

**Appendix D**  
**Lithologic Descriptions**

Client: Florida Keys Aqueduct Authority  
 Project: Stock Island ASR Test Program  
 Page No.: 1  
 Project No. SEF19915.W4.25  
 Well No. OW-1

**STOCK ISLAND ASR LITHOLOGIC  
DESCRIPTION**

Date	Depth Interval (ft)		Description	Observers Initials
	From	To		
07/22/91	0	10	LIMESTONE yellowish gray (5Y 8/1) to white (N9) coralline, 30% shell fragments (predominantly gastropods) some pelecypod. Trace recrystallized limestone fragments.	PJK
07/22/91	10	20	As Above	PJK
07/22/91	20	30	As Above more coralline, less shell (20%)	PJK
07/22/91	30	40	As Above with some very light gray (N8)	PJK
07/24/91	40	50	As Above, less coralline, more shell (30%) finer cuttings, trace moderate orange pink (5Y 8/4) fragments.	PJK
07/24/91	50	60	As Above, more coralline, less shell (15%) coarser cuttings. 20% very light gray (N8) ls. fragments.	PJK
07/24/91	60	70	As Above, finer cuttings	PJK
07/24/91	70	80	As Above	PJK
07/24/91	80	90	As Above, mud in sample	PJK
07/24/91	90	100	As Above	PJK
07/24/91	100	110	As Above, fine cuttings	PJK
07/24/91	110	120	LIMESTONE, white (N9) predominant. 20% yellowish gray (5Y 8/1) shell fragments, fine cuttings, Trace moderate orange pink (5YR 8/4) oolitic fragments. Trace recrystallized fragments.	PJK
07/24/91	120	130	LIMESTONE, white (N9) yellowish gray (5Y 7/2). Cuttings coarser than above. Predominantly pelecypod shell fragments, trace recrystallized limestone	PJK
07/24/91	130	140	LIMESTONE, white (N9) to yellowish gray (5Y 7/2). Less pelecypod shell fragments, more recrystallized limestone	PJK
07/24/91	140	150	As above	PJK

Client: Florida Keys Aqueduct Authority  
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**STOCK ISLAND ASR LITHOLOGIC  
DESCRIPTION**

Date	Depth Interval (ft)		Description	Observers Initials
07/25/91	150	160	SANDY, OOLITIC LIMESTONE, white (N9), poor-moderately consolidated, very fine cuttings. Lost circulation at 150'	PJK
07/25/91	160	170	SANDY, OOLITIC LIMESTONE, white (N9) with trace yellowish gray (5Y 7/2). Poor, moderately consolidated fine cuttings	PJK
07/25/91	170	180	SANDY, OOLITIC LIMESTONE, white (N9) to pinkish gray (5YR 8/1). Fine cuttings. Poor-moderately consolidated. Trace fine shell fragments	PJK
07/25/91	180	190	OOLITIC LIMESTONE, white, (N9), pinkish gray (5YR 8/1), fine pelecypod shell fragments. Trace yellowish gray (5Y 8/1) coralline, crystalline material.	PJK
07/25/91	190	200	LIMESTONE, pinkish gray (5YR 8/1) to yellowish gray (5Y 8/1) with trace white. Predominantly fine shell fragments with some coralline material. Trace gastropods and mollusk shell fragments. Some oolitic material.	PJK
07/25/91	200	210	SANDY LIMESTONE, yellowish gray (5Y 8/1). Very fine cuttings too small to classify (oolitic and shelly).	PJK
07/26/91	210	220	As above. Trace coralline, crystalline material	PJK
07/26/91	220	230	As above, coarser cuttings, coralline, shelly (pelecypod, mollusks).	PJK
07/26/91	230	250	LIMESTONE, yellowish gray (5Y 7/2) pelecypod shells and fragments, white (N9) to light gray limestone fragments. Approximately 20% coralline, crystalline material. Trace white (N9) mollusk fragments.	PJK
07/26/91	250	260	LIMESTONE, yellowish gray (5Y 7/2) to white (N9) shell fragments (pelecypods, echinoid spines) approximately 15% white (N9) massive limestone, approximately 10% coralline, crystalline material. Easy drilling at 258'.	PJK

Client: Florida Keys Aqueduct Authority  
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 Well No. OW-1

**STOCK ISLAND ASR LITHOLOGIC  
DESCRIPTION**

Date	Depth Interval (ft)		Description	Observers Initials
07/26/91	260	310	CLAYEY SANDSTONE, pale olive (10Y 6/2) poor moderately consolidated, very fine, fine grained, subangular-subrounded, trace white (N9) limestone fragments, trace black, very fine-grained phosphorus calcareous cement.	PJK
07/26/91	310	350	As above, 10-15% black, subangular, very fine grained phosphorite	PJK
07/31/91	350	490	See Coring description in Appendix.	PJK
08/02/91	490	555	As above 5 or 10% black, very fine grained phosphorite	PJK
08/02/91	555	560	As above, 15% black, very fine grained phosphorite	PJK
08/02/91	565	570	Moderately consolidated, trace, clear, subangular quartz grains.	PJK
08/02/91	570	678	As Above, Poorly consolidated	PJK
08/06/91	678	729	LIMESTONE, white (N9) to tan. Chalky to dolomitic, alternating hard and soft layers, massive, layers of highly fossiliferous limestone including pelecypods, trace gastropods, echinoid spines, coral polyps. Lost Circulation at 729.	PJK
			<b>END OF BORING</b>	

