BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 35
PROJECT NO.: 3814 DATE: 1-6-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 9 FT
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		5				BRN	SILT, CLAY SAND GRAVEL,		0 PPM FR/S-1
⊗ 1309		7 / 13	24"/24"				ROCK FRAGMENTS		DAMP, FILL
	2.5	12							
S-2		7				BRN	5" SAME AS ABOVE, 12" OF		0 PPM FR/S-2
⊗ 1311		5 / 4	17"/24"		MED. DENSE		CLAYEY FGR SAND & SILT W/ SOME PEBBLES	SC	DAMP FILL / ALLUVIUM?
	4.5	4							
S-3		4				BRN TO	8" SAME AS ABOVE, 16" OF		0 PPM FR/S-3
⊗ 1313		4 / 13	24"/24"		DENSE	GRAY	POORLY SRT MGR-CGR SAND W/ PEBBLES & COBBLES	SP	MOIST TO WET, ALLUVIUM
	6.5	27							
S-4		10 / 11			MED.	BRN TO	8" AS ABOVE, 2" SILTY CLAY	SP	0 PPM FR/S-4
⊗ 1322	9.0	13 / 8	20"/24"		DENSE	GRAY	LAYER. 10" MGR-CGR SAND		SATURATED, ALLUVIUM

REMARKS SAMPLE TO 9 FT (ACTUAL FINAL DEPTH 11 FT)
BOREHOLE COLLAPSED TO 9 FT. WATER LEVEL APPX 9 FT

BORING 35

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* See Legend on back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 36
PROJECT NO.: 3814 DATE: 1-7-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: 14 FT 3 IN BELOW GRADE
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	1.0					GRAY BRN	ASPHALT & STONE SILT, CLAY, SAND BRICK & ROCK FRAGS		0 PPM DRY TO DAMP, FILL
S-1		10 / 10				BRN	SILTY CLAY		0 PPM FR/ S-1
@ 0926	3.0	9 / 7	22"/24"						DAMP, FILL ?
S-2		10 / 8			STIFF	BRN	SILTY CLAYEY FGR SAND, UPR 8"	ML	0.5 PPM FR/ S-2
@ 0928	5.0	6 / 5	22"/24"				CLAYEY SILT, LWR 14"		DAMP, FILL/ALLUVIUM ?
S-3		11 / 14			VERY STIFF TO	BRN	INTERBEDDED CLAYEY SILT & SILTY	ML	0 PPM FR/ S-3
@ 0934	7.0	17 / 28	24"/24"		DENSE		CLAYEY SAND, 4" LAYER OF SAND & SMALL PEBBLES AT BOTTOM	SM	DAMP TO MOIST ALLUVIUM
S-4		15 / 17			VERY STIFF TO	BRN	SANDY SILTY CLAY TO CLAYEY SILTY	CL	0 PPM FR/ S-4
@ 0937	9.0	23 / 37	20"/24"		DENSE		FGR SAND. LWR 4" POORLY SRT. FGR - CGR PEBBLY SAND	SM	MOIST, ALLUVIUM
S-5		14 / 27			DENSE TO	BRN	POORLY SORTED MGR - CGR SAND	SP	0 PPM FR/ S-5
@ 1009	11.0	47 / 75	16"/24"		VERY DENSE		W/ PEBBLES		MOIST, ALLUVIUM
	13.0								
S-6		5 / 7			MED.	BRN TO	5" CLAYEY FGR SAND	SC	0 PPM FR/ S-6
@ 1026	15.0	9 / 5	14"/24"		DENSE	GRAY	9" FGR WELL SRT SAND	SW	SATURATED, ALLUVIUM
	19.0								
S-7	20.0	5 / 7			MED.	BRN TO	MGR - CGR SAND W/ GRAVEL &	SP	0 PPM FR/ S-7
@ 1040	21.0	8 / 8	14"/24"		DENSE	GRAY	PEBBLES OF VARYING SIZE		SATURATED, ALLUVIUM
									23 FT INCREASED NOISE & RESISTANCE - COBBLES ?
	24.0								
S-8 @ 1057	25.0	19 / 16			DENSE	BROWNISH GRAY	POORLY SRT MGR - CGR SAND W/ GRAVEL & PEBBLES OF VARYING SIZE	SP	

REMARKS AUGER TO 1 FT; SAMPLE TO 9 FT. AUGER TO 9 FT; SAMPLE TO 11 FT; AUGER TO 13 FT TO CLEAR OBSTRUCTIONS (SANDSTONE COBBLES) SAMPLE TO 15 FT. ADD POTABLE WATER TO DRILL BELOW 15 FT. AUGER TO APPX 30 FT; OBTAIN SPLIT SPOON SAMPLE BETWEEN EACH 5 FT AUGER FLIGHT.

BORING 36

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 36
PROJECT NO.: 3814 DATE: 1-7-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
S-8 @ 1057	25.0	22	14"/24"		DENSE	BROWNISH GRAY	POORLY SRT. MGR-CGR SAND W/ GRAVEL & PEBBLES OF VARYING SIZE	SP	0 PPM FR/ S-8 SATURATED, ALLUVIUM
	26.0	17							
									27½ FT DRILL RATE CHA. — HARDER MATERIAL, TOP OF WEATHERED ROCK
	29.0								
S-9	30.0	37				GREENISH WHITE TO BLK.	WEATHERED SCHIST / GNEISS ROCK — QTZ, FELDSPAR, CLAYS, MICA, TRACE PYRITE		0 PPM FR/ S-9 SATURATED WEATHERED BEDROCK
@ 1113	31.0	REF	6"/24"						SAMPLE REFUSAL (a) ~3

REMARKS

BORING 36

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 37
PROJECT NO.: 3814 DATE: 1-7-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOODS
WATER LEVEL DATA: APPX 3½ FT (MAY REPRESENT INFLUX OF SHALLOW PERCHED WATER)
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		8				BRN	12" GRAVEL ; 6" BRICK &		4 PPM FR/S-1
@		17				RED &	CONCRETE ; 6" BLK SILT, CLAY		
1423		17	24"/24"			BLK	COAL FRAGMENTS		MOIST, FILL
	2.5	21							
S-2		27				BLK	SILT, CLAY, ROCK & COAL		10 PPM FR/S-2
@		17					FRAGMENTS, ASHY MATERIAL		MOIST TO SLIGHTLY SAT
1426		5	18"/24"						AT BOTTOM. OILY SHEEN
	4.5	2							ON LWR SAT 2"
S-3		2				BLK	ASH, GRAVEL, COAL FRAGMENTS		52 PPM FR/S-3
@		1					SILT		SATURATED W/ BLACK
1434		1	16"/24"						WATER W/ OILY SHEEN
	6.5	1							UPR. PART OF SAMPLE :
									LOOSE SLURRY OF MAT'L

REMARKS SAMPLE TO 6.5 FT. LAST SPOON WENT TO 8 FT DUE TO LOOSE NATURE OF MATERIAL. HOLE COLLAPSED TO 6 FT. WATER LEVEL APPX 3½ FT — (SHALLOW NEAR SURFACE WATER (APPX 6"-12") RUNNING DOWN INTO HOLE).

