

A.

Tables showing the underground temperatures

in borings. 井内温度表

(TABLE 1.—15.)

NH.....Boring of the Nippon Sekiyukabushikikwaisha. 日本石油
株式会社井

HD.....Boring of the Hōden Sekiyukabushikikwaisha. 寶田石油株
式会社井

l.....Location of boring. 井ノ位置

H.....Height of boring-mouth above sea level, in meters. 井口
海拔(米)

d.....Date of the measurement of temperature. 測温日附

x.....Depth of boring, in meters. 井ノ深サ(米)

ΔxDifference of the successive depths in a boring, in meters.
井内遞次深サノ差(米)

t.....Temperature at the depth x in a boring, in Centigrades.
井ノ深サ x ニ於ケル温度(攝氏)

ΔtDifference of the successive temperatures in a boring, in
Centigrades. 井内遞次温度ノ差(攝氏)

$\Delta x/\Delta t$Geothermic gradient in each interval of the measuring
stations, in meters per Centigrade degree. 各測温箇所
間ニ於ケル増温率(米, 毎攝氏度)

$\Delta t/\Delta x$Temperature difference per unit difference of the depth, in
Centigrade degree per meter. 單位深サニ對スル温度ノ差
(攝氏度, 毎米)

O.....Oil. 石油

G.....Gas. 瓦斯

W.....Water. 水

S.....Size of the casing- or drive-pipe sunk in boring, in inches.
井内鐵管ノ直徑(吋)

L.....Length of the casing- or drive-pipe sunk in boring, in
meters. 井内鐵管ノ長サ(米)

C.....Casing pipe. 「ケーシング、パイプ」

D.....Drive pipe. 「ドライブ、パイプ」

TABLE 1. NH Gochi No. 6.

第一表 NH 五智第六號井

I Gōzu, Kasuga-mura, Nakakubiki-gōri, Echigo. 越後國中頸城郡春日村郷津

H 65 m. 六十五米

d 31, XII, 1908,.....7, I, 1909. 自明治四十一年十二月三十一日至同四十二年一月七日

No.	x(m.)	$\Delta x(m.)$	t°(C.)	$\Delta t^{\circ}(C.)$	$\Delta x/\Delta t(m.)$	$(\Delta t/\Delta x) \times 100^{\circ}(C.)$	Remarks
0	0						
1	15	15	12.6				
2	65	50	12.9	0.3	16.7	6.00	
3	115	50	14.4	1.5	33.3	3.00	
4	165	50	16.3	1.9	26.3	3.80	
5	215	50	17.2	0.9	55.5	1.80	
6	265	50	14.3?	5.6	35.7	2.80	
7	315	50	—				
8	365	50	—				
9	415	50	22.8	2.4	20.8	4.80	
10	465	50	25.2				
11	515	50	—	9.5	15.8	6.33	
12	565	50	22.4?				
13	615	50	34.7				
							O, 705.4 m. G, 772.0 m.

S		L
$14\frac{1}{2}''$	C	m. 53.9
12''	D	182.1
8''	D	396.1
$5\frac{5}{8}''$	C	614.5
$4\frac{1}{4}''$	C	700.6

TABLE 2. NH Gochi No. 7.

第二表 NH 五智第七號井

1 Gōzu, Kasuga-mura, Nakakubiki-gōri, Echigo, 越後國中頸城郡春日村郷津

H 67 m.

六十七米

d 10, V, 1909.....13, V, 1909. 自明治四十二年五月十日
至同 同 年同月十三日

No.	x(m.)	Δx (m.)	t°(C.)	Δt °(C.)	$\Delta x/t$ (m.)	$(\Delta t/\Delta x) \times 100$ °(C.)	Remarks
0	0						
1	43.1	43.1	13.3	2.1	25.6	3.90	O, 69.7 m.
2	96.9	53.8	15.4	2.4	21.7	4.57	O, 97.3 m.
3	149.4	52.5	17.8	1.1	46.8	2.14	G, 158.8 m.
4	200.9	51.5	18.9	2.5	20.6	4.85	G, 209.1 m.
5	252.4	51.5	21.4	3.1	16.8	5.95	
6	304.5	52.1	24.5	2.2	24.6	4.21	G, 316.3 m.
7	356.7	52.2	26.7	1.9	26.7	3.75	
8	407.4	50.7	28.6	2.2	24.6	4.07	
9	461.5	54.1	30.8	2.0	26.1	3.84	
10	513.6	52.1	32.8	2.3	22.7	4.41	
11	565.7	52.1	35.1	1.6	25.6	3.90	G, 565.5 m.
12	606.7	41.0	36.7				

S	L
$14 \frac{1''}{2}$ C	m. 45.5
$10 \frac{5''}{8}$ D	187.9
8'' D	400.3
$5 \frac{5''}{8}$ C	628.8
$4 \frac{1''}{4}$ C	796.1

TABLE 3. NH Iwagami No. 108.

