TEST-RECORD INSTRUCTIONS

1. Geologist in charge is to prepare a detailed sub-surface profile on center line of the site showing interpretations of logs.
2. Sub-surface profiles normal to center line are to be compiled if sub-surface conditions warrant.
3. The detail of each log is to show type of sample observed, accumulated depth to each formation or important change in characteristic, a detailed driving record and probable foundation characteristics.
4. Record ground water elevation if water table is present. Hole must be bailed twice and allowed to stand 10 hours before taking ground water elevation.
5. Indicate absence of ground water table.
6. One or more drive tests shall be made on each site as conditions warrant.
7. One or more core borings shall be made on each site with sufficient recovery in the clays and shales so that their physical properties may be examined.
8. Sufficient soundings shall be taken so as to justify the engineering-geology interpretations of the foundation studies.
9. Logs and sub-surface profiles shall be completed before leaving the project.
10. Obtain high water elevations at each site whenever possible and record, giving date and location of observation.

28-7C03-S—P-14 2-61-150 BOOKS

RETURN TO

STATE HIGHWAY COMMISSION

OF KANSAS

TOPEKA

County Pottawatomie Date October 1963

Route and Section 16-75-S 1305 (2)

Recorder Jimenez & Ferguson

Geologist in charge _____

Levelman _____

1 COUNTY Pottawatomie DATE Oct-1963 (2)

RT. 16 SEC. 75 BR. NO. 2457 PROJ. NO. S-1305

STREAM NAME 16 over U.P. R.R. BR. OR RD.

SOUNDING NO. 1-A STA. 477+86 15' Rt.

GROUND WATER EL. VERTICAL SCALE 1"=10'

B.M. NO. 46 B.M. EL. 1086.17

POINT	B.S.	H.I.	F.S.	ELEV.
Bm #46	1.20			1086.17
TP		1087.37		
CD 1A			3.63	1083.74
Bm #46			1.20	1086.17

SUBMITTED BY Jimenez

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD.
					1. *	
					2. **	
					T.H. 1083.74	
	1080		Sa#1	2.0–3.3	silt Dk. Brn clayey dry	Fill
			Sa#2	5.0–6.3	" black " "	
			#3	7.5–8.8	" " " moist	
			#4	10.0–11.3	" " " "	
			#5	12.5–13.8	clay gray silty "	
			#6	15.0–16.3	" " " "	
			#7	17.5–18.8	" Brn " "	
	1070		#8	20.0–21.3	" " " "	
			#9	22.5–23.8	" " " "	
			#10	25.0–26.3	silt " clayey wet	
			#11	27.5–28.8	" Tan clayey "	
			#12	30.0–31.3	clay gray silty "	
	1060		#13	32.5–33.8	" " " "	
			#14	35.0–36.3	" " " "	Soft
			#15	37.5–38.8	" " " "	
	1050		#16	40.0–41.3	silt " clayey "	

(2) 1 COUNTY Pott. DATE Oct. 1963

RT. 16 SEC. 75 BR. NO. 2457 PROJ. NO. S-1305

EL. T.H.	LOG	REMARKS
		#17 42.5–43.8 silt gray sandy wet Soft
		#18 45.0–46.3 " " "
		#19 47.5–48.8 " clayey "
		#20 50.0–51.3 " " "
1040		#21 52.5–53.8 " " "
		#22 55.0–56.3 " " "
		#23 57.5–58.8 " " "
		#24 60.0–61.3 Sand " fine "
		#25 #26 attempted samples
1030		but sand flowed to refusal each time. No recovery. Bag sample in auger on last attempt (sandy)
		1021.25
1020	sand	attempted split spoon samples at 62.5 & 65.0 / fine-med. grain sand. Flowed up auger to 60' 1015.94
	shale	70 Shale, slight weathering 1013.24
1010	shale	Core #1 recov. 5.0 gray dense silty shale unweathered
		75
		Core #2 recov. 5.0 same.
		80 1003.24
1000		(1) * 100% recovery of split spoon samples from Sa#1 — Sa#24.
		(2) ** samples #20–24 saved and boxed.