BORING 37

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* See Legend on back

BORING LOG **HALLIBURTON NU**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 38
PROJECT NO.: 3814 DATE: 1-7-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 3½ FT (MAY REPRESENT INFLUX OF SHALLOW PERCHED WATER)
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		32				RED	SILT, CLAY, BRICK & CONCRETE		S.8 PPM FR/S-1
@ 1510		37 / 40	22"/24"			GRAY & BLK	FRAGMENTS, WOOD, ASHY MAT'L		MOIST, FILL NAPTHALENE ODOR
	2.5	57							
S-2		15				DK GRAY	CAVED GRAVEL MATERIAL		6.4 PPM FR/S-2
@ 1515		22 / 1	2"/24"			TO BLK			WET TO SATURATED, FILL
	4.5	1							
	6.0								
S-3		2 / 2				BRN TO	SILT, CLAY, GRAVEL, SOME		30 PPM FR/S-3 SATURATED: BLACK
@ 1520	8.0	2 / 2	12"/24"			BLK	ASHY MAT'L, SOME FIBROUS MAT'L LIKE HORSE HAIR		WATER W/ OILY SHEEN FILL

REMARKS SAMPLE TO 8 FT: S-2 WENT TO APPX 6 FT DUE TO LOOSE NATURE OF MATERIAL. HOLE COLLAPSED TO APPX 6 FT. WATER LEVEL APPX 3½ FT (SHALLOW NEAR SURFACE WATER RUNNING DOWN INTO BOREHOLE)

BORING 38

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* See Legend on Back

BORING LOG **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: 39
PROJECT NO.: 3814 DATE: 1-8-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 4 FT BGS
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		17				GRAY &	GRAVEL, ASH, CONCRETE, SILT,		2.6 PPM FR/ S-1
@		22	16"/24"			BLK	CLAY		DAMP TO MOIST
0956		20							FILL
	2.5	18							
S-2		6				GRAY &	ROCK FRAGMENTS, SILT, CLAY		9.5 PPM FR/ S-2
@		5	24"/24"			BLK	COAL, ASH &/OR COAL TAR RESIDUE		MOIST TO SATURATED W/
1001		5					& ASHY MAT'L		BLK WATER, FILL
	4.5	5							TARRY ODOR
S-3		2				BLK	ASHY COAL &/OR COAL TAR RESIDUE		9 PPM FR/ S-3
@		1	6"/24"						SATURATED W/ BLACK WATE
1020	7.0	1							OILY SHEEN. COAL TAR
									ODOR, FILL
S-4		2				BLK	UPR 12" ASHY COAL &/OR COAL		6.5 PPM FR/ S-4
		2					TAR RESIDUE		SATURATED W/ BLK WATER
@		1	24"/24"		VERY		LWR 12" SILTY CLAY TO CLAY W/		OILY SHEEN, COAL TAR OD
1024	10.0	0			SOFT		FIBEROUS MATERIAL LIKE HAIR		FILL/ POSS. ALLUVIUM
	13.0								
S-5		2				DARK			
		1			SOFT/	GREENISH	SOFT, PLASTIC, POSS. ORGANIC	CH/	4.4 PPM FR/ S-5
@		1	16"/24"		VERY	GRAY	CLAY - HOMOGENIOUS.	OH	SATURATED, ALLUVIAL.
1051	15.0	1			SOFT				
	19.0								
S-6		2				DARK			
		1			SOFT TO	GREENISH	- SAME AS ABOVE -	CH/	0 PPM FR/ S-6
@		1	24"/24"		V. SOFT	GRAY		OH	SAT., ALLUVIAL
1105	21.0	1							
	24.0					DARK			
S-7		1				GREENISH			0 PPM FR/ S-7
@		1			SOFT	GRAY	- SAME AS ABOVE — SOFTER	CH	SAT., ALLUVIAL
1120									

REMARKS SAMPLE TO APPX 10 FT; AUGER TO 13 FT; SAMPLE TO 15 FT; THEN AUGER & SAMPLE EVERY 5 FT TO BEDROCK / TOTAL DEPTH WATER AT APPX 4 FT.

BORING 39

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* See Legend on Back

BORING LOG — HALLIBURTON NU.

PROJECT: ALLIED SIGNAL FRANKFORD PLANT — BORING NO.: 39
PROJECT NO.: 3814 — DATE: 1-8-92 — DRILLER: BRIAN DEVINE
ELEVATION: — FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 4 FT
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
S-7 @ 1120	26.0	1 / 1	24"/24"		SOFT	DARK GREENISH GRAY	VERY SOFT, PLASTIC, ORGANIC HOMOGENEOUS CLAY	OH	0 PPM FR/S-7 SAT. ALLUVIAL
	29.0								
S-8 @ 1133	31.0	2 / 2	24"/24"		SOFT	DARK GREENISH GRAY	- SAME AS ABOVE W/ TRACE PEBBLE, LEAVES & OTHER PLANT MATTER, SMALL MICA FLAKES	CH/OH	0 PPM FR/S-8 SAT., ALLUVIAL
	34.0								33½ FT DRILL RATE CHG - HARDER MAT'L
S-9 @ 1150	36.0	12 / 13	24"/24"		MED. DENSE	DARK GREENISH GRAY / GRAY	12" - SAME AS ABOVE / 12" POORLY SRT MGR-CGR SAND W/ RND PEBBLES OF SS & QTZ, SMALL COBBLES.	CH/OH / SP	0 PPM FR/S-9 SAT., ALLUVIUM
	38.0								
S-10 @ 1215	40.0	25 / 30 / 40 / 55	24"/24"		DENSE TO VERY DENSE	GRAY / MED. BRN.	WELL SRT MGR SAND; POSS AUGER FILL - 22" / SILTY CLAYEY SAND W/ RND PEBBLES; POSS SAPROLITE - 2"	SW / SM	0 PPM FR/S-10 SAT. ALLUVIUM / POSS. SAPROLITE DISTINCT COLOR CHG
	41.0			TOTAL DEPTH					TOTAL DEPTH, AUGER REFUSAL AT 41 FT.
									ATTEMPT TO SAMPLE BUT HEAVED SAND TO APPX 36 FT W/IN AUGER
									TRACES OF QTZ-FELDSPAR GNEISSIC MAT'L IN MC ON AUGER BIT.

