1/4	
	D.C 2 1/4 ID		MFG	H.T.C.	
20	D.C 4 3/4 OD	615.68 FT	TYPE	OSC-3	
	RMR BODY OD	FT	NOZ. NO.	3	
	STB BODY OD	FT	NOZ. SIZE	5/8	
	SUBS OD	FT	SER. NO	61420	
	BIT OR C.B	FT	DEPTH OUT		
		FT	CUMULATIVE HOURS RUN	11	
	KELLY DOWN	14.00 FT	COND. OF BIT	Run	
	TOTAL	2744.85 FT	REAMER CUTTER NO.		
	WT OF STRING	44,000 LBS.	TYPE		

DRILLER: J. Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7 3/4		2564	2744		110	22	900	5½	54			

DEVIATION RECORD: DEPTH 2490' DEV ¾° DIRECTION

REMARKS

5:25 = 550 gal 10 AM. Diesel Fuel = 4200 gal.

8:00 = 8:15, Serv. Rig & Check B.O.P.

8:15 = 4:00, Drilling

MUD RECORD

TIME	8:00	10:00	2:00
WEIGHT	10.5	10.5	10.5
VISC	47	47	45
W.L.-C.C.	9.2	9.2	
FLTR. CK	2/32	2/32	
PH	7.2	7.2	
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
35	STANDS DP	FT.	RUN NO	7	8
1	SNGLS. DP	2176.64 FT	SIZE	6 1/4	6 1/4
	D.C SLICK ID		MFG	H.T.C.	H.T.C.
20	D.C 4 3/4 OD	615.68 FT	TYPE	OSC-3	OSC3
	RMR BODY OD	FT	NOZ. NO	3	3
	STB BODY OD	FT	NOZ. SIZE	5/8	5/8
	SUBS OD	FT	SER. NO	61420	61402
	BIT OR C.B	FT	DEPTH OUT	2787	
		FT	CUMULATIVE HOURS RUN	17 1/4	1 1/2
	KELLY DOWN	28.64 FT.	COND. OF BIT	LOOSE	RUN
	TOTAL	3821.00 FT	REAMER CUTTER NO.		
	WT OF STRING	44,000 LBS.	TYPE		

DRILLER: Blair Mackenzie

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
3 3/4		2744	2821		110	20	800	5½	52			

DEVIATION RECORD: DEPTH 2787 DEV 1½ DIRECTION

REMARKS

4:00	4:15	SERVICE RIG
4:15	6:30	DRILLING
6:30	6:45	TOTCO
6:45	9:45	TRIP
9:45	11:15	DRILLING
11:15	12:00	JET OUT PIT

MUD RECORD

TIME	4	6	10
WEIGHT	10.7	10.8	11.1
VISC.	55	50	43
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
WATER			

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 8 DATE FEBRUARY 12/59

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.
CONTRACTOR: F. J. Brewster RIG No. 1
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT: 4¾ OD TYPE THD I.F.
OPERATOR'S REPRESENTATIVE: J. Taylor
CONTRACTOR'S TOOL PUSHER: Dan Bird

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	520				

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7¼	5½	7¾
REAMING			
CIRCULATING			
TRIPS		2	
DEVIATION SURVEY		¼	
TEST B.O.P. Rig Sch.		¼	¼
CUT OFF DRILL LINE			
REPAIR RIG	½		
CORING			
WIRE LINE LOGGING			
OTHER	¼		
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS.
OPERATOR'S TIME:
HRS. W/O D.P.
HRS. W/O RIG REPAIR & CONTRACTUAL
HRS. STANDBY

WIRE LINE RECORD

REEL NO.	
NO. OF LINES 6	SIZE
FEET SLIPPED	
FEET CUT OFF	
PRESENT LENGTH	
TON MI. or TRIPS SINCE LAST CUT	
CUMULATIVE TON MI. or TRIPS	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
25	STANDS DP	1534.37 FT	RUN NO.	5
	SNGLS. DP	FT.	SIZE	6¼
	D.C 2¼ ID		MFG.	H.T.C.
20	D.C 4¾ OD	615.68 FT.	TYPE	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	3
	STB BODY OD	FT.	NOZ. SIZE	5/8
	SUBS OD	FT.	SER. NO.	61361
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	15½
	KELLY DOWN	23.95 FT.	COND. OF BIT	
	TOTAL	2174.00 FT.	REAMER CUTTER NO.	
	WT OF STRING	39000 LBS.	TYPE	

DRILLER: R. Nelson

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7¼		2015	2174		110	20	850	5½	56			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
1850		¾						

REMARKS

12:00 12:15 SERVICE RIG
12:15-12:45 WORK ON PUMP
12:45-8:00 DRILL

MUD RECORD

TIME	2:00	4:00	6:00
WEIGHT	10.4	10.4	10.3
VISC	40	40	40
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	1000 lbs		
WATER			

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
27	STANDS DP	1658.01 FT.	RUN NO	5	6
	SNGLS. DP	FT.	SIZE	6¼	6¼
	D.C 2¼ ID		MFG	H.T.C.	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSC-3	OSC-3
	RMR BODY OD	FT	NOZ NO.	3	3
	STB BODY OD	FT	NOZ SIZE	5/8	5/8
	SUBS OD	FT	SER. NO	61361	61386
	BIT OR C.B	FT	DEPTH OUT	2190	
		FT	CUMULATIVE HOURS RUN	16½	4½
	KELLY DOWN	23.00 FT	COND. OF BIT	Dull	Lease Run
	TOTAL	2296.69 FT	REAMER CUTTER NO.		
	WT OF STRING	42,000 LBS.	TYPE		

DRILLER: Pettit

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN
5½		2174	2296		110	22	900	5½	60			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
2175'	½°							

REMARKS

8:00 = 8:15, Serv. Rig & Check B.O.P.
8:15 = 9:15, Drilling.
9:15 = 9:30, Drop Totco.
9:30 = 11:30, Trip. "Set up Brakes"
11:30 = 4:00, Drilling.

MUD RECORD

TIME	8:00	12:00	2:00
WEIGHT	10.4	10.2	10.2
VISC	41	42	41
W.L.-C.C.	12.8		
FLTR. CK	2/32		
PH	7.6		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Water			

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
29	STANDS DP	FT.	RUN NO	6
1	SNGLS. DP	18.11.18 FT	SIZE	6¼
	D.C 2¼ ID		MFG	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSC3
	RMR BODY OD	FT	NOZ NO	3
	STB BODY OD	FT	NOZ SIZE	5/8
	SUBS OD	FT	SER NO	61386
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	12¼
	KELLY DOWN	40.00 FT	COND. OF BIT	RUN
	TOTAL	2466.84 FT	REAMER CUTTER NO.	
	WT OF STRING	42,000 LBS.	TYPE	

DRILLER: Bob Taekema

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S P M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
7¾		2296	2466		110	22,000	900	5½	60			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
2175	½							

REMARKS

4:00 4:15 SERVICE RIG
4:15 12:00 DRILLING

MUD RECORD

TIME	4:00	8	11
WEIGHT	10.4	10.5	10.5
VISC.	43	43	41
W.L.-C.C.	12.8		
FLTR. CK	2/32		
PH	8.0		
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
WATER			

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 7 DATE FEBRUARY 11, 1954.

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA #4
No. 4
PROVINCE: N.W.T.
CONTRACTOR
RIG No.
DRILL PIPE STRING NO. SIZE: 5"
TOOL JOINT: 4 3/4 OD
TYPE THD: I.F.

OPERATOR'S REPRESENTATIVE: H. Taylor
CONTRACTOR'S TOOL PUSHER: Dan Bridle

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7		0'	580'			236	2½ CAL.

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7¾	5½	7½
REAMING			
CIRCULATING			
TRIPS		1¾	
DEVIATION SURVEY		¼	
TEST B.O.P. R.S. & Serv.		¼	¼
CUT OFF DRILL LINE			
REPAIR RIG			¼
CORING			
WIRE LINE LOGGING			
OTHER	¼	¼	
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES SIZE
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
18	STANDS DP	1137.74 FT.	RUN NO.	4
1	SNGLS. DP	FT.	SIZE	6 1/4
	D.C 2¼ ID		MFG.	H.T.C.
20	4 3/4 OD	615.68 FT.	TYPE	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	3
	STB BODY OD	FT.	SIZE	5/8
	SUBS OD	FT.	SER. NO.	61373
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	8¾
	KELLY DOWN	30.58 FT.	COND. OF BIT	
	TOTAL	1784.00 FT.	REAMER CUTTER NO.	
	WT OF STRING	36000 LBS.	TYPE	

DRILLER: E. Holmes.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7¾		1508	1784		110	20	800	5½	60			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

12⁰⁰-12¹⁵ SERVICE RIG. 6000 GALS FUEL
12¹⁵-8⁰⁰ DRILL

MUD RECORD

TIME	12⁰⁰	2⁰⁰	6⁰⁰
WEIGHT	10.⁰⁰	10.²	10.
VISC	42	46	38
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
20	STANDS DP	1229.04 FT.	RUN NO	4	5
	SNGLS. DP	FT.	SIZE	6¼	6¼
	D.C 2¼ ID		MFG	H.T.C.	H.T.C.
20	4¾ OD	615.68 FT.	TYPE	OSC-3	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	3	3
	STB BODY OD	FT.	SIZE	5/8	5/8
	SUBS OD	FT.	SER. NO	61373	61361
	BIT OR C.B	FT.	DEPTH OUT	1860	
		FT.	CUMULATIVE HOURS RUN	13½	¾
	KELLY DOWN	36.00 FT.	COND. OF BIT	Dull Loose	New
	TOTAL	1880.72 FT.	REAMER CUTTER NO.		
	WT OF STRING	37,000 LBS.	TYPE		

DRILLER: Z. Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
5½		1784	1880		110	22	900	5½	64			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
1850'	¾							

REMARKS

8:00 = 8:15, Serv. Rig & Check B.O.P.
8:15 = 1:00, Drilling.
1:00 = 1:15, Drop Totco.
1:15 = 2:15, pulled out, Change Bits
2:15 = 2:30, Change Oil & Filter In Light plant.
2:30 = 3:15, Run In.
3:15 = 4:00, Drilling

MUD RECORD

TIME	8-00	10.00	12:00
WEIGHT	10-1	10.2	10.0
VISC	39	39	43
W.L.-C.C.	11.9	11.9	
FLTR. CK	3/32	3/32	
PH	8.0	8.0	
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
Gel	500#		
water to increase volume			

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
52	STANDS DP	FT.	RUN NO	5
1	SNGLS. DP	1381.25 FT.	SIZE	6¼
	D.C 2¼ ID		MFG	H.T.C.
20	4¾ OD	615.68 FT.	TYPE	OSC-3
	RMR BODY OD	FT.	NOZ. NO	3
	STB BODY OD	FT.	SIZE	5/8
	SUBS OD	FT.	SER NO	61361
	BIT OR C.B	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	8¼
	KELLY DOWN	18.07 FT.	COND. OF BIT	RUN
	TOTAL	2015.00 FT.	REAMER CUTTER NO.	
	WT OF STRING	39,000 LBS.	TYPE	

DRILLER: Blake Tuckerity

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
7½		1880	2015		110	22,000	800	5½	60			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
1850	¾							

REMARKS

4⁰⁰ 4¹⁵ SERVICE RIG
4¹⁵ 4³⁰ DRILLING
4³⁰ 4⁴⁵ WORK ON PUMP
4⁴⁵ 12⁰⁰ DRILLING

MUD RECORD

TIME	4⁰⁰	6⁰⁰	8⁰⁰
WEIGHT	10.4	10.4	10.5
VISC.	48	52	40
W.L.-C.C.	12.6		
FLTR. CK	3/32		
PH	7.6		
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
WATER			

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 6 DATE FEB 10 1958

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.
CONTRACTOR: Eccles Diving Co. Ltd. RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT: 4 3/4 OD
TYPE THD: I.F.
OPERATOR'S REPRESENTATIVE: J. T. Taylor
CONTRACTOR'S TOOL PUSHER: Dan Burke

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D 300	14
2.			
3.			

CASING & LINER RECORD

	SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
	7"		0	630			236	

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	6½	6¼	5½
REAMING			
CIRCULATING			
TRIPS	1¼	1¾	
DEVIATION SURVEY			¼
TEST B.O.P. Rig Serv.		¼	¼
CUT OFF DRILL LINE			
REPAIR RIG		1½	½
CORING			
WIRE LINE LOGGING			
OTHER	¼		
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:	
OPERATOR'S TIME:	
HRS. W/D.P.	
HRS. WO/D.P.:	
HRS. STANDBY	

WIRE LINE RECORD

REEL NO.	
NO. OF LINES SIZE	
FEET SLIPPED	
FEET CUT OFF	
PRESENT LENGTH	
TON MI. or TRIPS SINCE LAST CUT	
CUMULATIVE TON MI. or TRIPS	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	

MORNING TOUR

DRILLING ASSEMBLY

NO.			
9	STANDS DP	551.80	FT.
	SNGLS. DP		FT.
20	D.C. ID		
	D.C. OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B.		FT.
			FT.
	KELLY DOWN	39.52	FT.
	TOTAL	1207.00	FT.
WT OF STRING		34000	LBS.

BIT RECORD

RUN NO.	2	3
SIZE	6 1/4	6 3/4
MFG.	HTC	HTC
TYPE	OSC3	OSC3
NOZ. NO.	2	3
NOZ. SIZE	7/16	1/2
SER. NO.	58325	
DEPTH OUT	1153	
CUMULATIVE HOURS RUN	15¼	1¾
COND. OF BIT	Dull Loose	Run
REAMER CUTTER NO.		
TYPE		

DRILLER: K. Nelson

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
6½		1054	1207		110	20	800	5½	55			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
1054		¼						

REMARKS

¼ 12:00 12:15 Ser. Rig
4¾ 12:15 5:00 Drilling
1¼ 5:00 6:15 Trip
1¾ 6:15 8:00 Drilling

MUD RECORD

TIME	1200	7 —	6 —
WEIGHT	9.8	9.8	10.1
VISC	32	33	38
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

DRILLING ASSEMBLY

NO.			
11	STANDS DP	676.05	FT.
	SNGLS. DP		FT.
20	D.C. 2¼ ID		
	D.C. 4¾ OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B.		FT.
			FT.
	KELLY DOWN	35.00	FT.
	TOTAL	1326.73	FT.
WT OF STRING		36,000	LBS.

BIT RECORD

RUN NO.	3
SIZE	6¼
MFG.	H.T.C.
TYPE	OSC3
NOZ. NO.	3
NOZ. SIZE	½
SER. NO.	58375
DEPTH OUT	
CUMULATIVE HOURS RUN	8
COND. OF BIT	Run
REAMER CUTTER NO.	
TYPE	

DRILLER: J. Klatt

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
6¼		1207	1326		110	24	850	5½	66			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
1050	¼°							

REMARKS

8:00 = 8:15, Serv. Rig & Check B.O.P. (3600 Gal Fuel 10 AM)
8:15 = 1:30, Drilling.
1:30 = work on pump, Change valve seat
3:00, 2 valves Clean Air chamber Screen
3:00 = 4:00, Drilling

MUD RECORD

TIME	8:00	12:00	2:00
WEIGHT	10.2	10.2	9.7
VISC	44	40	37
W.L.-C.C.	17.2		
FLTR. CK	2/32		
PH	7.2		
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
100# Gel			
water to increase volume			

EVENING TOUR

DRILLING ASSEMBLY

NO.			
14	STANDS DP	860.81	FT.
	SNGLS. DP		FT.
20	D.C. 2¼ ID		
	D.C. 4¾ OD	615.68	FT.
	RMR BODY OD		FT.
	STB BODY OD		FT.
	SUBS OD		FT.
	BIT OR C.B.		FT.
			FT.
	KELLY DOWN	31.51	FT.
	TOTAL	1508.00	FT.
WT OF STRING		36,000	LBS.

BIT RECORD

RUN NO.	3	4
SIZE	6¼	6¼
MFG.	H.T.C.	H.T.C.
TYPE	OSC3	OSC3
NOZ. NO.	3	3
NOZ. SIZE	½	7/8
SER. NO.	58375	61373
DEPTH OUT	1455	
CUMULATIVE HOURS RUN	12½	1
COND. OF BIT	Dull Loose	Run
REAMER CUTTER NO.		
TYPE		

DRILLER: Bob Lockerby

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
5½		1326	1508		110	22	800	5½	62			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
1455	⅞							

REMARKS

4:00 4:15 Service Rig
4:15 8:30 Drilling
8:30 9:00 Put on Kelly cock
9:00 9:15 Drop Tatco
9:15 11:00 Trip
11:00 12:00 Drilling

MUD RECORD

TIME	4:00	6:00	8:00
WEIGHT	9.7	9.8	9.8
VISC.	39	40	41
W.L.-C.C.	12.		
FLTR. CK	2/32		
PH	8.0		
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 5 DATE Feb. 9 1958

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: Shell Alexandra No. 4
PROVINCE: N.W.T.
CONTRACTOR: [illegible] RIG No. 11
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT: 4¾ OD
TYPE THD: I.F.
OPERATOR'S REPRESENTATIVE: W. T. Taylor
CONTRACTOR'S TOOL PUSHER: D. Burch

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	Emsco	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0	530			[illegible]	2% CaCl.
						236	

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	7¾	4¼	7½
REAMING			
CIRCULATING			
TRIPS		1¼	
DEVIATION SURVEY		¼	¼
TEST B.O.P. Rig Servi.		¼	¼
CUT OFF DRILL LINE			
REPAIR RIG		2	
CORING			
WIRE LINE LOGGING			
OTHER	¼		
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P:
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE /"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
3	STANDS DP	183.91 FT.	RUN NO.	1
	SNGLS. DP	FT.	SIZE	6¼
	D.C ID		MFG.	H.T.C.
20	D.C OD	615.68 FT.	TYPE	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	3
	STB BODY OD	FT.	NOZ. SIZE	½
	SUBS OD	FT.	SER. NO.	60577
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	16
	KELLY DOWN	20.41 FT.	COND. OF BIT	
	TOTAL	820.00 FT.	REAMER CUTTER NO.	
WT OF STRING	32,000 LBS.		TYPE	

DRILLER: F. Hobbes.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
7¾		661	820		110	20	750	5½	54			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

12:00	12:15	Ser. Rig
12:15	8:00	Drilling
		Fuel 4400 Gallons

MUD RECORD

TIME	12:00	1:00	6:00
WEIGHT	9.5	9.6	9.7
VISC	41	42	41
W.L.-C.C.			
FLTR. CK.			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD		
4	STANDS DP	FT.	RUN NO	1	2
1	SNGLS. DP	275.60 FT.	SIZE	6¼	6¼
	D.C 7¾ ID		MFG	H.T.C.	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSCJ	OSC3J
	RMR BODY OD	FT	NOZ NO.	3	3
	STB BODY OD	FT	NOZ SIZE	½	7/16
	SUBS OD	FT	SER. NO	60577	60924
	BIT OR C.B	FT	DEPTH OUT	836	
		FT	CUMULATIVE HOURS RUN	17¼	
	KELLY DOWN	21.00 FT	COND OF BIT	Loose	
	TOTAL	912.28 FT	REAMER CUTTER NO.		
WT OF STRING	33,000 LBS.		TYPE		

DRILLER: Z. Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
4¼		820	912		110	22	950	5½	52			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
830'	½°							

REMARKS

8:00	8:15,	Serv. Rig & Check B.O.P.
8:15	9:15	Cut 2 Ft. Off End of Suction, Remove Sticks From Valves
9:15	10:30,	Drilling.
10:30	10:45,	Drop Totco
10:45	11:15,	Pulled Out, Change Bits
11:15	12:00,	Work on Shale Shaker Trough.
12:00	12:45,	Run In, Break Circ.
12:45	1:00,	Thaw Air Lines, 1:00 = 400, Drilling

MUD RECORD

TIME	9:00	1:00	3:00
WEIGHT	9.6	9.6	9.6
VISC	41	38	38
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	600#	water	increase volume

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
6	STANDS DP	FT.	RUN NO	2
1	SNGLS. DP	398.58 FT.	SIZE	6¼
	D.C 2¼ ID		MFG	H.T.C.
20	D.C 4¾ OD	615.68 FT	TYPE	OSC3J
	RMR BODY OD	FT	NOZ NO	3
	STB BODY OD	FT	NOZ SIZE	7/16
	SUBS OD	FT	SER NO	60924
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	7½
	KELLY DOWN	40.00 FT.	COND. OF BIT	RUN
	TOTAL	1054.36 FT	REAMER CUTTER NO.	
WT OF STRING	33,000 LBS.		TYPE	

DRILLER: Bob Dockerill

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
7½		912	1054		110	29,000	800	5½	60			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
830	½		1054	¼				

REMARKS

4:00	4:15	SERVICE RIG
4:15	11:45	DRILLING
11:45	12:00	TOTCO

MUD RECORD

TIME	4:00	8:00	10:00
WEIGHT	9.8	9.8	9.7
VISC.	42	40	41
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

C.P.—38 **DAILY DRILLING REPORT** REPORT NO: 4 DATE FEB. 8 1959

OPERATOR	LOCATION LSD. SEC. TWP RGE. W	WELL NAME	No.	PROVINCE
Shell Oil Company of Canada, Limited		SHELL ALEXANDRA	4	N.W.T.