10" auger

white clay

Hard core

COUNTY Pottawattamie	DATE 5 October 1963
RT. 6 SEC. 13 BR. NO. 3430	PROJ. NO.
STREAM NAME over U.P. R.R.	BR. OR RD.
SOUNDING NO. 16 STA. 4+25	
GROUND WATER EL.	VERTICAL SCALE 1"=10'
B.M. NO.	B.M. EL. 1096.17

(2)

POINT	B.S.	H.I.	F.S.	ELEV.
Om	0.50			1096.17
TI		1096.67		
CDZA			2.54	1084.14
Om			0.50	1096.17

SUBMITTED BY Jimenez

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD.
					** (N) = unconfined compressive value in TPSF	
		1	2^0-2^9		Si. Red Brn Fill	
	1090	2	5^0-6^3		" black "	
		3	7^5-8^5		" " Clayey Fill	
		4	10^0-11^3		" brn " O.N. moist "	Firm
		5	12^5-13^9		Cly " silty " (1.9)	"
		6	15^0-16^4		" " " " (2.2)	"
	20	7	17^5-18		" " " " (2.0)	"
		8	20^0-21^3		" " " " (2.2)	"
		9	22^5-23^8		" gr-brn " " (2.4)	"
		10	25^0-26^2		" Tan-gray " " (1.0)	"
		11	27^5-29^8		" Tan " Hea wet (0.9)	soft
	30	12	30^0-31^3		" " Clayey " (0.2)	"
		13	32^5-33^5		" " " " (0.5)	"
		14	35^0-36^3		" gray " " (0.7)	"

1050

SAMPLE	LOG	REMARKS	
15	37^5-38^9	silt gray clayey wet	(0.2) soft
16	40^0-41^3	" " " "	(0.7) "
17	42^5-43^8	" " " "	(0.3) "
18	45^0-46^3	" " " "	(0.2) "
19	52^5-53^8	" " sandy "	(0.4) "
20	60^0-61^3	" " sandy "	(0.2) "
*21	65^0-66^3	Gravel sand " med fine "	"

*21 taken with sand pump sample

** all samples bagged

Recovery 100%.

1042.59 — 64

med to fine sand & gravel, shale & shell debris, some wood

1019.35 — 67

Sh. firm slight weathering

Core 71-76 recovered 2.0

Core #2 Recovered 5.0 Sh. gray clayey silty

1005.14 — 76

TD 79.0

Shale

W.L. 22.6

COUNTY Pottawatomie DATE November 1963
RT. 16 SEC. 75 BR. NO. 345 PROJ. NO. S-1321 (2)
STREAM NAME 16 over U.P. RR BR. OR RD.
SOUNDING NO. 3A STA.
GROUND WATER EL. VERTICAL SCALE
B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.

SUBMITTED BY Jimenez

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD.
					CO. 3A.	
					474+80, 70' Rt	
					TH 1076.36	
			0^0 - 50^3		si. cly. Brn to gray	
			50^0 - 54^9		Sand & gravel med to fine	
			54^6 - 60^3		shale: very firm	
					Samples (split spoon)	
					Taken each 2½ feet	

REMARKS

see page 16 for remainder of soil holes

COUNTY Pottawatomie DATE 30 Sept. 1963.
RT. 16 SEC. 75 BR. NO. 34.58 PROJ. NO. S-1305(2)
STREAM NAME Union Pacific Overpass BR. OR RD.
SOUNDING NO. 1 STA. 471+59 Lt. 14.
GROUND WATER EL. 1067.6 VERTICAL SCALE 1" = 10'
B.M. NO. 46 B.M. EL. 1086.175

POINT	B.S.	H.I.	F.S.	ELEV.
B.M.#46	2.97	1089.14		1086.17
C.D.#1			4.10	1085.04

SUBMITTED BY Ferguson

FORMATION	EL. T.H.	SAMPLE	ACC. DEPTH	REMARKS
				T.H. Elev. 1085.0
Rd. fill	80	"N" Hawthorne bit	7.0	Silt, clay, sand & gravel with pieces crushed ls. grading to clay, silty. tan-gray 40# — 1078.0
Fill			8.5	Clay, silty, dark-gray 40# — 1076.5
Glacial Till	70, 60, 50		28.3	Clay, silty. gray, brown & tan-gray 40# — 1056.7

REMARKS

FORMATION	EL. T.H.	SAMPLE	ACC. DEPTH	REMARKS
Glacial Till	40, 30, 20	"N" Hawthorne bit	65±	Silt, slightly clayey tan-gray to gray Soft 20-40# Thin sandy zones & few scattered gravels Small white shells & grades sandy in lower part. — 1019.6
			70.9	Sand, gravel, pieces ss. & small white shells 20# — 1014.1
White Cloud Shale ?	10		79.0	Shale, weathered clayey to slightly silty. Gray 40# — 1006.0
	00, 90, 980			Shale, slightly silty to silty Gray 60#

Continued on page 6

6

COUNTY DATE

RT. SEC. BR. NO. PROJ. NO.