REMARKS AUGER REF AT 41 FT → BEDROCK. HEAVING SAND TO 36 FT W/IN AUGERS; OBSTRUCTION W/IN LEAD AUGER. BOREHOLE COLLAPSE TO 32 FT AFTER AUGER REMOVAL. GROUT 32 FT TO SURFACE

BORING 39

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* See Legend on Back

BORING LOG

HALLIBURTON NUS

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: 40

PROJECT NO.: 3814 DATE: 1-9-92 DRILLER: BRIAN DEVINE

ELEVATION: FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: APPX 5½ FT

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						GRAY	ASPHALT & STONE BASE		
	1.5								
S-1		7				BLK.	GRAVEL, COKE/SLAG/ASH-LIKE		3.5 PPM FR/S-1
@ 0948		5 / 3	8"/24"				MAT'L, POSS. COAL TAR		DAMP, FILL, NAPTHALENE ODOR
	3.5	4							
S-2		3				BLK	4" SAME AS ABOVE. 4" ASH		11 PPM FR/S-2
@ 0950		3 / 3	20"/24"			GRAY & BRN.	LAYER. 12" SILTY CLAY w/ ASH.		MOIST TO WET, FILL OILY SHEEN, FUEL OI ODOR
	5.5	2							
S-3		3 / 2				BLK	SILT, CLAY, ASHY MAT'L w/		18 PPM FR/S-3 SATURATED, FILL
@ 1002	8.0	2 / 2	4"/24"				SOME ROCK & BRICK FRAGMENTS -LOOSE SLURRY-		WATER w/ OILY SHEEN, FUEL OIL ODOR
	9.0								
				T.D.					

REMARKS AUGER TO 1.5 FT; SAMPLE TO 9 FT. BOREHOLE COLLAPSED TO 6.5 FT WATER AT APPX 5½ FT - OILY LIQUID ON WELL PAPPER

BORING 40

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* See Legend on Back

BORING LOG

HALLIBURTON NUS

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 41

PROJECT NO.: 3814 DATE: 1-9-92 DRILLER: BRIAN DEVINE

ELEVATION: FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: EST 5½ FT

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						GRAY	ASPHALT & STONE BASE		20 PPM FR/ BOREHOLE
	1.5								
S-1		20				BLACK	CRUSHED STONE / GRAVEL UPR 6"		35 PPM FR/ S-1
@ 1034		25 / 29	24"/24"			BRN TAN & WHITE	MOD. SOFT TO HARD CRYSTALLINE MATERIAL - PROB. NAPTHALENE		DRY TO DAMP, FILL NAPTHALENE ODOR
	3.5	35							
S-2		20							HNU NON-FUCTIONAL DUE
@ 1037		15 / 8	10"/24"			BRN.	PROB NAPTHALENE UPR 6" ASHY MAT'L LWR 4"		TO RAIN. DAMP TO WET; WATER W
	5.5	7							OILY SHEEN NEAR BOTTO
	6.0								
S-3		2 / 2				BRN.	SILTY CLAY W/ FRAGMENTS OF		HNU NON-FUNCTIONAL
@ 1037	8.0	1 / 1	18"/24"				PROB. NAPTHALENE & SOME ORGANIC MATTER		SAT. W/ WATER & OILY SUBSTANCE, FILL & POS
	9.0								ALLUVIUM.

REMARKS AUGER TO 1.5 FT; SAMPLE TO 9 FT.
BOREHOLE CAVED TO 5 FT; WATER LEVEL EST 5½ FT.

BORING 41

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT — BORING NO.: 42
PROJECT NO.: 3814 — DATE: 1-9-92 — DRILLER: BRIAN DEVINE
ELEVATION: — FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 2FT
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
S-1	0.5	10				GRAY	GRAVEL w/ SILT & CLAY 10"		0 PPM FR/S-1
@ 1257		10 / 26	12"/24"			BRN	CLAYEY SAND & GRAVEL 2"		DRY TO DAMP, FILL
S-2	2.5	31 / 10							0 PPM FR/S-2
@ 1302		9 / 8	4"/24"			GRAY	CAVED GRAVEL & SANDSTONE FRAGMENT		WET FR/ SURFACE WATE INFILTRATION
	4.5	2							
S-3	5.5	2							80 PPM FR/S-3
@ 1306		2 / 2	24"/24"			BLK	SILT, CLAY, ROCK FRAGMENTS, GRAVEL, WOOD UPR 20"		SATURATED. UPR PART COATED w/ BLK OILY OR
	7.5	2					SILTY CLAY w/ MICA FLAKES LWR 4"		GREASY LIQUID, LWR PART MOIST w/ CUMENE ODOR
	9.0								
S-4		2 / 2				BLK	OILY/GREASY GRAVEL UPR 6"		150 PPM FR/S-4 SATURATED; BLK OILY
@ 1314	11.0	2 / 2	18"/24"		SOFT		ORGANIC SILTY CLAY w/ LEAVES, HAIR, ETC	OH	SUBSTANCE ON SAMPLE SPOON. CUMENE ODOR
	12.0								NO LNAPL LAYER DETECTABLE
				T.D.					

REMARKS AUGER ½ FT; SAMPLE TO 12 FT. SURFACE WATER FLOWING DOWN INTO BOREHOLE – WATER LEVEL 2 FT BGS. BOREHOLE CAVED TO 4 FT. (LIQUID SAMPLE FR/S-3)

BORING 42

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* See Legend on Back

BORING LOG

HALLIBURTON NUS

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 43

PROJECT NO.: 3814 DATE: 1-9-92 DRILLER: BRIAN DEVINE

ELEVATION: FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: APPX 2 FT

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		37				BLK	GRAVEL, CONCRETE, BRICK,		20 ppm FR/S-1
@ 1345		42 / 55	24"/24"				SAND, SILT, CLAY.		FILL, DAMP TO WET FR/ SURFACE WATER
	2.5	58							
S-2		50				BLK	GRAVEL, SILT, SAND, CLAY,		20 ppm FR/S-2
@ 1353	4.0	55 / REF	12"/24"				BRICK,		FILL, SATURATED AT BOTTOM
				T.D.					REFUSAL AT 4 FT.

REMARKS AUGER TO ½ FT; SAMPLE TO 4 FT; REFUSAL AT 4 FT. WATER LEVEL 2 FT. (MAY BE HIGHER DUE TO SURFACE WATER INFILTRATION)

BORING 43

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* See Legend on Back

BORING LOG — HALLIBURTON NUS

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT — BORING NO.: 44

PROJECT NO.: 3814 — DATE: 1-9-92 — DRILLER: BRIAN DEVINE

ELEVATION: — FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: APPX 4 FT

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		22				BLK	GRAVEL, BRICK CONCRETE &		2.5 PPM FR/S-1
@ 1438		20 / 27	24"/24"			GRAY & RED	ROCK FRAGMENTS, SILT, CLAY SAND		DAMP, FILL
	2.5	35							
S-2		17				BLK	SAME AS ABOVE W/ LESS		4.5 PPM FR/S-2
@ 1443		32 / 62	24"/24"			GRAY & RED	GRAVEL, MORE SILT & CLAY naphthalene odor		DAMP TO MOIST, FILL
	4.5	14							
	5.0								
S-3		8 / 10				BLK &	UPR 6" SAME AS ABOVE		4 PPM FR/S-3
@ 1452	7.0	12 / 10	24"/24"		VERY STIFF	GREENISH GRAY	SILTY CLAY & CLAY, ORGANIC LWR 18"	OH	SATURATED, FILL & ALLUVIUM
	9.0			T.D.					