第三表 NH 岩神第百八號井

1 Tajima, Maki-mura, Higashikubiki-gōri, Echigo. 越後國東頸城郡 牧村田島

H 208 m. 二百八米

d 15, V, 1909.....21, V, 1909. 自明治四十二年五月十五日 至同 同年同月二十一日

No.	x(m.)	$\Delta x(m.)$	$t(^{\circ}C.)$	$\Delta t(^{\circ}C.)$	$\Delta x/\Delta t(m.)$	$(\Delta t/\Delta x) \times 100(^{\circ}C.)$	Remarks
0	0						
1	25.3	25.3	12.4				
2	76.8	51.5	14.6	2.2	23.4	4.27	
3	128.3	51.5	16.8	2.2	23.4	4.27	O&G, 112.7 m
4	180.4	52.1	17.7	0.9	57.9	1.73	O&G, 131.0 m
5	232.6	52.2	22.0	4.3	12.1	8.24	
6	283.4	50.8	23.0	1.0	50.8	1.97	
7	315.6	32.2	28.7	5.7	56.5	1.77	
8	337.5	21.9	28.4	2.7	19.7	5.05	G, 330.9 m.
9	369.1	31.6	31.4				
10	389.6	20.5	32.8	1.4	14.6	6.83	
11	410.5	20.9	34.5	1.7	12.3	8.13	
12	441.7	31.2	35.5	1.0	31.2	3.21	
13	492.7	51.0	38.7	3.2	15.9	6.27	

S	L
$10 \frac{1''}{4}$ C	m. 101.8
8'' D	179.7
$5 \frac{1''}{4}$ C	490.3
5'' C	602.7

TABLE 4. NH Iwagami No. 99.

第四表 NH 岩神第九十九號井

l Tajima, Maki-mura, Higashikubiki-gōri, Echigo.

越後國東頸城郡
牧村田島
二百六米

H 206 m.

d 21, V, 1909.....27, V, 1909. 自明治四十二年五月二十一日
至同 同 年同月二十七日

No.	x(m.)	x(m.)	t(C.)	$\Delta t^{\circ}(C.)$	$\Delta x/\Delta t(m.)$	$(\Delta t/\Delta x) \times 100^{\circ}(C.)$	Remarks
0	0						
1	13.2	13.2	13.0	1.9	28.5	3.51	W, 38.2 m.
2	67.3	54.1	14.9	3.0	17.4	5.75	O, 107.3 m.
3	119.5	52.2	17.9	2.6	20.0	5.00	O, 201.6 m.
4	171.5	52.0	20.5	2.8	18.2	5.49	O, 235.5 m.
5	222.5	51.0	23.3				

S		L	
10"	C	43.0	m.
8"	D	167.0	
5 $\frac{5}{8}$	C	233.3	

TABLE 5. NH Iwagami No. 90.

第五表 NH 岩神第九十號井

l Tajima, Maki-mura, Higashikubiki-gōri, Echigo.

越後國東頸城郡
牧村田島
二百四十五米

H 245 m.

d 31, V, 1909.....27, V, 1909. 自明治四十二年五月二十一日
至同 同 年同月二十七日

No	x(m.)	$\Delta x(m.)$	t(C.)	$\Delta t^{\circ}(C.)$	$\Delta x/\Delta t(m.)$	$(\Delta t/\Delta x) \times 100^{\circ}(C.)$	Remarks
0	0						
1	21.7	21.7	10.4	2.8	17.8	5.60	W, 14.2 m.
2	71.7	50.0	13.2	2.4	20.8	4.80	
3	121.7	50.0	15.6	1.4	35.7	2.80	
4	171.7	50.0	17.0	2.9	17.2	5.80	
5	221.7	50.0	19.9	2.0	28.2	4.00	
6	271.7	50.0	21.9	4.9	10.2	9.80	O, 282.7 m.
7	321.7	50.0	26.8	2.5	20.0	5.00	O, 301.8 m.
8	371.7		29.3				O, 383.6 m.

S		L	
8"	D	36.1	m.
6 $\frac{1}{4}$	C	260.9	
5"	C	362.7	

TABLE 6. HD Ushirodani No. 41.

第六表 HD 後谷第四十一號井

1 Ushirodani, Futada-mura, Kariha-gōri, Echigo. 越後國刈羽郡 二田村後谷
 H 75 m. 七十五米

d 14, II, 1910.....21, II, 1910. 自明治四十三年二月十四日
 至同 同年同月二十一日

No	x(m.)	Δx (m.)	$t^{\circ}(C.)$	$\Delta t^{\circ}(C.)$	$\Delta/x\Delta t$ (m.)	$(\Delta t\Delta/x)\times 100^{\circ}(C.)$	Remarks
0	0						
1	32.0	32.0	14.3				
2	108.0	76.0	17.6	3.3	23.0	4.34	
3	193.0	85.0	20.6	3.0	28.3	3.53	
4	255.0	62.0	24.6	4.0	15.5	6.45	
5	297.0	42.0	27.0	2.4	17.5	5.72	
6	328.0	31.0	25.4	1.9	27.6	3.62	
7	349.5	21.5	28.9				
8	400.5	51.0	31.6	2.7	18.9	5.29	
9	454.5	54.0	35.4	3.8	14.2	7.04	
10	508.0	53.5	37.8	2.4	22.3	4.49	O, 427.3 m.
11	539.5	31.5	39.8	2.0	15.8	6.35	O, 492.7 m.
12	561.5	22.0	40.0	0.2	110.0	0.91	
13	611.5	50.0	42.2	2.2	22.7	4.40	O, 551.5 m.