STREAM NAME BR. OR RD.

SOUNDING NO. 1 STA. 471+59 Lt 14

GROUND WATER EL. VERTICAL SCALE

B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.

FORMATION | EL. T.H. | SAMPLE | LOG | ACC. DEPTH | SUBMITTED BY | DRIVE RECD.

REMARKS

Water level

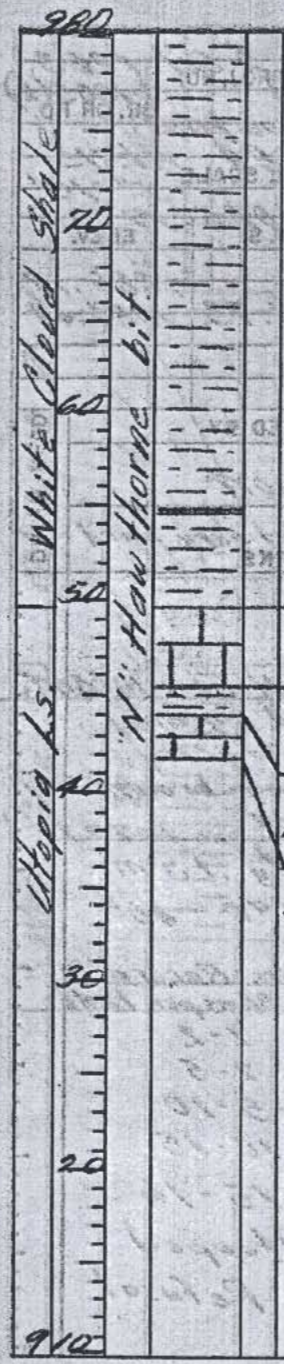
10-2-63 12' (1072.7)

10-4-63 16' (1068.6)

10-7-63 17' (1067.6)

10-10-63 same

Caved @ 19' (1065.6)



REMARKS

drills same

@ 40-60' all way down

Shale

135' 949.9

Limestone, tan

139' 100-200' 945.6

Shale, limy to clayey
Maybe Wingeler Sh. member
140' 90-80' 944.2

Limestone
Maybe Church Ls. member
143' 140-200' 942.0

Stopped in Ls.

T.D. 143' (942.0)

6

7

COUNTY Cottonwood DATE 8 Oct. 1963.
RT. 16 SEC. 35 BR. NO. 34.58 PROJ. NO. 3-1905(2)
STREAM NAME Union Pacific Overpass BR. OR RD.
SOUNDING NO. STA. 432+84 Rt. 15
GROUND WATER EL. 1062.2 VERTICAL SCALE 1"=10'
B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.
B.M. #16	2.99	1089.14		1086.19
C.P. #2			4.73	1084.41

SUBMITTED BY Ferguson

Casing pulled very hard for 14'

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD
					T.H. Elev. 1084.4	
Rd. Fill	80	"A" Horiz.			Silt, sand & gravel grading to clay, silty, gray-brown 1½ 40# 1077.2	
Glacial Till	70				Clay, silty, firm gray 40# 13½ 1071.4	
	60	Casing Drive			Casing Drive Record Depth — Blows per foot 13½-15½ 1-2 15½-16½ 2-5 16½-20½ 5-10 20½-29½ 10-15 29½-47½ 15-16 47½ Stopped No Refusal	
	50					

