

LOG OF BOREHOLE

BOREHOLE WA-T-0-1
PAGE 1 OF ...

LOC. or COORDS. <u>263 H/W 25 db</u> <u>Wahkiakum Valley, Brewster Co</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright C. Webster</u> <u>M. Hadman G. Gardner</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4715 ft</u>	RIG <u>JR-TH-60</u>	TIME <u>1600</u>	1950
TOTAL DEPTH <u>1250 ft</u>	BIT(S) <u>Talco</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	FLUID <u>0-160' Frans, 160-TD Bed</u>	HOW LEFT <u>Cased</u>	

LOCATION WA-T-0-1
 LOGGED BY S. W. ...
 PROJECT Intermediate Drilling Program
177 Phase 2 FY80

DEPTH	PENE RATE	CIRC RET	AIRLIFT LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
0-4'	No. Fine				Sand w/ some gravel		Sand w/ some gravel; (0-10ft) (.....) dk gray (w/ 5YR 4/1) (5YR 7/3); f to 20 mm avl 25% (carb 95%, minor constituents 5%); f to 20 mm avl 25% (carb 100%); p.s.; 2d-sub to subang, avl 20% to subang; 2d- to 2d-; n.p.; not stky; no uncol; sdr. HCL sp.
10-17'	12 min 11 sec				Sand w/ little gravel		Sand w/ little gravel; (10-30ft) (.....); brn (5YR 5/2) (d 7.5YR 7/2); f to 20 mm avl 95% (carb 20%, carb 20%, volc 25%, minor constituents 15%); avl up to 20 mm (70% carb, 20% volc); n.p.; 2d-sub to subang; avl 10% to subang; 2d- to 2d-; n.p.; not stky; sand, med.
20-24'	21 min 44 sec				Sandy silt clay		Sandy silt clay; (20-30ft) (.....); brn (5YR 5/2) (d 10YR 8/2); 60% clay, 20% silt; f to 20 mm avl 100% carb; n.p.; 2d-sub to subang; 2d- to 2d-; n.p.; not stky; no uncol; violent HCL sp.
30-34'	93 min 47 sec				Sandy silt clay		Sandy silt clay; (30-40ft) (.....); same as above
40-50'	12 min 20 sec				Sand w/ some gravel		Sand w/ some gravel; (40-50ft) (.....); brn (5YR 5/2) (d 10YR 7/3); f to 20 mm avl 85% (carb 45%, carb 20%, carb 20%, volc 20%); f to 20 mm avl 85% (carb 45%, carb 20%, carb 20%, volc 20%); n.p.; 2d-sub to subang; 2d- to 2d-; n.p.; not stky; no uncol; violent HCL sp.
50-60'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (50-60ft) (.....); same as above
60-70'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (60-70ft) (.....); same as above
70-80'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (70-80ft) (.....); same as above
80-90'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (80-90ft) (.....); same as above
90-100'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (90-100ft) (.....); same as above
100-110'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (100-110ft) (.....); same as above
110-120'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (110-120ft) (.....); same as above
120-1250'	12 min 30 sec				Sand w/ some gravel		Sand w/ some gravel; (120-1250ft) (.....); same as above

LOG OF BOREHOLE

BOREHOLE WA-10-1
PAGE 2 OF

LOC. or COORDS. <u>268 NW 25d</u> <u>Wakulla Co. Fla. Forest</u>	DRILLER <u>Wright Drilling Co.</u> <u>K. Wright O. Webster</u> <u>M. Harmon G. Gardner</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>476.00</u>	RIG <u>IR-TH-600</u>	TIME <u>1600</u>	<u>1950</u>
TOTAL DEPTH <u>1250.00</u>	BIT(S) <u>1 1/2 cone</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.912</u>	FLUID <u>0-150' Foam, 150-TD Seal</u>	HOW LEFT <u>Cased</u>	