Client: Florida Keys Aqueduct Authority  
 Project: Stock Island ASR Test Program  
 Page No.: 1  
 Project No. SEF19915.W4.25  
 Well No. ASR-1

**GEOLOGIC DATA**

Date	Depth Interval (ft)		Description	Observers Initials
	From	To		
09/10/91	0	10	OOLITIC LIMESTONE, very pale orange (10 YR 8/2) with some white (N9) and very light gray (N8) fragments, approximately 20% pelecypod and gastropod shell fragments. Trace recrystallized limestone fragments.	PJK
09/10/91	10	20	SHELLY LIMESTONE, very pale orange (10 YR 8/2) and yellowish gray (5 Y 8/1) Shells predominantly pelecypods with 10% pale yellowish orange (10 YR 8/6) mollusks and 20% gastropods. Approximately 10% oolitic material. Clay streak, light gray (N8)@ 14.	PJK
09/10/91	20	60	SHELLY LIMESTONE, grayish yellow (5Y 8/4), yellowish gray (5Y 7/2). Shells and shell fragments finer than above. Predominantly pelecypods. Approximately 30% oolitic material. Approximately 20% coralline, crystalline limestone. Lost circulation @ 50'-60'.	PJK
09/11/91	60	70	LIMESTONE, very pale orange (10YR 8/2) with some yellowish gray (5Y 7/2) and white (N9). Oolitic and shelly (pelecypods) with some coralline material.	PJK
09/11/91	70	80	LIMESTONE, yellowish gray (5Y 7/2) and white (N9). Shelly (pelecypods) with some oolitic and coralline material. Trace very pale orange (10YR 8/2) shell fragments.	PJK
09/11/91	80	90	LIMESTONE, very pale orange (10YR 8/2) with some white (N9). Oolitic and shelly (pelecypod) material. Approximately 10-20% coralline material.	PJK
09/11/91	90	100	LIMESTONE, yellowish gray (5Y 7/2), very pale orange (10YR 8/2), and some white (N9). Pelecypod shell fragments, approximately 20% oolitic material, approximately 10% coralline material (recrystallized)	PJK

Client: Florida Keys Aqueduct Authority  
 Project: Stock Island ASR Test Program  
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 Project No. SEF19915.W4.25  
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**GEOLOGIC DATA**

	Depth Interval (ft)			
09/11/91	100	120	LIMESTONE, white (N9) to yellowish gray (5Y 7/2). Fine shell shards (pelecypods?). Lost circulation @ 115'-120'.	PJK
09/12/91	120	130	LIMESTONE, white (N9) to yellowish gray (5Y 7/2). Cuttings coarser than above. Predominantly pelecypod shell fragments, trace recrystallized limestone	PJK
09/12/91	130	140	LIMESTONE, white (N9) to yellowish gray (5Y 7/2). Less pelecypod shell fragments, more recrystallized limestone	PJK
09/12/91	140	150	As above	PJK
09/18/91	150	160	SANDY, OOLITIC LIMESTONE, white (N9), poor-moderately consolidated, very fine cuttings. Lost circulation at 150'	PJK
09/18/91	160	170	SANDY, OOLITIC LIMESTONE, white (N9) with trace yellowish gray (5Y7/2). Poor, moderately consolidated fine cuttings	PJK
09/18/91	170	180	SANDY, OOLITIC LIMESTONE, white (N9) to pinkish gray (5YR 8/1). Fine cuttings. Poor-moderately consolidated. Trace fine shell fragments	PJK
09/18/91	180	190	OOLITIC LIMESTONE, white, (N9), pinkish gray (5YR 8/1), fine pelecypod shell fragments. Trace yellowish gray (5Y 8/1) coralline, crystalline material.	PJK
09/19/91	190	200	LIMESTONE, pinkish gray (5YR 8/1) to yellowish gray (5Y 8/1) with trace white. Predominantly fine shell fragments with some coralline material. Trace gastropods and mollusk shell fragments. Some oolitic material.	PJK
09/19/91	200	210	SANDY LIMESTONE, yellowish gray (5Y 8/1). Very fine cuttings too small to classify (oolitic and shelly).	PJK
09/19/91	210	220	As above. Trace coralline, crystalline material	PJK
09/19/91	220	230	As above, coarser cuttings, coralline, shelly (pelecypod, mollusks).	PJK

Client: Florida Keys Aqueduct Authority  
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**GEOLOGIC DATA**