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS
	40	Csg. drive			47½ No Refusal 1036.6
? White Glacial Till					Silt, slightly clayey gray 53½ 40# 1030.7
	30	"B" Horiz. thin			Above with small white shells. Grades sandy (fine) in lower part. 63½ 20-40# 1021.2
	20				Sand, gravel, pieces ss. & small white shells 67½ 20# 1016.5
	10				Shale, weathered clayey to slightly silty. Light-gray to gray 77½ 40# 1006.8
	00				Shale, silty, gray 82½ 60-80# 1002.1
					Stopped in same T.D. 82½ (1002.1)
	90				Water level 10-4-63 23½ (1061.1) 10-7-63 22½ (1061.6) 10-10-63 22½ (1062.0) Caved @ 22½ (1061.6)
	80				

7

COUNTY Pottawatomie DATE 20 Oct 1963

RT. 16 SEC. 75 BR. NO. 34.58 PROJ. NO. S-1305(2)

STREAM NAME Union Pacific Overpass BR. OR RD.

SOUNDING NO. 3 STA. 471+64 Rt. 15

GROUND WATER EL. 1063.9 VERTICAL SCALE 1"=10'

B.M. NO. 46 B.M. EL. 1086.175

POINT	B.S.	H.I.	F.S.	ELEV.
B.M.#46	2.97	1089.14		1086.17
G.D.#3			4.35	1084.79

SUBMITTED BY Ferguson

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS
					T.H. Elev. 1084.8
So. Rd. Fill	80				Silt, sand & gravel grading to clay, silty, tan-brown 6³ 40# 1078.5
					Silt, slightly clayey, dark gray 9⁴ 40# 1075.4
Glacial Till	70 60	N. Hawthorne bit			Clay, silty, tan gray 40# 26⁸ 1058.0
	1050	#1 #2			

FORMATION	EL. T.H.	SAMPLE	LOG		REMARKS		
	40	N. Hawthorne bit			Silt, slightly clayey tan-gray to gray 20-40# Standard Penetration Test		
				#1	33²(1051.6)		Pushed
				#2	34²(1050.6)		Pushed
	30	#3		#3	53⁰ - 53⁵ 53⁵ - 54⁰	5 5	10
		#4		#4	54⁰ - 54⁵ 54⁵ - 55⁰	7 7	14
		#5		#5	55⁰ - 55⁵ 55⁵ - 56⁰	6 7	13
		#6		#6	56⁰ - 56⁵ 56⁵ - 57⁰	4 4	8
		#7		#7	57⁰ - 58⁰ 64-	3 4	7 1020.7
	20	N. Haw. th. bit			Sand, gravel, pieces of ss. & small white shells 69⁸ 20# 1015.0		
White Cloud Sh.	10	N. Haw. th. bit			Shale, weathered, clayey to slightly silty, light gray to gray 78⁵ 40# 1006.3		
					shale, silty, firm, gray 83¹ 60-80# 1001.7		
	00 90 980				Stopped in same T.D. 83¹ (1001.7) Water level 10-10-'63 20⁹ (1063.9) Tried to get split tube sample at 72⁰ but sand & gravel caved in hole		

528.a

COUNTY Pottawatomie DATE 14 Oct. 1963
RT. 16 SEC. 75 BR. NO. 3344 PROJ. NO. 31305(2)
BR. OR RD.
STREAM NAME Mill Creek
SOUNDING NO. 1 STA. 410+94 Rt. 26
GROUND WATER EL. 1077.9 VERTICAL SCALE 1" = 10'
B.M. NO. 37 B.M. EL. 1101.155

POINT	B.S.	H.I.	F.S.	ELEV.
B.M.#37	4.92	1106.08		1101.16
C.D.#1			5.81	1100.27

SUBMITTED BY Ferguson

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS (T.H. Elev. 1100.3)	DRIVE RECD.
Glacial Till	90	"N" Hawthorne bit		3²	1097.1 Clay, very silty Brown Sandy zone 20#	
	80			22⁶	1077.7	
	70	Casing Drive		33³	1067.0 No Refusal Silt, slightly clayey, gray	
	60	6" Hawth.		37⁵	0# 1062.8 Ditto, grades sandy	
				40⁰	0-25# 1060.3	

DRIVE RECD.	FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS
			6" Hawth.			Sand, gravel, shells, crinoid columns, chert nodules, quartzite cobbles, sh. fragments 1056.1
	Shale?		Casing		45⁸	Refusal 1054.5 Shale, hard, silty, platy
		50			48³	Gray 1052.0 Shale, silty, light gray slightly micaceous
			Core #1		54⁵	1045.8 Shale, silty, Light gray green & gray with mottled maroon zones. Thin hard siltstone zones
	? Cedar Vale	40	Core #2			60-140#
			"B" Hawthorne bit		68⁰	1032.3 Shale, silty, gray & light gray Partly micaceous
		30				
		20				
		10				60-140#
		1000				Few scattered pyrite concretions in lower part.
		90				

Continued on page 10

COUNTY DATE

RT. SEC. BR. NO. PROJ. NO.