REMARKS AUGER TO 1½ FT; SAMPLE TO 9 FT; BOREHOLE CAVED TO 7 FT; WATER AT 4 FT

BORING 44

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* See Legend on Back

BORING LOG **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: 45
PROJECT NO.: 3814 DATE: 1-10-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: 4½ FT BGS (2 FT BGS APPX 3 HRS LATER)
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						BLK & GRAY	ASPHALT, CRUSHED STONE & ROCK FRAGMENTS OVER BRN SILT, CLAY & SAND		14.6 PPM FR/ BOREHOLE
S-1 @ 0934	1.5	5 / 7 / 12	22"/24"			BRN	SILT, SAND, CLAY & ROCK FRAGMENTS UPR 12"		1.8 PPM FR/ S-1 DRY TO DAMP, FILL
						BLK	SILT, CLAY, ASH, COAL FRAGMENTS LWR 10"		
S-2 @ 0938	3.5	35 / 24 / 31 / 56	16"/24"			BLK TO DK GRAY	UPR 10" SAME AS ABOVE 2" GRAY SHALE-LIKE MATERIAL 4" ASHY MATERIAL		7 PPM FR/ UPR S-2 28 PPM FR/ LWR S-2 DAMP TO WET, FILL
	5.5	10							
	6.0								
S-3 @ 0949	8.0	2 / 2 / 2 / 1	22"/24"		SOFT	GRAY & BRN	UPR 6" ASHY MATERIAL LWR 16" SILTY CLAY & SANDY SILTY CLAY	ML/CL	0 PPM FR/ S-3 SATURATED FILL / ALLUVIUM
	9.0			T.D.					

REMARKS AUGER TO 1.5 FT. SAMPLE TO 9 FT. BOREHOLE CAVED TO 5'4" WATER AT 4'6" (ROSE TO 2 FT BY 1306 HRS)

BORING 45

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* See Legend on Back

BORING LOG **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 46
PROJECT NO.: 3814 DATE: 1-10-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: 5' 2" ON COMPLETION (3 FT AFTER APPX 2½ HRS)
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						BLK TO GRAY	ASPHALT, CRUSHED STONE, ROCK FRAGMENTS, SOME SILT, SAND & CLAY		0 PPM FR/ BOREHOLE
S-1	1.5	15				GRAY	CRUSHED STONE W/ SOME		0 PPM FR/ S-1
@ 1013		20 / 24	5"/24"			TO BRN.	SILT & CLAY		DRY TO DAMP, FILL
S-2	3.5	30 / 72				BRN	CRUSHED STONE, SILT, CLAY, ROCK		4.2 PPM FR/S-2 LWR
@ 1016		52 / 42	20"/24"			GRAY & BLK	FRAGMENTS, BRICK FRAGMENTS, COAL, ASHY MATERIAL, SHELL		PART, 8 PPM UPR PART MOIST TO WET, FILL
	5.5 / 6.0	11					FRAGMENT.		
S-3		1 / 1				BRN	SILTY CLAY & CLAY W/ SOME		0 PPM FR/S-3
@ 1026	8.0	1 / 1	24"/24"				SAND, BRICK & ROCK FRAGMENTS, ASH		SATURATED, FILL
	9.0								
				T.D					

REMARKS AUGER TO 1.5 FT; SAMPLE TO 9 FT. BOREHOLE COLLAPSED TO 6 FT, WATER AT 5' 2" (ROSE TO 3 FT BY 1306 HRS)

BORING 46

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT — BORING NO.: 47

PROJECT NO.: 3814 — DATE: 1-10-92 — DRILLER: BRIAN DEVINE

ELEVATION: — FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: 5 FT BGS (3 FT BGS APPX 2 HRS LATER)

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK ER. OR USCS	REMARKS
						BLK TO GRAY &	ASPHALT, CRUSHED STONE, SILT, CLAY, SAND, CONCRETE FRAGMENTS		0 PPM FR/ BOREHOLE
	1.5					BRN.			
S-1		20							0 PPM FR/ S-1
@ 1055		27 / 37	20"/24"			LT. TAN TO GRAY	SAND, GRAVEL, ROCK FRAGMENTS — APPEARANCE OF WEATHERED OR		DAMP TO MOIST, FILL
	3.5	52					IMPROPERLY MIXED CONCRETE		
S-2		45							14 PPM FR/S-2
@ 1105		50 / 65	24"/24"			LT. TAN TO GRAY	SAME AS ABOVE		MOIST, FILL, SLIGHT CHEMICAL ODOR
	5.5	70							
	6.0								
S-3		25 / 27				LT. TAN TO GRAY	SAME AS ABOVE - SLIGHTLY LESS HARD		0 PPM FR/ S-3 SATURATED FILL
@ 1112	8.0	31 / 35	24"/24"						LAST FOOT (8'-9') VERY SOFT - PROB CLAY
	9.0								
				TD					

REMARKS AUGER TO 1.5 FT; SAMPLE TO 3.5 FT; AUGER PAST OBSTRUCTION AT 3.5 FT; SAMPLE TO 9 FT. BOREHOLE COLLAPSED TO 7 FT. WATER AT 5 FT. (ROSE TO 3 FT BY 1306 HRS)

BORING 47

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* See Legend on Back

BORING LOG

HALLIBURTON NUS

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 48

PROJECT NO.: 3814 DATE: 1-10-92 DRILLER: BRIAN DEVINE

ELEVATION: FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA :

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						BLK TO GRAY	ASPHALT, CRUSHED STONE, SILT, SAND, GRAVEL SOME CLAY		0 PPM FR/ BOREHOLE
	1.5								
S-1		4							
@ 1138		3	12"/24"			BLK	ROCK FRAGMENTS, ASH, SOME SILT & CLAY		0 PPM FR/ S-1 DAMP TO MOIST, FILL
		2							
	3.5	2							
	4.0								
		1							
S-2		1				BLK.	ROCK FRAGS, ASH, SOME COAL 6"		0 PPM FR/S-2
@ 1140		1	24"/24"		SOFT	BRN.	SILTY CLAY & CLAY 18"	ML/CL	WET TO SATURATED FILL/ POSS. ALLUVIUM
	6.0	1							
	8.0								

REMARKS AUGER TO 1.5 FT ; SAMPLE TO 8 FT , BOREHOLE COLLAPSED TO 3 FT , WATER EST. AT 5 FT.