PROJECT Wakulla Co. Forest
 LOCATION 268 NW 25d
 LOGGED BY S. Morgan

DEPTH	PENE. RATE	CIRC. RET. LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM. BOL	DESCRIPTION and COMMENTS
80ft	99 min 9 sec			Sand w/ gravel clay sand		Sand w/ gravel (80-85ft) (); dk. redish gray (BIR 5/2) (2.5YR 7/6); f. sd. to m. sd. 70% (45% qz, 40% volc, 10% carb, 5% ma. gyl to 5mm (100% volc); p.s.; sd. to subang. gyl. r. m. a. structureless; n.p.; not sticky; no coarse; w/ HLL sfx
90ft	76 min 32 sec			clay sand w/ little gravel		clay sand (85-90ft) (); reddish gray (BIR 5/2) (2.5YR 1/2); 20% clay; f. sd. to co. sd. 80% (volc. 60%, qz 30%, mafics 10%); p.s.; sd. to ang.; structureless; n.p.; not sticky; coarse; w/ HLL sfx
100ft	109 min 10 sec			clay		clay sand w/ little gravel; (90-100ft) (); w/ d. gravel (5YR 7/1) (2.5YR 8/1); 30% clay; f. co. sd. to 1/2 (volc. 60% 20% mafics 10%); gyl to 5mm (100% volc); p.s.; sd. to subang. subang. gyl. ang. to f. d.; structureless; plastic; sticky; no coarse; w/ HLL sfx
110ft	57 min 15 sec			clay		clay (100-110ft) (); light gray (10YR 7/5) (2.10YR 5/2); 95% clay; f. sd. to med. sd. 2% (volc. 100%); w/s; sd. to ang. to subang. gyl. structureless; n.p.; plastic; sticky; no coarse; w/ HLL sfx
120ft				clay		clay; (110-120ft); same as above
130ft				clay		clay; (120-130ft); same as above
140ft				clay		clay; (130-140ft); same as above
150ft				clay		clay; (140-150ft); same as above
160ft				clay		clay; (150-160ft); same as above
170ft				clay		clay; (160-170ft); same as above
180ft				clay		clay; (170-180ft); same as above
190ft				clay		clay; (180-190ft); same as above
200ft				clay		clay; (190-200ft); same as above
210ft				clay		clay; (200-210ft); same as above
220ft				clay		clay; (210-220ft); same as above
230ft				clay		clay; (220-230ft); same as above
240ft				clay		clay; (230-240ft); same as above
250ft				clay		clay; (240-250ft); same as above
260ft				clay		clay; (250-260ft); same as above
270ft				clay		clay; (260-270ft); same as above
280ft				clay		clay; (270-280ft); same as above
290ft				clay		clay; (280-290ft); same as above
300ft				clay		clay; (290-300ft); same as above

LOG OF BOREHOLE

BOREHOLE WA-101
PAGE 3 OF 4

LOC. or COORDS. <u>268 140 5526</u> <u>Wal. Wal. 1/2 1/2 1/2 1/2 1/2 1/2</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright</u> <u>O. G. G. G. G.</u> <u>M. Harman</u> <u>Q. G. G. G.</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4760</u>	RIG <u>IR-TH-600</u>	TIME <u>1600</u>	<u>1950</u>
TOTAL DEPTH <u>1250</u>	BIT(S) <u>1 1/2 cone</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9</u>	FLUID <u>0-160' Fresh, 160-TD Salt</u>	HOW LEFT <u>Cased</u>	

LOCATION WA-101
 LOGGED BY S. Nagaria
 PROJECT 1
111

DEPTH	PENE RATE	CIRC RET. LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
160'	55 min 41 sec			Sandy clay		Sandy clay; (160-170ft) (85% clay, 15% sand, 0% silt, 0% gravel, 0% organic); 35% Volc 60% 22-40% s.s., sd. subord-subang; structure; plastic; 2% ky; no wood, no H ₂ O.
170'	57 min 36 sec			Sandy clay		Sandy clay; (170-180ft); same as above.
180'	79 min 47 sec			Sandy clay		Sandy clay; (180-190ft); same as above.
190'	96 min 56 sec			Clay		Clay; (190-200ft); same as above exception - clay 85% sand 15%
200'	126 min 15 sec			Clay		Clay; (200-210ft); same as above exception - clay 85% sand 15%
210'	145 min 7 sec			Clay		Clay; (210-220ft); same as above exception - clay 85% sand 15%
220'	165 min -24			Clay		Clay; (220-230ft); same as above exception - clay 85% sand 15%
230'				Sandy clay		Sandy clay; (230-240ft); same as above exception - clay 85% sand 15%

LOG OF BOREHOLE

BOREHOLE WA-10.1
PAGE 4 OF 2

LOC. or COORDS. <u>260 N 25db</u> <u>Wol. Wol. 1/2" Precipitate</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. Webster</u> <u>M. Harmon G. Gardner</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4715.76</u>	RIG <u>IR-TH-600</u>	TIME <u>1600</u>	1950
TOTAL DEPTH <u>12-2.20</u>	BIT(S) <u>1 1/2 cone</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>2 1/8"</u>	FLUID <u>0-160' Fresh, 160-TD Seal</u>	HOW LEFT <u>Cased</u>	

LOCATION Wol. Wol. 1/2" Precipitate
LOGGED BY S. Hargrave - (H. H. Area)

PROJECT Liberty Lake Drilling Program
1111 Project 1-1980

DEPTH	PENE RATE	CIRC RET	AIRLIFT LOSS Q (ppm)	MATERIAL	SYM BOL	DESCRIPTION and COMMENTS
240ft	108 min 36000			clay		Clay; (240-250ft) (), white (w. 51.8%) (251.8%) 70% clay, 7sd to 10sd 30% (60% calc, 30% qz, 10% mafic) ms; sd - subord to subord; structureless; plastic; sticky; no concol; no HCP etc.
250ft	91 min 7200			clay		Clay; (250-260ft) (); light gray (w. 51.7%) (251.8%) 85% clay, 7sd to 10sd 15% (calc 60%, qz 40%) ms; sd - subord - subord; structureless; plastic; sticky; no concol; no HCP etc.
260ft	135 min 35200			clay		Clay; (260-270ft); same as above
270ft	197 min 11200			clay		clay; (270-280ft); same as above
280ft	240 min 8200			clay		Clay (280-290ft); same as above exception - sand fraction size large (instead of fine) coarse sand
290ft	151 min 18200			clay		Clay (290-300ft); same as above
300ft	49 min 6200			clay		Clay (300-310ft); same as above exception - 30% concol (1/2")
310ft	100 min 7200			clay		Clay (310-320ft); same as above exception - 10% concol (1/2") - clay 70% - 2sd 10%