CONTRACTOR	RIG No.	DRILL PIPE STRING NO. SIZE	TOOL JOINT	OPERATOR'S REPRESENTATIVE	CONTRACTOR'S TOOL PUSHER
PLAINT DRLG. Co. LTD.	21	3½	4¾ OD, TYPE THD I.F.	J. Taylor	Dan Brady

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

	SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
CASING	7		0	520			236	2% CAL.
LINER								

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL		½	7¾
REAMING			
CIRCULATING			
TRIPS			
DEVIATION SURVEY			
TEST B.O.P.		6½	
CUT OFF DRILL LINE			
REPAIR RIG			¼
CORING			
WIRE LINE LOGGING			
OTHER Orig. connect		8	
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:

OPERATOR'S TIME:

HRS. W/D.P

HRS. WO/D.P:

HRS. STANDBY

WIRE LINE RECORD

REEL NO.

NO. OF LINES SIZE

FEET SLIPPED

FEET CUT OFF

PRESENT LENGTH

TON MI. or TRIPS SINCE LAST CUT

CUMULATIVE TON-MI. or TRIPS

NO. OF DAYS FROM SPUD

CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO.	1
	SNGLS. DP	FT.	SIZE	6¼
	D.C ID		MFG.	HTC
	D.C OD	FT.	TYPE	
	RMR BODY OD	FT.	NOZ. NO.	
	STB BODY OD	FT.	NOZ. SIZE	
	SUBS OD	FT.	SER. NO.	
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT.	COND. OF BIT	
	TOTAL	FT.	REAMER CUTTER NO.	
WT OF STRING		LBS.	TYPE	

DRILLER B. Holmes.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
		525'										

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

12:00 8:00 Nipple up, Slip line & start running in hole

MUD RECORD: TIME, WEIGHT, VISC, W.L.-C.C., FLTR. CK., PH, SD. CONT.

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	1
	SNGLS. DP	FT.	SIZE	6¼
17	D.C 2¼ ID		MFG	H.T.C
	D.C 4¾ OD	523.37 FT	TYPE	OSCJ
	RMR BODY OD	FT	NOZ. NO.	3
	STB BODY OD	FT	NOZ. SIZE	⅝
	SUBS OD	FT	SER. NO	60577
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	½
	KELLY DOWN	12.00 FT	COND. OF BIT	
	TOTAL	535.37 FT	REAMER CUTTER NO.	
WT OF STRING	23000	LBS.	TYPE	

DRILLER Klatt.

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
½		525	~~535~~ 535		110	18	600	6½	62			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
440'	¼°							

REMARKS

2:00 = 2:00, Testing B.O.P control Unit.
2:00 = 2:30, pressure up Hydril & Cameron.
2:30 = 3:30, Drill out plug, Float cement & Shoe
3:30 = 4:00, Drilling.
Top of plug @ 441. FT.
Pressured up on Hydril & Csg. to 1000#
Held OK. For 15 min

MUD RECORD: TIME, WEIGHT, VISC, W.L.-C.C., FLTR. CK, PH, SD. CONT

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	1
1	SNGLS. DP	30.60 FT	SIZE	~~6¼~~ 6¼
	D.C 2¼ ID		MFG	~~H.T.C~~
20	D.C 4¾ OD	615.68 FT	TYPE	OSC-J
	RMR BODY OD	FT	NOZ. NO.	3
	STB BODY OD	FT	NOZ. SIZE	½
	SUBS OD	FT	SER. NO	60577
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	7¾
	KELLY DOWN	15.00 FT.	COND. OF BIT	Run
	TOTAL	661. FT	REAMER CUTTER NO.	
WT OF STRING	28,000	LBS.	TYPE	

DRILLER Blair Trockenitz

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
7¾		535	661		110	18M	750	5½	60			

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
440	¼°							

REMARKS

4:00 4:15 SERVICE R.G
4:15 12:00 DRILLING

MUD RECORD

TIME	8:00	10:00	11:00
WEIGHT	9.3	9.3	9.3
VISC.	47	43	44
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
Gel	13 bags.		
Quebracho	2 bags.		
Soda			

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 3 DATE FEB 7, 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.

CONTRACTOR: REGENT DRILLING RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT: 4¾ OD TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: H. Taylor
CONTRACTOR'S TOOL PUSHER: Dan Brady

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER
7"		0				250 Sxs.	

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL (Ran & Cemented Casing)	4½		
REAMING			
CIRCULATING	1		
TRIPS			
DEVIATION SURVEY			
TEST B.O.P.			
CUT OFF DRILL LINE			
REPAIR RIG			
CORING			
WIRE LINE LOGGING			
OTHER W.O.C.	2½	8	
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. WO/D.P.:
HRS. STANDBY

WIRE LINE RECORD

REEL NO.
NO. OF LINES 6 SIZE 1"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO.	
	SNGLS. DP	FT.	SIZE	
16	D.C ID 2¼ OD 4¾	492.77 FT.	MFG.	
	RMR BODY OD	FT.	TYPE	
	STB BODY OD	FT.	NOZ. NO.	
2	SUBS OD	3.47 FT.	NOZ. SIZE	
	BIT OR C.B.	FT.	SER. NO.	
		FT.	DEPTH OUT	
	KELLY DOWN	28.76 FT.	CUMULATIVE HOURS RUN	
	TOTAL	525.00 FT.	COND. OF BIT	
	WT OF STRING	LBS.	REAMER CUTTER NO.	
			TYPE	

DRILLER: Blake Tuckerite

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

12:00 2.30 Run 7" Casing
2:30 3:30 Circ
3:30 5:30 Cement Casing & Land Same
5:30 8:00 W. O. C.

Ran 12 jts. (501.17') 7" 20# /ft. J-55 ST+C New Seamless National Casing with Baker Guide Shoe & Float Collar. Cemented at 520.77' K.B. with 236 sacks Canada Portland Cement + 2% CaCl₂. Bumped plug with 850 psi at 5:26 A.M. Average slurry weight 14 lbs/cu. ft. Circulations - 10 bbls.

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK.	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT.	SIZE	
	D.C ID OD	FT	MFG	
	RMR BODY OD	FT	TYPE	
	STB BODY OD	FT	NOZ. NO.	
	SUBS OD	FT	NOZ. SIZE	
	BIT OR C.B	FT	SER. NO	
		FT	DEPTH OUT	
	KELLY DOWN	FT	CUMULATIVE HOURS RUN	
	TOTAL	FT	COND OF BIT	
	WT OF STRING	LBS.	REAMER CUTTER NO.	
			TYPE	

DRILLER: R. Nelmes

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

8:00 4:00 W. O. C.

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT	SIZE	
	D.C ID OD	FT	MFG	
	RMR BODY OD	FT	TYPE	
	STB BODY OD	FT	NOZ. NO.	
	SUBS OD	FT	NOZ. SIZE	
	BIT OR C.B	FT	SER. NO	
		FT	DEPTH OUT	
	KELLY DOWN	FT.	CUMULATIVE HOURS RUN	
	TOTAL	FT	COND. OF BIT	
	WT OF STRING	LBS.	REAMER CUTTER NO.	
			TYPE	

DRILLER: H Clatt

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S P M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
			525					5½				

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
440'	¼°							

REMARKS

4:00 - 5:30, W. O. C.
5:30 - 6:00, Slack off Back off Landing Jt.
6:00 - 12:00, Nippling up.

(Used 2 Bags cement outside csg.

MUD RECORD

TIME	
WEIGHT	
VISC.	
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. 2 DATE FEB 6, 1959

OPERATOR: Shell Oil Company of Canada, Limited

LOCATION LSD. SEC. TWP RGE. W

WELL NAME: SHELL ALEXANDRA No. 4

PROVINCE: N.W.T.

CONTRACTOR: REGENT DRILLING RIG No. 21

DRILL PIPE STRING NO. SIZE: 3½

TOOL JOINT: 4 3/4 OD

TYPE THD: I.F.

OPERATOR'S REPRESENTATIVE: H. Taylor

CONTRACTOR'S TOOL PUSHER: Dan Bird

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

	SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	5 1/4	7	2
REAMING			
CIRCULATING			2
TRIPS	3/4		1 3/4
DEVIATION SURVEY		1/4	
TEST B.O.P. DAILY	1/4	1/4	1/4
CUT OFF DRILL LINE			
REPAIR RIG	1 3/4	3/4	
CORING			
WIRE LINE LOGGING			
OTHER			2
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)

CONTRACTOR'S TIME HRS:

OPERATOR'S TIME:

HRS. W/D.P.

HRS. WO/D.P:

HRS. STANDBY

WIRE LINE RECORD

REEL NO.

NO. OF LINES 6 SIZE 1"

FEET SLIPPED

FEET CUT OFF

PRESENT LENGTH

TON MI. or TRIPS SINCE LAST CUT

CUMULATIVE TON MI. or TRIPS

NO. OF DAYS FROM SPUD

CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO.	1B
	SNGLS. DP	FT.	SIZE	9 7/8
	D.C. ID 2 1/4		MFG.	H.T.C.
12	D.C. OD 4 3/4	369.56 FT.	TYPE	OSC-3
	RMR BODY OD	FT.	NOZ. NO.	
	STB BODY OD	FT.	NOZ. SIZE	5/8
2	SUBS OD	3.47 FT.	SER. NO.	43846
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	5 1/4
	KELLY DOWN	40.00 FT.	COND. OF BIT	Good
	TOTAL	413.03 FT.	REAMER CUTTER NO.	
	WT OF STRING 20,000 LBS.		TYPE	

DRILLER: Blake Doeckeritz

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
5 1/4		358	413		150	15,000	500	6 3/4	60			

DEVIATION RECORD: DEPTH 300 DEV ½ DIRECTION

REMARKS

12:00	12:15	SERVICE R.G
12:15	1:45	CHANGE ROTARY TABLE & FILL WITH OIL
1:45	2:30	RUN IN HOLE
2:30	3:45	DRILLING
3:45	4:00	WORK ON PUMP
4:00	8:00	DRILLING

MUD RECORD

TIME	4:00	6:00
WEIGHT	10.1	10.1
VISC	42	43
W.L.-C.C.		
FLTR. CK.		
PH		
SD. CONT.		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	1B
	SNGLS. DP	FT.	SIZE	9 7/8
	D.C. ID		MFG	H.T.C.
15	D.C. OD	461.96 FT	TYPE	OSC-3
	RMR BODY OD	FT	NOZ NO.	6
	STB BODY OD	FT	NOZ SIZE	5/8
2	SUBS OD	3.47 FT	SER. NO	43846
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	12 1/4
	KELLY DOWN	40.00 FT	COND. OF BIT	
	TOTAL	505.53 FT	REAMER CUTTER NO.	
	WT OF STRING 26000 LBS.		TYPE	

DRILLER: R. Nelson

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M	METHOD PUMPS RUN
7		413	505		100	20	600	6 3/4	52			

DEVIATION RECORD: DEPTH 440 DEV ¼ DIRECTION

REMARKS

4:00	8:15	SER. R.G
8:15	8:45	WORK ON PUMP
8:45	10:45	DRILLING
10:45	11:00	SURVEY
11:00	4:00	DRILLING

MUD RECORD

TIME	7:00	10:00	7:00
WEIGHT	10.3	10.5	10.9
VISC	40	44	56
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	1B
	SNGLS. DP	FT.	SIZE	9 7/8
	D.C. ID 2 1/4		MFG	H.T.C.
16	D.C. OD 4 3/4	492.77 FT	TYPE	OSC-3
	RMR BODY OD	FT	NOZ NO	6
	STB BODY OD	FT	NOZ SIZE	5/8
2	SUBS OD	3.47 FT	SER NO	43846
	BIT OR C.B	FT	DEPTH OUT	525
		FT	CUMULATIVE HOURS RUN	14 1/4
	KELLY DOWN	28.76 FT.	COND. OF BIT	Fair
	TOTAL	525.00 FT	REAMER CUTTER NO.	
	WT OF STRING 23000 LBS.		TYPE	

DRILLER: K Catt

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000=	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
2		505	525		110	20	600	6 3/4	48			

DEVIATION RECORD: DEPTH 440 DEV ¼ DIRECTION

REMARKS

4:00 =	4:15,	Service Rig
4:15 =	6:15,	Drilling
6:15 =	7:15,	Circulate
7:15 =	8:15,	Trip, Measured Out.
8:15 =	9:15,	Circ. To Run Csg.
9:15 =	10:00,	Blow Kelly, pulled out) used Thread Lock
10:00	11:00,	Rig To Run Csg. (11:00 = 12:00 Make up Shoe & Float Collar)

MUD RECORD

TIME	4:00	8:00	Run
WEIGHT	11.0	11.0	
VISC.	67	65	C
W.L.-C.C.			a
FLTR. CK			S
PH			i
SD. CONT.			n
			g

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. DATE FEB 5, 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.

CONTRACTOR: REGENT DRILLING RIG No. 21
DRILL PIPE STRING NO. SIZE 3½
TOOL JOINT 4¾ OD TYPE THD I.F.

OPERATOR'S REPRESENTATIVE: J. Taylor
CONTRACTOR'S TOOL PUSHER: D. Hanzy

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	8¼	5	5¾
REAMING			
CIRCULATING			
TRIPS			¾
DEVIATION SURVEY		½	
TEST B.O.P. ~~SOR~~		¼	¼
CUT OFF DRILL LINE			
REPAIR RIG	¼	¼	½
CORING			
WIRE LINE LOGGING			
OTHER	½		¾
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	8	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P:
HRS. WO/D.P:
HRS. STANDBY

WIRE LINE RECORD
REEL NO.
NO. OF LINES 6 SIZE 1"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT	RUN NO.	1C
	SNGLS. DP	FT.	SIZE	9⅞
	D.C ID		MFG.	H.T.C.
1	D.C OD	30.82 FT.	TYPE	OSC-1
	RMR BODY OD	FT.	NOZ. NO.	5/8
	STB BODY OD	FT.	NOZ. SIZE	
2.	SUBS OD	3.47 FT.	SER. NO.	92710
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	
	KELLY DOWN	20.00 FT.	COND. OF BIT	
	TOTAL	54.29 FT.	REAMER CUTTER NO.	
	WT OF STRING	LBS.	TYPE	

DRILLER: Blake Toeckenitz

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
3¼		0	54		150		200	6¾				

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

12.00	1.15	Digging RATHOLE
1.15	1.30	WORK ON PUMP
1.30	4.30	Digging RATHOLE
4.30	6.45	DRILLING
6.45	7.00	PUT ON BAILS & ELEVATORS
7.00	8.00	DRILLING

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK.	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	1A
	SNGLS. DP	FT.	SIZE	9⅞
	D.C ID		MFG	HTC
10	D.C OD	307.89 FT	TYPE	OSC-1
	RMR BODY OD	FT	NOZ NO.	6
	STB BODY OD	3.47 FT	NOZ SIZE	7/8
2	SUBS OD	FT	SER NO R.R.	92710
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	5
	KELLY DOWN	10.64 FT	COND OF BIT	
	TOTAL	322.00 FT	REAMER CUTTER NO.	
	WT OF STRING	18000 LBS.	TYPE	

DRILLER: R. Hobson

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
5		54	322 ~~300~~		150	ALL	400	6¾	64			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
	130	¼		300	½				

REMARKS

8.00	8.15	Ser. Rig	1.30	2.00 Drilling
8.15	9.30	Drilling	2.00	2.45 Work on Pump
9.30	9.45	Survey	2.45	3.15 Drilling
9.45	10.45	Drilling	3.15	3.30 Run Survey
10.45	11.15	Work on Pump	3.30	11.00 Work on Air Throttle
11.15	1.00	Drilling		
1.00	1.30	Work on Pump		

MUD RECORD

TIME	8.00	10.00	7.00
WEIGHT	9.4	9.4	9.5
VISC	48	44	46
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	1A
	SNGLS. DP	FT	SIZE	9⅞
	D.C 2¼ ID		MFG	H.T.C.
11	D.C 4¾ OD	338.73 FT	TYPE	OSC-1
	RMR BODY OD	FT	NOZ NO	6
	STB BODY OD	FT	NOZ SIZE	5/8
2	SUBS OD	3.47 FT	SER NO R.R.	92710
	BIT OR C.B	FT	DEPTH OUT	358
		FT	CUMULATIVE HOURS RUN	14
	KELLY DOWN	16.00 FT.	COND. OF BIT	Fair
	TOTAL	358.20 FT	REAMER CUTTER NO.	
	WT OF STRING	18,000 LBS.	TYPE	

DRILLER: Klatt.

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S.P.M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
5¾		328	358		150	10	500	6¾	60			

DEVIATION RECORD:	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV.	DIRECTION
	300'	½ 0							

REMARKS

4:00	4:15,	Serv. Rig	
4:15	4:30,	Drilling	
4:30	5:00	Remove Sticks From pump "Values"	
5:00	9:00,	Drilling "Lime"	
9:00	9:45,	Unload New Rotary Table	
9:45	11:15,	Drilling "Lime"	
11:15	12:00,	Blow Kelly, pulled out	

MUD RECORD

TIME	4.00	6.00	8.00
WEIGHT	9.4	9.5	9.3
VISC.	37	38	36
W.L.-C.C.			
FLTR. CK			
PH			
SD. CONT.			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

C.P.—38 **DAILY DRILLING REPORT** REPORT NO. DATE FEB 4, 1959

OPERATOR: Shell Oil Company of Canada, Limited
LOCATION LSD. SEC. TWP RGE. W
WELL NAME: SHELL ALEXANDRA No. 4
PROVINCE: N.W.T.
CONTRACTOR: REGENT DRILLING RIG No. 21
DRILL PIPE STRING NO. SIZE: 3½
TOOL JOINT 4 3/4 OD
TYPE THD I.F.

PUMPS

NO.	MANUFACTURER	TYPE	STROKE LENGTH
1.	EMSCO	D-300	14
2.			
3.			

CASING & LINER RECORD

SIZE	WT & GR.	DEPTH SET FROM	DEPTH SET TO	PERFORATIONS FROM	PERFORATIONS TO	CEMENT USED	OTHER

OPERATOR'S REPRESENTATIVE: J. Taylor
CONTRACTOR'S TOOL PUSHER: S. Hovey

TIME DISTRIBUTION—HOURS

	MORN	DAY	EVE
DRILLING ACTUAL	Rathole		1
REAMING			
CIRCULATING			
TRIPS			
DEVIATION SURVEY			
TEST B.O.P.			
CUT OFF DRILL LINE			
REPAIR RIG			
CORING			
WIRE LINE LOGGING			
OTHER	8	8	7
FISHING			
COMPLETING (A) PERFORATING			
(B) RUNNING TUBING			
(C) SWABBING			
(D) TESTING			
(E) ACIDIZING			
(F) ADDITIONAL			
TOTALS	9	8	8

TIME SUMMARY (OFFICE USE ONLY)
CONTRACTOR'S TIME HRS:
OPERATOR'S TIME:
HRS. W/D.P.
HRS. W/O D.P.:
HRS. STANDBY

WIRE LINE RECORD

REEL NO.
NO. OF LINES 6 SIZE 1"
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. or TRIPS SINCE LAST CUT
CUMULATIVE TON MI. or TRIPS
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.

MORNING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT	RUN NO.	
	SNGLS. DP	FT.	SIZE	
	D.C ID / OD	FT.	MFG.	
	RMR BODY OD	FT.	TYPE	
	STB BODY OD	FT.	NOZ. NO. / SIZE	
	SUBS OD	FT.	SER. NO.	
	BIT OR C.B.	FT.	DEPTH OUT	
		FT.	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT.	COND. OF BIT	
	TOTAL	FT.	REAMER CUTTER NO.	
	WT OF STRING	LBS.	TYPE	

DRILLER: Blake Lockerith

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN
								6¾				

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
•								

REMARKS

8:00-8:00 CENTRE CONDUCTOR PIPE & CEMENT
SAME. RIG UP.
CHANGED HEADS & LINERS TO 6 3/4
18' Conductor Pipe

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK.	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
CEMENT	15 Bags		
CALSIUM	25 lbs.		