BORING 48

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* See Legend on Back

BORING LOG

HALLIBURTON NUS

PROJECT: ALLIED SIGNAL FRANKFORD PLANT

BORING NO.: 49

PROJECT NO.: 3814

DATE: 1-10-92

DRILLER: BRIAN DEVINE

ELEVATION:

FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: 2 FT BGS

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						BLK & GRAY	ASPHALT, CRUSHED STONE, SOME BRN SILT & CLAY		0 PPM FR/ BOREHOLE FILL
	1.5								
S-1	2.0	6							
@ 1310	3.0	REF	0"/24"						
S-2		24 / 30				LT. TAN	SAND GRAVEL, ROCK FRAGMENTS		0 PPM FR/ S-2
@ 1317	5.0	35 / 15	10"/24"			TO GRAY	LIKE WEATHERED CEMENT, SOME BRN SILT & CLAY		MOIST TO SATURATED, FILL
	6.0								

REMARKS AUGER TO 1.5 FT; SAMPLE TO REFUSAL AT 2 FT; AUGER TO 3 FT; SAMPLE TO 6 FT. BOREHOLE COLLAPSED TO 3 FT — WATER AT 2 FT

BORING 49

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* See Legend on back

BORING LOG **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: 50
PROJECT NO.: 3814 DATE: 1-10-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 2½ FT BGS
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		11				BRN	GRAVEL, SILT, CLAY, BRICK,		145 PPM FR/S-1
@		9	24"/24"			GRAY &	CONCRETE, SAND, LAYER OF POWDERED		DAMP TO SATURATED,
1350		13				BLK	NAPTHALENE - ASHY, COAL/SLUDGE		FILL
	2.5	11					- LIKE MAT'L AT BASE.		
S-2		7							110 PPM FR/S-2
@		9	24"/24"			BLK.	GRAVEL, SILT, CLAY, ASHY COAL -		SAT. w/ BLK OILY LIQUID
1352		15					- LIKE MATERIAL		POSS. LNAPL LAYER BASED
	4.5	20							ON OILY FILM COATING INSI-
	5.0								OF SPOON SURFACE - 5" NEAR
		10							CENTER OF SAMPLE
S-3		7				BLK.	GRAVEL, COAL, ASHY MATERIAL		
@		2	20"/24"				LWR 2" BRN SILTY CLAY w/	CL	135 PPM FR/S-3
1400	7.0	2			SOFT		PEBBLES		SAT w/ BLK OILY WATER
	9.0								OBTAINED LIQUID SAMPLE

REMARKS SAMPLE TO 9 FT. BOREHOLE CAVED TO 5 FT. WATER AT APPX 2½ FT.

BORING 50

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* See Legend on back

BORING LOG **HALLIBURTON NU**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 51
PROJECT NO.: 3814 DATE: 1-13-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 4½ FT BGS.
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		16				BLK	GRAVEL, SILT, CLAY, COAL TAR		17.6 PPM FR/S-1
@ 0848		10 / 11	12"/24"			BRN & GRAY	RESIDUE, NAPTHALENE FRAGMENTS AS SMALL CRYSTALS		DAMP, FILL NAPTHALENE ODOR
	2.5	5							
S-2		12				BLK &	SILTY CLAY ASH COAL &		86 PPM FR/S-2
@ 0851		16 / 20	22"/24"			BRN	NAPTHALENE.		DAMP TO SATURATED IN LWR 6 IN. FILL
	4.5	11							NO OIL DETECTED
	9.0								
S-3		1 / 2			SOFT	N.A.	NO RECOVERY: ASSUME SOFT CLAY OR SILTY CLAY BASED ON		
@ 0912	11.0	2 / 2	0"/24"				BLOW COUNTS & INFORMATION FROM OTHER BORINGS		
	14.0								
S-4		1 / 1			SOFT TO	GRAY	CLAY W/ SIGNIFICANT NATURAL	CH	100 PPM FR/S-4
@ 0927	16.0	1 / 1	24"/24"		V. SOFT	BRN.	ORGANIC MAT'L	OH	SATURATED, ALLUVIAL
	19.0								
S-5		1 / 1			SOFT TO	DARK GREENISH	SOFT, PLASTIC, HOMOGENEOUS	CH	0 PPM FR/S-5
@ 1012	21.0	1 / 1	24"/24"		V. SOFT	GRAY	CLAY W/ NATURAL ORGANIC MAT'L	OH	SATURATED, ALLUVIAL
	24.0								
S-6 @ 1031		1 / 1			SOFT TO		SAME AS ABOVE		SAME AS ABOVE

REMARKS SAMPLE TO 5 FT; AUGER TO 9 FT; SAMPLE TO 11 FT; AUGER & SAMPLE EVERY 5 FT TO TOTAL DEPTH.

BORING 51

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 51
PROJECT NO.: 3814 DATE: 1-13-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
S-6 @ 1031	26.0	1 / 2	24"/24"		V. SOFT	DARK GREENISH GRAY	SOFT, PLASTIC, HOMOGENEOUS CLAY W/ NAT. ORGANIC MAT'L	CH/OH	0 PPM FR/S-6 SATURATED, ALLUVIAL
	29.0								
S-7 @ 1044	31.0	1 / 1 / 2 / 2	24"/24"		SOFT TO V. SOFT	DARK GREENISH GRAY	SOFT, PLASTIC, HOMOGENEOUS ORGANIC CLAY	CH/OH	0 PPM FR/S-7 SATURATED, ALLUVIAL.
	34.0								
S-8 @ 1100	36.0	2 / 2 / 2 / 23	24"/24"		SOFT / DENSE	BROWNISH GRAY / GRAY	SILTY CLAY W/ MICA FLAKES & SOME FGR SAND, UPR 20" / PR. SORTED FGR-CGR. SAND W/ SOME PEBBLES, LWR 4"	CL / SP	0 PPM FR/S-8 SATURATED, ALLUVIAL
	39.0								
S-9 @ 1138	41.0	10 / 15 / 15 / 25	24"/24"		DENSE	GRAY	POORLY SRT MGR-CGR SAND W/ PEBBLES & SM. COBBLES OF VARYING SIZE & SOME MICA FLAKES 1/8"-1/4"	SP	0 PPM FR/S-9 SATURATED, ALLUVIAL & POSS. WEATHERED BEDROCK MAT'L (MICA)
1150	42.0								
									AUGER REFUSAL ON BEDROCK AT 42 FT, NO POSSIBLE TO SAMPLE

REMARKS TOTAL DEPTH 42 FT - AUGER REF. ON BEDROCK - 3 FT OF HEAVED SANDS W/IN AUGERS. GROUT THROUGH AUGERS AS REMOVED POTABLE WATER ADDED W/IN AUGER FLIGHTS DURING DRILLING BELOW WATER LEVEL.