LOG OF BOREHOLE

BOREHOLE 42A-T0-1
PAGE 5 OF 14

LOC. or COORDS. <u>252 HW 252b</u> <u>Wab. Wash. to New. Pennsylvania</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. Webster</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4765 ft</u>	<u>M. Harmon G. Gardner</u>	TIME <u>1600</u>	<u>1950</u>
TOTAL DEPTH <u>1250 ft</u>	RIG <u>IR-TH-600</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	BIT(S) <u>Tu cone</u>	HOW LEFT <u>Cased</u>	
FLUID <u>0-160' Fresh, 160-TD Seal</u>			

PROJECT Wab. Wash. to New. Pennsylvania
 LOCATION 42A-Wab. Wash. to New. Pennsylvania
 LOGGED BY S. H. Gardner - N.C. State

DEPTH	PENE RATE	CIRC. AIRLIFT * EST. LOSS 0 (ppm)	MATERIAL	SYM BOL	DESCRIPTION and COMMENTS
320'	46min 5030C		Sandy clay		Sandy clay; (320-330 ft) (); pale olive (w/ 10% f/s) (25% f/s); 80% clay, 20% sed. mod (vol. 10%, carb 30%, m.s.; sd. mod 20%, m.s. 10%); m.s.; sd. mod to subord; structureless; plastic; sticky; no m.s.; w/ 10% f/s
330'	33min 5350C		clay		clay; (330-340 ft); same as above exception - clay 85% - sand 5%
340'	79min 1130C		clay		clay; (340-350 ft); same as above exception - clay 95% - sand 2% (trace only)
350'	29min 350C		clay		clay (350-360 ft); same as above exception - clay 78% - sand 2% trace only
360'	27min 6150C		clay		clay; (360-370 ft) (); light gray (w/ 10% f/s) (25% f/s); 95% clay, 5% sed. mod (vol. 80%, carb 20%); m.s.; sd. subord; structureless; 1.5% sand; w/ 10% f/s; w/ 10% f/s
370'	50min 4530C		clay		clay (370-380 ft); same as above
380'	38min 4720C		clay		clay (380-390 ft); same as above exception - clay 75% - clay f/s 25%
390'	31min 6130C		clay		clay (390-400 ft); same as above exception - clay 75% - clay f/s 25%

LOG OF BOREHOLE

BOREHOLE 12A-10-1
PAGE 4 OF 16

LOC. or COORDS. <u>26S 14W 25db</u> <u>1/2 mi. N. of V. P. Road</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright C. Webster</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4760.00</u>	<u>M. Harmon G. Gardner</u>	TIME <u>1600</u>	<u>1900</u>
TOTAL DEPTH <u>1250.00</u>	RIG <u>IR-TH-600</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	BIT(S) <u>1 1/2 in</u>	HOW LEFT <u>Case</u>	
FLUID <u>0-160' Foam, 160-TD Post.</u>			

LOCATION 12A-10-1
 LOGGED BY S. H. Garcia
 PROJECT 12A-10-1

DEPTH	PENE RATE	CIRC RET LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
400ft	33 min 9000			clay		Clay; (400-410ft); 2 1/2% silt, 51.7% (d.s. 1/8), 98% clay; f.s.d. med 2% (vol. 80%, diam. 20%), w.s.; sd-subang to subord; structure; slightly plastic; bit at 410; 100% clay at 410 ft.
410ft	19 min 3000			clay		clay; (410-420ft); same as above exception - clay 96% - sand 4%
420ft	24 min 7000			clay		clay; (420-430ft); same as above exception - clay 99% - sand 1%
430ft	28 min 4800			clay		clay; (430-440ft); same as above exception - clay 92% - sand 8%
440ft	17 min 3000			clay		clay; (440-450ft); same as above exception - clay 100%
450ft	15 min 11000			clay		clay; (450-460ft); same as above exception - clay 100%
460ft	10 min 10000			clay		clay; (460-470ft); same as above exception - clay 100%
470ft						
480ft						

LOG OF BOREHOLE

BOREHOLE WA-10-1
PAGE 7 OF 14

LOC. or COORDS. <u>26S 14W 25dk</u> <u>Dark Lake Valley, Forest Co.</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. Webster</u> <u>M. Harman G. Gardner</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-13-80</u>
GROUND ELEV. <u>4765 ft</u>	RIG <u>TR-TH-600</u>	TIME <u>1600</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
TOTAL DEPTH <u>1250 ft</u>	BIT(S) <u>1 1/2" cone</u>	HOW LEFT <u>Case</u>	
BOREHOLE DIAM. <u>9.9 in</u>	FLUID <u>0-160' Foam, 160-TD Brack</u>		