S		L
		m.
12"	C	71.9
10"	C	170.1
8"	D	368.7
6"	C	493.0
4"	C	584.1

TABLE 7. HD Ushirodani No. 33.

第七表 HD 後谷第三十三號井

1. Miyagawa, Takahama-machi, Kariha-gōri, Echigo. 越後國刈羽郡 高濱町宮川

H 41 m.

四十一米

d 21, II, 1910.....28, II, 1910. 自明治四十三年二月二十一日 至同同年同月二十八日

No.	x(m.)	Δx (m.)	t° (C.)	t° (C.)	$\Delta x/\Delta t$ (m.)	$(\Delta t/\Delta x) \times 100^{\circ}$ (C.)	Remarks
0	0						
1	37.5	37.5	13.9		23.2	4.31	
2	70.0	32.5	15.3	1.4	19.8	5.05	
3	123.5	53.5	18.0	2.7	21.4	4.67	
4	177.0	53.5	20.5	2.5	22.2	4.50	
5	239.2	62.2	23.3	2.8	23.4	4.26	
6	281.4	42.2	25.1	1.8	14.1	7.10	
7	312.4	31.0	27.3	2.2	20.1	7.97	
8	384.9	72.5	30.9	3.6	19.1	5.23	
9	438.4	53.5	33.7	2.8	22.1	4.53	
10	491.4	53.0	36.1	2.4	17.9	5.60	
11	541.4	50.0	38.9	2.8	32.6	3.06	
12	590.4	49.0	40.4	1.5			0,593.6 m.

S	L
	m.
12'' C	61.8
10'' C	241.5
8'' D	363.4
6'' C	572.8
4'' C	623.1

TABLE 8. HD Nagamine No. 89.

第八表 HD 長峯第八十九號井

1 Nagamine, Futada-mura, Kariha-gōri, Echigo. 越後國刈羽郡 二田村長峯

H 9 m. 九米

d 27, II, 1910.....7, III, 1910. 自明治四十三年二月二十七日 至同同年三月七日

No.	x(m.)	Δx (m.)	t°(C.)	Δt °(C.)	$\Delta x/\Delta t$ (m.)	$(\Delta t/\Delta x) \times 100$ °(C.)	Remarks
0	0						
1	18.5	18.5	15.1				
2	87.0	68.5	17.1	2.0	34.3	2.92	
3	158.0	71.0	20.4	3.3	21.5	4.65	O, 201.5 m.
4	228.0	70.0	—	7.8	18.0	5.57	O, 247.3 m.
5	298.0	70.0	28.2				
6	368.0	70.0	30.2	2.0	35.0	2.86	
7	438.0	70.0	34.3	4.1	17.1	5.86	O, 485.8 m.

S		L
$12\frac{1}{2}$	C	m. 22.7
10	C	206.2
8	D	223.5
6	C	376.1
$4\frac{1}{4}$	C	464.5

TABLE 6. NH Nagamine No. 57.

第九表 NH 長峯第五十七號井

I Nagamine, Futada-murá, Kariha-gōri, Echigo. 越後國刈羽郡 二田村長峯

H 12 m. 十二米

d 23, II, 1910.....6, III, 1910. 自明治四十三年二月二十八日
至同同年三月六日

No.	x(m.)	Δx (m.)	t°(C.)	Δt °(C.)	$\Delta x \Delta / t$ (m.)	$(\Delta t / \Delta x) \times 100$ °(C.)	Remarks
0	0	56.4					
1	56.4	60.0	16.4	0.5	12.0	8.33	W, 34.5 m.
2	116.4	60.0	16.9	0.9	75.0	1.33	
3	176.4	60.0	17.8	1.0	60.0	1.67	W, 183.6 m
4	236.4	60.0	18.8	2.9	20.7	4.83	O, 214.5 m.
5	296.4	60.0	21.7	7.9	75.9	1.32	O, 221.8 m.
6	356.4	60.0	29.7	4.4	13.6	7.33	O & G, 333.9 m.
7	416.4		34.0				O, 358.2 m.

S	L
$12 \frac{1}{2}''$ C	m. 32.0
$5 \frac{5}{8}''$ C	276.8
$4 \frac{1}{4}''$ C	413.3

TABLE 10. NH Katsumi No. 5.

第十表 NH 勝見第五號井

1 Katsumi, Amaze-machi, Santō-gōri, Echigo. 越後國三島郡
尼瀬町勝見

H 23 m.

二十三米

d 10, III, 1910.....16, III, 1910. 自明治四十三年三月十日
至同同年同月十六日

No.	x(m.)	$\Delta x(m.)$	$t^{\circ}(C.)$	$\Delta t^{\circ}(C.)$	$\Delta x/\Delta t(m.)$	$(\Delta t \Delta/x) \times 100^{\circ}(C.)$	Remarks
0	0						
1	14.0	14.0	15.8				
2	44.0	30.0	16.1	0.3	100.0	1.00	
3	94.0	50.0	17.3	1.2	41.7	2.40	
4	144.0	50.0	21.9	4.6	10.9	9.20	
5	194.0	50.0	24.1	2.2	22.7	4.40	O, G, & W, 172.9 m.
6	244.0	50.0	26.5	2.4	20.8	4.80	
7	294.0	50.0	28.7	2.2	22.7	4.40	
8	344.0	50.0	31.9	3.2	15.6	6.40	
9	394.0	50.0	34.6	2.7	18.5	5.40	
10	444.0	50.0	36.9	2.3	21.7	4.60	
11	494.0	50.0	38.9	2.0	25.0	4.00	
12	542.5	48.5	41.4	2.5	19.4	5.15	G, 530.0 m. O, 545.5 m.