	Depth Interval (ft)			
09/19/91	230	250	LIMESTONE, yellowish gray (5Y 7/2) pelecypod shells and fragments, white (N9) to light gray limestone fragments. Approximately 20% coralline, crystalline material. Trace white (N9) mollusk fragments.	PJK
09/19/91	250	260	LIMESTONE, yellowish gray (5Y 7/2) to white (N9) shell fragments (pelecypods, echinoid spines) approximately 15% white (N9) massive limestone, approximately 10% coralline, crystalline material. Easy drilling at 258'.	PJK
09/19/91	260	310	CLAYEY SANDSTONE, pale olive (10Y 6/2) poor moderately consolidated, very fine, fine grained, subangular-subrounded, trace white (N9) limestone fragments, trace black, very fine-grained phosphorus calcareous cement.	PJK
09/23/91	310	340	As above, 10-15% black, subangular, very fine grained phosphorite	PJK
09/23/91	340	460	As above, trace angular-subangular, clear quartz grains.	PJK
09/23/91	460	465	As above, coarser cuttings, moderately consolidated trace very fine black phosphorite	PJK
09/25/91	465	495	As above, coarser cuttings, moderately consolidated trace very fine black phosphorite	PJK
09/25/91	495	555	As above 5 or 10% black, very fine grained phosphorite	PJK
09/25/91	555	560	As above, 15% black, very fine grained phosphorite	PJK
09/25/91	565	570	Moderately consolidated, trace, clear, subangular quartz grains.	PJK
09/25/91	570	678	As above, poorly consolidated	PJK
09/26/91	678	750	LIMESTONE, white (N9) chalky to tan and dolomite, massive. Alternating hard and soft lenses throughout. Dolomitic layers are highly fossiliferous containing pelecypods, gastropods, echinoid spines, and coral polyps.	

**Appendix E**  
**Core Sequence and Lithologic Descriptions**



STOCK ISLAND CORE DESCRIPTION AT OBSERVATION WELL 1

SAMPLE RUN	DEPTH (FEET)	DATE/TIME	LENGTH ATTEMPT	LENGTH RECOVERY	PERCENT RECOVERY	COLOR	LITHOLOGIC DESCRIPTION	COMMENTS
CR1	344.6-349.6	7/31/91 11:10am	5.0'	4.7'	94%	Olive to light greenish gray (5GY 8/1)	CLAYEY SANDSTONE, very fine grained in calcareous clayey matrix, moderate-well consolidated. Less than 10% black, very fine phosphorite. Quick effervescence.	Mud wt.= 8.61 lb/gal viscosity=70sec. 20 mins. to core 5 ft
CR2	349.6-354.4	7/31/91 11:40am	4.2'	4.7'	112%	Olive to light greenish gray (5GY 8/1)	As Above. Top & bottom of core have somewhat less clay content and the sandstone is somewhat coarser-grained (fine-medium) Trace black very fine phosphorite. Trace pelecypod shell moldic porosity at bottom of core	10 minutes to core 4.2 ft.
CR3	354.4-359.4	7/31/91 1:00pm	5.0'	5.0'	100%	Olive to light greenish gray (5GY 8/1)	As Above. +10% black, very fine phosphorite	Mud wt= 8.65 lb/gal Viscosity= 55 sec
CR4	359.4-366.9	7/31/91 1:50pm	7.5'	7.4'	98.6%	Olive to light greenish gray (5GY 8/1)	As Above. Approx. +5% black phosphorite. Moldic porosity from ~3/4" pelecypod shells and fragments throughout core but significant from 360'-366.9'	
CR5	366.9-376.9	7/31/91 2:40pm	10.0'	9.2'	92%	Olive to light greenish gray (5GY 8/1)	As above less moldic porosity	Ten-foot core saved in two 5-ft tubes CR-5A: 366.9'-371.9'; CR-5B: 371.9'-376.9'
CR6	376.9-385.8	7/31/91 3:45pm	8.8'	9.1'	103.4%	Olive to light greenish gray (5GY 8/1)	As above less moldic porosity	10-ft core saved in two 5-ft PVC tubes CR-6A= 376.9'-381.4' CR-6B= 381.4'-385.8'
CR7	385.8-395.8	7/31/91 4:30pm	10.0'	9.55'	95.5%	Olive to light greenish gray (5GY 8/1)	As above less moldic porosity	Mud wt= 8.7 lb/gal Viscosity= 47 sec