DAY TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT.	SIZE	
	D.C ID / OD	FT	MFG	
	RMR BODY OD	FT	TYPE	
	STB BODY OD	FT	NOZ NO. / SIZE	
	SUBS OD	FT	SER. NO	
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT	COND OF BIT	
	TOTAL	FT	REAMER CUTTER NO.	
	WT OF STRING	LBS.	TYPE	

DRILLER: R. McInnes

HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	METHOD PUMPS RUN

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

8:00 4:00 Rig

MUD RECORD

TIME	
WEIGHT	
VISC	
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
18 SAX	CEMENT FOR CELLAR		

EVENING TOUR

NO.	DRILLING ASSEMBLY		BIT RECORD	
	STANDS DP	FT.	RUN NO	
	SNGLS. DP	FT	SIZE	
	D.C ID / OD	FT	MFG	
	RMR BODY OD	FT	TYPE	
	STB BODY OD	FT	NOZ NO / SIZE	
	SUBS OD	FT	SER NO	
	BIT OR C.B	FT	DEPTH OUT	
		FT	CUMULATIVE HOURS RUN	
	KELLY DOWN	FT.	COND. OF BIT	
	TOTAL	FT	REAMER CUTTER NO.	
	WT OF STRING	LBS.	TYPE	

DRILLER: H Klatt

HRS. DRLD	CORE NO	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTARY R.P.M	WT ON BIT 1000#	PUMP PRESS	PUMP NO 1 LINER SIZE	PUMP NO 1 S P M	PUMP NO 2 LINER SIZE	PUMP NO 2 S.P.M	METHOD PUMPS RUN
								6¾				

DEVIATION RECORD:

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

REMARKS

4:00 = 9:45 Rigging up.
9:45 = 11:00 prime pump Mix Mud
11:00 = 12:00 Digging Kathole.

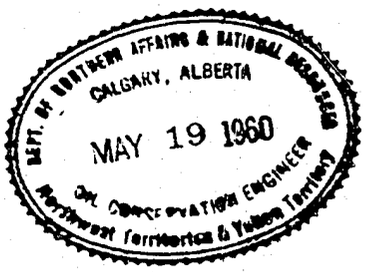
MUD RECORD

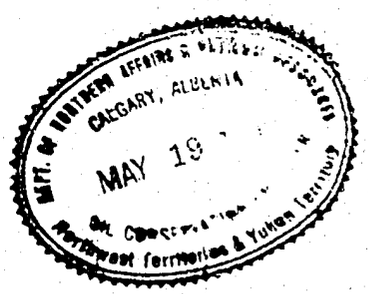
TIME	
WEIGHT	
VISC.	
W.L.-C.C.	
FLTR. CK	
PH	
SD. CONT.	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT
Gel	1500 lbs		
Cement	1 sack		

N-7940-1-53


DEPT. OF NORTHERN AFFAIRS & NATIONAL RESOURCES
CALGARY, ALBERTA
MAY 19 1960
OIL CONSERVATION ENGINEER
Northwest Territories & Yukon Territory


CALGARY, ALBERTA
MAY 19
Northwest Territories & Yukon Territory

CONTINUOUS VELOCITY LOG

a n d

GEOPHONE SURVEY

SHELL ALEXANDRA No. 4

60°19'36"N. Lat.

117°54'11"W. Long.

NORTHWEST TERRITORIES, CANADA

f o r

SHELL OIL COMPANY OF CANADA LIMITED

EDMONTON, ALBERTA

Seismograph Service Corporation of Canada

Calgary, Alberta

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INTRODUCTION

A survey was conducted on February 23, 1959, to determine the subsurface seismic velocities at the Shell Alexandra No. 4 Well located 60°19'36"N. Lat., 117°54'11"W. Long., Northwest Territories, Canada.

Both standard well geophone and continuous velocity logging methods were used to make this survey. The logging sonde and the pressure sensitive diaphragm-type geophone were coupled together and run on a Schlumberger cable into the well, which had been drilled to a depth of 4091 feet with 7 inch casing set to 520 feet. Due to bottom hole conditions in the well, 4084 feet was the maximum depth reached by the survey.

The well and cable truck were made available to the crew at 11:00 on February 23, 1959, and the geophone survey commenced at 11:10 with the firing of the first shot. The last shot was fired at 14:45 after which the Continuous Velocity Log was run and all operations were completed by 16:00.

There were no operational difficulties encountered during the survey and the results obtained are considered to be reliable.

FIELD PROCEDURE

The geophone survey was run first as the bore hole instruments were lowered to the bottom of the well and eight levels were tested. For each level, the geophone was lowered at least 50 feet below the desired depth and then slowly raised to the proper place, so that in all cases its last movement was upward. All depth measurements were obtained by the standard measuring device of the cable truck and were referred to the kelly bushing at an elevation of 1112 feet above sea level.

Shot holes were drilled to a depth of 50 feet and located between 465 and 565 feet from the well as shown in the Shooting Plan, Appendix II. Two additional holes "B" & "F" located 500 and 495 feet from the well were drilled to a depth of 120 feet to accommodate sub-shot reference geophones. Shot hole charges used varied from a booster cap to 5 pounds of dynamite.

The polarity of the well geophone was arranged so that all "first breaks" would be downward. The trace arrangement used on the velocity test records is as follows:

Trace #1 — Travel time from shot to well geophone - low gain

Trace #2	Travel time from shot to well geophone - medium gain
Trace #3	Travel time from shot to well geophone - high gain
Trace #4	Time break or shot instant
Trace #5	Uphole or vertical time in shot hole
Trace #6	Sub-shot reference geophone
Traces #7 to #12	Reflection profile from surface geophones

The three amplifiers, recording the output of the well geophone, were adjusted to a frequency response band of 18 to 120 cycles per second at 70.7 percent amplitude response. Automatic level control was not used on these traces.

A six station reflection spread was laid between Shot Point A and the well as shown in the Shooting Plan and was recorded simultaneously with each velocity test shot. A twelve station reflection spread laid east from the well was also recorded at the completion of the survey. Three geophones were used per trace and station intervals were maintained at 60 feet for both spreads. A reflection record of suitable quality for inclusion with this report was not obtained.

Immediately after the last shot completing the geophone portion of the survey, the Continuous Velocity Log was obtained as the instruments were raised from the bottom of the bore hole. The logging speed was such that at least ten to twenty overlapping measurements were taken for each foot of travel. The log was run from a depth of 4082 feet to the foot of the surface casing at 520 feet below the kelly bushing.

At the completion of the Continuous Velocity Logging run two separate near surface velocity surveys were recorded. A crystal geophone cable was suspended in holes B and F and subsurface travel times were recorded from shots fired in Shot Point PH_2 and PH_1. The results of these surveys appear in Appendices VII and VII A.

INTERPRETATION and RESULTS

Velocity Determination

Sixteen velocity test records are submitted in Appendix V.

The calculation of velocities from these data was based on the assumption of straight line paths of energy travel from shot to well geophone. The observed "first break" times of the well geophone traces were converted to vertical travel times by application of the cosine function:

$$\cos i = \cos \text{arc} \tan X/(Z + de)$$

The vertical travel times were then reduced to elevations of 989 feet and 983 feet above sea level coincident with the elevations of the sub-shot reference geophones in holes B and F. Elevation corrections were computed from the reference geophone arrival times by the application of appropriate cosine functions. The vertical travel times were further corrected to an elevation datum of 975 feet above sea level using an elevation correction velocity approximated at 6000 feet per second for shots fired in Shot Point A and 5800 feet per second for shots fired in Shot Point G. The method and calculations appear in Appendix III A.

The subsurface velocity calculations are shown in Appendix III. Final time-depth, average velocity and interval velocity curves are shown in Appendix IV.

Continuous Velocity Log

Single and two receiver Continuous Velocity Logs were recorded simultaneously in the field and a calibrated copy, traced from the field original is enclosed in the pocket of the back cover of this report. The log consists of four curves:

1) Interval Velocity Curves:

These curves are the continuous recording in microseconds of the interval time through formation distances of 6.0000 feet for the single receiver curve and 3.0000 feet for the two receiver curve. These times can be read as interval velocity on the appropriate scale at the top of the log.

2) Integrated Curves:

Integrated time was derived from both interval velocity curves by an automatic integrating device. The results have been calibrated to the geophone sur-

vey and total travel times over any section of the log may be obtained from the single or two receiver log.

The integrated time for the interval velocity curves appears as two diagonal lines moving to the right on the log with increasing depth. The integrated time scale has been selected as two milliseconds per 0.1 inch, as shown on the appropriate scale at the top of the log. Each cycle of the recording pen increases the time scale by 100 milliseconds.

During the drafting process noise spikes and other spurious events were removed. No allowance was made in the field for the effects of mud delay, formation invasion, and other bore hole factors affecting the delay time normally encountered with Continuous Velocity Logs. The log was calibrated by comparing the integrated times of the Continuous Velocity Log with the time-depth curve of the geophone survey. The time difference at each level tested by the well geophone was plotted against depth and the results appear in Appendix VI. The resulting slopes indicate that

the single receiver curve required a mud delay time of 71 microseconds.

Comparison of the interval velocities recorded by the geophone survey and the two receiver log indicated that the logged velocities were in excess of the true formation velocities. To decrease the interval velocity, the curve was shifted towards the low velocity end of the scale by an amount of 44 microseconds. No explanation for this phenomena can be advanced at this time. Further investigation into this problem will be possible only with the acquisition of more two receiver logs and further experiments with varied receiver spacings.

The following tabulation shows the deviation between the well geophone data and the corrected integrated times which were calibrated to a geophone check shot at the 3626 foot level.

		Single Receiver Log		Two Receiver Log	
Depth (K.B.)	Tc (Geo)	Tc (Log)	ΔF	Tc (Log)	ΔF
600	.0425	.0449	+.0024	.0433	+.0008
1210	.0840	.0837	-.0003	.0832	-.0008
1750	.1390	.1391	+.0001	.1385	-.0005

2300	.1815	.1805	-.0010	.1815	.0000
2800	.2320	.2315	-.0005	.2316	-.0004
3340	.2835	.2851	+.0016	.2839	+.0004
3626	.3000	.3000	.0000	.3000	.0000
4084	.3230	.3231	+.0001	.3254	+.0024

Inspection of the table shows reasonable agreement between the data at all levels tested and the Continuous Velocity Log is considered to be reliable.

Respectfully submitted,

Seismograph Service Corporation
of Canada

By D.R.F. Hargrave

D.R.F. Hargrave - Supervisor

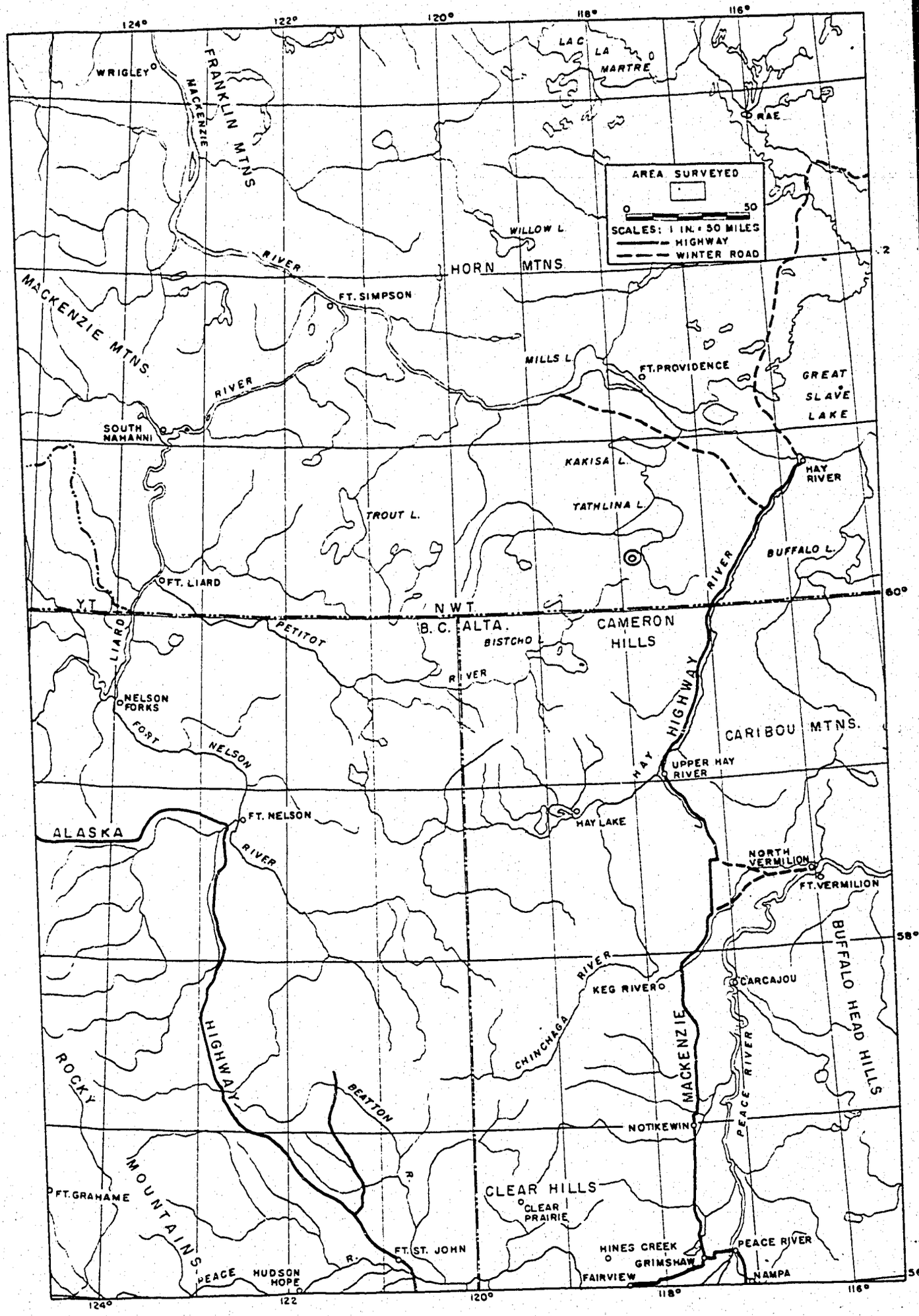
March 26, 1959

APPROVED:

By G.E. Blackledge

G. E. Blackledge
Manager of Velocity Logging

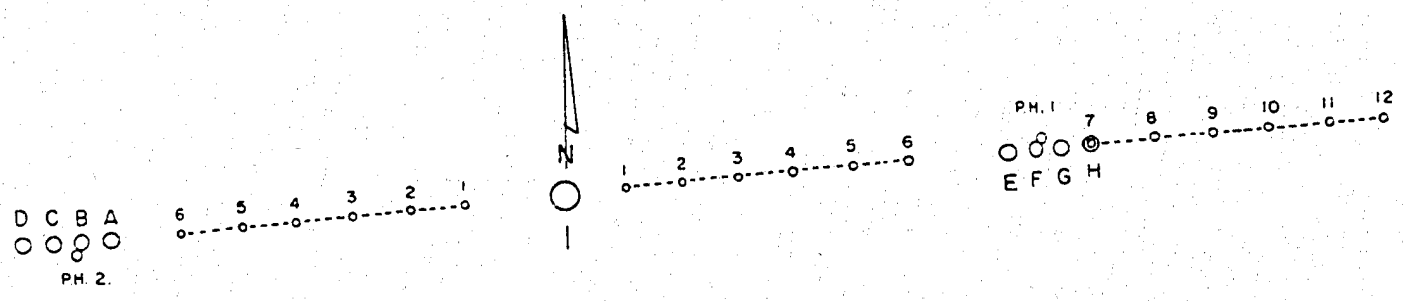
DRFH/mm


124°
122°
120°
118°
116°
WRIGLEY
FRANKLIN MTNS
MACKENZIE
LAC LA MARTRE
RAE
AREA SURVEYED
0 50
SCALES: 1 IN. = 50 MILES
HIGHWAY
WINTER ROAD
WILLOW L.
RIVER
HORN MTNS.
MACKENZIE MTNS.
FT. SIMPSON
MILLS L.
FT. PROVIDENCE
GREAT SLAVE LAKE
RIVER
SOUTH NAHANNI
KAKISA L.
HAY RIVER
TROUT L.
TATHLINA L.
BUFFALO L.
FT. LIARD
YT
N.W.T.
60°
LIARD
PETITOT
B.C.
ALTA.
CAMERON HILLS
BISTCHO L.
RIVER
NELSON FORKS
FORT NELSON
HAY
HIGHWAY
CARIBOU MTNS.
UPPER HAY RIVER
ALASKA
FT. NELSON
RIVER
HAY LAKE
NORTH VERMILION
FT. VERMILION
58°
KEG RIVER
CARCAJOU
BUFFALO HEAD HILLS
CHINCHAGA
RIVER
ROCKY
HIGHWAY
BEATTON
MACKENZIE
PEACE RIVER
NOTIKEWIN
MOUNTAINS
FT. GRAHAME
CLEAR HILLS
CLEAR PRAIRIE
R.
FT. ST. JOHN
HINES CREEK
GRIMSHAW
PEACE RIVER
PEACE
HUDSON HOPE
FAIRVIEW
NAMPA
56°
124°
122
120°
118°
116°

SHOOTING PLAN

SHELL ALEXANDRA NO. 4.

60° - 19' 36" N. LAT., 117° - 54'-11" W LONG.



LEGEND:

- ◯ WELL SURVEYED.
- O SHOT POINT.
- o GEOPHONE.

SCALE : 1 IN. = 200FT.

SP	ELEVATION	DISTANCE	DIRECTION FROM WELL	SP	ELEVATION	DISTANCE	DIRECTION FROM WELL
A	1106	470	S 85° 00' W	E	1101	465	N 85° 00' E
B	1107	500	S 85° 00' W	F	1101	495	N 85° 00' E
C	1107	535	S 85° 00' W	G	1101	525	N 85° 00' E
D	1107	565	S 85° 00' W	H	1101	555	N 85° 00' E

WELL ELEVATION
K.B. 1112 feet

TOTAL DEPTH
4091 feet

CASING RECORD
7 inches to 520 feet

ELEVATION DATUM
975 feet above sea level

ELEVATION VELOCITY
feet/second

WELL NAME: SHELL ALEXANDRA NO. 4

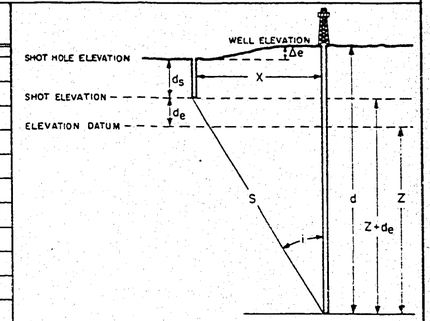
LOCATION: 60° - 19' - 36" N. Lat., 117° - 54' - 11" W. Long., Northwest Territories

COMPANY: SHELL OIL COMPANY

DATE SURVEYED: February 23, 1959

GEOLOGICAL LOG	Record Number	Shot Hole Number	Grade	d	d_s	t_s	Shot Hole Elevation	d_e	Δe	$\Delta e+d_s$	t_e	T	$Z+d_e$	X	tan i	cos i	$\bar{T}$	T_c	Z'	V_a
	3C	A	F	600	49	.017	1106	82	6	55	.014	.076	545	470	.8624	.7573	.058	.044	463	
	12B	G	F	600	48	.016	1101	78	11	59	.013	.075	541	525	.9704	.7177	.054	.041	463	10894
	4D	A	G	1210	49	.017	1106	82	6	55	.014	.107	1155	470	.4069	.9263	.099	.085	1073	
	13C	G	G	1210	48	.016	1101	78	11	59	.013	.106	1151	525	.4561	.9098	.096	.083	1073	12774
	5E	A	G	1750	49	.017	1106	82	6	55	.014	.159	1695	470	.2773	.9636	.153	.139	1613	
	14D	G	G	1750	49	-	1101	77	11	60	.014	.160	1690	525	.3107	.9550	.153	.139	1613	11604
	6F	A	G	2300	49	.017	1106	82	6	55	.014	.200	2245	470	.2094	.9788	.196	.182	2163	
	15E	G	G	2300	49	.016	1101	77	11	60	.013	.199	2240	525	.2344	.9736	.194	.181	2163	11917
	7G	A	G	2800	49	.017	1106	82	6	55	.014	.250	2745	470	.1712	.9857	.246	.232	2663	
	16F	G	G	2800	49	.016	1101	77	11	60	.014	.250	2740	525	.1916	.9821	.246	.232	2663	11478
SLAVE POINT LIMESTONE	8H	A	G	3340	49	.017	1106	82	6	55	.014	.301	3285	470	.1431	.9899	.298	.284	3203	
	17G	G	G	3340	48	.016	1101	78	11	59	.013	.300	3281	525	.1600	.9874	.296	.283	3203	11298
PRESQU'ILE	9I	A	G	3626	49	.017	1106	82	6	55	.014	.316	3571	470	.1316	.9914	.313	.299	3489	
	18H	G	G	3626	48	.016	1101	78	11	59	.013	.317	3567	525	.1472	.9893	.314	.301	3489	11630
PRE-CAMBRIAN	10J	A	F	4084	49	.017	1106	82	6	55	.014	.339	4029	470	.1167	.9933	.337	.323	3947	
	19I	G	G	4084	48	.016	1101	78	11	59	.013	.339	4025	525	.1304	.9916	.336	.323	3947	12220

ΔZ	$\bar{\Delta T_c}$	V_i
610	.0415	14699
540	.055	9818
550	.0425	12941
500	.0505	9901
540	.0515	10485
286	.0165	17333
458	.023	19913



X = Horizontal distance from well to shot point.
d = Well geophone depth measured from well elevation.
d_s = Depth of shot.
d_e = Difference in elevation between shot and elevation datum.
Δe = Difference in elevation between well and shot point.
Z = Well geophone depth measured from elevation datum = d-(K.B. elevation - elevation datum).
$Z+d_e$ = Well geophone depth measured from shot elevation = $d - d_s - \Delta e$.
S = Straight line travel path from shot to well geophone.
T = Observed time from shot to well geophone.
t_s = Uphole time at shot or other surface reference time.
t_e = Vertical time from shot to elevation datum = $\frac{d_e}{V_e}$.
$\tan i = \frac{X}{Z+d_e}$.
$\bar{T}$ = Vertical travel time from shot elevation to well geophone = cos i T.
T_c = Vertical travel time from elevation datum to well geophone = $\bar{T} - t_e$.
V_e = Topmost velocity in consolidated layer.
$V_a = \frac{Z}{T_c}$ = Average velocity.
$V_i = \frac{\Delta Z}{\Delta T_c}$ = Interval velocity.