LOCATION Dark Lake Valley, Forest Co.
 LOGGED BY S. Magorian - W. C. Auel

PROJECT Water Quality in the Upper
177 P. 1-1-77

DEPTH	PENE. RATE	CIRC RET. LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
475 ft	5 min 55 sec			clay		clay (470-490 ft) (solid) (0.5 V. 7/2) (0.5 V. 8/1); 100% clay; unsl; structureless; slightly sp; not sticky; no cracks; wk Hcl test.
490 ft				clay		clay; (490-500 ft); same as above
500 ft	13 min 11.5 sec			clay		clay; (500-510 ft); same as above
510 ft	11 min 11.5 sec			clay		clay; (510-520 ft); same as above
515 ft				clay		clay; (510-520 ft); same as above
520 ft	14 min 55 sec			clay		clay; (520-530 ft); same as above
530 ft				clay		clay; (530-540 ft); same as above
540 ft	11 min 11.5 sec			clay		clay; (540-550 ft); same as above
550 ft				clay		clay; (550-560 ft); same as above
560 ft	15 min 57.5 sec			clay		clay; (560-570 ft); same as above
570 ft				clay		clay; (570-580 ft); same as above
580 ft	14 min 11.5 sec			clay		clay; (580-590 ft); same as above
590 ft				clay		clay; (590-600 ft); same as above
600 ft	14 min 11.5 sec			clay		clay; (600-610 ft); same as above
610 ft				clay		clay; (610-620 ft); same as above
620 ft	14 min 11.5 sec			clay		clay; (620-630 ft); same as above
630 ft				clay		clay; (630-640 ft); same as above
640 ft	14 min 11.5 sec			clay		clay; (640-650 ft); same as above
650 ft				clay		clay; (650-660 ft); same as above
660 ft	14 min 11.5 sec			clay		clay; (660-670 ft); same as above
670 ft				clay		clay; (670-680 ft); same as above
680 ft	14 min 11.5 sec			clay		clay; (680-690 ft); same as above
690 ft				clay		clay; (690-700 ft); same as above
700 ft	14 min 11.5 sec			clay		clay; (700-710 ft); same as above
710 ft				clay		clay; (710-720 ft); same as above
720 ft	14 min 11.5 sec			clay		clay; (720-730 ft); same as above
730 ft				clay		clay; (730-740 ft); same as above
740 ft	14 min 11.5 sec			clay		clay; (740-750 ft); same as above
750 ft				clay		clay; (750-760 ft); same as above
760 ft	14 min 11.5 sec			clay		clay; (760-770 ft); same as above
770 ft				clay		clay; (770-780 ft); same as above
780 ft	14 min 11.5 sec			clay		clay; (780-790 ft); same as above
790 ft				clay		clay; (790-800 ft); same as above
800 ft	14 min 11.5 sec			clay		clay; (800-810 ft); same as above
810 ft				clay		clay; (810-820 ft); same as above
820 ft	14 min 11.5 sec			clay		clay; (820-830 ft); same as above
830 ft				clay		clay; (830-840 ft); same as above
840 ft	14 min 11.5 sec			clay		clay; (840-850 ft); same as above
850 ft				clay		clay; (850-860 ft); same as above
860 ft	14 min 11.5 sec			clay		clay; (860-870 ft); same as above
870 ft				clay		clay; (870-880 ft); same as above
880 ft	14 min 11.5 sec			clay		clay; (880-890 ft); same as above
890 ft				clay		clay; (890-900 ft); same as above
900 ft	14 min 11.5 sec			clay		clay; (900-910 ft); same as above
910 ft				clay		clay; (910-920 ft); same as above
920 ft	14 min 11.5 sec			clay		clay; (920-930 ft); same as above
930 ft				clay		clay; (930-940 ft); same as above
940 ft	14 min 11.5 sec			clay		clay; (940-950 ft); same as above
950 ft				clay		clay; (950-960 ft); same as above
960 ft	14 min 11.5 sec			clay		clay; (960-970 ft); same as above
970 ft				clay		clay; (970-980 ft); same as above
980 ft	14 min 11.5 sec			clay		clay; (980-990 ft); same as above
990 ft				clay		clay; (990-1000 ft); same as above

LOG OF BOREHOLE

BOREHOLE WA-70-1
PAGE 8 OF 10

LOC. or COORDS. <u>268 HW 252</u> <u>Wah Wah Valley Forest</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. Webster</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4765.26</u>	<u>M. Harmon G. Gardner</u>	TIME <u>1600</u>	<u>P.M.</u>
TOTAL DEPTH <u>1250.00</u>	RIG <u>IR-TH-600</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	BIT(S) <u>Tu Cone</u>	HOW LEFT <u>Cased</u>	
FLUID <u>0-160' From 160-TD</u>			

LOCATION WA-70-1
LOGGED BY S. Margolis
PROJECT ...