STOCK ISLAND CORE DESCRIPTION AT OBSERVATION WELL 1

SAMPLE RUN	DEPTH (FEET)	DATE/TIME	LENGTH ATTEMPT	LENGTH RECOVERY	PERCENT RECOVERY	COLOR	LITHOLOGIC DESCRIPTION	COMMENTS
CR8	395.8-405.8	7/31/91 5:10pm	10.0'	9.7'	97%	Olive to light greenish gray (5GY 8/1)	Grain size varies from very fine-medium	10-ft core saved in two 5-ft PVC tubes
CR9	405.8-415.4	7/31/91 6:05pm	10.0'	9.75'	97.5%	Olive to light greenish gray (5GY 8/1)	Grain size varies from very fine-medium	10-ft core saved in two 5-ft PVC tubes
CR10	415.4-425.4	7/31/91 6:45pm	10.0'	9.9'	99%	Olive to light greenish gray (5GY 8/1)	Grain size varies from very fine-medium Also, 3 areas of fractured material @425', 424', & 422'.	10-ft core saved in two 5-ft PVC tubes
CR11	425.4-435.4	7/31/91 7:20pm	10.0'	9.8'	98%	Olive to light greenish gray (5GY 8/1)	No fractures noted	10-ft core saved in two 5-ft PVC tubes
CR12	435.4-446	8/1/91 9:45am	10.0'	9.8'	98%	Lt greenish gray (5GY 8/1) to pale olive (10Y 6/2)	CLAYEY SANDSTONE very fine grained in calcareous, clayey cement matrix. Poor-moderately consolidated. Fractured material @439' & 442'.	10-ft core saved in two 5-ft PVC tubes
CR13	446-456	8/1/91 Noon	10.0'	9.6'	96%	Lt greenish gray (5GY 8/1) to pale olive (10Y 6/2)	As Above. Poor-well consolidated. <10% moldic porosity.	10-ft core saved in two 5-ft PVC tubes
CR14	456-466	8/1/91 12:45pm	10.2'	10.4'	101.9%	Lt greenish gray (5GY 8/1) to pale olive (10Y 6/2)	As Above. Poor-well consolidated. <10% moldic porosity.	
CR15	466-476	8/1/91 1:35pm	10.0'	9.8'	98%	Lt greenish gray (5GY 8/1) to pale olive (10Y 6/2)	As Above. Poor-well consolidated. <10% moldic porosity.	Drill from 476'-478.5'
CR16	478.5-488.5	8/1/91 2:15pm	10.0'	10.0'	100%	Lt greenish gray (5GY 8/1) to pale olive (10Y 6/2)	As Above. Poor-well consolidated. <10% moldic porosity.	Freeze 486.7'-488.5' (1.8' core)
TOTAL	344.6-488.5	--	140.7'	138.4'	98.4%			

**Appendix F**  
**Geophysical Logs**

# ASR-1 0013-0128

COMPANY : FKA WELL : ASR-1 0013-0128 LOCATION/FIELD : STOCK ISLAND COUNTY : MONROE STATE : FL SECTION : 35      TOWNSHIP : 67S      RANGE : 25E	OTHER SERVICES: GAMMA LSN ELEC CALIPER
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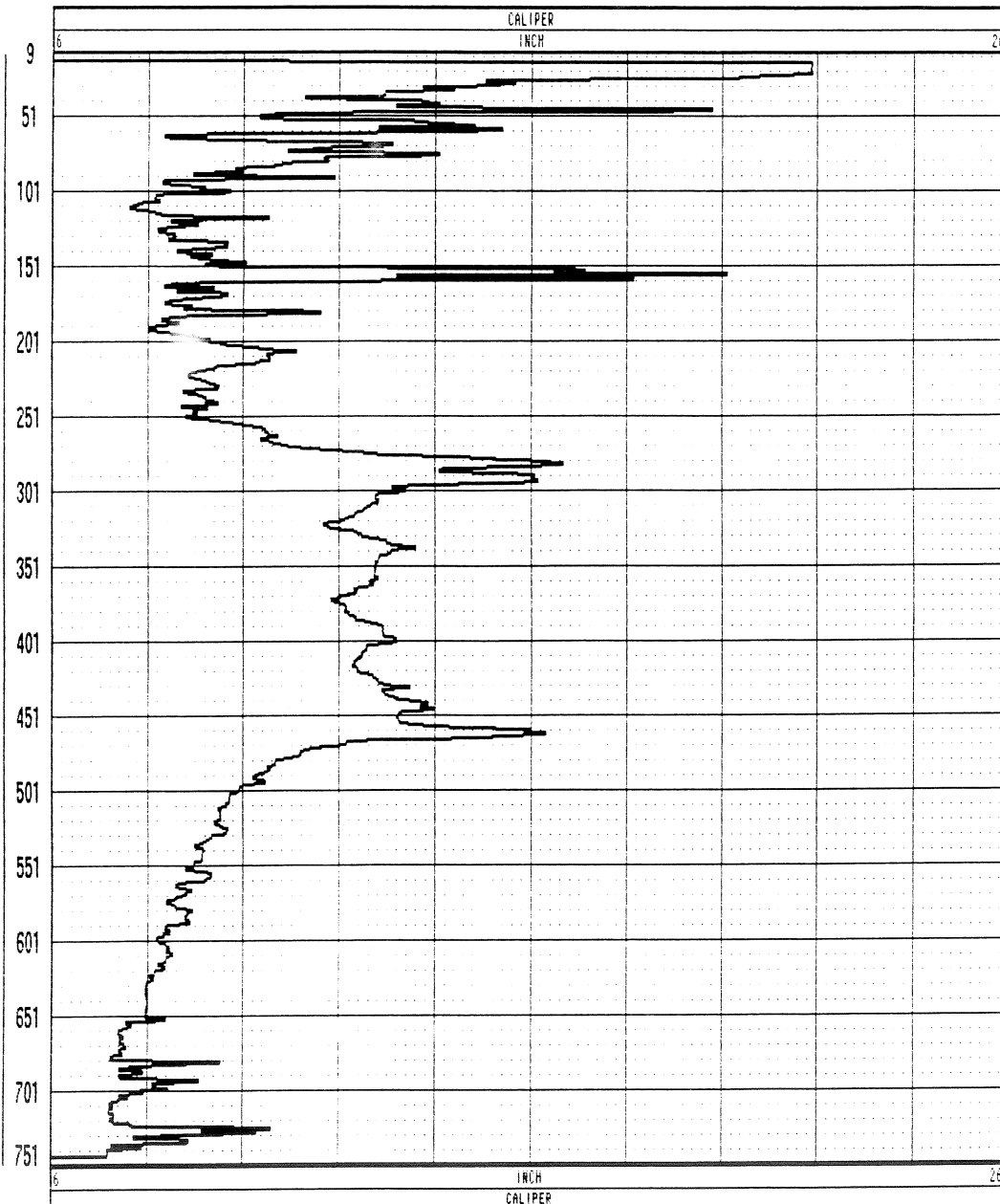
DATE : 09/27/91	PERMANENT DATUM : GL	ELEVATIONS
DEPTH DRILLER : 749	ELEV. PERM. DATUM:	KB :
LOG BOTTOM : 750.50	LOG MEASURED FROM: GL	DF :
LOG TOP : 9.50	DRL MEASURED FROM: GL	GL :
CASING DRILLER : 30	LOGGING UNIT : 1	
CASING TYPE : STEEL	FIELD OFFICE : DFB	
CASING THICKNESS: .50	RECORDED BY : M.SCHILLING	
BIT SIZE : 8.375	BOREHOLE FLUID : WATER	FILE : ORIGINAL
MAGNETIC DECL. : 7.5	RM : 0	TYPE : WCALI
MATRIX DENSITY : 2.68	RM TEMPERATURE : 0	LOG : 1
FLUID DENSITY : 1.0	MATRIX DELTA T : 57	PLOT : REPORT 17
NEUTRON MATRIX : LIMESTONE FLUID DELTA T : 210		THRESH: 2500