S	L
	m.
10'' C	272.9
8'' D	389.1
$6\frac{1}{4}''$ C	471.9
5'' C	544.4

TABLE 11. NH Urase No. 14.

第十一表 NH 浦瀬第十四號井

1 Urase, Yamamoto-mura, Koshi-gōri, Echigo. 越後國古志郡 山本村浦瀬

H 334 m.

三百三十四米

d 6, X, 1910.....13, X, 1910 自明治四十三年十月 六 日
至 同 同 年同月十三日

No.	x(m.)	Δx (m.)	t° (C.)	Δt° (C.)	$\Delta x/\Delta t$ (m.)	$(\Delta t/\Delta x) \times 100^{\circ}$ (C.)	Remarks
0	0	113.4					
1	113.4	114.8	19.6	0.7	16.4	0.61	
2	228.2	144.8	20.3	5.9	19.5	5.14	W, 236.4 m.
3	343.0	144.9	26.2	1.3	88.3	1.13	W, 377.6 m.
4	457.9	76.5	27.5	3.6	21.3	4.71	
5	534.4	76.5	31.1	4.3	17.8	5.62	O, 584.5 m.
6	610.9	18.2	35.4	3.8	4.8	20.77	O, 612.7 m.
7	629.1	58.4	39.2	2.5	23.4	4.28	
8	687.5	38.3	41.7	6.4	6.0	16.71	
9	725.8		48.1				O&G, 901.8 m.

S	L
$14 \frac{1}{2}''$ C	m. 16.4
$12 \frac{1}{2}''$ C	148.6
8'' D	401.2
$5 \frac{5}{8}''$ C	762.4

TABLE 12. HD Urase No. 89.

第十二表 HD 浦瀬第八十九號井

1 Urase, Yamamoto-mura, Koshi-gōri, Echigo. 越後國古志郡 山本村浦瀬

H 360 m. 三百六十米

d 6, X, 1910.....13, X, 1910. 自明治四十三年十月六日
至同同年十月十三日

No.	x(m.)	Δx(m.)	t°(C.)	Δt°(C.)	Δx/Δt(m.)	(Δt/Δx) × 100°(C.)	Remarks
0	0						
1	199	199	17.1	2.4	29.2	3.43	G, 210.9 m.
2	269	70	19.5	2.1	28.6	3.50	O, 265.5 m.
3	329	60	21.6	2.1	23.6	4.20	W, 319.7 m.
4	379	50	23.7	1.9	26.3	3.80	
5	429	50	25.6				

S	L
8" D	m.
5 $\frac{5}{8}$ " C	161.5
	199.0
4 $\frac{1}{4}$ " C	429.0

TABLE 13. HD Katsubo No. 74.

第十三表 HD 加坪第七十四號井

1 Katsubosawa, Yamamoto-mura, Koshi-gōri, Echigo. 越後國古志郡 山本村加坪澤

H 353 m. 三百五十三米

d 24, III, 1910.....28, III, 1910. 自明治四十三年三月二十四日
至同同年三月二十八日

No.	x(m.)	Δx(m.)	t°(C.)	Δt°(C.)	Δx/Δt(m.)	(Δt/Δx) × 100°(C.)	Remarks
0	0						
1	18.2	18.2	11.1	5.2	35.0	2.88	
2	200.0	181.8	16.3	1.9	95.7	1.05	O, 338.2 m.
3	381.8	181.8	18.2	3.2	56.8	1.76	W, 392.7 m.
4	563.6	181.8	31.4				W, 603.6 m.

S	L
12 $\frac{1}{2}$ " C	m.
10" C	44.3
8" D	77.4
6" C	338.2
1" C	506.4
4 $\frac{1}{4}$ " C	576.5

TABLE 14. HD Katsubo No. 77.

第十四表 HD 加坪第七十七號井

l Katsubosawa, Yamamoto-mura, Koshi-gōri, Echigo. 越後國古志郡山本村加坪澤

H 180 m. 百八十米

d 13, X, 1910.....20, X, 1910. 自明治四十三年十月十三日至同 同 年同月二十日

No.	x(m.)	$\Delta x(m.)$	t'(C.)	$\Delta t'(C.)$	$\Delta x/\Delta t(m.)$	$(\Delta t/\Delta x) \times 100^\circ(C.)$	Remarks
0	0	100					
1	100	50	17.1				
2	150	50	16.8	3.8	13.2	7.60	
3	200	50	20.6	1.4	35.7	2.80	W, 221.5 m.
4	250	40	22.0	2.5	16.0	6.25	
5	290	30	24.5	1.5	20.0	5.00	
6	320	30	26.0	0.9	33.3	3.00	
7	350	36	26.9	1.5	24.0	4.17	
8	386		28.4				

S	L
8" C	134.9 ^m
5 $\frac{5}{8}$ " C	222.4
4" C	309.8
3" C	78.7
2" tubing	388.3

TABLE 15. HD Takiya No. 16.