STREAM NAME BR. OR RD.

SOUNDING NO. 1 STA. 410+94 Rt 26

GROUND WATER EL. VERTICAL SCALE

B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.

FORMATION | EL. T.H. | SAMPLE | LOG | ACC. DEPTH | SUBMITTED BY | DRIVE RECD

REMARKS

Core #1
46± (1054.3)
to
50± (1050.3)
Cored 4± Rec. 3 4/4±
Core #2
50± (1050.3)
to
55± (1045.3)
Cored 5± Rec. 4 4/4±
Core #3
55± (1045.3)
to
60± (1040.3)
Cored 5± Rec. 4 2/4±

REMARKS

111± Rec. 4
Stopped in same
T.D. 111± (988.4)

Water level
22 hrs. after drilling
22± (1077.9)

10-22-63 Same

Casing Drive Record

Depth	Blows/6 inch
22± - 33±	1 - 2
33± Stopped - No Refusal	
44± - 45±	2 - 4
45± - 45±	4 - 80+

45± Refused
suddenly.

COUNTY Pottawatomie DATE 17 Oct. 1963
RT. 16 SEC. 75 BR. NO. 33.44 PROJ. NO. S-1305(2)
STREAM NAME Mill Creek BR. OR RD.
SOUNDING NO. 2 STA. 410+94 Lt 23
GROUND WATER EL. 1078.7 VERTICAL SCALE 1"=10'
B.M. NO. 37 B.M. EL. 1101.155

POINT	B.S.	H.I.	F.S.	ELEV.
B.M. #37	4.92	1106.08		1101.16
C.D. #2			14.02	1092.06

SUBMITTED BY Ferguson

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD.
					T.H. Elev. 1092.1	
Glacial Till	90	N Hawth. bit			Silty to clayey loam. Gray 3^0 brown to brown 20# 1089.1	
					Clay, very silty, slightly sandy; brown 7^0 20# 1085.1	
	80				Clay, very silty; brown 20#	
					13^3 1078.8	
	70	Casing Drive			Silt, slightly clayey Gray	
	60					

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS
Glacial Till		Csg. Dr.		37^3	1055.1 Shale, w thin silty gray in casing. 38^3 Refusal 1053.8
? Cedar Vale Shale ?	50	B Hawthorne bit			Shale, silty, light-gray
					46^0 60-100# 1046.1
	40				Shale, silty, varicolored with hard siltstone stringers. maroon, lt-gray, gray 52^6 60-200# 1039.5
					Stopped in same
					T.D. 52^6 (1039.5)
					Water level
	30				10-22-63 13^4 (1078.7)
					Caved @ 21^6 (1070.5)

Casing Drive Record

Depth	Blows/tenth
13^3 - 30^5	<1 - 2
30^5 - 32^6	2 - 3
32^6 - 33^3	3 - 5
33^3 - 36^0	6 - 6
36^0 - 37^0	4 - 2
37^0 - 37^8	3 - 10
37^8 - 38^0	10 - 20
38^0 - 38^3	20 - 68

38^3 Refusal

Scale marks: 20, 10 (1010)

COUNTY	Pottawatomie	DATE	18 Oct. 1963
RT. 16	SEC. 73	BR. NO. 3344	PROJ. NO. S-1305(2)
STREAM NAME	Mill Creek		BR. OR RD.
SOUNDING NO. 3	STA. 412+47		Lt. 22
GROUND WATER EL.		VERTICAL SCALE	1" = 10'
B.M. NO. 38	B.M. EL. 1094.20		