DEPTH	PENE RATE	CIRC RET	AIRLIFT LOGS Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
560ft	100 min 9800			clay		clay; (560-570ft) light gray (57ft) clay 100% clay; w.s.; structureless; slightly p; not sticky; no rock; wk HLL
570ft	38 min 9200			clay		clay; (570-580ft) same as above
580ft	31 min 18000			clay		clay; (580-590ft) same as above
590ft	14 min 18000			clay		clay; (590-600ft) same as above
600ft	No 17000			clay		clay; (600-610ft) same as above
610ft	14 min 48000			clay		clay; (610-620ft) same as above
620ft	12 min 10000			clay		clay; (620-630ft) same as above
630ft	12 min 10000			clay		clay; (630-640ft) same as above
640ft	12 min 10000			clay		clay; (640-650ft) same as above
650ft	12 min 10000			clay		clay; (650-660ft) same as above
660ft	12 min 10000			clay		clay; (660-670ft) same as above
670ft	12 min 10000			clay		clay; (670-680ft) same as above
680ft	12 min 10000			clay		clay; (680-690ft) same as above
690ft	12 min 10000			clay		clay; (690-700ft) same as above
700ft	12 min 10000			clay		clay; (700-710ft) same as above
710ft	12 min 10000			clay		clay; (710-720ft) same as above
720ft	12 min 10000			clay		clay; (720-730ft) same as above
730ft	12 min 10000			clay		clay; (730-740ft) same as above
740ft	12 min 10000			clay		clay; (740-750ft) same as above
750ft	12 min 10000			clay		clay; (750-760ft) same as above
760ft	12 min 10000			clay		clay; (760-770ft) same as above
770ft	12 min 10000			clay		clay; (770-780ft) same as above
780ft	12 min 10000			clay		clay; (780-790ft) same as above
790ft	12 min 10000			clay		clay; (790-800ft) same as above
800ft	12 min 10000			clay		clay; (800-810ft) same as above
810ft	12 min 10000			clay		clay; (810-820ft) same as above
820ft	12 min 10000			clay		clay; (820-830ft) same as above
830ft	12 min 10000			clay		clay; (830-840ft) same as above
840ft	12 min 10000			clay		clay; (840-850ft) same as above
850ft	12 min 10000			clay		clay; (850-860ft) same as above
860ft	12 min 10000			clay		clay; (860-870ft) same as above
870ft	12 min 10000			clay		clay; (870-880ft) same as above
880ft	12 min 10000			clay		clay; (880-890ft) same as above
890ft	12 min 10000			clay		clay; (890-900ft) same as above
900ft	12 min 10000			clay		clay; (900-910ft) same as above
910ft	12 min 10000			clay		clay; (910-920ft) same as above
920ft	12 min 10000			clay		clay; (920-930ft) same as above
930ft	12 min 10000			clay		clay; (930-940ft) same as above
940ft	12 min 10000			clay		clay; (940-950ft) same as above
950ft	12 min 10000			clay		clay; (950-960ft) same as above
960ft	12 min 10000			clay		clay; (960-970ft) same as above
970ft	12 min 10000			clay		clay; (970-980ft) same as above
980ft	12 min 10000			clay		clay; (980-990ft) same as above
990ft	12 min 10000			clay		clay; (990-1000ft) same as above

LOG OF BOREHOLE

BOREHOLE 122-10-1
PAGE 10 OF 11

LOC. or COORDS. <u>268 NW 25db</u> <u>Wab. Wab. 4220, 4000 ft.</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. Webster</u> <u>M. Harmon G. Gardner</u>	START DATE <u>7-7-87</u>	FINISH DATE <u>7-17-87</u>
GROUND ELEV. <u>4765.00</u>	RIG <u>IR-TH-600</u>	TIME <u>1600</u>	<u>1950</u>
TOTAL DEPTH <u>1250.00</u>	BIT(S) <u>Tri cone</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	FLUID <u>0-160' Foam, 160-TD Res.</u>	HOW LEFT <u>Cased</u>	

LOCATION Wab. Wab. 4220, 4000 ft.
LOGGED BY S. Maguire - DCI: Avel

DEPTH	PENE. RATE	CIRC RET. LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
720 ft	34 min 32 sec			Clay		Clay (720-730 ft) (), light grey (w/5% Fe) (25% sil); 98% clay, f.s.d. - 1.5% vol 60%, carbon 10%, 20% silica. To sub. red, streakless, plastic, stick when 1/2 in.
730 ft	106 min 6 sec			Clay		Clay (730-740 ft), same as above. Daily log indicates formation water @ 730 ft.
740 ft	86 min 27 sec			Clay		Clay (740-750 ft), same as above.
750 ft	95 min 33 sec			Clay		Clay (750-760 ft), same as above. Note - yellow clay balls.
760 ft	114 min 22 sec			Clay		Clay (760-770 ft), same as above. Note - multi-colored (green, grey, yellow, black, grey, green, etc.) balls.
770 ft	80 min 12 sec			Clay		Clay (770-780 ft), same as above. Note - multi-colored clay balls.
780 ft	43 min 20 sec			Clay		Clay (780-790 ft), same as above. Note - multi-colored clay balls.
790 ft	58 min 20 sec			Clay		Clay (790-800 ft), same as above. Note - multi-colored clay balls.
800 ft	58 min 20 sec			Clay		Clay (800-810 ft), same as above. Note - multi-colored clay balls.