REMARKS :

LOGGED UNDER STATIC CONDITIONS IN NON-MUDDED HOLE

OBSERVER: P. KWIATKOWSKI - CH2M HILL (DFB)

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



COMPANY : FKA  
 WELL : ASR-1 0013-0128  
 LOCATION/FIELD : STOCK ISLAND  
 COUNTY : MONROE  
 STATE : FL  
 SECTION : 35 TOWNSHIP : 67S RANGE : 25E

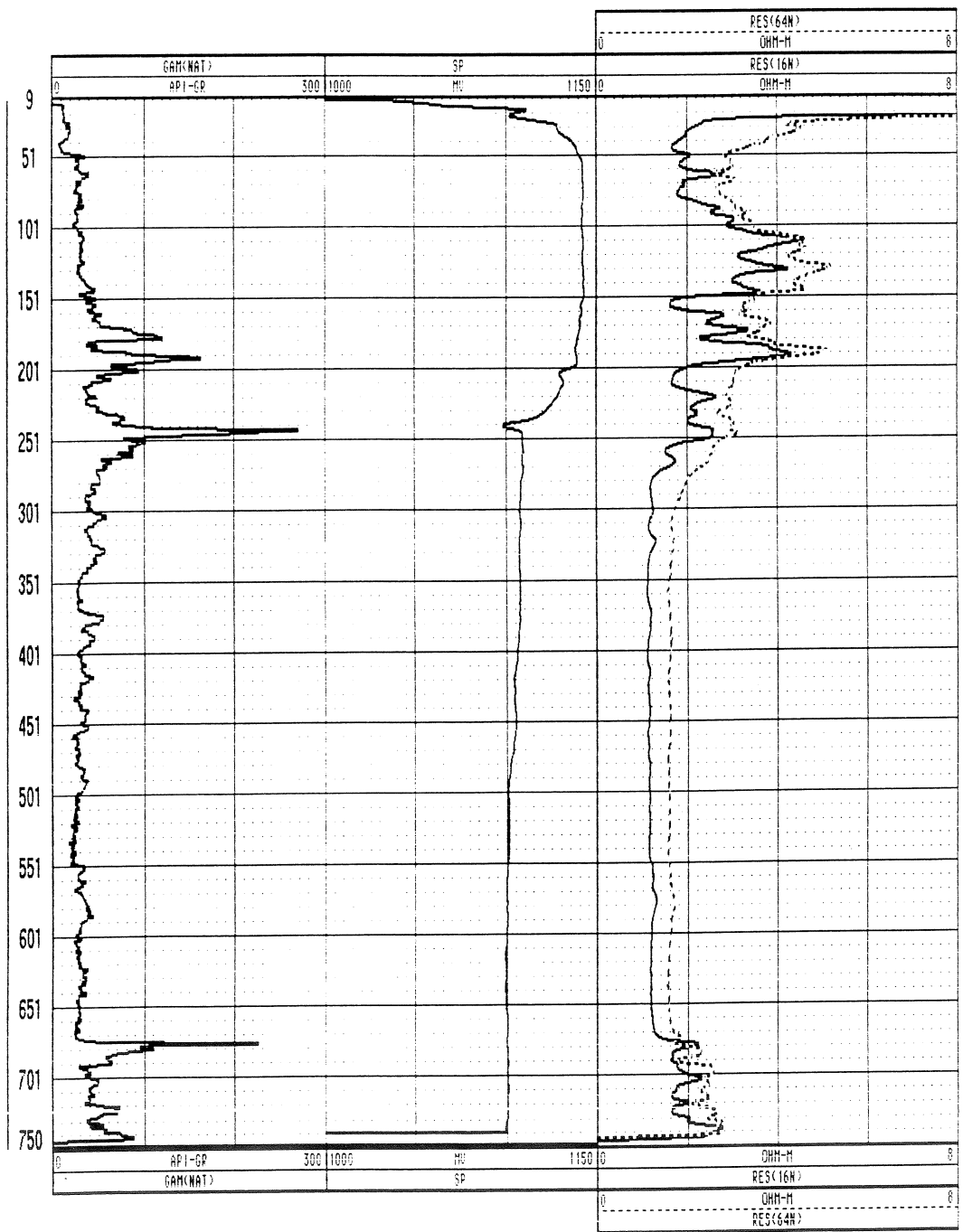
OTHER SERVICES:  
 CALIPER  
 GAMMA  
 LSN ELEC