POINT	B.S.	H.I.	F.S.	ELEV.
B.M.#38	1.28	1095.48		1094.20
C.D.#3			4.16	1091.32

SUBMITTED BY: Ferguson

FORMATION	EL. T.H.	SAMPLE	REMARKS
			T.H. Elev. 1091.3
Glacial Fill	90	"N" Hawthorne bit	Silty to clayey loam. Gray-brown to brown. 5³ 20# 1086.0
			Clay, very silty; brown. Grades sandy with small white shells in lower part. 11³ 20# 1080.0
	80		Silt, slightly clayey, gray w/ sand, gravel, ls. frag., shells & crinoid columns. 16⁴ 0# 1074.9
	70		Silt, slightly clayey, gray 0-20#. Grades sandy with small white shells in lower part.
	60		31⁷ 1059.6

FORMATION	EL. T.H.	SAMPLE	REMARKS
			Sand & gravel, ls., ss. & ch. frag. Shells & crinoid columns. Large chert nodules in lower part. 37³ 1054.0
			Shale, weathered, silty, gray 20# 38⁷ 1052.6
Cedar Vale Shale ?	50	"N" Hawthorne bit	Shale, silty, light gray, gray & green with mottled maroon zones & ss. stringers in lower part. 80-140#
	40		53⁰ 1038.3
			Stopped in same. T.D. 53⁰ (1038.3)
	30		Water level
			10-18-63 14¹ (1077.2) 2½ hrs. after drilling
			10-22-63 13⁹ (1077.4)
	20		
	10		
	1000		

COUNTY Pottawatomie		DATE 18 Oct. 1963		
RT. 16	SEC. 25	BR. NO. 3344	PROJ. NO. S-1305(2)	
STREAM NAME Mill Creek			BR. OR RD.	
SOUNDING NO. 4	STA. 412+47 Rt 22			
GROUND WATER EL. 1077.1	VERTICAL SCALE 1"=10'			
B.M. NO. 38		B.M. EL. 1094.20		
POINT	B.S.	H.I.	F.S.	ELEV.
BM#38	1.28	1095.48		1094.20
CD#4			4.36	1091.12

SUBMITTED BY: Ferguson

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD.
					T.H. Elev. 1091.1	
Glacial Till	90	N" Hawth. bit			Silty to clayey loam Gray-brown to brown 5.6 20# 1085.5	
					Clay, very silty, brown Grades little sandy with white shell fragments in 11.5 lower part 20# 1079.6	
	80				Silt, sandy with shells & crinoid columns 13.1 1078.0	
	70				Casing Drive Record	
					Depth — Blows per tenth	
					13.1 - 30.9 — <1 - 2	
					30.9 - 33.9 — 2 - 4	
					33.9 - 36.4 — 4 - 8	
					36.9 - 37.1 — 8 - 5	
					37.1 - 37.7 — 5 - 18	
					37.7 - 38.3 — 18 - 80	
	60				38.3 Refusal 80+	

FORMATION	EL. T.H.	SAMPLE	LOG	REMARKS
Glacial Till		Csg. Dr.		sand, gravel, (ls., ss., chert & quartzite) crinoid columns & small white shells. 1054.0 w/ thd. sh. in csg. 38.3 Refusal 1052.8
Cedar Vale Shale ?	50	Core #1		Shale, silty, platy, gray 39.0 1052.1
				Shale, silty, lite gray 41.6 1049.5
		Core #2		Shale, silty, gray 44.8 1046.3
	40	Core #3		Shale, silty, lite gray & gray with mottled maroon zones & ss. stringers in lower 53.3 part. 1037.8
				Stopped in same T.D. 53.3 (1037.8)
	30			Water level 10-22-63 14.1 (1077.0)
				Core #1 38.3 (1052.8) to 43.3 (1047.8)
	20			Cored 5.0 Rcd. 2.0
				Core #2 43.3 (1047.8) to 48.3 (1042.8)
	10			Cored 5.0 Rcd. 3.6
				Core #3 48.3 (1042.8) to 53.3 (1037.8)
	1000			Cored 5.0 Rcd. 4.9

COUNTY Pottawatomie DATE 22 Oct 1963
RT. 16 SEC. 75 BR. NO 33.44 PROJ. NO. S-1305(2)
STREAM NAME Mill Creek BR. OR RD.
SOUNDING NO. 5 STA. 412+16 Rt. 3
GROUND WATER EL. 1077.0 VERTICAL SCALE 1"=10'
B.M. NO. 38 B.M. EL. 1094.20