PROJECT Wab. Wab. 4220, 4000 ft.
LOGGED BY S. Maguire - DCI: Avel

LOG OF BOREHOLE

BOREHOLE WA-101
PAGE 11 OF 16

LOC. or COORDS. <u>26S NW 25db</u> <u>Wak Wak 4200m. Road</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright C. Webster</u> <u>M Harmon G Gardner</u>	START DATE <u>7-7-80</u>	FINISH <u>7-17-80</u>
GROUND ELEV. <u>4760.06</u>	RIG <u>TR-TH-600</u>	TIME <u>1600</u>	
TOTAL DEPTH <u>1250.00</u>	BIT(S) <u>1 1/2 cone</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	FLUID <u>0-160' Foam, 160-TD 25%</u>	HOW LEFT <u>Case</u>	

LOCATION Wak Wak 4200m. Road
LOGGED BY S. Nagaria - M. O. Aral

PROJECT 11-1 P. 1000 X 1500

DEPTH	PENE. RATE	CIRC. RET. LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
800ft	30 min 16:00			clay		clay (800-810ft) (); light gray (w/5R 7/11) (25Y 8/1), 98% clay; sed: as sd. 5% (carb 30%, volc 25%, matric 5%) w.s.; sd=eng to subang; phas: stky; no fossil; wk H 2 1/2
810ft	31 min 16:30			clay		clay; (810-820ft); same as above exception - clay 96% - sed=med 4%
820ft	100 min 35:00			sandy clay		Sandy clay (820-830ft) (); light gray (w/5 1/2) (25Y 8/1); 80% clay 20% sd (carb 20%, volc 5%, matric 5%); sd= subang; w.p.; n. stky; no fossil; wk H 2 1/2
830ft	50 min 18:00			clay		clay; (830-840ft) (); light olive gray (w/3Y 6/2), (25Y 8/1); 95% clay; sed to 1/3 sd (carb 8%, volc 15%); sd= subang; phas: stky; no fossil; wk H 2 1/2
840ft	17 min 20:00			clay		clay (840-850ft) (); pale olive; (w/10YR 6/3) (2.6Y 7/5); 92% clay; sed to 1/3 sd (volc 5%, carb 15%); sd= subang; phas: stky; no fossil; wk H 2 1/2
850ft	34 min 54:00			clay		clay; (850-860ft); same as above exception - clay 96% - clay 96%
860ft	53 min 1:07:00			clay		clay; (860-870ft); same as above exception - volc 10% - 12% carb (w/5Y 7/5) + sandstone clay 95%
870ft						
880ft						
890ft						
900ft						

LOG OF BOREHOLE

BOREHOLE WA-10-1
PAGE 12 OF 12

LOC. or COORDS. <u>26S 14W 25db</u> <u>Wohlschlag Valley, Colorado</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. Webster</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4765.26</u>	R. <u>Hartman G. Gardner</u>	TIME <u>1600</u>	<u>1950</u>
TOTAL DEPTH <u>1250.26</u>	RIG <u>LR-TH-600</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	BIT(S) <u>1 1/2 cone</u>	HOW LEFT <u>cased</u>	
FLUID <u>0-160' From, 160-TD Fresh</u>			

LOCATION WA-10-1
 LOGGED BY S. Dargatzis - W. J. ...

DEPTH	PENE RATE	CIRC RET/LOG	AIRLIFT Q (gpm)	MATERIAL	SYM BOL	DESCRIPTION and COMMENTS
870 ft	48 min 40 sec			Sandy clay		Sandy clay; (870-890 ft); pale brown (w/DR 6/8) (w/DR 7/8); 70% clay, 30% f. sd. & s.d. (70% volc, 30% qz, 10% carb); m.c.; sd - subv to subv; obs. class; plastic not stky; no concol; w/ HLL 4/8
890 ft	65 min 58 sec			Sandy clay		Sandy clay; (890-900 ft); same as above exception - 35% f. sd. to med 65% clay
900 ft	32 min 50 sec			Sandy clay w/ some gravel		Sandy clay w/ some gravel; (900-910 ft); grayish color (w/DR 5/8) (w/DR 8/8); 75% s.d. in med-ss; 15% (carb 80%, volc 20%), qz up to 15mm, 10% carb; volc 20%; p.s.; sd - subv to subv; qz - med to sub med; obs. class; v. plastic; stky; no concol; w/ HLL 4/8
910 ft	27 min 41 sec			Sandy clay		Sandy clay; (910-920 ft); same as above exception - no gravel - sand concol - clay 50% w/ HLL 4/8
920 ft	22 min 50 sec			clay		Clay; (920-930 ft); pale brown (w/DR 6/8) (w/DR 7/8); 85% clay; sd to ss & 15% carb; volc 40%; m.c.; sd - subv to subv; obs. class; slghtly plastic; stky; no concol; w/ HLL 4/8
930 ft	19 min 40 sec			clay		clay (930-940 ft); same as above
940 ft	16 min 30 sec			clay		clay (940-950 ft); same as above exception - color to black med; w/ DR 6/8
950 ft	12 min 20 sec			Sandy clay		Sandy clay; (950-960 ft); same as above exception - color to black med; w/ DR 6/8
960 ft	10 min 10 sec			Sandy clay		Sandy clay; (960-970 ft); same as above exception - color to black med; w/ DR 6/8
970 ft	8 min 00 sec			Sandy clay		Sandy clay; (970-980 ft); same as above exception - color to black med; w/ DR 6/8
980 ft	6 min 00 sec			Sandy clay		Sandy clay; (980-990 ft); same as above exception - color to black med; w/ DR 6/8
990 ft	4 min 00 sec			Sandy clay		Sandy clay; (990-1000 ft); same as above exception - color to black med; w/ DR 6/8