DATE : 09/26/91 PERMANENT DATUM : GL ELEVATIONS  
 DEPTH DRILLER : 749 ELEV. PERM. DATUM: KB :  
 LOG BOTTOM : 750.00 LOG MEASURED FROM: GL DF :  
 LOG TOP : 11.00 DRL MEASURED FROM: GL GL :

CASING DRILLER : 30 LOGGING UNIT : 1  
 CASING TYPE : STEEL FIELD OFFICE : DFB  
 CASING THICKNESS: .50 RECORDED BY : M.SCHILLING

BIT SIZE : 8.375 BOREHOLE FLUID : WATER FILE : ORIGINAL  
 MAGNETIC DECL. : 7.5 RM : 0 TYPE : 9040A  
 MATRIX DENSITY : 2.68 RM TEMPERATURE : 0 LOG : 0  
 FLUID DENSITY : 1.0 MATRIX DELTA T : 57 PLOT : REPORT 18  
 NEUTRON MATRIX : LIMESTONE FLUID DELTA T : 210 THRESH: 2500

REMARKS :  
 LOGGED UNDER STATIC CONDITIONS IN NON-MUDDED HOLE  
 OBSERVER: P. KHAIKOWSKI - CH2M HILL (DFB)  
 ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



**ASR-1 0013-0129**

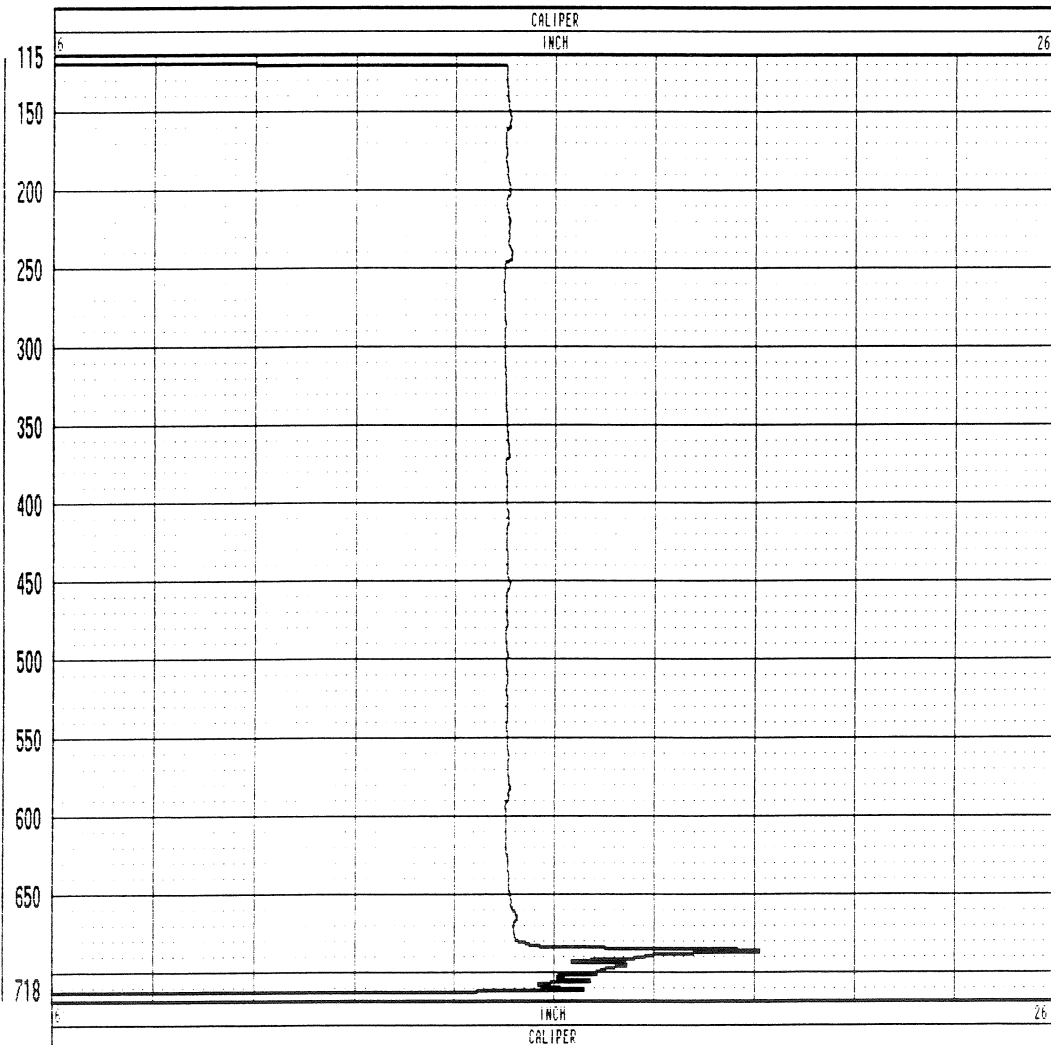
COMPANY : FKA  
 WELL : ASR-1 0013-0129  
 LOCATION/FIELD : STOCK ISLAND  
 COUNTY : MONROE  
 STATE : FL  
 SECTION : 35 TOWNSHIP : 67S RANGE : 25E