第十五表 HD 瀧谷第十六號井

1 Niitsu, Niitsu-machi, Nakakambara-gōri, Echigo. 越後國中蒲原郡新津町新津

H 39 m. 三十九米

d 23, X, 1910.....29, X, 1910. 自明治四十三年十月二十三日
至同 同 年同月二十九日

No.	x(m.)	$\Delta x(m.)$	(t°C.)	$\Delta t^{\circ}(C.)$	$\Delta x/t\Delta(m.)$	$(\Delta t/\Delta x) \times 100^{\circ}(C.)$	Remarks
0	0						
		37.9					
1	37.9	81.8	16.3	3.2	25.6	3.91	
		119.7	19.5	4.5	12.1	8.32	
2	119.7	54.5	24.0	5.9	9.3	10.81	
		174.2	29.9	0.3	91.0	1.10	
3	174.2	54.6	30.2	2.3	11.9	8.43	G, 339.1 m.
		228.8	32.5	1.9	14.3	6.98	O, 248.2 m.
4	228.8	27.3					
		256.1					
5	256.1	27.3					
		283.4					
6	283.4	27.2					
		310.6					
7	310.6						

S	I.
8" C	m. 115.9
5 $\frac{5}{8}$ " C	314.9
4 $\frac{1}{4}$ " C	352.7

B.

Tables showing the underground temperatures at the bottoms
of borings. (Table 16.) 井底溫度表

- H.....Height of boring-mouth above sea level, in meters. 井口海
拔(米)
- x.....Depth of boring, in meters. 井ノ深サ(米)
- t.....Temperature at the depth x in boring, in Centigrades.
井内深サ X ニ於ケル溫度(攝氏)
- g.....Mean geothermic gradient, in meters per Centigrade degree.
平均增溫率(米, 每攝氏度)
- i.....(Temperature increase per unit difference of depth) $\times 100$
(單位深サノ差ニ於ケル增溫數) $\times 100$
- d.....Date of the measurement of temperature. 測溫日附
- NH.....Boring of the Nippon Sekiyukabushikikwaisha. 日本石油
株式會社井
- HD.....Boring of the Hōden Sekiyukabushikikwaisha. 寶田石油
株式會社井

TABLE 16. Temperatures at the bottoms of borings.

第十六表 井底溫度

Name of boring 井 名	Owner 所有主	H(m.)	X(m.)	t°(C.)	g(m.)	i°(C.)	Location 位 置	d
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(1) Kubiki Oil-Field. 頸城油田

Gochi 五 智	No. 6	NH	65	615.0	34.7	27.9	3.6	中葉城郡春日 村麴津	I, 1909.
"	No. 7	"	67	606.7	36.7	25.2	3.9	"	V, "
Iwagami 岩 神	No. 108	"	208	492.7	38.7	18.8	5.5	東明城郡牧村 田島	" "
"	No. 90	"	245	371.7	29.3	22.2	4.5	"	" "
"	No. 99	"	206	222.5	23.3	20.6	4.9	"	" "

(2) Nishiyama Oil-Field. 西山油田

Ushirodani 後 谷	No. 31	HD	112	657.0	40.0	24.0	4.2	刈羽郡二田村 後谷	II, 1910.
"	No. 41	"	75	611.5	42.2	20.6	4.9	"	" "
"	No. 33	"	41	590.4	40.4	21.2	4.7	刈羽郡高瀬町 宮川	" "
"	No. 35	"	112	569.7	37.0	23.3	4.3	刈羽郡二田村 後谷	" "
"	No. 43	"	69	530.9	37.6	21.2	4.7	"	" "
"	No. 14	"	80	378.2	29.4	22.5	4.4	"	" "
"	No. 53	"	60	257.3	24.9	20.8	4.8	"	" "
Miyagawa 宮 川	No. 23	NH	90	627.3	40.7	22.3	4.5	刈羽郡高瀬町 宮川	" "
"	No. 16	"	80	590.9	49.0	21.5	4.7	"	" "
"	No. 55	"	10	388.2	32.5	19.4	5.2	"	" "
"	No. 51	"	65	370.0	28.0	24.0	4.2	"	" "
Nagamine 長 峰	No. 119	"	35	697.3	46.4	20.6	4.9	刈羽郡二田村 長峰	III, "
"	No. 85	"	52	618.8	41.5	21.4	4.7	"	II, "
"	No. 89	HD	9	438.0	34.3	20.1	5.0	"	III, "
"	No. 57	NH	12	416.4	34.0	19.7	5.1	"	" "
"	No. 91	"	45	397.0	28.9	24.3	4.1	"	II, "
"	No. 50	"	12	331.5	29.4	19.6	5.1	"	III, "
Kamada 鎌 田	No. 49	"	70	752.0	48.0	21.2	4.7	刈羽郡内郷村 伊毛	" "
"	No. 42	HD	66	469.1	35.2	20.7	4.9	"	" "
Katsumi 勝 見	No. 5	NH	23	542.5	41.4	18.8	5.5	三島郡尼瀬町 勝見	" "
"	No. 3	HD	57	541.2	38.9	25.1	4.0	"	" "
"	No. 4	NH	57	469.5	36.5	19.1	5.2	"	" "
Amase 尼 瀬	No. 20	"	0	577.6	44.7	16.2	6.2	三島郡尼瀬町 尼瀬	" "
"	No. 18	"	0	293.0	30.5	16.2	6.2	"	" "