BORING 51

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* See Legend on Back

BORING LOG **HALLIBURTON NU**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 52
PROJECT NO.: 3814 DATE: 1-14-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 5 FT
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
S-1	0.5	50				BRN	GRAVEL, SILT, CLAY, BLK ASHY		5 PPM FR/S-1
@ 0858		45 / 47	20"/24"			BLK & RED	MAT'L, COAL TAR MAT'L, CONCRETE & BRICK FRAGMENTS, COAL		DAMP TO MOIST, FILL
S-2	2.5	52 / 24				BLK &	BRICK & ROCK FRAGMENTS,		5 PPM FR/S-2
@ 0901		17 / 2	10"/24"			RED	SILT, CLAY		WET, FILL
	4.5 / 5.0	2							
S-3		2 / 2				DARK BRN TO	SANDY COAL/COAL TAR MAT'L OVER		400 PPM FR/S-3 UPR PART SATURATED
@ 0906	7.0	2 / 10	20"/24"			BLK	SILTY SANDY CLAY		W/ BLACK WATER & OIL SHEEN, LWR PART M TO WET - FILL -
									STRONG ODOR; NOT LIKE
	9.0								CUMENE.
S-4		2 / 2				BLK	SAND, SILT, CLAY, BRICK -		700 PPM FR/S-4
@ 0913	11.0	24 / 36	20"/24"				LWR 12" VERY HARD ASPHALT-LIKE MATERIAL W/ VERY SMALL		SATURATED IN UPR PA FILL - DISTINCT OD
							FRAGMENTS		OF CHEMICAL & POSS SEWAGE.
	15.0								
S-5		10 / 12			MED.	BLK	SILTY SANDY MATERIAL	SM	500 PPM FR/S-5
@ 0954	17.0	8 / 10	24"/24"		DENSE				FILL; SATURATED W BLK OILY LIQUID
									DISTINCT CHEMICAL / ROTTEN ODOR.

REMARKS AUGER & SAMPLE TO 17 FT. CAVED TO 12 FT. SIGNIFICANT OILY LIQUID SATURATION BELOW ASPHALT-LIKE MATERIAL AT 11 FT.

BORING 52

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: 53
PROJECT NO.: 3814 DATE: 1-14-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 5 FT
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		27				BLK &	GRAVEL SILT CLAY COAL		0 PPM FR/S-1
@ 1114		34 / 31	24"/24"			BRN	BRICK, METAL SHAVINGS, GLASS CONCRETE, ASH, ROCK FRAGS		DAMP, FILL
	2.5	19							
S-2		10				BLK &	SAME AS ABOVE w/ SOME		0 PPM FR/S-2
@ 1118		5 / 2	18"/24"			BRN	PLASTIC & WOOD FRAGMENTS		DAMP TO MOIST, FILL
	4.5 / 5.0	2							
S-3		25 / 17				BLK	SAND, GRAVEL, ASH COAL		200 PPM FR/S-3
@ 1122	7.0	5 / 3	16"/24"				FRAGMENTS, GLASS		SATURATED w/ BLK WATER & OILY LIQUID
									FILL COAL TAR ODOR
	9.0								
S-4		2 / 2			SOFT	BLK	CLAYEY SAND, WOOD COAL	SC	110 PPM FR/S-4
@ 1130	11.0	2 / 2	16"/24"						SATURATED w/ OIL IN SOME PLACES, WATER IN OTHERS - FILL
	12.0								

REMARKS SAMPLE TO 12 FT WATER AT APPX 5 FT

BORING 53

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 54
PROJECT NO.: 3814 DATE: 1-14-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 7½ FT.
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	1.0					DARK GRAY	ASPHALT, CRUSHED STONE, SOME CONCRETE FRAGS		0 ppm
S-1		27 / 18				RED &	BRICK w/ SOME CONCRETE,		3 ppm FR / S-1
@ 1327	3.0	10 / 8	6"/24"			GRAY	SAND & ROCK FRAGMENTS		DAMP, FILL
S-2		2 / 2				BRN	SAND SILT, CLAY, GRAVEL		3 ppm FR / S-2
@ 1329	5.0	2 / 2	4"/24"				ROCK FRAGMENTS		DAMP, FILL
S-3		2 / 2				BLK	CLAY & SILTY CLAY		3 ppm FR / S-3
@ 1331	7.0	2 / 2	3"/24"						MOIST, FILL ROCK FRAGMENT
									WEDGED IN SPOON OPENING.
	9.0								
S-4		2 / 2			SOFT	BLK TO REDDISH	UPR 5" SAND & GRAVEL FILL MID 18" HIGHLY ORGANIC CLAY	OH	150 ppm FR / S-4 UPR ½ SATURATED w
@ 1335	11.0	2 / 2	24"/24"			BRN	& SILTY CLAY LIKE PEAT LWR 1" GRAY SILTY CLAY	PT / CL	OILY LIQUID - ODOR C CUMENE & OTHER SUBSTANCE (POSS COAL
	12.0								FILL OVER NATURAL ALLUVIAL MAT'L ?

REMARKS SAMPLE TO 12 FT; CAVED TO 8 FT TOP OF WATER / LNAPL APPX 7½ FT

BORING 54

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 55
PROJECT NO.: 3814 DATE: 1-15-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						GRAY	ASPHALT, CRUSHED STONE, CEMENT GROUT		0 PPM, DRY TO DAMP, FILL
S-1	1.5	31				GRAY	GRAVEL, CEMENT GROUT, SILT,		0 PPM FR/S-1
@ 0841		27 / 19	18"/24"			TO BLK	CLAY IN UPR 6" COAL W/ SOME SILT & CLAY LWR 12"		DRY TO DAMP, FILL
S-2	3.5	10 / 15				BLK	2" COAL AS ABOVE		68 PPM FR/S-2
@ 0845		20 / 37	22"/24"			GRAY & TAN	6" SILTY CLAY LAYERS 14" NAPTHALENE		DAMP TO MOIST, FILL
	5.5 / 6.0	25							
S-3		10 / 9				BLK	SILT, CLAY, ORGANIC MAT'L,		12 PPM FR/S-3
@ 0849	8.0	5 / 3	24"/24"				ASH, BRICK FRAGS, HAIR, POSS. COAL TAR RESIDUE		SATURATED FILL BLK WATER W/ OILY SHEEN COAL TAR ODOR
	10.0								
S-4		2 / 2				BLK	SILTY CLAY W/ SOME COAL		1 PPM FR/S-4
@ 0906	12.0	2 / 2	6"/24"						SATURATED, FILL BLK WATER W/ OILY SHEEN. COAL TAR ODOR
	15.0								
S-5		2 / 2				BLK	6" ASH & SAND		5-8 PPM FR/S-5
@ 0921	17.0	2 / 2	24"/24"				18" SILT, CLAY, WOOD, HAIR		SATURATED, FILL BLK WATER W/ OILY SHEEN; SOME OIL TRAPPED IN SEDIMENT COAL TAR ODOR.
	20.0								
S-6		2 / 2				BLK	SAND, SILT, CLAY, CRUSHED STONE & GRAVEL		8 PPM FR/S-6
@ 0933	22.0	2 / 37	12"/24"						SATURATED, FILL BLACK WATER W/ OILY SHEEN; SOME OIL TRAPPED IN SEDIMENT COAL TAR ODOR.
	25.0								