**OTHER SERVICES:**  
 FLOW  
 FL. RES  
 TEMP

DATE : 11/01/91 PERMANENT DATUM : GL ELEVATIONS  
 DEPTH DRILLER : 710 ELEV. PERM. DATUM: KB :  
 LOG BOTTOM : 717.50 LOG MEASURED FROM: GL DF :  
 LOG TOP : 115.50 DRL MEASURED FROM: GL GL :  
 CASING DRILLER : 680 LOGGING UNIT : 1  
 CASING TYPE : STEEL FIELD OFFICE : DFB  
 CASING THICKNESS: .5 RECORDED BY : M.SCHILLING

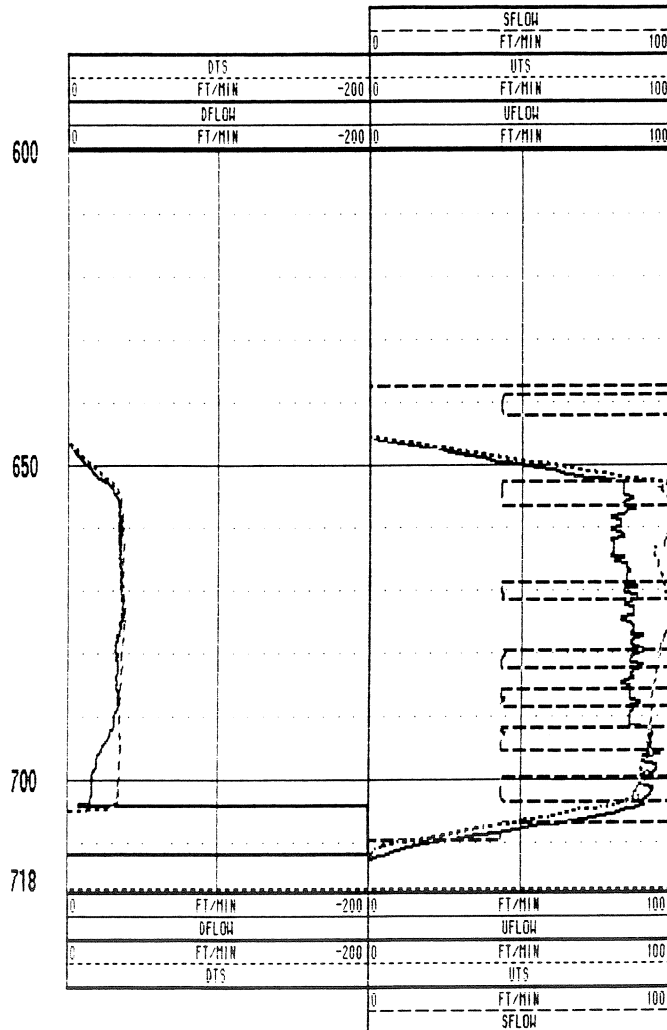
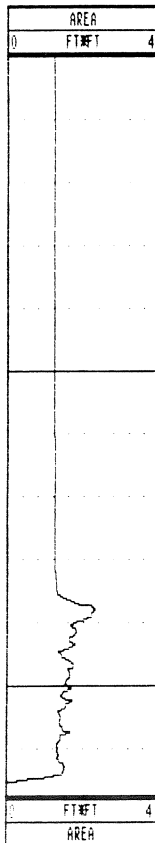
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 MAGNETIC DECL. : 7.5 RM : 0 TYPE : CCAL2  
 MATRIX DENSITY : 2.68 RM TEMPERATURE : 0 LOG : 4  
 FLUID DENSITY : 1.0 MATRIX DELTA T : 57 PLOT : REPORT 17  
 NEUTRON MATRIX : LIMESTONE FLUID DELTA T : 210 THRESH: 2500

REMARKS :  
 OBSERVER: P. KWIAKOWSKI - CH2M HILL (DFB)  
 LOG PERFORMED UNDER STATIC CONDITIONS  
 ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