(3) Ojiya Oil-Field. 小千谷油田

Ojiya 小千谷	No. 46	HD	120	340.9	25.5	26.5	3.8	北魚沼郡城川 村時水	III, 1910.
"	No. 6	"	160	337.8	24.4	28.8	3.5	"	" "
"	No. 48	"	155	227.3	19.4	34.0	2.9	"	" "

(4) Higashiyama Oil-Field. 東山油田

Otoyoshi 乙喜	No. 1	NH	440	537.6	31.9	27.9	3.6	古志郡山本村 乙喜	X, 1910.
Miyaji 宮路	No. 1	"	405	364.8	24.4	31.1	3.2	古志郡山本村 宮路	" "
Uruse 浦瀬	No. 14	"	334	725.8	48.1	20.4	4.9	古志郡山本村 浦瀬	" "
"	No. 89	HD	360	429.0	25.6	33.3	3.0	"	" "
"	No. 86	"	397	383.3	28.0	24.9	4.0	"	" "
Hire 比禮	No. 74	"	316	586.4	32.8	28.1	3.6	古志郡山本村 比禮	III, "
"	No. 106	"	285	528.2	35.2	23.3	4.3	"	X, "
"	No. 112	"	350	264.9	21.0	31.9	3.1	"	III, "
Katsubo 加坪	No. 74	"	353	563.6	31.4	30.1	3.3	古志郡山本村 加坪	" "
"	No. 77	"	180	386.0	28.4	24.4	4.1	"	X, "
"	No. 80	"	283	330.9	21.7	36.9	2.7	"	" "
Katsurawara 桂澤	No. 123	"	210	337.0	27.3	22.9	4.4	古志郡山本村 桂澤	" "
"	No. 127	"	237	250.0	20.1	33.8	2.9	"	" "
Okuchi 大日	No. 8	—	10	451.2	32.0	23.2	4.3	南魚沼郡中之 島村大日	" "

(5) Niitsu Oil-Field. 新津油田

Takiya 滝谷	No. 18	HD	30	220.1	27.8	14.2	7.0	中蒲原郡新津 町新津	X, 1910.
"	No. 16	"	39	310.6	34.4	14.1	7.1	"	" "
"	No. 47	"	5	310.6	36.8	12.6	8.0	"	" "
"	No. 11	"	35	232.6	27.5	15.2	6.6	"	" "
"	No. 6	"	22	269.1	31.8	13.8	7.2	"	" "
Kumazawa 熊澤	No. 63	"	65	229.8	24.4	19.3	5.2	中蒲原郡新津 町田井	" "
Koguchi 小口	No. 71	"	62	234.2	23.4	21.6	4.6	中蒲原郡新津 町小口	" "
"	No. 109	"	30	^x 172.7	24.3	14.4	6.9	"	" "
Kōdani 高谷	No. 98	NH	50	256.4	19.5	37.8	2.6	中蒲原郡金津 村高谷	" "
Kinatsu 金津	No. 31	HD	70	310.0	23.3	29.1	3.5	中蒲原郡金津 村金津	" "
Niigata 新潟	—	—	10	^x 128.1	17.0	29.5	3.4	新潟市	" "

* These 2 borings are small in depths and the temperatures obtained may not be certain.

此二井ハ深サ小ナルヲ以テ其温度ハ不確實ナルヲ計ルヘカラス

C.

Tables showing the temperatures of the muds brought up from the bottoms of borings. (Table 17.)

井底ヨリ汲上ケタル泥土ノ溫度

- xDepth of borings, in meters. 井ノ深サ(米)
- T.....Time required for bringing up mud with bailer etc. 泥土汲上ニ要スル時間
- t.....Temperature at the depth x in boring, in Centigrades.
井内深サ x ニ於ケル溫度(攝氏)
- t'.....Standard temperature at the depth x in a certain field.
一油田ニ於テ深サ x ニ於ケル標準溫度
- S.....Sand stone. 砂岩
- cl.....Clay. 粘土
- sh.....Shale. 頁岩
- s. sh.....Sandy shale. 砂質頁岩
- d.....Date of the measurement of temperature. 測溫日附
- ASome hours after percussion. 掘鑿休止後數時間ヲ經テ
- B.....Soon after percussion. 掘鑿休止後直ニ
- NH.....Boring of the Nippon Sekiyukabushikikwaisha. 日本石油株式會社井
- HD.....Boring of the Hōden Sekiyukabushikikwaisha. 寶田石油株式會社井

TABLE 17. Temperatures of the muds brought up from the bottoms of borings.