LOG OF BOREHOLE

BOREHOLE 42A-T0-1
PAGE 13 OF 16

LOC. or COORDS. 26S 14W 25N
Wol. Wash Va. 2nd. Permit
GROUND ELEV. 4765.76
TOTAL DEPTH 1250.76
BOREHOLE DIAM. 9.9 in

DRILLER Wright Drilling Co
K. Wright O. W. Grier
M. Harmon G. Gardner
RIG TR-TH-600
BIT(S) 1 1/2 cone
FLUID 0-160' Foam, 160-TD Pwt.

START DATE 7-7-80 FINISH DATE 7-17-80
TIME 1600 1950
GEOPHYS. LOG YES NO
HOW LEFT Cased

LOCATION 42A-T0-1 LOGGED BY S. D. Grier

DEPTH	PENE RATE	CIRC RET. LOSS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
960ft	24 min 54 sec			Sandy silty clay		Sandy silty clay (950-960ft) light brown (w/ 7.5% R 1/4) (d 7.5% R 1/2); 50% clay, 25% silt, 25% fcd to mud (60% oz, 30% carb, 10% vcl), p.s.; sd: subang to subxrd; structure; x.p.; slightly stky, no consol, NO HCl Mxn.
970ft	25 min 7 sec			Sandy silty clay		Sandy silty clay (960-970ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
980ft	25 min 97 sec			Sandy silty clay		Sandy silty clay (970-980ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
990ft	24 min 48 sec			Sandy clay		Sandy clay (980-990ft) same as above exception - clay 50% - silt 10% - sand fcd 40%
1000ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (990-1000ft) light brn (w/ 7.5% R 1/4) (d 7.5% R 1/2); 50% clay, 25% silt, 25% fcd to mud (60% oz, 30% carb, 10% vcl), p.s.; sd: subang to subxrd; structure; x.p.; slightly stky, no consol, NO HCl Mxn.
1010ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1000-1010ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1020ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1010-1020ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1030ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1020-1030ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1040ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1030-1040ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1050ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1040-1050ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1060ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1050-1060ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1070ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1060-1070ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1080ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1070-1080ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1090ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1080-1090ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1100ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1090-1100ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1110ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1100-1110ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1120ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1110-1120ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1130ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1120-1130ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1140ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1130-1140ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1150ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1140-1150ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1160ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1150-1160ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1170ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1160-1170ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1180ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1170-1180ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1190ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1180-1190ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1200ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1190-1200ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1210ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1200-1210ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1220ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1210-1220ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1230ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1220-1230ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1240ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1230-1240ft) same as above exception - clay 50% - silt 20% - sand fcd 15%
1250ft	24 min 17 sec			Sandy silty clay		Sandy silty clay (1240-1250ft) same as above exception - clay 50% - silt 20% - sand fcd 15%

LOG OF BOREHOLE

BOREHOLE WA-10-1
PAGE 14 OF 14

LOC. or COORDS. <u>262 NW 1/4 Sec 17, T14N, R10E, S1E</u> <u>Wab. Wash. Co. 1/2 mi. E. of ...</u>	DRILLER <u>Wright Drilling Co</u> <u>K. Wright O. W. G. ...</u> <u>M. Harman G. Gardner</u>	START DATE <u>7-7-80</u>	FINISH DATE <u>7-17-80</u>
GROUND ELEV. <u>4760.00</u>	RIG <u>TR-TH-600</u>	TIME <u>1600</u>	<u>1950</u>
TOTAL DEPTH <u>1250.00</u>	BIT(S) <u>1 1/2 cone</u>	GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
BOREHOLE DIAM. <u>9.9 in</u>	FLUID <u>0-160' Fresh, 160-TD ...</u>	HOW LEFT <u>Cased</u>	

LOCATION WA-10-1
 LOGGED BY S. W. ...
 PROJECT ...