Seismograph Service Corporation of Canada
CALGARY, ALBERTA

ELEVATION CORRECTIONS

SHELL ALEXANDRA NO. 4

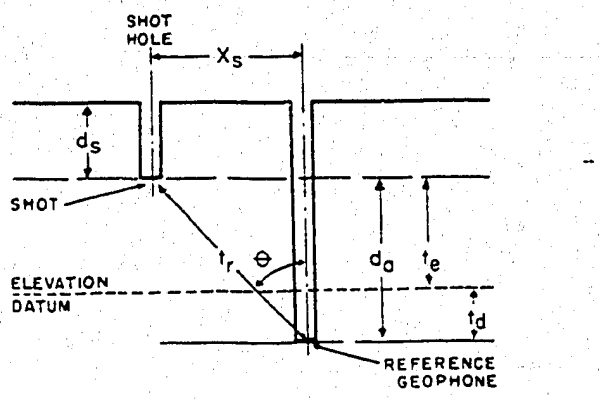
REFERENCE HOLE : B

HOLE ELEVATION : 1107 Ft.

GEOPHONE DEPTH : 118 Ft.

GEOPHONE ELEVATION : 989 Ft.

ELEVATION DATUM : 975 Ft.



$$\text{TAN } \Theta = \frac{X_s}{d_a}$$

$$t_e = (t_r \cos \Theta) - t_d$$

$$t_d = \frac{989' - 975'}{6000 \text{ Ft./Sec.}} = .002 \text{ Sec.}$$

S.P. - ELEVATION	SHOT NO.	d_s	SHOT ELEV.	X_s	d_a	TAN Θ	COS Θ	t_r	t_e
A-1106 Ft.	3C	49	1057	30	68	.4412	.9149	.013	.014
	4D	49	1057	30	68	.4412	.9149	.013	.014
	5E	49	1057	30	68	.4412	.9149	.013	.014
	6F	49	1057	30	68	.4412	.9149	.013	.014
	7G	49	1057	30	68	.4412	.9149	.013	.014
	8H	49	1057	30	68	.4412	.9149	.013	.014
	9I	49	1057	30	68	.4412	.9149	.013	.014
	10J	49	1057	30	68	.4412	.9149	.013	.014

ELEVATION CORRECTIONS

SHELL ALEXANDRA NO. 4

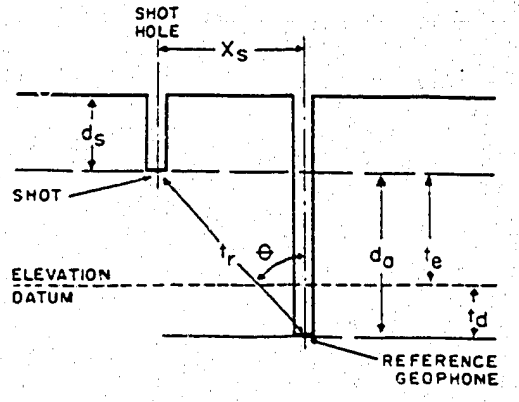
REFERENCE HOLE: F

HOLE ELEVATION: 1101 Ft.

GEOPHONE DEPTH: 118 Ft.

GEOPHONE ELEVATION: 983 Ft.

ELEVATION DATUM: 975 Ft.



$$\text{TAN } \Theta = \frac{X_s}{d_a}$$

$$t_e = (t_r \text{ COS } \Theta) - t_d$$

$$t_d = \frac{983' - 975'}{5800 \text{ Ft./Sec.}} = .001 \text{ Sec.}$$

S.P.-ELEVATION	SHOT NO.	d_s	SHOT ELEV.	X_s	d_a	TAN Θ	COS Θ	t_r	t_e
G-1101 Ft.	12B	48	1053	30	70	.4286	.9191	.013	.013
	13C	48	1053	30	70	.4286	.9191	.013	.013
	14D	49	1052	30	69	.4348	.9171	.014	.014
	15E	49	1052	30	69	.4348	.9171	.013	.013
	16F	49	1052	30	69	.4348	.9171	.014	.014
	17G	48	1053	30	70	.4286	.9191	.013	.013
	18H	48	1053	30	70	.4286	.9191	.013	.013
	19I	48	1053	30	70	.4286	.9191	.013	.013

IV. WELL VELOCITY GRAPHS

(in back pocket)

VELOCITY TEST RECORD NO. 3C
WELL GEOPHONE LEVEL 600 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

VELOCITY TEST RECORD NO. 12B
WELL GEOPHONE LEVEL 600 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.

VELOCITY TEST RECORD NO. 4D
WELL GEOPHONE LEVEL 1210 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

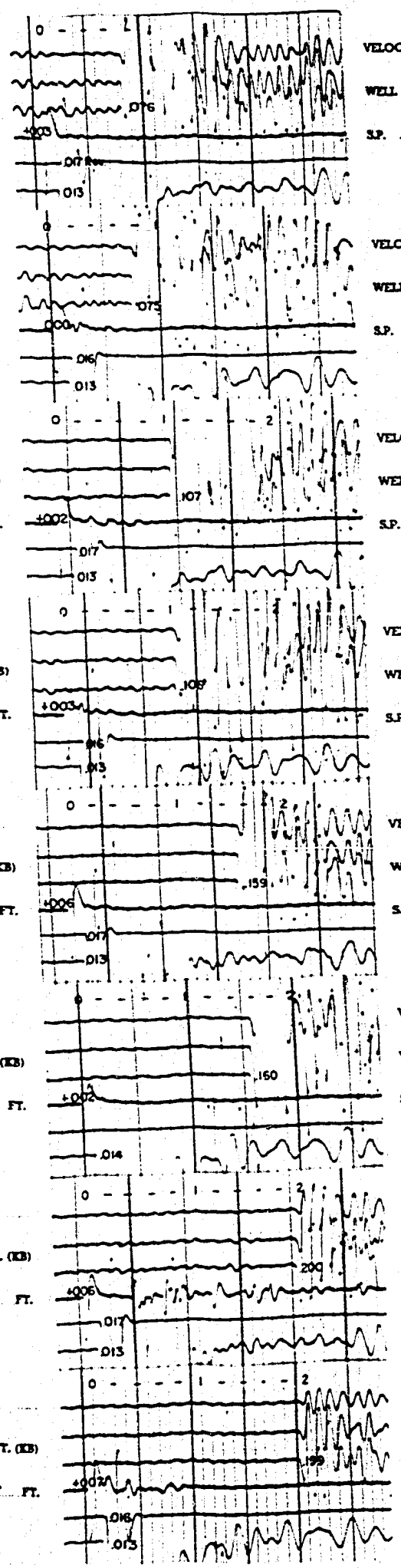
VELOCITY TEST RECORD NO. 13C
WELL GEOPHONE LEVEL 1210 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.

VELOCITY TEST RECORD NO. 5E
WELL GEOPHONE LEVEL 1750 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

VELOCITY TEST RECORD NO. 14D
WELL GEOPHONE LEVEL 1750 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 49 FT.

VELOCITY TEST RECORD NO. 6E
WELL GEOPHONE LEVEL 2300 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

VELOCITY TEST RECORD NO. 13E
WELL GEOPHONE LEVEL 2300 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 49 FT.



VELOCITY TEST RECORD NO. 7G
WELL GEOPHONE LEVEL 2800 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

VELOCITY TEST RECORD NO. 16F
WELL GEOPHONE LEVEL 2800 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 49 FT.

VELOCITY TEST RECORD NO. 8H
WELL GEOPHONE LEVEL 5340 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

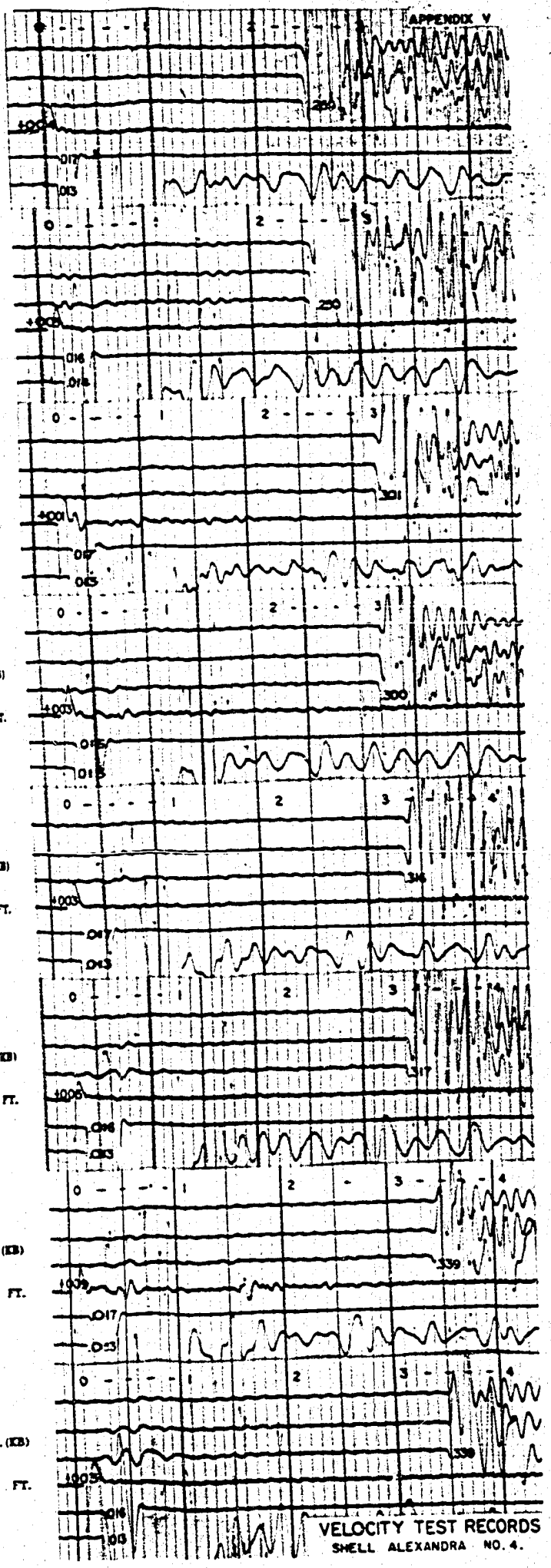
VELOCITY TEST RECORD NO. 17G
WELL GEOPHONE LEVEL 5340 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.

VELOCITY TEST RECORD NO. 9I
WELL GEOPHONE LEVEL 3626 FT. (KB)
S.P. A CHARGE 1/4 DEPTH 49 FT.

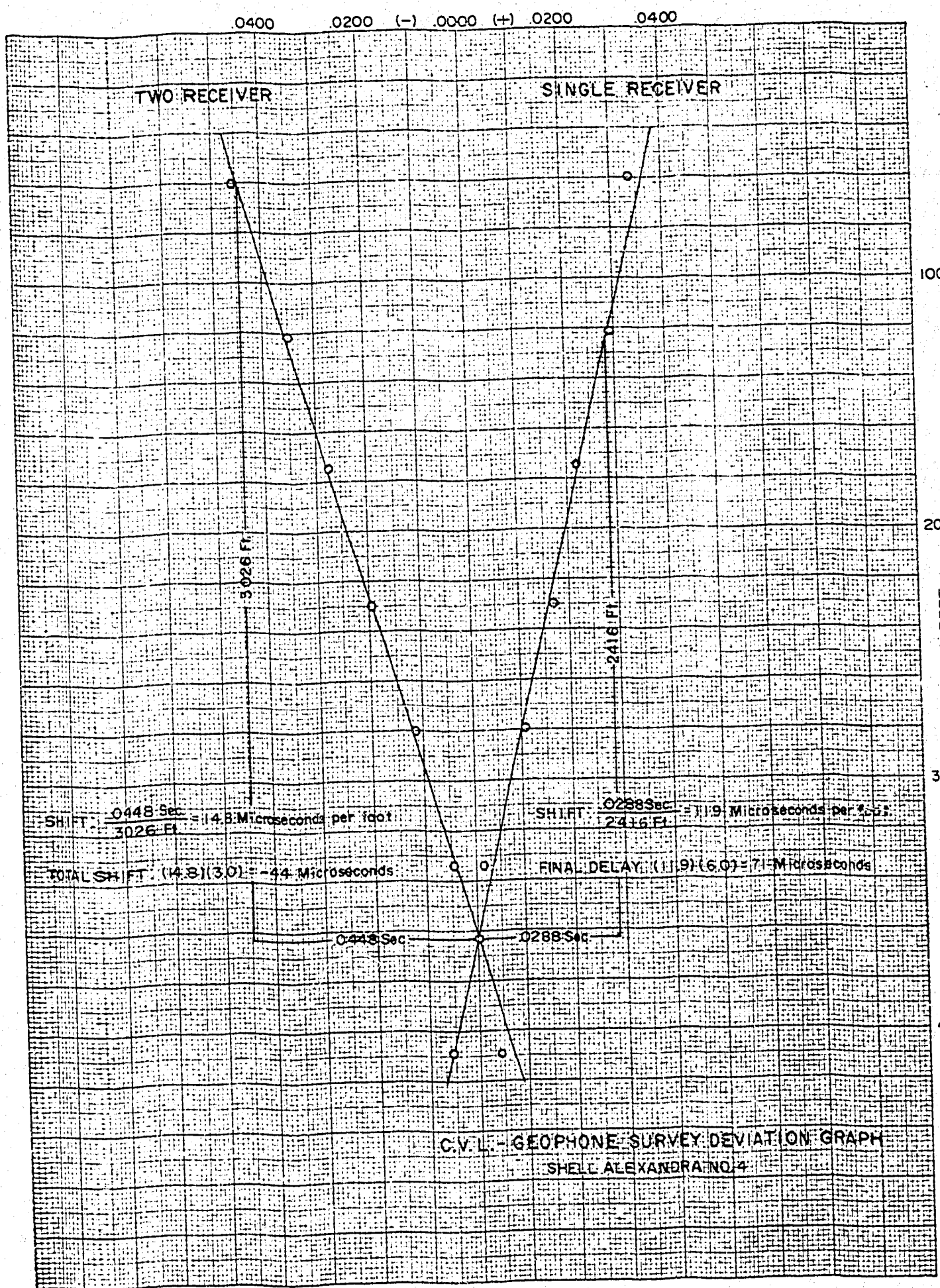
VELOCITY TEST RECORD NO. 18H
WELL GEOPHONE LEVEL 3626 FT. (KB)
S.P. G CHARGE 1/4 DEPTH 48 FT.

VELOCITY TEST RECORD NO. 10J
WELL GEOPHONE LEVEL 4084 FT. (KB)
S.P. A CHARGE 2 1/2 DEPTH 49 FT.

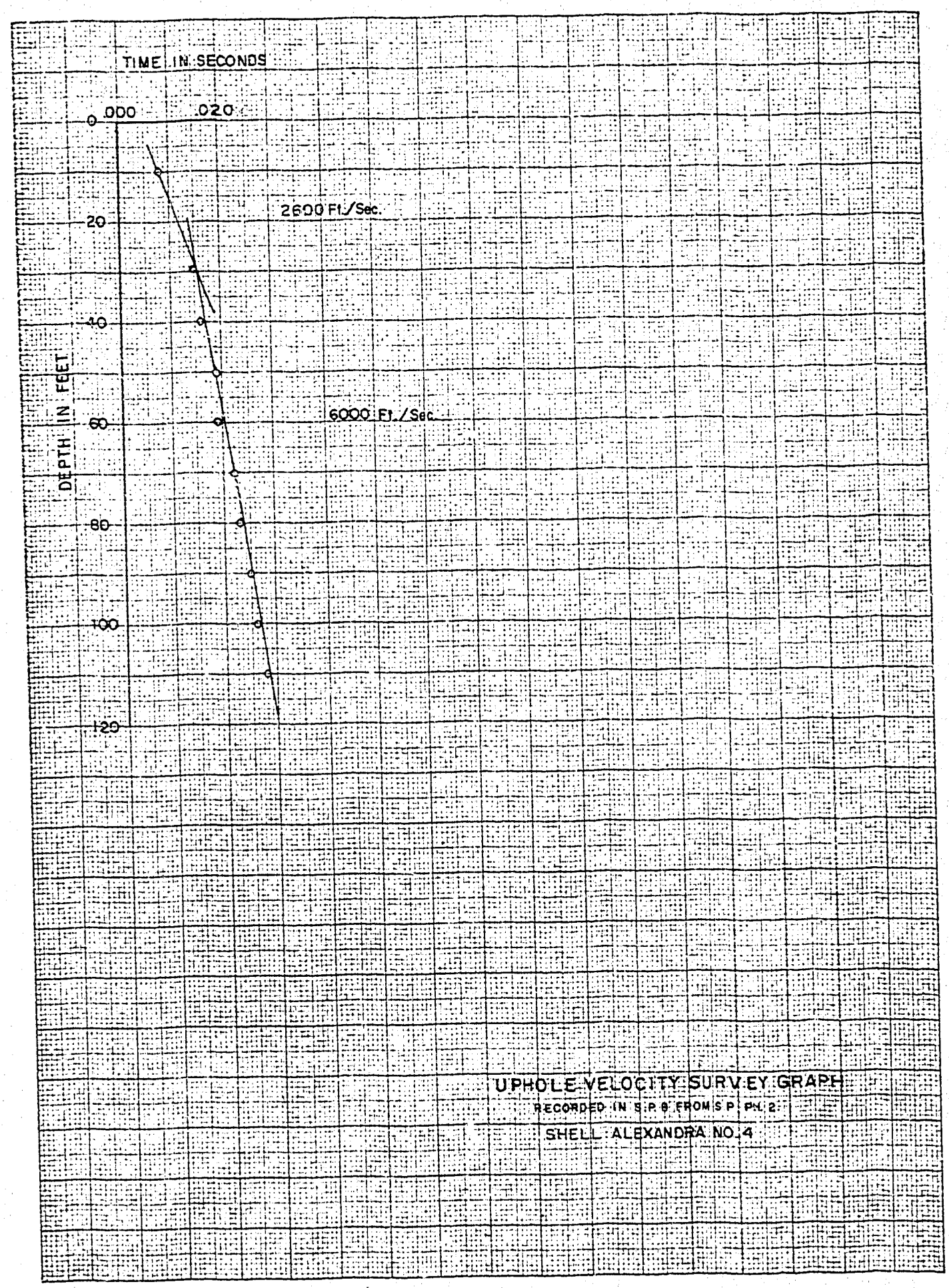
VELOCITY TEST RECORD NO. 19I
WELL GEOPHONE LEVEL 4084 FT. (KB)
S.P. G CHARGE 2 1/2 DEPTH 48 FT.