第十七表 井底ヨリ汲取シタル泥土ノ温度

Name of boring 井 名	Owner 所 持 主	x(m.)	T	t°(C.)	t°(C.)	t°-t°(C.)	(t°-t°)/t°×100° (C.)	Geology	d	Remarks.
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(1) Kubiki Oil-Field. 頸城油田

Iwagāni 岩 井	No. 72	NH	290.9	—	24.5	29.6	2.1	7.1	s.	V,	1909	A
Hura 原	No. 63	"	326.3	—	29.0	29.1	0.1	0.3	"	"	"	A
"	No. 73	"	327.8	—	29.8	29.2	-0.6	-2.1	"	"	"	A
"	"	"	328.7	—	30.1	29.3	-0.8	-2.7	"	"	"	A

(2) Nishiyama Oil-Field. 西山油田

Ushirodani 後 谷	No. 24	HD	186.4	0° 50'	14.0	20.3	6.3	3.1	cl	II,	1910	B
"	No. 28	"	405	1 59	39.0	31.6	-7.4	-2.3	s. sh.	"	"	A
"	No. 49	"	450	1 37	27.0	35.1	8.1	2.3	"	"	"	B
"	No. 48	"	489	3 30	41.0	37.3	-3.7	-1.0	"	"	"	A
"	"	"	489.1	7 25	35.0	37.3	2.3	0.6	"	"	"	B
"	No. 3	"	545.5	—	32.0	40.1	8.1	2.0	s.	—	—	A
"	No. 26	"	568	4 59	36.0	40.8	4.8	1.2	s. sh.	II,	1910	A
"	No. 34	"	594	3 40	42.5	41.7	-0.8	-0.2	"	"	"	A
"	"	"	"	"	37.0	41.7	4.7	1.1	"	"	"	A
"	No. 43	"	626.3	10 0	27.5	42.8	15.3	3.6	"	"	"	B
"	"	"	"	3 40	32.2	42.8	10.6	2.5	"	"	"	B
"	No. 7	"	668.5	16 0	17.0	—	—	—	"	"	"	B
Miyagawa 宮 川	No. 56	NH	229.1	2 0	26.0	22.7	-4.7	-2.0	"	"	"	A
"	No. 39	"	309.1	—	28.0	27.1	-0.9	-0.3	sh.	V,	1909	A
"	No. 54	"	370.9	3 20	35.5	30.2	-4.7	-1.6	s. sh.	II,	1910	A
"	No. 31	"	381.8	—	24.0	30.6	6.6	2.2	s.	I,	1909	A
"	No. 55	"	394.6	2 25	33.0	31.4	-1.6	-0.5	s. sh.	II,	1910	A
"	No. 13	"	481.8	—	28.5	35.7	7.8	2.2	"	V,	1909	A

Miyagawa 宮川	No. 52	NH	509.1	3 5	39.0	37.2	-2.2	-0.6	s. sh.	II, 1910	A
"	No. 50	"	585.5	5 0	41.5	40.3	-1.2	-0.3	"	"	B
"	No. 17	"	609.4	—	10.5	41.9	31.4	7.6	—	—	A
"	No. 1	"	612.7	—	46.1	41.6	-4.5	-1.1	—	—	A
"	No. 22	"	613.9	—	40.8	41.7	0.9	0.2	—	—	A
"	No. 30	"	627.3	—	37.7	42.0	4.3	1.0	s. sh.	V, 1909	A
"	"	"	628.2	5 0	41.5	42.3	0.8	0.2	"	"	A
"	No. 37	"	654.5	—	58.5	43.2	-15.3	-3.5	—	—	A
"	No. 32	"	700	6 14	44.0	47.8	3.8	0.8	s. sh.	I, 1910	B
"	No. 37	"	737.3	4 50	44.5	44.8	0.3	0.7	"	"	A
"	"	"	745.5	6 25	38.0	45.2	7.2	1.6	"	"	mud contains much water. B 泥土ハ多量ノ水ヲ含ム
Nagamine 長 瀬	No. 41	HD	43.6	—	15.0	15.6	0.6	0.4	cl.	"	A
"	No. 84	"	130.9	1 20	18.0	18.8	0.8	0.4	s. sh.	"	A
(Iriwada) 入和田	No. 1	"	165.5	1 40	20.5	20.8	0.3	0.1	"	"	A
Nagamine 長 瀬	No. 63	"	176.3	1 25	17.5	22.2	4.7	2.1	"	"	A
"	No. 60	"	375.5	3 55	27.2	30.4	3.2	1.6	"	"	A
"	No. 121	NH	400.0	3 50	33.5	31.5	-2.0	0.6	"	"	A
"	No. 119	"	706.7	8 57	43.0	50.0 Ca.	7.0 Ca.	1.4	s.	III, "	A
"	No. 14	HD	561.8	—	32.0	39.3	7.3	1.9	sh.	—	A
"	"	"	565.5	—	37.0	39.5	2.5	0.6	"	—	A
"	"	"	577.3	—	48.0	40.1	-7.9	-1.9	"	—	A boring pro- duces oil. 井ハ油ヲ産ス
"	"	"	581.8	—	43.0	40.3	-2.7	-0.7	"	—	A
"	"	"	590.9	—	35.0	40.7	5.7	1.2	"	—	A
Kamada 鎌 田	No. 44	"	66.3	—	17.0	16.5	-0.5	-0.3	"	—	A
"	No. 35	"	429.1	—	16.0	32.3	16.3	5.0	s.	—	A
"	No. 46	NH	445.3	—	28.3	34.5	6.2	1.8	—	—	A
"	No. 35	HD	447.3	—	30	34.6	4.6	1.4	s. sh.	—	A
"	No. 46	NH	457.5	—	41.1	44.6	3.5	0.8	"	II, 1910	A
"	No. 7	HD	487.2	3 5	34.0	36.1	2.1	0.6	"	III, 1910	A
"	No. 62	NH	504.5	3 50	34.0	36.8	2.8	0.4	"	"	A
"	No. 36	"	515.2	—	38.9	37.3	-1.6	-0.4	"	II, 1909	A
"	"	HD	532.7	—	37	38.1	1.1	0.30	sh.	—	A
"	No. 6	"	601.5	—	37.0	41.3	4.3	1.0	s. sh.	—	A
"	No. 33	"	603.6	—	31.5	41.4	9.9	2.4	s.	—	A
"	No. 59	NH	606.1	—	46.1	41.4	-4.7	-1.1	s. sh.	XII, 1909	A