POINT	B.S.	H.I.	F.S.	ELEV.
B.M.#38	1.28	1095.48		1094.20
S.D.#5			5.96	1089.52

SUBMITTED BY Ferguson

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD.
					T.H. Elev. 1089.5	
Glacial Till		"N" Hawthorne bit			Silty to clayey loam Gray brown to brown 5.0 20# 1084.5	
	80				Clay, very silty; brown. Grades sandy with small ls. fragments & shells in lower part 12.7 20# 1076.8	
					Silt, slightly clayey. Gray with small white shells & gravels. Sandy (fine) 17.8 20-40# 1071.7	
	70				Silt, slightly clayey Gray	
	60					

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS
					30.0 1059.5
		"N" Hawthorne bit			Ditto with small ls. gravel & shells. 31.1 1058.4
					Sand, fine with abundant crinoid columns & shells. Q13 & 36.4 short gravel 1053.1
? Cedar Vale Sh. ?	50				Shale, silty, platy; gray to light gray silty shale with'd. in upper 0.4 40-80# 42.3 1047.2
					Stopped in same T.D. 42.3 (1047.2)
	40				Water level 10-22-63 12.5 (1077.0)
	30				
	20				
	10				

COUNTY Pottawatomie DATE 22 Oct. 1963

RT. 16 SEC. 75 BR. NO. 33.4 PROJ. NO. S-1305(2)

STREAM NAME Mill Creek BR. OR RD.

SOUNDING NO. 6 STA. 411 + 35 Lt. 2

GROUND WATER EL. — VERTICAL SCALE 1" = 10'

B.M. NO. 38 B.M. EL. 1094.20

POINT	B.S.	H.I.	F.S.	ELEV.
~~BM#38~~	~~1.28~~	~~1095.48~~		~~1094.20~~
T.B.M. C.D.#1	5.71	1105.98		1100.27
C.D.#6			4.24	1101.74

SUBMITTED BY Ferguson

T.H. Elev. 1101.7

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS
Glacial Till	90, 80, 70, 60	H. Hawthorne bit; Casing Drive			Silty to clayey loam dark gray brown to brown 2± 20# 1099.6
					Clay, very silty; brown 11± 20# 1090.3
					Silt, clayey, sandy (fine) Grades more sandy & tan 18± 20# 1083.7
					Clay, very silty Tan-brown 25± 20# 1076.7
					Ditto with fine sand Lost circulation 26± 1075.7 20-0#

FORMATION	EL. T.H.	SAMPLE	REMARKS
Cedar Vale Shale	50, 40, 30, 20, 10, 1000	"B" Hawthorne bit	47± 1054.7 Sh. w/ Ltd. gray 40# in drilling
			47± Refusal 1053.9
			Shale, silty, hard; gray to dk gray 50± siltstone 80-100# 1051.7
			Shale light gray, silty 55± 80# 1046.0
			Shale, silty with hard siltstone stringers, light gray maroon & light green 60± 60-200# 1041.3
			Stopped in same T.D. 60±(1041.3)

Casing Drive Record

Depth	Blows/tenth ft.
26±-42±	<1 - 2
42±-43±	2 - 5
43±-46±	5 - <4
46±-47±	<4 - 6
47±-47±	6 - 30
47±-47±	30 - 60
47± Refusal	60+

373.5

16 Soil Soundings

COUNTY Pottawatomie DATE Nov-1963

RT. 16 SEC. 75 BR. NO. 3458 PROJ. NO. S-1305- (2)

STREAM NAME K16 over UPRR BR. OR RD.

SOUNDING NO. STA.

GROUND WATER EL. VERTICAL SCALE

B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.

SUBMITTED BY

Jimenez

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	REMARKS	DRIVE RECD
			0'-40'		#4 469+00, 70' Rt TH 1081.13 moist Shale	
			40'-41'		Split Spoon and at feet	
					#5 470+25, 70' Rt TH 1079.39	
			0'-62'		moist	
			62'-63'		Shale	
					Sampled each 5 feet.	

Soil Soundings

COUNTY Pottawatamie DATE Nov-1963

RT. 16 SEC. 25 BR. NO. 34.58 PROJ. NO. S-1305-(2)

STREAM NAME K16 over UPRR BR. OR RD.