VELOCITY TEST RECORDS
SHELL ALEXANDRA NO. 4.



10 X 10 TO THE CM. 359-14
KEUFFEL & ESSER CO. U.S.A.

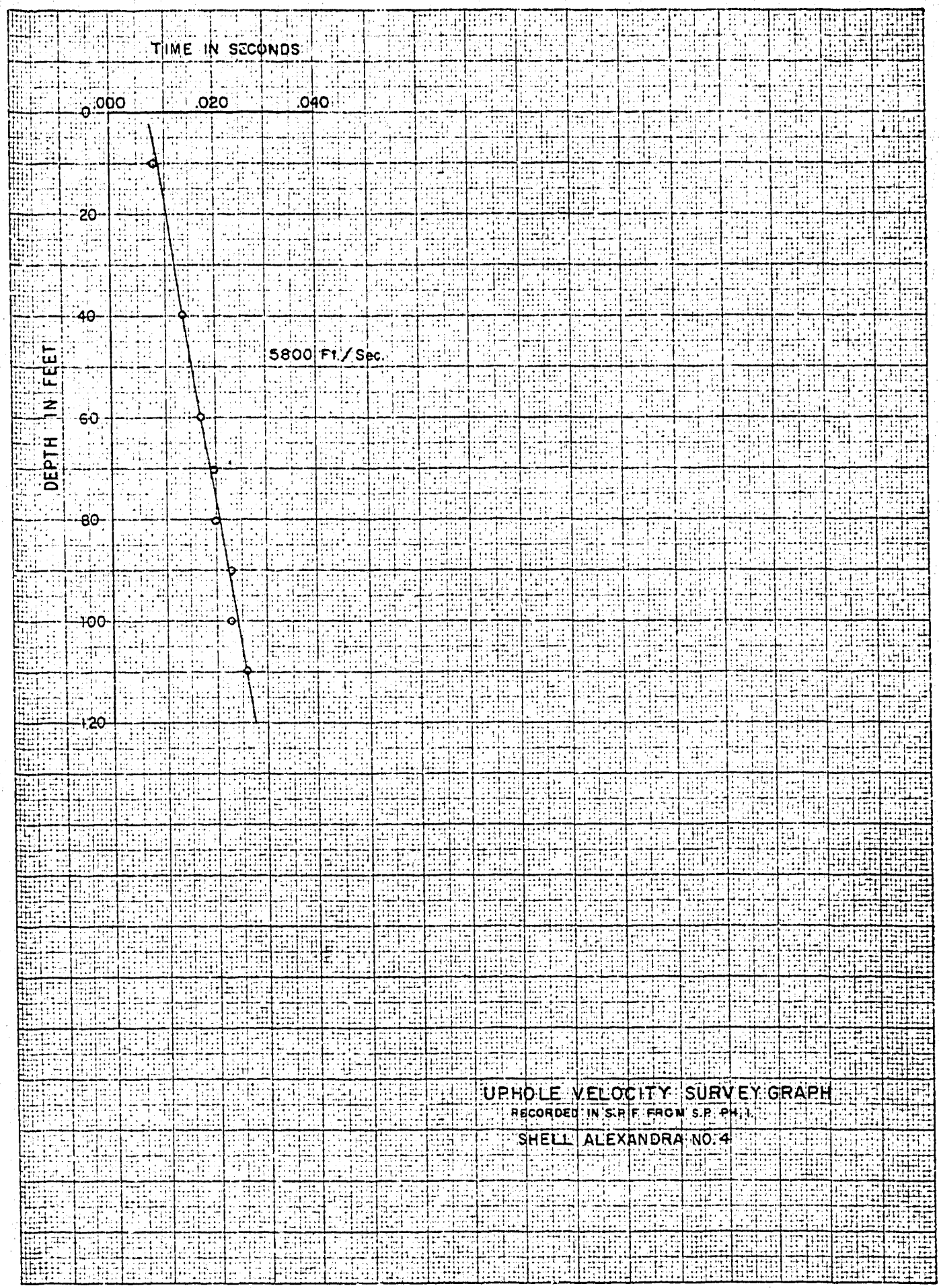


UPHOLE VELOCITY SURVEY GRAPH

RECORDED IN S.P.9 FROM S.P. PN. 2

SHELL ALEXANDRA NO.4

10 X 10 TO THE CM. 359-14
KEUFFEL & ESSER CO.



UPHOLE VELOCITY SURVEY GRAPH

RECORDED IN S.R.F. FROM S.P. PH.1.

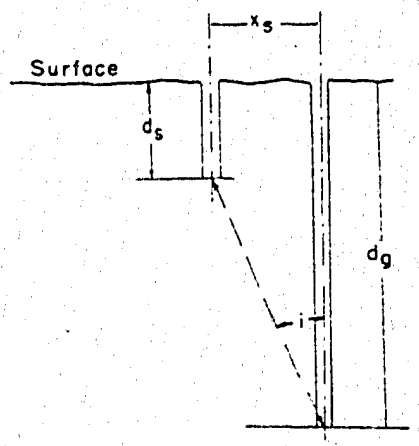
SHELL ALEXANDRA NO. 4

10 X 10 TO THE CM. 359-14
KEUFFEL & ESSER CO.

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1107 Ft.

CABLED HOLE ELEVATION: 1107 Ft.

$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\cos i \times T = T_c$$

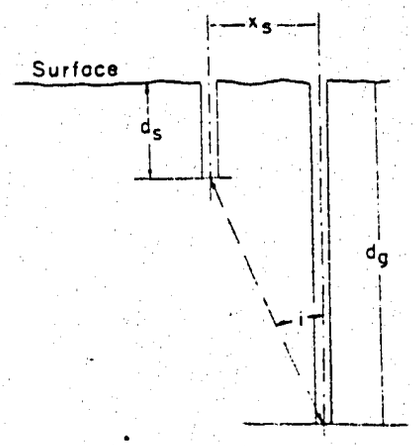
UPHOLE TIME (ts): .005 Sec.

SHOT P.	REC.NO.	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH_2	3C	6	10	4	10	2.5000	.3714	.008	.003	.008
			30	24	10	.4167	.9231	.011	.010	.015
			50	44	10			.014	.014	.019
			70	64	10			.017	.017	.022
			90	84	10	Not applicable		.020	.020	.025
			110	104	10			.023	.023	.028

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1107 Ft.

CABLED HOLE ELEVATION: 1107 Ft.

$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

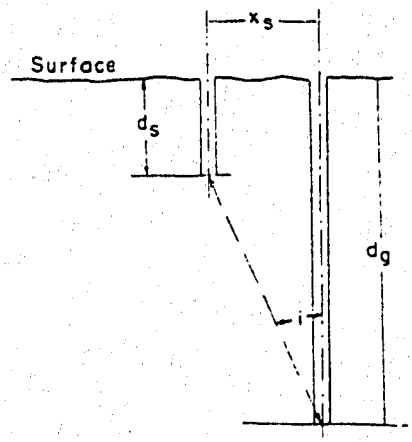
UPHOLE TIME (ts) = .005 Sec.

SHOT P.	REC.NO.	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH2	4D	6	40	34	10	.2941	.9594	.011	.011	.016
			60	54	10	↑	↑	.014	.014	.019
			80	74	10	Not applicable		.018	.018	.023
			100	94	10	↓	↓	.021	.021	.026

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1101 Ft.

CABLED HOLE ELEVATION: 1101 Ft.

$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

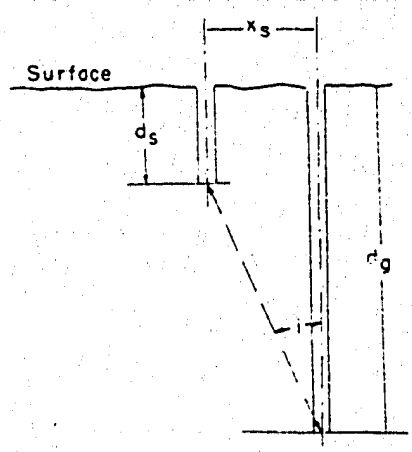
UPHOLE TIME (t_s) = .005 Sec.

SHOT P.	REC.NO.	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH_1	3C	6	10	4	10	2.5000	.3714	.007	.003	.003
			30	24	10	.4167	.9231	-	-	-
			50	44	10			-	-	-
			70	64	10			.015	.015	.020
			90	84	10	Not applicable		.018	.018	.023
			110	104	10			.021	.021	.026

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION : 1101 Ft.

CABLED HOLE ELEVATION: 1101 Ft.

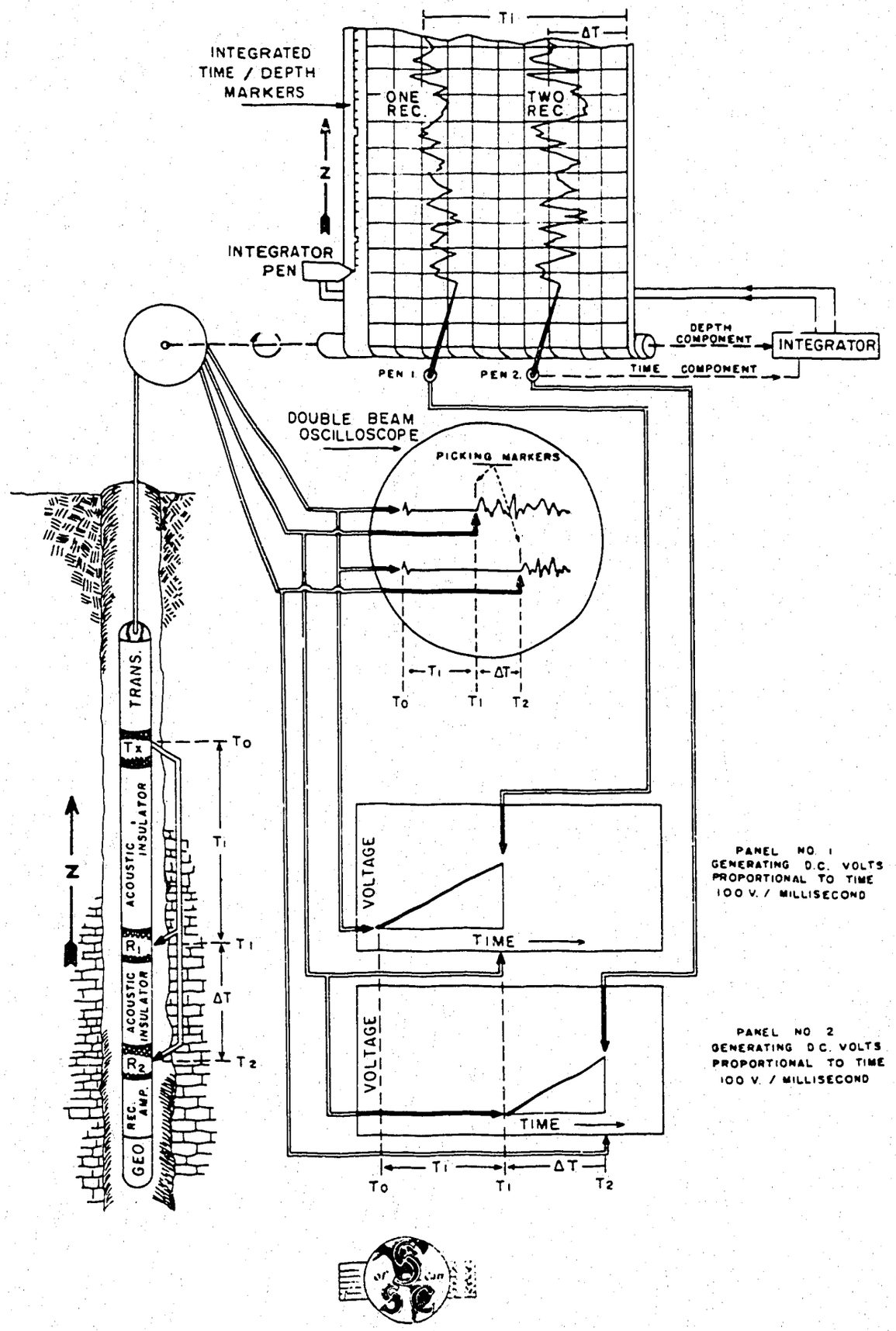
$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

UPHOLE TIME (t_s) = .005 Sec.

SHOT P.	REC.NO.	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH_1	4D	7	40	33	10	.3030	.9570	.009	.009	.014
			60	53	10	↑	↑	.012	.012	.017
			80	73	10	Not applicable		.015	.015	.020
			100	93	10	↓	↓	.018	.018	.023

DIAGRAM OF CONTINUOUS VELOCITY LOGGER TWO RECEIVER



THEORY OF OPERATION

The CVL Two Receiver logging system consists of a magneto-striction transmitting transducer Tx which emitts pulses 20-30 times per second; these travel through the formation sidewalls to the twin crystal receiving transducers R_1 & R_2.

At each signal instant (To) a synchronizing signal is sent to the surface which fires an electronic switch in #1 panel; starting a precision sawtooth generator which develops a D.C. voltage proportional to time.

When the acoustic signal arrives at R_1 at a time T_1, a picking device in #1 panel transfers a voltage proportional to T_1 to the recorder, and thus records T_1. At the same time a portion of this signal is used to fire an electronic switch in #2 panel, and starts another precision sawtooth generator which develops a D.C. voltage proportional to time.

When the acoustic signal arrives at R_2 at a time T_2, a picking device in #2 panel transfers a voltage proportional to the difference in time $(T_2 - T_1) = \Delta T$ to the recorder and thus records ΔT.

All these events together with 'picking' markers are displayed on a two beam oscilloscope giving a visual indication of the signals and the points at which each one is 'picked'.

The interval time equal to ΔT is continuously integrated with depth to give the over-all travel time for the interval logged on the margin of the log.

Salient points of the CVL Two Receiver System

1. High pulse rate (20-30 pulses per second) giving maximum sampling and high logging speeds (4000-6000 ft./hr.)
2. Visual indication at the surface of all signals and the points at which the events are 'picked'.
3. Single and two receiver logs recorded simultaneously.
4. Over-all time depth curve recorded simultaneously.
5. Logs recorded on a linear velocity scale available.

FORMATION

ELEVATION DATUM 975'

CASING

ONE WAY TRAVEL TIME (seconds)

000 100 200 300 400

0

1000

2000

ELEVATION DATUM

TWT - DEPTH

WELL VELOCITY GRAPHS

SHELL ALEXANDRA NO. 4

60°-19'-36" N.LAT., 117°-54'-11" W.LONG.

NORTHWEST TERRITORIES, CANADA.

FEBRUARY 23, 1959.

SHELL OIL COMPANY

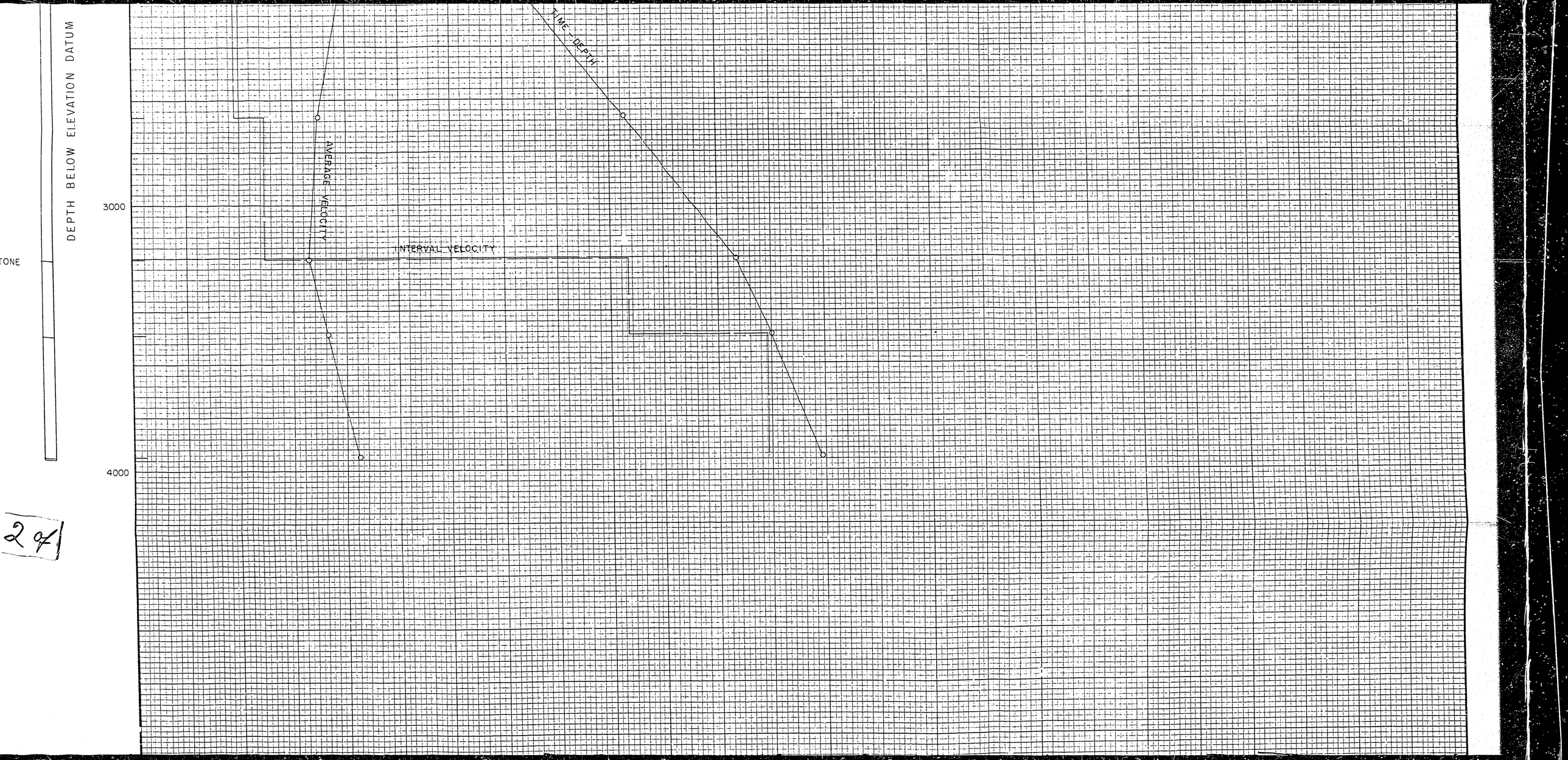
SLAVE POINT LIMESTONE

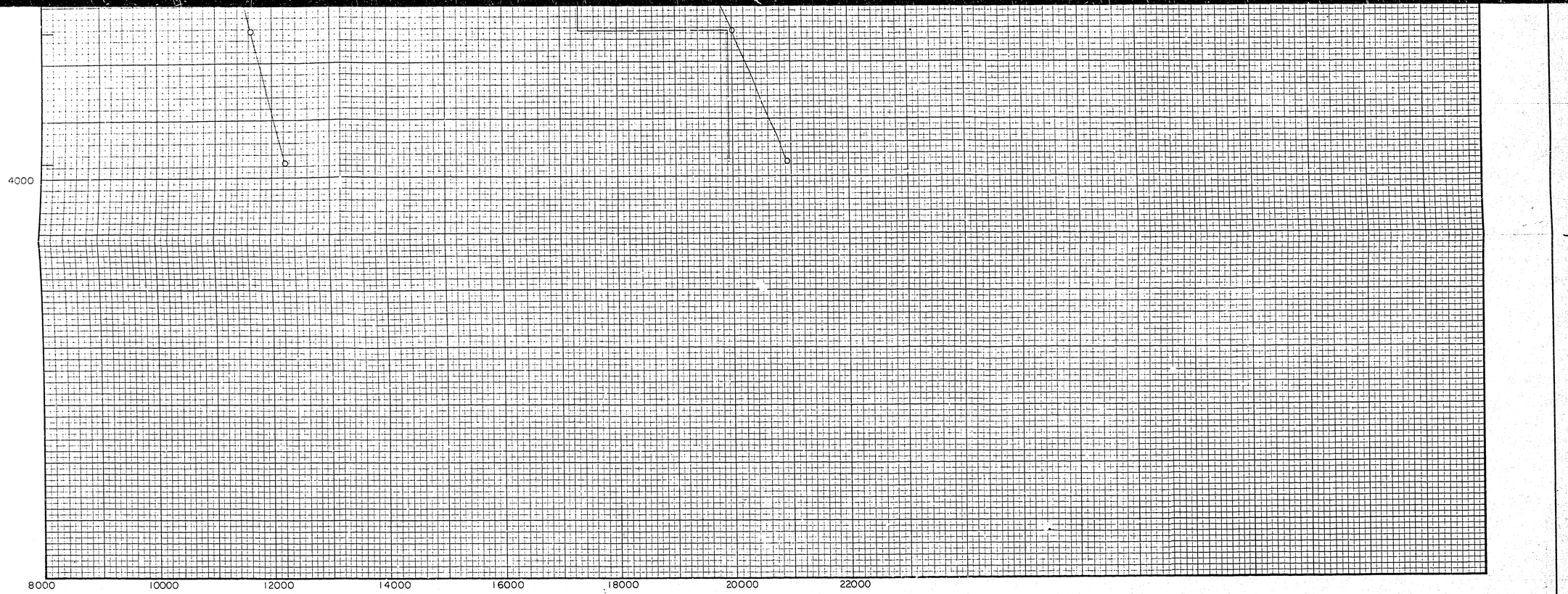
PRESQU'ILE

PRE-CAMBRIAN

1 of

29


DEPTH BELOW ELEVATION DATUM
3000
4000
AVERAGE VELOCITY
INTERVAL VELOCITY
TIME-DEPTH



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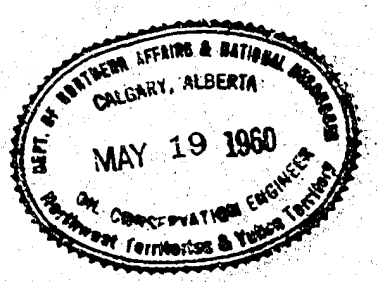
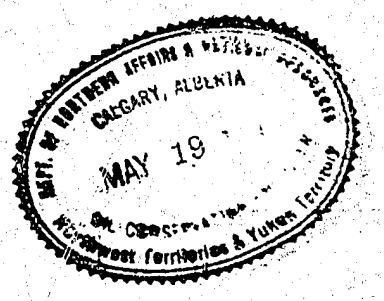
Seismograph Service Corporation of Canada

N-7940-1-53


DEPT. OF NORTHERN AFFAIRS & NATIONAL RESOURCES
CALGARY, ALBERTA
MAY 19 1960
OIL CONSERVATION ENGINEER
Northwest Territories & Yukon Territory


CALGARY, ALBERTA
MAY 19

CONTINUOUS VELOCITY LOG

and

GEOPHONE SURVEY

SHELL ALEXANDRA No. 4

60°19'36"N. Lat.