"	No. 33	HD	609.1	—	32	41.5	9.5	2.3	s.	—	A	mud contains much water.
"	No. 6	"	626.0	8 5	32.0	42.3	10.3	2.5	s. sh.	III, 1910	A	泥土ハ多量ノ水ヲ含ム
Nishigasaki 西ヶ崎	No. 1	NH	743.9	—	42.9	47.6	4.7	1.0	"	I, 1909	A	
"	"	"	746.3	—	41.2	47.7	6.5	1.4	"	—	A	
Kamada 鎌田	No. 59	"	768.8	8 30	42.0	48.6	6.6	1.4	sh.	III, 1910	B	
Nishigasaki 西ヶ崎	No. 1	"	787.9	3 20	47.8	49.7	1.9	0.4	s. sh.	" "	A	
Kamada 鎌田	No. 49	"	818.2	4 45	40.6	51.1	10.5	2.0	"	" "	B	
Katsumi 勝見	No. 2	"	609.0	—	43.3	45.0	1.7	0.4	—	—	A	
Amaze 尼瀬	No. 20	"	610.9	—	43.1	46.6	3.5	0.7	—	X, 1909	B	
"	"	"	624.8	—	45.7	47.2	1.5	0.3	s. sh.	" "	A	
"	"	"	625.7	—	51.0	47.3	-3.7	-0.8	s.	" 1909	A	
"	"	"	627.3	—	48.9	47.4	-1.5	-0.3	"	" "	A	

(3) Ojiya Oil-Field. 小千谷油田

Ojiya 小千谷	No. 49	HD	140.4	m. s. 1 10	20.5	15.2	-5.3	-3.5	s. sh.	III, 1910	A	
Yamaya 山谷	No. 7	"	381.5	—	20	—	—	—	sh.	—	A	
Ojiya 小千谷	No. 48	"	385.7	—	24	—	—	—	"	—	A	
"	"	"	421.8	—	26	—	—	—	"	—	A	
"	"	"	476.5	—	28	—	—	—	"	—	A	
"	"	"	512.7	—	29	—	—	—	"	—	A	
"	"	"	530.9	—	30	—	—	—	"	—	A	

(4) Higashiyama Oil-Field. 東山油田

Hire 比禮	No. 119	HD	172.7	m. s. 1 15	27.0	19.6	-7.4	-3.2	sh.	—	A	mud contains much water.
Katsurawawa 桂澤	No. 131	"	180.9	—	29.0	19.7	-9.3	-4.7	s. sh.	—	A	泥土ハ多量ノ水ヲ含ム
"	No. 130	"	198.5	—	18.8	19.8	1.0	0.5	—	—	A	
"	No. 127	"	248.8	—	18.0	20.9	2.9	1.4	—	—	A	
Hire 比禮	No. 50	"	249.1	—	19.0	21.0	3.0	1.4	sh.	—	A	
Miyaji 宮路	No. 1	NH	267.3	2 32	24.0	21.6	-2.4	-1.1	S.	X, 1910	A	
Urase 浦瀬	No. 86	HD	392.8	3 0	27.0	26.2	-0.8	-0.3	sh.	—	A	
Otoyoshi 乙吉	No. 1	NH	546.9	3 30	27.5	31.6	4.1	1.3	s.	—	A	mud contains hot water.
Katsurawawa 桂澤	No. 70	HD	887.3	—	82.0	—	—	—	sh.	—	A	泥土ハ温水ヲ含ム
Hire 比禮	No. 104	"	127.3	—	18.5	19.5	1.0	0.5	s.	—	A	
"	No. 103	"	163.6	—	31.0	19.6	-11.4	-5.7	s. sh.	—	A	

(5) Niitsu Oil-Field. 新津油田

Shiotani 鹽谷	No. 70	HD	197.3	nl. s. 1 35	17.0	21.5	4.5	2.1	s.	X, 1910	B mud contains oil. 泥土に油を含ム
Kaguchi 小口	No. 120	"	198.5	9 0	24.0	21.5	-3.0	-1.4	"	" "	B
Takiya 滝谷	No. 44	"	259	1 48	31.0	30.3	-0.7	-0.2	"	" "	A
Kanatsu 金津	No. 31	"	315	6 15	20.0	23.3	3.3	1.4	"	" "	B