REMARKS AUGER TO 1.5 FT; SAMPLE TO 9 FT; AUGER TO 10 FT; SAMPLE TO 12 FT; AUGER & SAMPLE EVERY 5 FT TO T.D. ADD POTABLE WATER TO DRILL BELOW WATER LEVEL

BORING 55

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: S5
PROJECT NO.: 3814 DATE: 1-15-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN-NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
S-7	25.0	5 / 5			MED	DARK GRAY TO	WELL SORTED MGR SAND	SW	8.2 PPM FR/S-7
@ 0947	27.0	7 / 9	24"/24"		DENSE	BLK			SATURATED, ALLUVIUM SAT. W/ WATER & OIL
	30.0								
S-8		6 / 4			MED DENSE	GRAY	6" WELL SORTED MGR SAND	SW	1.2 PPM FR/S-8 SAN
@ 1000	32.0	4 / 4	24"/24"		MED. STIFF	BRN	18" SOFT, PLASTIC, HOMOGENEOUS CLAY	CH	SATURATED, ALLUVIUM SLIGHT COAL TAR ODOR FR/ SAND.

REMARKS WATER ROSE TO 2 FT IN AUGER FLIGHTS. GROUT BACKFILL THROUGH AUGERS AS REMOVED

BORING 55

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* See Legend on Back

BORING LOG **HALLIBURTON NL**

PROJECT: ALLIED SIGNAL FRANKFORD PLANT BORING NO.: 56
PROJECT NO.: 3814 DATE: 1-15-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: APPX 4 FT TO 4.5 FT.
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.5								
S-1		75				BLK &	GRAVEL, SILT, CLAY, CONCRETE		.3 PPM FR/S-1
@		54				GRAY	& BRICK FRAGMENTS		DAMP TO MOIST,
1311		52	18"/24"						FILL
	2.5	40							
S-2		5							
@		2				BLK	GRAVEL, SILT, CLAY, ASH,		3 PPM FR/S-2
1316		2	18"/24"				CONCRETE & BRICK FRAGMENTS		DAMP TO SATURATED
	4.5	2							WATER IN LWR 6"
	5.0								FILL
		2							
S-3		2				BLK	CLAY & SILTY CLAY W/ SOME	CL	10.8 PPM FR/S-3
@		1					ORGANIC MAT'L, TRACE PEBBLE		SATURATED, FILL
1318	7.0	1	18"/24"						MAINLY WATER, SOME
									OIL TRAPPED IN SEDIM
									COAL TAR ODOR
	10.0								
		6							
S-4		2				N.A.	NO RECOVERY		2 PPM FR/SAMPLE SPOO
@		2							COVERED W/ BLK WAT
1337	12.0	2	0"/24"						W/ SLIGHT OILY SHEEN
									COAL TAR ODOR.
	15.0								
		5							
S-5		7			MED.	BLK	4" GRAVEL, SILT, SAND, WOOD,	GC	150 PPM FR S-5
@		8			DENSE		CLAY	GC	SATURATED W/ OILY
1345	17.0	10	12"/24"				1" CLAY LAYER	SW	LIQUID; POSSIBLE CUME
							7" FGR SAND		FILL / POSS. ALLUVIUM
	20.0								
		2				DARK			7.5 PPM FR/ WITHIN CL
S-6		1			SOFT TO	GREENISH	SOFT, PLASTIC, HOMOGENEOUS	CH	OUTSIDE OF SPOON
@		1			V. SOFT	GRAY	CLAY W/ NATURAL ORGANIC	OH	COATED W/ OILY LIQUID
1357	22.0	1	24"/24"				MATERIAL		POSS. CUMENE ODOR
									ALLUVIAL

REMARKS SAMPLE TO 7 FT; AUGER TO 10 FT; SAMPLE TO 12 FT; AUGER & SAMPLE EVERY 5 FT TO T.D. WATER AT APPX 4-4.5 FT

BORING 56

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* See Legend on back

BORING LOG

HALLIBURTON NUS

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 57

PROJECT NO.: 3814 DATE: 1-20-92 DRILLER: BRIAN DEVINE

ELEVATION: FIELD GEOLOGIST: R. GOOD

WATER LEVEL DATA: APPX 8 FT

(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	1.0					GRAY	CRUSHED STONE, SILT		
S-1		12 / 13				BRN &	CLAY (W/ LOTS OF MICA FLAKES),		0 PPM FR/ S-1
@ 0849	3.0	13 / 12	24"/24"			BLK	SILT, COAL, ASHES, SOME FINE GRAVEL		DAMP, FILL
S-2		12 / 13				BLK &	CLAY, SILT, COAL, TRACE		0 PPM FR/ S-2 DAMP, FILL
@ 0851	5.0	13 / 14	18"/24"			BRN	BRICK FRAGMENTS		
S-3		5 / 7			STIFF TO	BRN	SILTY CLAY W/ SOME PEBBLES	CL	0 PPM FR/ S-3 WET TO SATURATED
@ 0854	7.0	10 / 11	20"/24"		V. STIFF				PROB. ALLUVIUM
									0 PPM FR/ BOREHOLE
	9.0								

REMARKS AUGER TO 1 FT; SAMPLE TO 9 FT. — BOREHOLE OPEN TO 9 FT; APPX WATER DEPTH 8 FT

BORING 57

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT — BORING NO.: 58
PROJECT NO.: 3814 — DATE: 1-20-92 — DRILLER: BRIAN DEVINE
ELEVATION: — FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: 6 FT TO 6½ FT
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	0.0					GRAY	CRUSHED STONE, CONCRETE & ROCK FRAGMENTS, SILT, SAND & CLAY		3.5 PPM FR/ BOREHOLE FUEL OIL ODOR
	2.0								
S-1		9 / 9				BLK BRN &	BRICK, CONCRETE, GLASS, ASH,		0 PPM FR/ S-1 DAMP, FILL
@ 0930	4.0	7 / 10	16"/24"			RED	COAL, NAILS, SILT, SAND, CLAY		
S-2		3 / 4				DARK	CONCRETE, ASH, SILT, CLAY,		0 PPM FR/ S-2 DAMP TO SATURATED
@ 0932	6.0	2 / 3	18"/24"			GRAY	GRAVEL, TRACE BRICK.		IN LWR 2" FILL
S-3		2 / 2				DARK	12" ASH, CLAY, SILT, METAL SCRAPS		0 PPM FR/ S-3
@ 0935	8.0	2 / 2	24"/24"			GRAY	12" CLAY, SILT, WOOD, SOME SAND, TRACE METAL SCRAPS		SATURATED, FILL
↳	9.0								
S-4		2 / 2			SOFT	DARK GRAYISH	SILTY CLAY & CLAY w/ NAT.	OL/	0 PPM FR/ S-4
@ 0941	11.0	2 / 2	24"/24"			BRN	ORGANIC MAT'L	OH	SATURATED, ALLUVIAL
↳	12.0								