117°54'11"W. Long.

NORTHWEST TERRITORIES, CANADA

for

SHELL OIL COMPANY OF CANADA LIMITED

EDMONTON, ALBERTA

Seismograph Service Corporation of Canada

Calgary, Alberta

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Velocity Determination	7
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II	SHOOTING PLAN
III	VELOCITY CALCULATION SHEET
IIIA	ELEVATION CORRECTIONS
IV	WELL VELOCITY GRAPHS
V	VELOCITY TEST RECORDS
VI	C.V.L. - GEOPHONE SURVEY DEVIATION GRAPH
VII	UPHOLE VELOCITY SURVEY GRAPH
VIIA	UPHOLE VELOCITY SURVEY DATA

FIELD PROCEDURE

The geophone survey was run first as the bore hole instruments were lowered to the bottom of the well and eight levels were tested. For each level, the geophone was lowered at least 50 feet below the desired depth and then slowly raised to the proper place, so that in all cases its last movement was upward. All depth measurements were obtained by the standard measuring device of the cable truck and were referred to the kelly bushing at an elevation of 1112 feet above sea level.

Shot holes were drilled to a depth of 50 feet and located between 465 and 565 feet from the well as shown in the Shooting Plan, Appendix II. Two additional holes "B" & "F" located 500 and 495 feet from the well were drilled to a depth of 120 feet to accommodate sub-shot reference geophones. Shot hole charges used varied from a booster cap to 5 pounds of dynamite.

The polarity of the well geophone was arranged so that all "first breaks" would be downward. The trace arrangement used on the velocity test records is as follows:

Trace #1 Travel time from shot to well geophone - low gain

Trace #2	Travel time from shot to well geophone - medium gain
Trace #3	Travel time from shot to well geophone - high gain
Trace #4	Time break or shot instant
Trace #5	Uphole or vertical time in shot hole
Trace #6	Sub-shot reference geophone
Traces #7 to #12	Reflection profile from surface geophones

The three amplifiers, recording the output of the well geophone, were adjusted to a frequency response band of 18 to 120 cycles per second at 70.7 percent amplitude response. Automatic level control was not used on these traces.

A six station reflection spread was laid between Shot Point A and the well as shown in the Shooting Plan and was recorded simultaneously with each velocity test shot. A twelve station reflection spread laid east from the well was also recorded at the completion of the survey. Three geophones were used per trace and station intervals were maintained at 60 feet for both spreads. A reflection record of suitable quality for inclusion with this report was not obtained.

Immediately after the last shot completing the geophone portion of the survey, the Continuous Velocity Log was obtained as the instruments were raised from the bottom of the bore hole. The logging speed was such that at least ten to twenty overlapping measurements were taken for each foot of travel. The log was run from a depth of 4082 feet to the foot of the surface casing at 520 feet below the kelly bushing.

At the completion of the Continuous Velocity Logging run two separate near surface velocity surveys were recorded. A crystal geophone cable was suspended in holes B and F and subsurface travel times were recorded from shots fired in Shot Point PH_2 and PH_1. The results of these surveys appear in Appendices VII and VII A.

INTERPRETATION and RESULTS

Velocity Determination

Sixteen velocity test records are submitted in Appendix V.

The calculation of velocities from these data was based on the assumption of straight line paths of energy travel from shot to well geophone. The observed "first break" times of the well geophone traces were converted to vertical travel times by application of the cosine function:

$$\cos i = \cos \text{arc} \tan X/(Z + de)$$

The vertical travel times were then reduced to elevations of 989 feet and 983 feet above sea level coincident with the elevations of the sub-shot reference geophones in holes B and F. Elevation corrections were computed from the reference geophone arrival times by the application of appropriate cosine functions. The vertical travel times were further corrected to an elevation datum of 975 feet above sea level using an elevation correction velocity approximated at 6000 feet per second for shots fired in Shot Point A and 5800 feet per second for shots fired in Shot Point G. The method and calculations appear in Appendix III A.

The subsurface velocity calculations are shown in Appendix III. Final time-depth, average velocity and interval velocity curves are shown in Appendix IV.

Continuous Velocity Log

Single and two receiver Continuous Velocity Logs were recorded simultaneously in the field and a calibrated copy, traced from the field original is enclosed in the pocket of the back cover of this report. The log consists of four curves:

1) Interval Velocity Curves:

These curves are the continuous recording in microseconds of the interval time through formation distances of 6.0000 feet for the single receiver curve and 3.0000 feet for the two receiver curve. These times can be read as interval velocity on the appropriate scale at the top of the log.

2) Integrated Curves:

Integrated time was derived from both interval velocity curves by an automatic integrating device. The results have been calibrated to the geophone sur-

vey and total travel times over any section of the log may be obtained from the single or two receiver log.

The integrated time for the interval velocity curves appears as two diagonal lines moving to the right on the log with increasing depth. The integrated time scale has been selected as two milliseconds per 0.1 inch, as shown on the appropriate scale at the top of the log. Each cycle of the recording pen increases the time scale by 100 milliseconds.

During the drafting process noise spikes and other spurious events were removed. No allowance was made in the field for the effects of mud delay, formation invasion, and other bore hole factors affecting the delay time normally encountered with Continuous Velocity Logs. The log was calibrated by comparing the integrated times of the Continuous Velocity Log with the time-depth curve of the geophone survey. The time difference at each level tested by the well geophone was plotted against depth and the results appear in Appendix VI. The resulting slopes indicate that

the single receiver curve required a mud delay time of 71 microseconds.

Comparison of the interval velocities recorded by the geophone survey and the two receiver log indicated that the logged velocities were in excess of the true formation velocities. To decrease the interval velocity, the curve was shifted towards the low velocity end of the scale by an amount of 44 microseconds. No explanation for this phenomena can be advanced at this time. Further investigation into this problem will be possible only with the acquisition of more two receiver logs and further experiments with varied receiver spacings.

The following tabulation shows the deviation between the well geophone data and the corrected integrated times which were calibrated to a geophone check shot at the 3626 foot level.

		Single Receiver Log		Two Receiver Log	
Depth (K.B.)	Tc (Geo)	Tc (Log)	ΔF	Tc (Log)	ΔF
600	.0425	.0449	+.0024	.0433	+.0008
1210	.0840	.0837	-.0003	.0832	-.0008
1750	.1390	.1391	+.0001	.1385	-.0005

2300	.1815	.1805	-.0010	.1815	.0000
2800	.2320	.2315	-.0005	.2316	-.0004
3340	.2835	.2851	+.0016	.2839	+.0004
3626	.3000	.3000	.0000	.3000	.0000
4084	.3230	.3231	+.0001	.3254	+.0024

Inspection of the table shows reasonable agreement between the data at all levels tested and the Continuous Velocity Log is considered to be reliable.

Respectfully submitted,

Seismograph Service Corporation
of Canada

By D.R.F. Hargrave

March 26, 1959

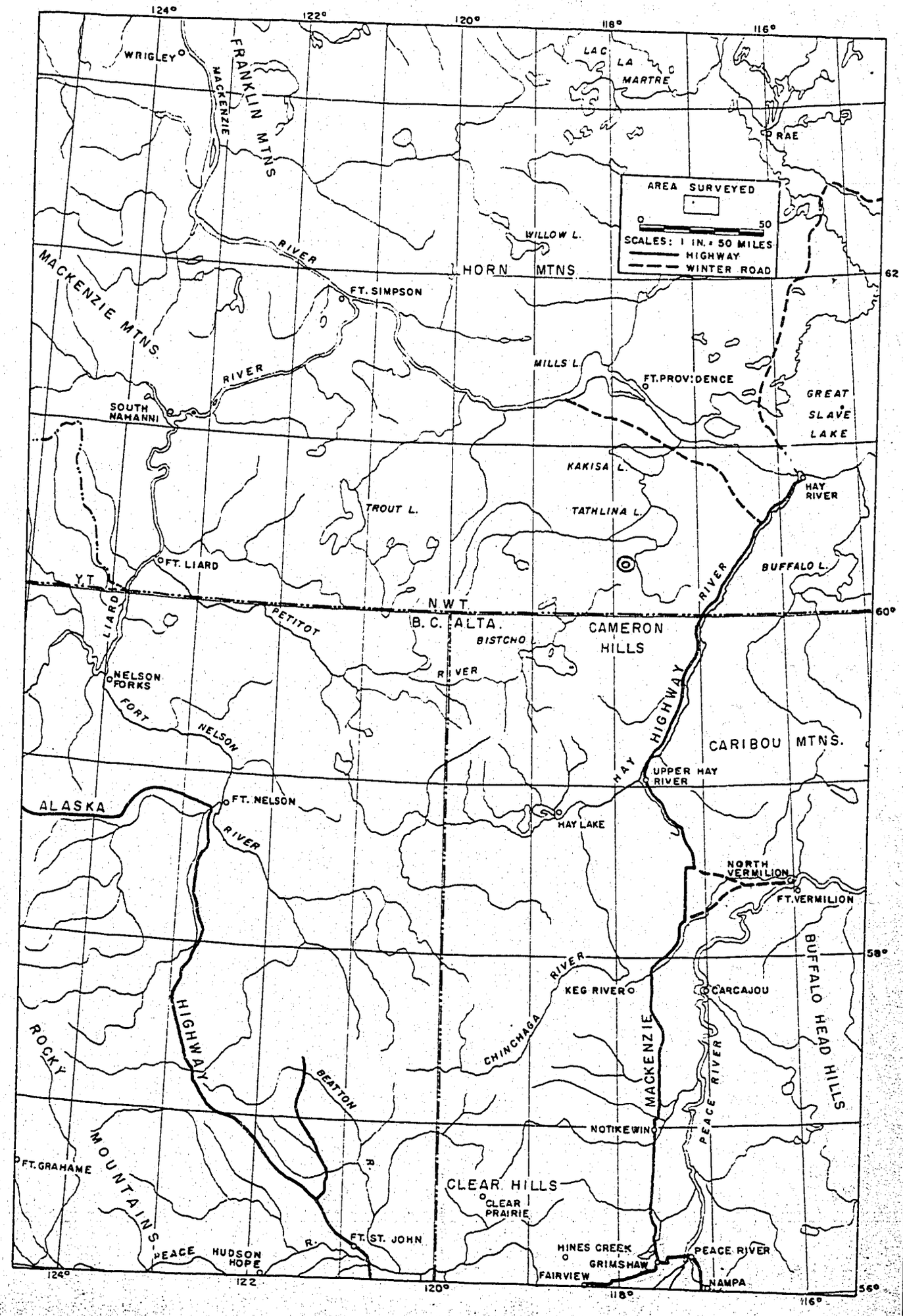
D.R.F. Hargrave - Supervisor

APPROVED:

By G.E. Blackledge

G. E. Blackledge
Manager of Velocity Logging

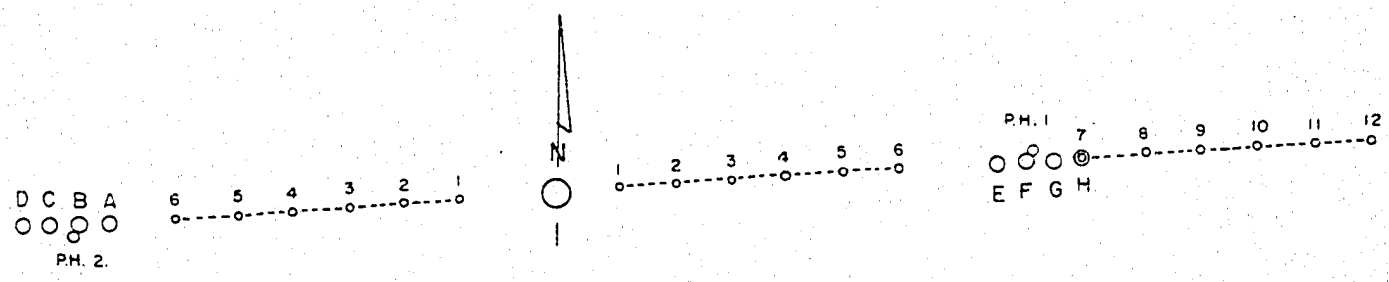
DRFH/mm


124°
122°
120°
118°
116°
WRIGLEY
MACKENZIE
FRANKLIN MTNS
LAC LA MARTRE
RAE
AREA SURVEYED
0 50
SCALES: 1 IN. = 50 MILES
HIGHWAY
WINTER ROAD
WILLOW L.
RIVER
LHORN MTNS
62
MACKENZIE MTNS.
FT. SIMPSON
MILLS L.
FT. PROVIDENCE
GREAT SLAVE LAKE
RIVER
SOUTH NAHANNI
KAKISA L.
HAY RIVER
TROUT L.
TATHLINA L.
FT. LIARD
YT
BUFFALO L.
N.W.T.
60°
LIARD
PETITOT
B.C.
ALTA.
BISTCHO
CAMERON HILLS
RIVER
NELSON FORKS
FORT NELSON
HAY RIVER HIGHWAY
CARIBOU MTNS.
UPPER HAY RIVER
ALASKA
FT. NELSON
RIVER
HAY LAKE
NORTH VERMILION
FT. VERMILION
58°
KEG RIVER
CARCAJOU
CHINCHAGA RIVER
BUFFALO HEAD HILLS
ROCKY MOUNTAINS
HIGHWAY
BEATTON R.
MACKENZIE
PEACE RIVER
NOTIKEWIN
FT. GRAHAME
CLEAR HILLS
CLEAR PRAIRIE
PEACE R.
HUDSON HOPE
FT. ST. JOHN
HINES CREEK
GRIMSHAW
PEACE RIVER
FAIRVIEW
NAMPA
124°
122°
120°
118°
116°
56°

SHOOTING PLAN

SHELL ALEXANDRA NO. 4.

60° - 19' - 36" N. LAT., 117° - 54' - 11" W. LONG.



LEGEND:

- ◯ WELL SURVEYED.
- O SHOT POINT.
- o GEOPHONE.

SCALE : 1 IN. = 200 FT.

SP	ELEVATION	DISTANCE	DIRECTION FROM WELL	SP	ELEVATION	DISTANCE	DIRECTION FROM WELL
A	1106	470	S 85° 00' W	E	1101	465	N 85° 00' E
B	1107	500	S 85° 00' W	F	1101	495	N 85° 00' E
C	1107	535	S 85° 00' W	G	1101	525	N 85° 00' E
D	1107	565	S 85° 00' W	H	1101	555	N 85° 00' E

WELL ELEVATION
K.B. 1112 feet

TOTAL DEPTH
4091 feet

CASING RECORD
7 inches to 520 feet

ELEVATION DATUM
975 feet above sea level

ELEVATION VELOCITY
feet / second

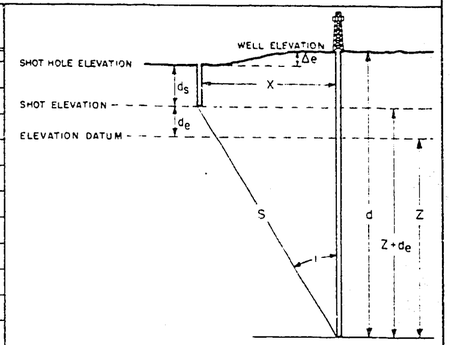
WELL NAME: SHELL ALEXANDRA NO. 4

LOCATION: 60° - 19' - 36" N. Lat., 117° - 54' - 11" W. Long., Northwest Territories

COMPANY: SHELL OIL COMPANY

DATE SURVEYED: February 23, 1959

GEOLOGICAL LOG	Record Number	Shot Hole Number	Grade	d	d_s	t_s	Shot Hole Elevation	d_e	Δe	$\Delta e + d_s$	t_e	T	$Z + d_e$	X	tan i	cos i	$\bar{T}$	T_c	Z'	V_a	ΔZ	ΔT_c	V_i
	3C	A	F	600	49	.017	1106	82	6	55	.014	.076	545	470	.8624	.7573	.058	.044	463	10894			
	12B	G	F	600	48	.016	1101	78	11	59	.013	.075	541	525	.9704	.7177	.054	.041	463		610	.0415	14699
	4D	A	G	1210	49	.017	1106	82	6	55	.014	.107	1155	470	.4069	.9263	.099	.085	1073	12774			
	13C	G	G	1210	48	.016	1101	78	11	59	.013	.106	1151	525	.4561	.9093	.096	.083	1073		540	.055	9818
	5E	A	G	1750	49	.017	1106	82	6	55	.014	.159	1695	470	.2773	.9636	.153	.139	1613	11604			
	14D	G	G	1750	49	-	1101	77	11	60	.014	.160	1690	525	.3107	.9550	.153	.139	1613		550	.0425	12941
	6F	A	G	2300	49	.017	1106	82	6	55	.014	.200	2245	470	.2094	.9788	.196	.182	2163	11917			
	15E	G	G	2300	49	.016	1101	77	11	60	.013	.199	2240	525	.2344	.9736	.194	.181	2163		500	.0505	9901
	7G	A	G	2800	49	.017	1106	82	6	55	.014	.250	2745	470	.1712	.9857	.246	.232	2663	11478			
	16F	G	G	2800	49	.016	1101	77	11	60	.014	.250	2740	525	.1916	.9821	.246	.232	2663		540	.0515	10485
SLAVE POINT LIMESTONE	8H	A	G	3340	49	.017	1106	82	6	55	.014	.301	3285	470	.1431	.9899	.298	.284	3203	11296			
	17G	G	G	3340	48	.016	1101	78	11	59	.013	.300	3281	525	.1600	.9874	.296	.283	3203		286	.0165	17333
PRESQU'ILE	9I	A	G	3626	49	.017	1106	82	6	55	.014	.316	3571	470	.1316	.9914	.313	.299	3489	11630			
	18H	G	G	3626	48	.016	1101	78	11	59	.013	.317	3567	525	.1472	.9893	.314	.301	3489		458	.023	19913
PRE-CAMBRIAN	10J	A	F	4084	49	.017	1106	82	6	55	.014	.339	4029	470	.1167	.9933	.337	.323	3947	12220			
	19I	G	G	4084	48	.016	1101	78	11	59	.013	.339	4025	525	.1304	.9916	.336	.323	3947				



X = Horizontal distance from well to shot point.
d = Well geophone depth measured from well elevation.
d_s = Depth of shot.
d_e = Difference in elevation between shot and elevation datum.
Δe = Difference in elevation between well and shot point.
Z = Well geophone depth measured from elevation datum = d-(K.B.elevation - elevation datum).
$Z+d_e$ = Well geophone depth measured from shot elevation = $d - d_s - \Delta e$.
S = Straight line travel path from shot to well geophone.
T = Observed time from shot to well geophone.
t_s = Uphole time at shot or other surface reference time.
t_e = Vertical time from shot to elevation datum = $\frac{d_e}{V_e}$.
$\tan i = \frac{X}{Z+d_e}$.
$\bar{T}$ = Vertical travel time from shot elevation to well geophone = $\cos i \, T$.
T_c = Vertical travel time from elevation datum to well geophone = $\bar{T} - t_e$.
V_e = Topmost velocity in consolidated layer.
$V_a = \frac{Z}{T_c}$ = Average velocity.
$V_i = \frac{\Delta Z}{\Delta T_c}$ = Interval velocity.