SOUNDING NO. STA.

GROUND WATER EL. VERTICAL SCALE

B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.

FORMATION | EL. T.H. | SAMPLE | LOG | ACC. DEPTH

SUBMITTED BY

Jimenez

REMARKS

DRIVE RECD

#4
469+00, 70' Rt
TH. 1081.13
0°-40° mantle
40°-41° Shale-
Split Spoon each 5 feet

#5
470+25, 70' Rt
TH. 1079.39
0°-62 5/12 mantle
62 5/12-63° Shale —
Sampled each 5 feet.

REMARKS

#6-A
472+87, 18' Rt
TH. 1083.40
0°-5 6/8 mantle
Sampled each 5 feet

#7
472+83, 18' Rt
TH. 1083.50
0°-24 4/4 mantle
Sampled: 3°-4 1/2, 21 5/12-22 9/12, 23°-24'4

#8
472+83, 18' Rt
TH. 1083.50
0°-5° mantle
Sampled 3 5/12-5°

#9
472+80, 18' Rt
TH ~~1078~~ 1083.50
0°-5° mantle
Sampled 3 5/12-5°

REMARKS

#6-A
472+87, 18' Rt
Th. 1083.40
montic
Sampled each 5 feet

#7
472+85, 18' Rt
Th. 1083.50
montic
Sampled 3½ 4½
21½ 22½
23° 24½

#8
472+83, 18' Rt
Th. 1083.50
montic
Sampled 3½ 5°

#9
472+80, 14' Rt
Th 1083.50
montic
Sampled 3½ 5°

Soils Soundings

17

COUNTY Pottawatomie DATE Aug. 1962

RT. 16 SEC. 35 BR. NO. 24-58 PROJ. NO. S-1205 (2)

STREAM NAME Kickapoo Creek BR. OR RD.

SOUNDING NO. STA.

GROUND WATER EL. VERTICAL SCALE

B.M. NO. B.M. EL.

POINT	B.S.	H.I.	F.S.	ELEV.

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	SUBMITTED BY	DRIVE RECD
			0-41½		Jimenez	

REMARKS

#10
472+99, 70' Rt
TH 1078.23
Vein shear testing
@ -10°
Tri-ax sampling at
5°, 15°, 20°, 40°.

#11
472+99, 70' Rt
TH. 1078.23
Vein shear tests
at 5°, 15°, 21°,
25°, 41½°,

17

Soils Soundings

COUNTY	Pottawatamie	DATE	Nov 1967
RT. 16	SEC. 7	BR. NO. 34.56	PROJ. NO. S-1305
STREAM NAME	Kite over UPRR		BR. OR RD.
SOUNDING NO.		STA.	
GROUND WATER EL.		VERTICAL SCALE	
B.M. NO.		B.M. EL.	

POINT	B.S.	H.I.	F.S.	ELEV.

(2)

FORMATION	EL. T.H.	SAMPLE	LOG	ACC. DEPTH	SUBMITTED BY: Jimenez	DRIVE RECD.
					REMARKS	

#10
472+99, 70'Rt
TH. 1078.23
Vein shear testing
at 10°
Tri-ax sampling at
5°, 15°, 20°, 40°.

0°41½

#11
472+99, 70'Rt
TH. 1078.23
vein shear Tests
at 5°, 15°, 21°,
25°, 41°,

0°41½

REMARKS

#12
472+99, 70'Rt
TH 1078.23
Triax at 5°, 15°,
21°, 25°, 41°.

0°41½

#13
472+99, 70'Rt
TH. 1078.23
Triax at 5°, 15°,
21°, 25°, 41°.

0°41½

#10, #11, #12 & #13
all have same station
and were drilled around
the center point
of 472+99, 70'Rt—
within 3 feet of that
station (in a circle)

17

REMARKS

#12
472+99, 70' Rt
TH 1078.23
0°41' Tri-axl at 3.2', 15.2',
21', 25', 41',

#13
472+99, 70' Rt
TH 1078.23
0°41' Triax at 3', 15',
21', 25', 41',

#10, #11, #12 & #13
all have same stationing
and were drilled around
the center point
of 472+99, 70' Rt
within 3 feet of that
station (in a circle)