REMARKS AUGER TO 2 FT; SAMPLE TO 12 FT. BOREHOLE CAVED TO 6½ FT. WATER AT APPX 6 FT TO 6½ FT

BORING 58

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* See Legend on Back

BORING LOG **HALLIBURTON NUS**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 59
PROJECT NO.: 3814 DATE: 1-20-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						GRAY	CRUSHED STONE, SILT, BRICK, ROCK & CONCRETE FRAGMENTS		
	2.0								
S-1		7 / 6				DARK	SILT, CLAY, GRAVEL, CONCRETE, PEBBLES, WOOD PLASTIC ROOTS		0 PPM FR/S-1
@ 1004	4.0	10 / 6	16"/24"			GRAY	GLASS, BRICK, COPPER WIRE		DAMP, FILL
S-2		25 / 27				DARK BRN. TO	SILT, CLAY, CONCRETE, BRICK, COAL & ASHY MAT'L, TERRA		36-60 PPM FR/S-2 AT BOTTOM
@ 1012	6.0	32 / 35	20"/24"			BLK	COTTA, ROCK FRAGMENTS		DAMP TO MOIST, FILL
↳	7.0								
S-3		30 / 57				BLK	HARD TAR OR ASPHALT - LIKE		300 PPM FR/S-3
@ 1022	9.0	70 / 75	24"/24"				MATERIAL W/ FINE CLASTS OF GLASS MICA SAND SILT, CLAY		DAMP TO MOIST, FILL
↳	10.0								
S-4		15 / 4				BLK	FINE FRAGMENTS OF BRICK SAND SILT, GLASS -		165 PPM FR/S-4
@ 1032	12.0	3 / 2	24"/24"				BECOMES SANDY NEAR BOTTOM		SATURATED, FILL
S-5		2 / 2				BLK	FINE SAND, BRICK FRAGMENTS		165 PPM FR/S-5 SATURATED W/ WATE
@ 1041	14.0	2 / 2	20"/24"				SOME PEBBLES		& SOME OIL TRAPPED IN SAND - FILL
↳	16.0								DARK BROWN MUD W/ OILY SHEEN IN SAMPL

REMARKS SAMPLE TO APPX 16 FT. BOREHOLE CAVED TO 11 FT - WATER AT APPX 9 FT - OILY SUBSTANCE ON TAPE.

BORING 59

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* See Legend on Back

BORING LOG **HALLIBURTON NU.**

PROJECT: ALLIED SIGNAL, FRANKFORD PLANT BORING NO.: 60
PROJECT NO.: 3814 DATE: 1-20-92 DRILLER: BRIAN DEVINE
ELEVATION: FIELD GEOLOGIST: R. GOOD
WATER LEVEL DATA: 3½ TO 4 FT APPX
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
						GRAY	6" ASPHALT 12" CEMENT 6" BLK ASHY COAL SILT CLAY MAT'L		160 PPM FR/ BOREHOL
	2.0								
S-1		12 / 10				BLK TO	ASH, COAL, SILT, CLAY, BRICK,		75 PPM FR/ S-1 DAMP TO WET FILL
@ 1129	4.0	10 / 12	22"/24"			GRAY	CONCRETE - SANDY IN LWR 4"		SOME OIL PRESENT IN SEDIMENT
	5.0								
S-2		5 / 4				GRAY	UPR 12" - FILL AS ABOVE		170 PPM FR/ S-2 SATURATED - OBVIOU
@ 1131	7.0	1 / 1	24"/24"		SOFT		LWR 12" - SILTY CLAY & SANDY CLAY INTER BEDDED W/ SOME PEBBLES	CL / SC	OIL PRESENT IN SAN LAYERS - CUMENE O FILL / ALLUVIUM
	9.0								NO DISTINCT LNAPL LAYER DETECTED

REMARKS AUGER TO 2 FT: SAMPLE TO APPX 9 FT BOREHOLE CAVED TO 4 FT WATER AT APPX 3½ TO 4 FT

BORING 60

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* See Legend on Back

B.2 WOODWARD-CLYDE BORING LOGS

LOG of BORING No. B-1

DATE 6/15/82 SURFACE ELEVATION 99.0 (est) LOCATION See Plate 2

DEPTH, ft. / SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		Concrete	98.5				
	21	Dense to very dense brown silty coarse to fine SAND. Trace coarse to fine gravel (FILL)		12.7			X
5	39		92.0	8.4			
	17	Dense brown fine gravelly silty coarse to fine SAND. Trace coarse gravel		17.1			M
10	18			16.9			
15	32			10.3			
		grading with depth to a coarse to fine SAND and GRAVEL					
20	23		75.0	16.8			
25	32	Stiff dark brown and black fine sandy clayey SILT	70.0	22.4	NP	NP	
30	42	Dense gray decomposed MICA SCHIST	67.5	17.0			
35		X: Chemical analysis					

Completion Depth 31.5 Feet Water Depth 6.0 Feet Date 6/15/82

Project Name Allied Chemical Company Project Number 82C2433

LOG of BORING No. B-2

DATE 6/14/82 SURFACE ELEVATION 99.0 (est) LOCATION See Plate 2

DEPTH, ft.	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0			concrete	98.5				
		5	Firm dark gray coarse to fine sandy gravelly silty CLAY/clayey SILT		16.4	22	17	
5		100/1"*			15.1			X
				91.0				
		59	Dense dark brown silty coarse to fine SAND. Trace coarse to fine gravel		15.2			
10		19			21.7			X
15		35			8.8			M
			grading with depth to a silty coarse to fine SAND and GRAVEL					
20		28			13.6			
25		24		72.0	12.5			M
			Stiff brown fine sandy clayey SILT					
30		41		67.5	23.0			
			Installed slotted PVC pipe to 15.0 feet					
35								
			*piece of gravel in tip of sampler					

Completion Depth 31.5 Feet Water Depth 7.5 Feet Date 6/15/82

Project Name Allied Chemical Company Project Number 82C2433

LOG of BORING No. B-3

DATE 6/14/82 SURFACE ELEVATION 99.0 (est) LOCATION See Plate 2

DEPTH, ft.	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0			asphalt	98.8				
		14	Medium dense brown coarse to fine SAND (Fill)	96.0	17.1			X
			Firm brown fine sandy silty CLAY	94.0				
5		34			9.2			
		100/2"*			10.4			
10		20			21.1			
			Dense to very dense brown fine gravelly coarse to fine SAND. Trace coarse gravel and silt					
15		62			8.6			M
			grading with depth to a coarse to fine SAND and GRAVEL					
20		32			9.2			
25		24		72.5	13.2			
			Stiff brown and green coarse to fine gravelly sandy clayey SILT					
30		112		67.5	12.0	28	22	
35			Installed slotted PVC pipe to 15.0 feet					
			*piece of gravel in tip of sampler					

Completion Depth 31.5 Feet Water Depth 8.0 Feet Date 6/15/82

Project Name Allied Chemical Company Project Number 82C2433