Seismograph Service Corporation of Canada
CALGARY, ALBERTA

ELEVATION CORRECTIONS

SHELL ALEXANDRA NO. 4

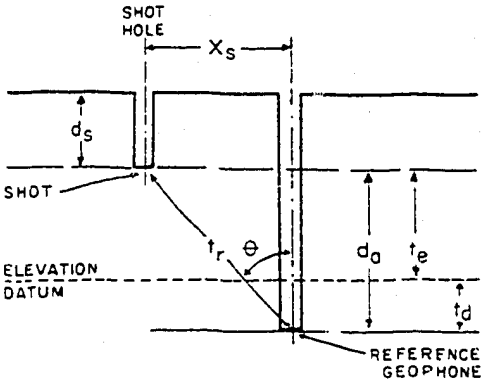
REFERENCE HOLE: B

HOLE ELEVATION: 1107 Ft.

GEOPHONE DEPTH: 118 Ft.

GEOPHONE ELEVATION: 989 Ft.

ELEVATION DATUM: 975 Ft.



$$\text{TAN } \theta = \frac{X_s}{d_a}$$

$$t_e = (t_r \text{ COS } \theta) - t_d$$

$$t_d = \frac{989' - 975'}{6000 \text{ Ft./Sec.}} = .002 \text{ Sec.}$$

S.P. - ELEVATION	SHOT NO.	d_s	SHOT ELEV.	X_s	d_a	TAN θ	COS θ	t_r	t_e
A-1106 Ft.	3C	49	1057	30	68	.4412	.9149	.013	.014
	4D	49	1057	30	68	.4412	.9149	.013	.014
	5E	49	1057	30	68	.4412	.9149	.013	.014
	6F	49	1057	30	68	.4412	.9149	.013	.014
	7G	49	1057	30	68	.4412	.9149	.013	.014
	8H	49	1057	30	68	.4412	.9149	.013	.014
	9I	49	1057	30	68	.4412	.9149	.013	.014
	10J	49	1057	30	68	.4412	.9149	.013	.014

ELEVATION CORRECTIONS

SHELL ALEXANDRA NO. 4

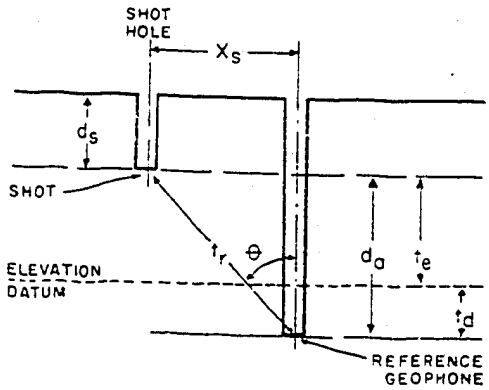
REFERENCE HOLE: F

HOLE ELEVATION: 1101 Ft.

GEOPHONE DEPTH: 118 Ft.

GEOPHONE ELEVATION: 983 Ft.

ELEVATION DATUM: 975 Ft.



$$\text{TAN } \theta = \frac{X_s}{d_a}$$

$$t_e = (t_r \cos \theta) - t_d$$

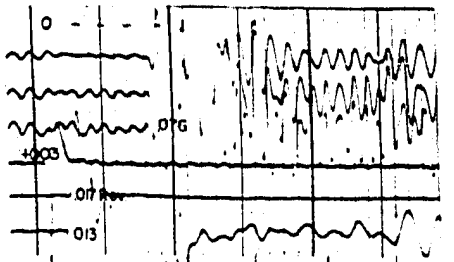
$$t_d = \frac{983' - 975'}{5800 \text{ Ft./Sec.}} = .001 \text{ Sec.}$$

S.P. - ELEVATION	SHOT NO.	d_s	SHOT ELEV.	X_s	d_a	TAN θ	COS θ	t_r	t_e
G-1101 Ft.	12B	48	1053	30	70	.4286	.9191	.013	.013
	13C	48	1053	30	70	.4286	.9191	.013	.013
	14D	49	1052	30	69	.4348	.9171	.014	.014
	15E	49	1052	30	69	.4348	.9171	.013	.013
	16F	49	1052	30	69	.4348	.9171	.014	.014
	17G	48	1053	30	70	.4286	.9191	.013	.013
	18H	48	1053	30	70	.4286	.9191	.013	.013
	19I	48	1053	30	70	.4286	.9191	.013	.013

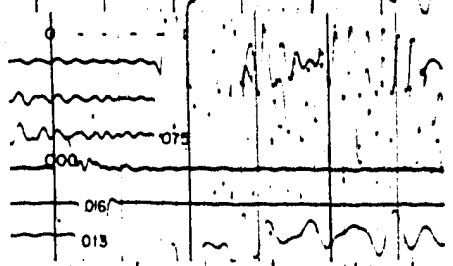
IV. WELL VELOCITY GRAPHS

(in back pocket)

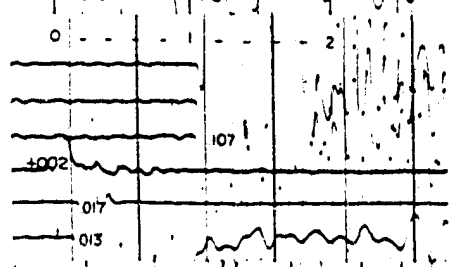
VELOCITY TEST RECORD NO. 5C
WELL GEOPHONE LEVEL 600 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



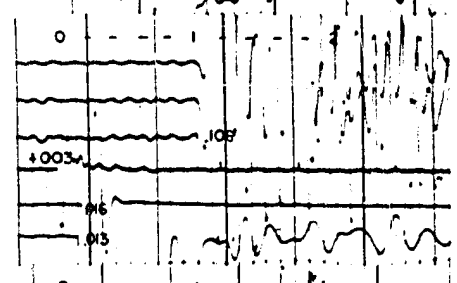
VELOCITY TEST RECORD NO. 12B
WELL GEOPHONE LEVEL 600 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.



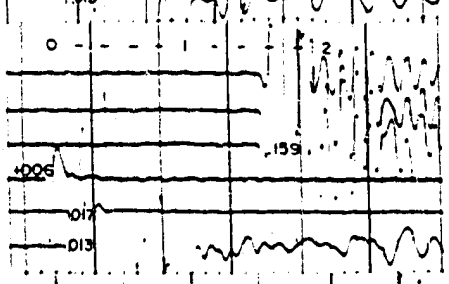
VELOCITY TEST RECORD NO. 4D
WELL GEOPHONE LEVEL 1210 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



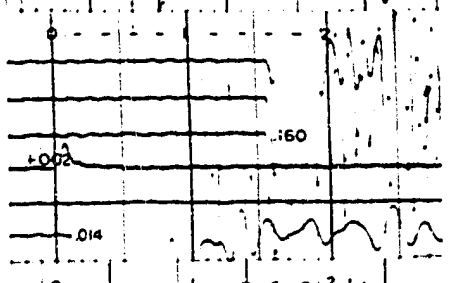
VELOCITY TEST RECORD NO. 13C
WELL GEOPHONE LEVEL 1210 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.



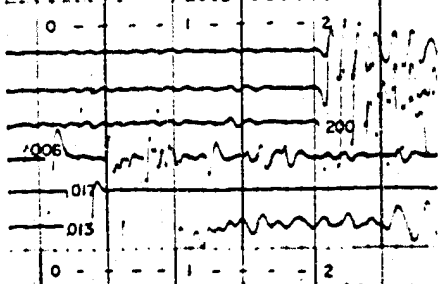
VELOCITY TEST RECORD NO. 5E
WELL GEOPHONE LEVEL 1750 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



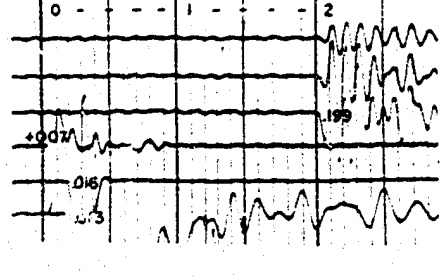
VELOCITY TEST RECORD NO. 14D
WELL GEOPHONE LEVEL 1750 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 49 FT.



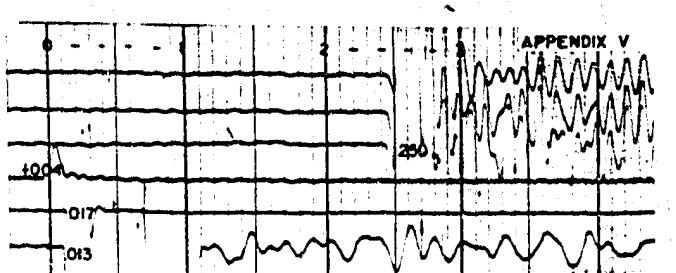
VELOCITY TEST RECORD NO. 6F
WELL GEOPHONE LEVEL 2300 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



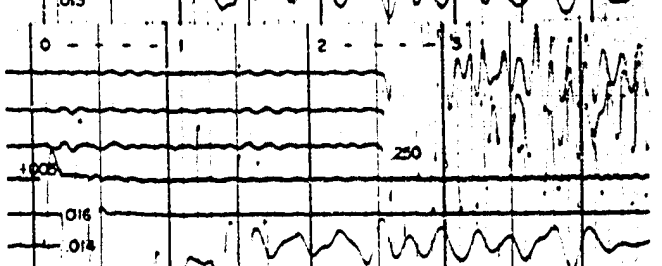
VELOCITY TEST RECORD NO. 13E
WELL GEOPHONE LEVEL 2300 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 49 FT.



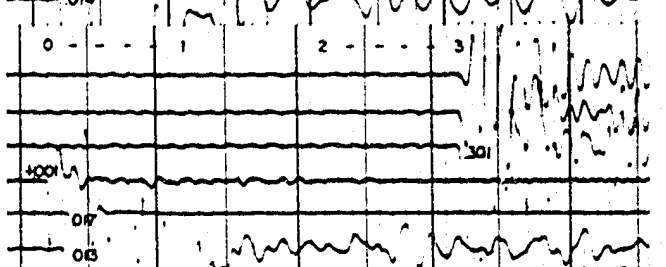
VELOCITY TEST RECORD NO. 7G
WELL GEOPHONE LEVEL 2800 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



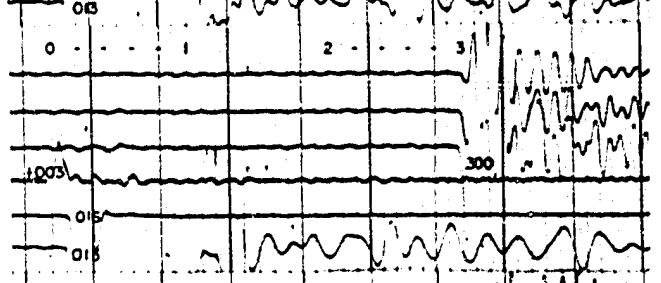
VELOCITY TEST RECORD NO. 16F
WELL GEOPHONE LEVEL 2800 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 49 FT.



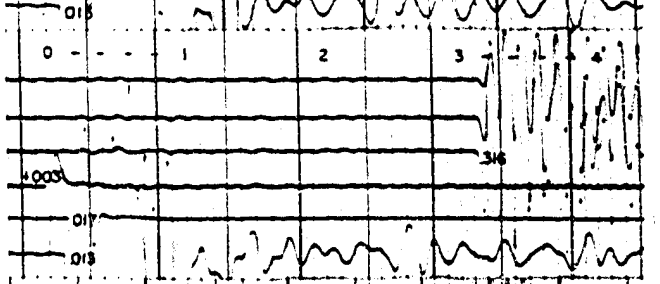
VELOCITY TEST RECORD NO. 8H
WELL GEOPHONE LEVEL 3340 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



VELOCITY TEST RECORD NO. 17G
WELL GEOPHONE LEVEL 3340 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.

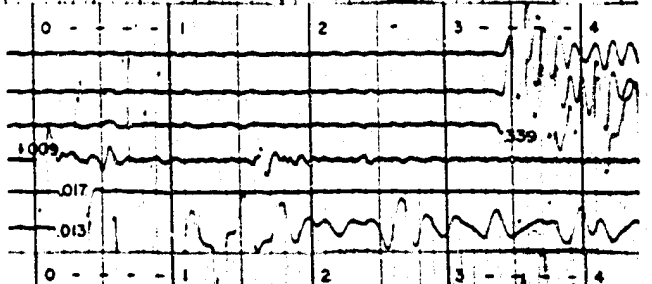


VELOCITY TEST RECORD NO. 9I
WELL GEOPHONE LEVEL 36 26 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.

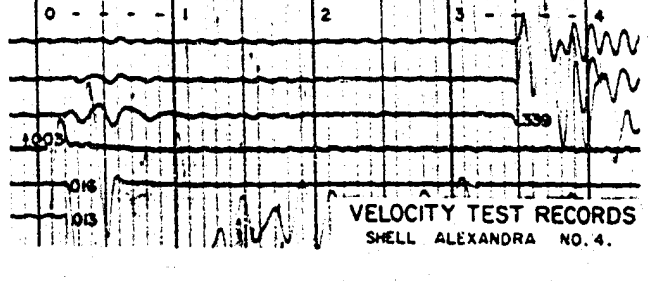


VELOCITY TEST RECORD NO. 18H
WELL GEOPHONE LEVEL 36 26 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.

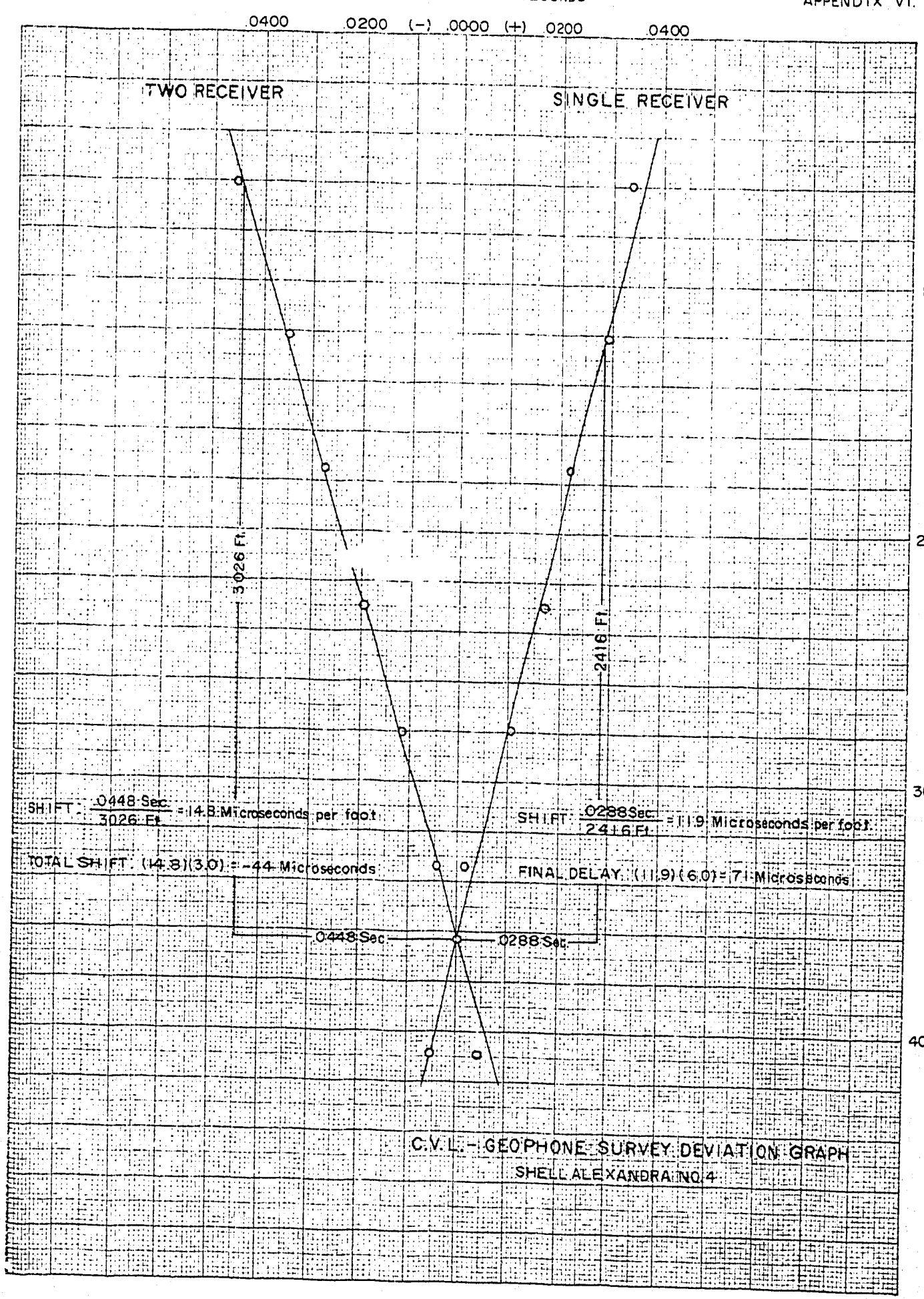
VELOCITY TEST RECORD NO. 10J
WELL GEOPHONE LEVEL 4084 FT. (KB)
S.P. A CHARGE 5/16 DEPTH 49 FT.



VELOCITY TEST RECORD NO. 19I
WELL GEOPHONE LEVEL 4084 FT. (KB)
S.P. G CHARGE 5/16 DEPTH 48 FT.



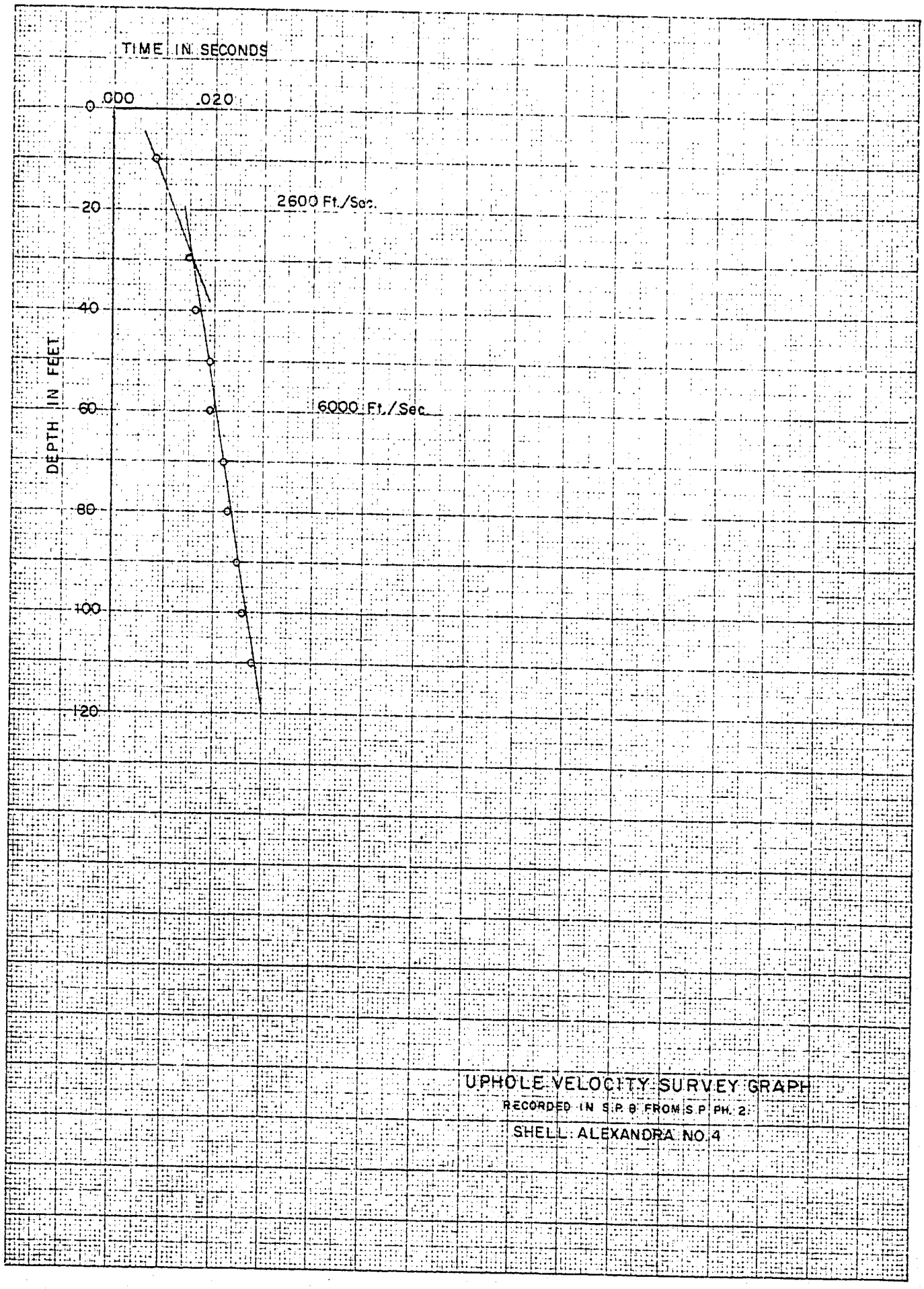
VELOCITY TEST RECORDS
SHELL ALEXANDRA NO. 4.