DEPTH	PENE RATE	CIRC RET LOGS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
1040 ft	45 min 8800			Silty sand		Silty sand; (1040-1050 ft), reddish brown (65% R 5/4) (25% R 7/2), 10% clay, 20% silt, 70% PSD to AS sd (40% 50%, carb 35%, 27.5% mc, sd-substr. to subing. structure; 11 p.; fat-stky; 10% ...)
1050 ft	47 min 9500			Silty clay sand		Silty clay sand; (1050-1060 ft), some ... exception = 15% clay - 20% silt - 65% sand
1060 ft	50 min 10300			Silty sand		Silty sand; (1060-1070 ft), some ...
1070 ft	44 min 11800			Silty clay sand		Silty clay sand; (1070-1080 ft), some ... exception = 15% clay 20% silt 65% sand
1080 ft	47 min 12000			Silty clay sand		Silty clay sand; (1080-1090 ft), some ... exception = 15% clay 20% silt 65% sand
1090 ft	53 min 13000			Sandy silty clay		Sandy silty clay; (1090-1100 ft), some ... exception = 15% clay 20% silt 65% sand
1100 ft	60 min 14000			Silty clay		Silty clay; (1100-1110 ft), some ... exception = 15% clay 20% silt 65% sand
1110 ft	67 min 15000			Sandy silty clay		Sandy silty clay; (1110-1120 ft), some ... exception = 15% clay 20% silt 65% sand
1120 ft	74 min 16000			Silty clay		Silty clay; (1120-1130 ft), some ... exception = 15% clay 20% silt 65% sand

LOG OF BOREHOLE

BOREHOLE 47A-10-1
PAGE 15 OF 16

LOC. or COORDS. <u>26° 15' N 95° 26' W</u> <u>Wol. 1000 yds. ...</u> GROUND ELEV. <u>4760</u> TOTAL DEPTH <u>1250</u> BOREHOLE DIAM. <u>9.9"</u>	DRILLER <u>Wright Drilling Co.</u> <u>K. Wright O. W. Gieser</u> <u>M. Harmon G. Gardner</u> RIG <u>IR-TH-600</u> BIT(S) <u>1 1/2 cone</u> FLUID <u>0-160' Frase, 160-TD 85%</u>	START DATE <u>7-7-80</u> FINISH DATE <u>7-17-80</u> TIME <u>1600</u> 1950 GEOPHYS. LOG <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO HOW LEFT <u>Cased</u>
--	---	---

LOCATION 47A-10-1
 LOGGED BY S. D. ...
 PROJECT ...

DEPTH	PENE RATE	CIRC RET	AIRLIFT LOGS	AIRLIFT Q (gpm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
1120ft	40 min 24 sec				Silty sand		Silty sand; (1120-1130ft) reddish brown (w/ 5YR 5/4) (d 5YR 5/2), 10% clay, 15% silt; 1 sd: msd 75% (vol. c 60%, qz 35%, f 5%); ms; sd: subang to subrd; ch. class; slightly plastic; not stky; no consol; no HCL rxn.
1130ft	51 min 6 sec				Silty sand		Silty sand; (1130-1140ft) same as above
1140ft	81 min 48 sec				Silty sand		Silty sand; (1140-1150ft) same as above ception - w/ HCL reaction
1150ft	69 min 42 sec				Silty sand		Silty sand; (1150-1160ft) same as above ception - w/ HCL reaction
1160ft	40 min 56 sec				Silty sand		Silty sand; (1160-1170ft) same as above ception - w/ HCL reaction
1170ft	58 min 11 sec				Silty sand		Silty sand; (1170-1180ft) same as above ception - w/ HCL reaction
1180ft	68 min 11 sec				Silty sand		Silty sand; (1180-1190ft) same as above ception - w/ HCL reaction
1190ft							
1200ft							

LOG OF BOREHOLE

BOREHOLE UDA-10-1
PAGE 16 OF 16

LOC. or COORDS. 262 110 252b
Wok Wok 1/2 mi. Roadside
GROUND ELEV. 4715.06
TOTAL DEPTH 1252.00
BOREHOLE DIAM. 9.913

DRILLER Wright Drilling Co
K. Wright O. Webster
M. Harman G. Gardner
RIG IR-TH-600
BIT(S) Tri cone
FLUID 0-160' Fresh, 160-TD Brack.

START 7-7-80 FINISH 7-17-80
DATE 7-7-80 TIME 1600
GEOPHYS. LOG YES NO
HOW LEFT Cased

LOCATION UDA-10-1
 LOGGED BY S. Nagarajan - M. O. Arnold
 PROJECT 1070
11-17-80

DEPTH	PENE. RATE	CIRC. RET. LOC. 0 (ppm)	AIRLIFT 0 (ppm)	MATERIAL	SYM-BOL	DESCRIPTION and COMMENTS
1200.0				Silty sand		Silty sand; (1200-1210 ft) (---); light brown. (w 75% R 1/4) (27.5% R 8/4); 35% silt, 65% f.d. - 10.5% (vol 75%, 97.10%, carb 10%, mat 5%); no; sd-subana to subred; structure; x.p.; vol 21% (1.5% misc); wk HLL 8/4
1210.0				Silty sand		Silty sand; (1210-1220 ft); same as above exception - 10% clay, 20% silt, 30% silt, 60% f.d. - 10.5%
1220.0				Sandy clay		Sandy clay; (1220-1230 ft) 7.5% silt below (w 75% R 1/4) (27.5% R 8/4) 50% f.d. - 10.5% (vol 70%, 92% 97.10%, 10.5% 10.5%); sd-subana to subred; x.p. plastic; sticky; no consol; wk HLL 8/4
1230.0				clay sand		clay sand; (1230-1240 ft); same as above exception - 40% clay, 60% sand f.d. - 10.5%
1240.0				clay sand		clay sand; (1240-1250 ft); same as above