C.V.L. - GEOPHONE SURVEY DEVIATION GRAPH

SHELL ALEXANDRA NO. 4

10 X 10 TO THE CM. 359-14
KEUFFEL & ESSER CO.

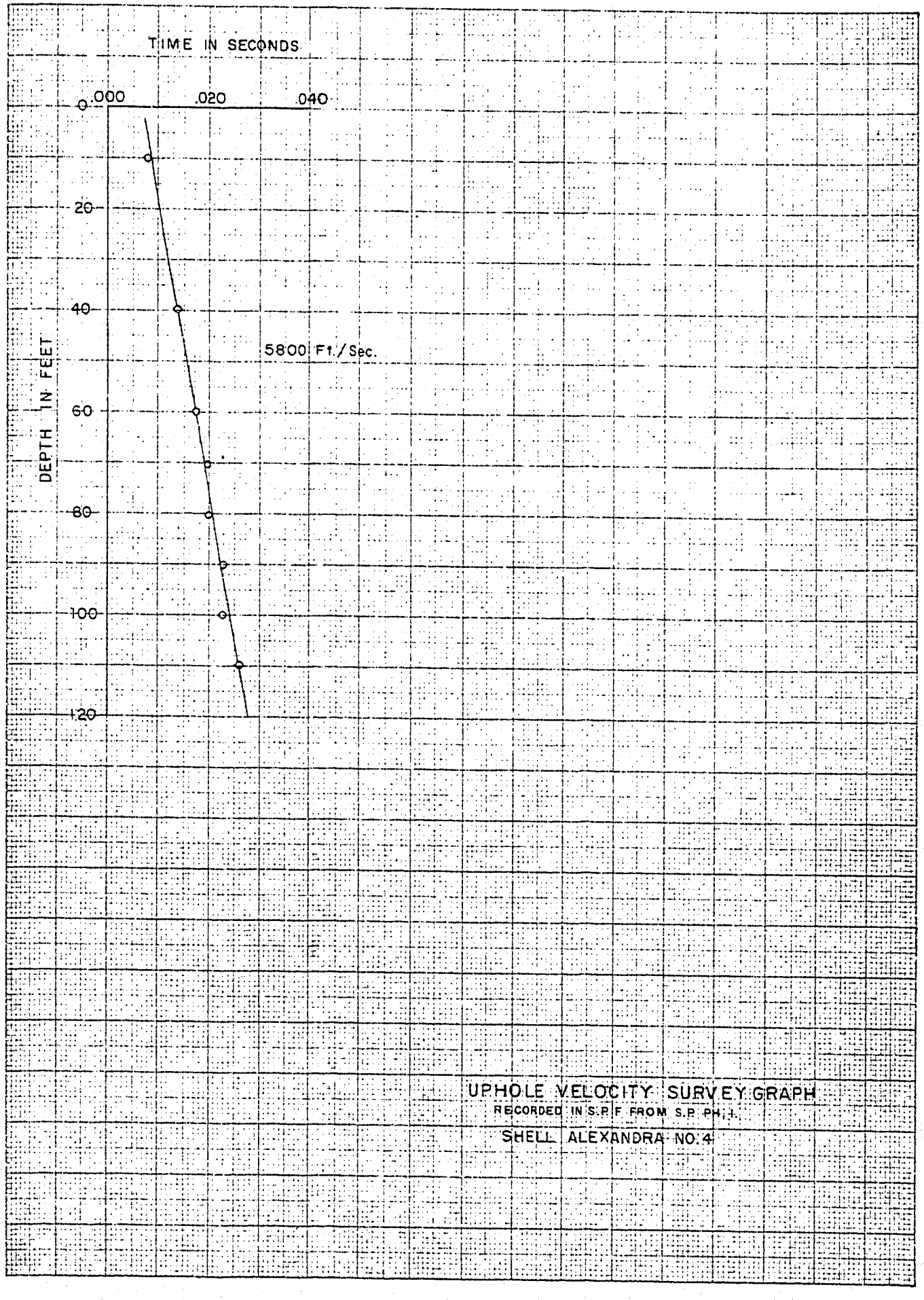


UPHOLE VELOCITY SURVEY GRAPH

RECORDED IN S.P. 8 FROM S.P. PH. 2.

SHELL ALEXANDRA NO. 4

10 X 10 TO THE CM. 359-14
KEUFFEL & ESSER CO.



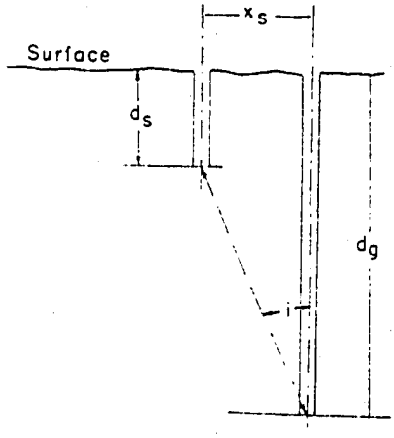
UPHOLE VELOCITY SURVEY GRAPH
RECORDED IN S.R.F FROM S.P PH.1.
SHELL ALEXANDRA NO.4

10 X 10 TO THE CM. 359-14
KEUFFEL & ESSER CO.

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1107 Ft.

CABLED HOLE ELEVATION: 1107 Ft.

$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

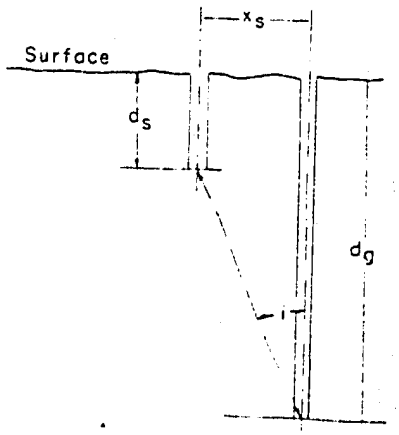
UPHOLE TIME (ts) = .005 Sec.

SHOT P.	REC.NO.	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH_2	30	6	10	4	10	2.5000	.3714	.008	.003	.008
			30	24	10	.4167	.9231	.011	.010	.015
			50	44	10	↑	↑	.014	.014	.019
			70	64	10			.017	.017	.022
			90	84	10	Not applicable		.020	.020	.025
			110	104	10	↓	↓	.023	.023	.028

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1107 Ft.

CABLED HOLE ELEVATION: 1107 Ft.

$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

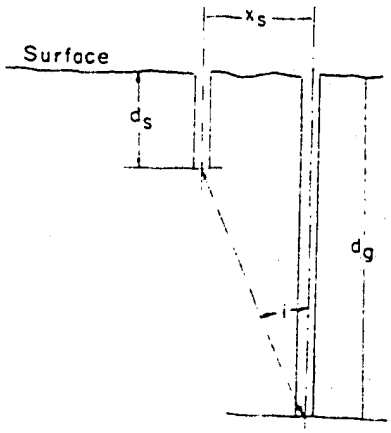
UPHOLE TIME (ts) = .005 Sec.

SHOT P.	REC.NO.	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH2	4D	6	40	34	10	.2941	.9594	.011	.011	.016
			60	54	10			.014	.014	.019
			80	74	10	Not applicable		.018	.018	.023
			100	94	10			.021	.021	.026

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1101 Ft.

CABLED HOLE ELEVATION: 1101 Ft.

$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

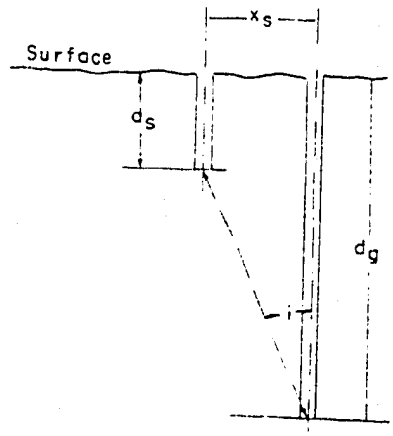
UPHOLE TIME (ts) = .005 Sec.

SHOT P.	REC.NO.	a_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH_1	3C	6	10	4	10	2.5000	.3714	.007	.003	.003
			30	24	10	.4167	.9231	–	–	–
			50	44	10			–	–	–
			70	64	10			.015	.015	.020
			90	84	10	Not applicable		.018	.018	.023
			110	104	10			.021	.021	.026

UPHOLE VELOCITY SURVEY DATA

SHELL ALEXANDRA NO. 4

ALL TIMES CORRECTED TO SURFACE ELEVATION



SHOT POINT ELEVATION: 1101 Ft.

CABLED HOLE ELEVATION: 1101 Ft.

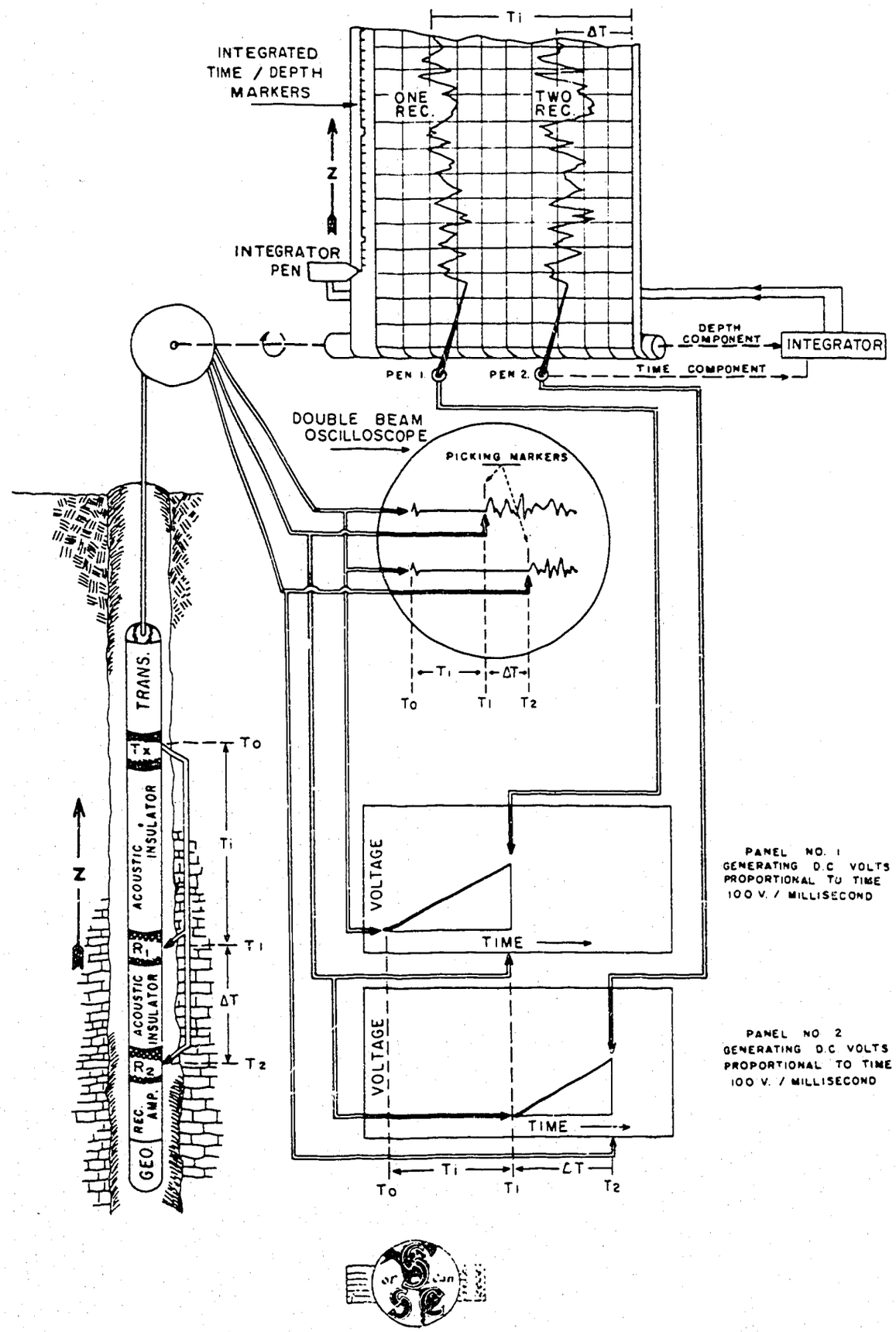
$$\frac{x_s}{d_g - d_s} = \tan i$$

$$\text{Cos } i \times T = T_c$$

UPHOLE TIME (ts) = .005 Sec.

SHOT P	REC.NO	d_s	d_g	$d_g - d_s$	x_s	tan i	cos i	T	T_c	$T_c + t_s$
PH_1	4D	7	40	33	10	.3030	.9570	.009	.009	.014
			60	53	10	↓	↓	.012	.012	.017
			80	73	10	Not applicable		.015	.015	.020
			100	93	10	↓	↓	.018	.018	.023

DIAGRAM OF CONTINUOUS VELOCITY LOGGER TWO RECEIVER



THEORY OF OPERATION

The CVL Two Receiver logging system consists of a magneto-striction transmitting transducer Tx which emitts pulses 20-30 times per second; these travel through the formation sidewalls to the twin crystal receiving transducers R_1 & R_2.

At each signal instant (To) a synchronizing signal is sent to the surface which fires an electronic switch in #1 panel; starting a precision sawtooth generator which develops a D.C. voltage proportional to time.

When the acoustic signal arrives at R_1 at a time T_1, a picking device in #1 panel transfers a voltage proportional to T_1 to the recorder, and thus records T_1. At the same time a portion of this signal is used to fire an electronic switch in #2 panel, and starts another precision sawtooth generater which develops a D.C. voltage proportional to time.

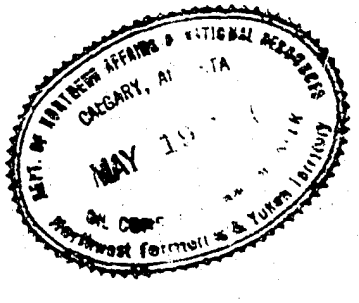
When the acoustic signal arrives at R_2 at a time T_2, a picking device in #2 panel transfers a voltage proportional to the difference in time $(T_2 - T_1) = \Delta T$ to the recorder and thus records ΔT.

All these events together with 'picking' markers are displayed on a two beam oscilloscope giving a visual indication of the signals and the points at which each one is 'picked'.

The interval time equal to ΔT is continuously integrated with depth to give the over-all travel time for the interval logged on the margin of the log.

Salient points of the CVL Two Receiver System

1. High pulse rate (20-30 pulses per second) giving maximum sampling and high logging speeds (4000-6000 ft./hr.)
2. Visual indication at the surface of all signals and the points at which the events are 'picked'.
3. Single and two receiver logs recorded simultaneously.
4. Over-all time depth curve recorded simultaneously.
5. Logs recorded on a linear velocity scale available.


CALGARY, ALBERTA
MAY 19
Northwest Territories & Yukon Territory

FILE

4

APPENDIX IV

WELL VELOCITY GRAPHS

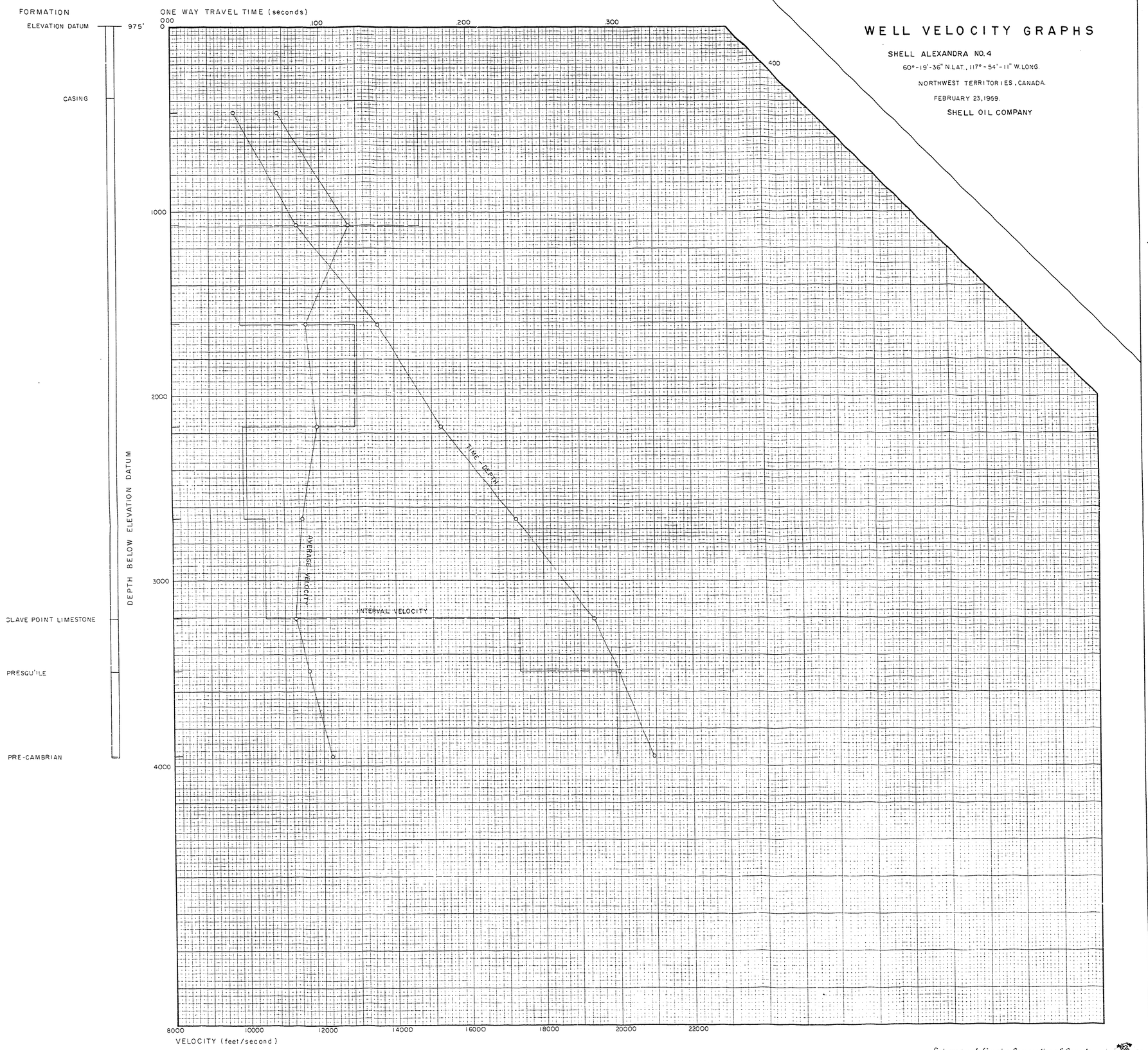
SHELL ALEXANDRA NO. 4

60°-19'-36" N.LAT., 117°-54'-11" W.LONG.

NORTHWEST TERRITORIES, CANADA.

FEBRUARY 23, 1959.

SHELL OIL COMPANY



Seismograph Service Corporation of Canada