# ASR-1 0013-0129

COMPANY	: FKA		OTHER SERVICES:
WELL	: ASR-1 0013-0129		TEMP
LOCATION/FIELD	: STOCK ISLAND		FL.RES
COUNTY	: MONROE		CALIPER
STATE	: FL		
SECTION	: 35	TOWNSHIP	: 67S
		RANGE	: 25E
DATE	: 11/01/91	PERMANENT DATUM	: GL
		ELEVATIONS	
DEPTH DRILLER	: 710	ELEV. PERM. DATUM:	KB :
LOG BOTTOM	: 717.50	LOG MEASURED FROM:	GL DF :
LOG TOP	: 115.50	DRL MEASURED FROM:	GL GL :
CASING DRILLER	: 680	LOGGING UNIT	: 1
CASING TYPE	: STEEL	FIELD OFFICE	: DFB
CASING THICKNESS:	.5	RECORDED BY	: M.SCHILLING
BIT SIZE	: 16	BOREHOLE FLUID	: WATER
MAGNETIC DECL.	: 7.5	RM	: 0
MATRIX DENSITY	: 2.68	RM TEMPERATURE	: 0
FLUID DENSITY	: 1.0	MATRIX DELTA T	: 57
NEUTRON MATRIX	: LIMESTONE FLUID DELTA T	: 210	THRESH: 2500
REMARKS	:		
	OBSERVER: P. KWIAKOWSKI - CH2M HILL (DFB)		
	LOG PERFORMED ON WELL PUMPING @ 115 GPM		
	ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS		



**ASR-1 0013-0129**

COMPANY	: FKA	<b>OTHER SERVICES:</b>	
WELL	: ASR-1 0013-0129	FLOW	
LOCATION/FIELD	: STOCK ISLAND	FL. RES	
COUNTY	: MONROE	CALIPER	
STATE	: FL		
SECTION	: 35	TOWNSHIP	: 67S
		RANGE	: 25E

DATE	: 11/01/91	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 710	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 715.00	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 119.00	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 680	LOGGING UNIT	: 1		
CASING TYPE	: STEEL	FIELD OFFICE	: DFB		
CASING THICKNESS:	.5	RECORDED BY	: M. SCHILLING		

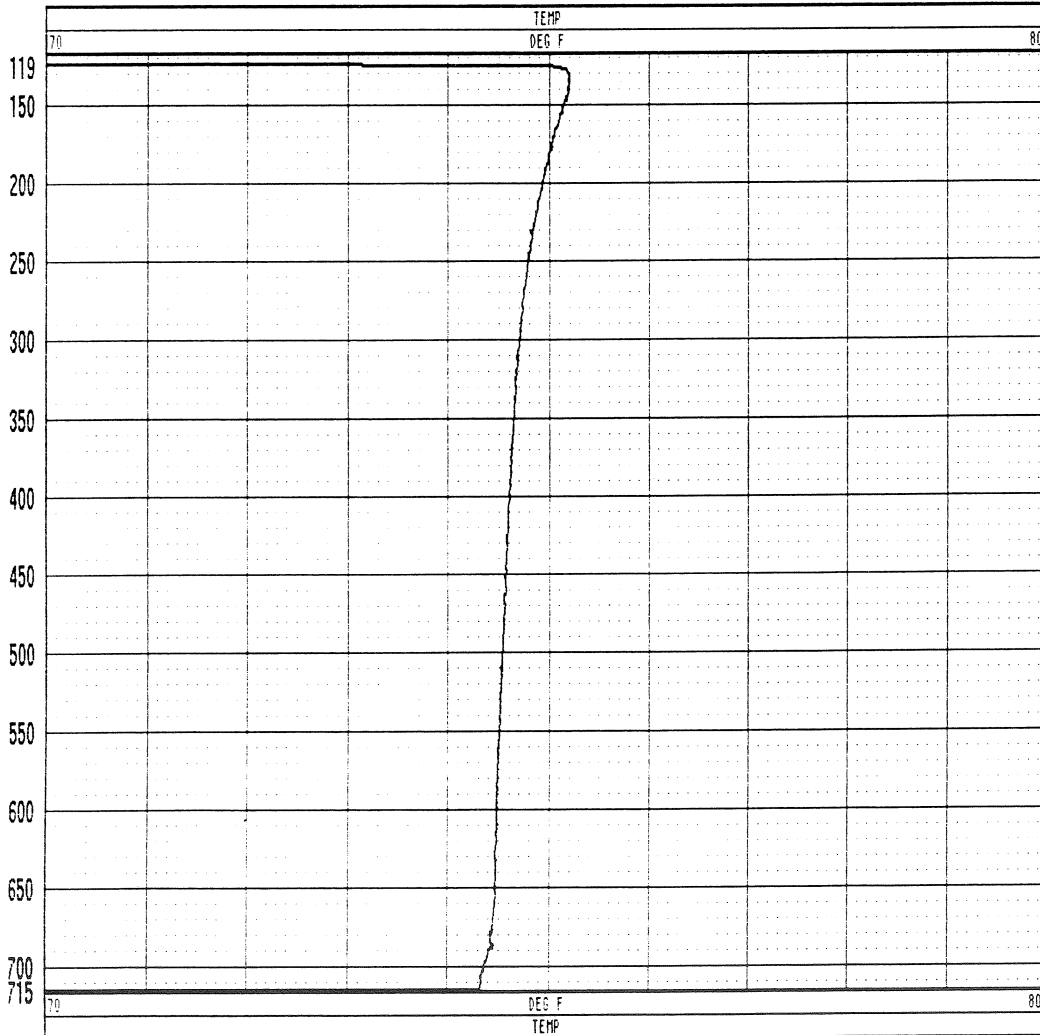
BIT SIZE	: 16	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 7.5	RM	: 0	TYPE	: WTEM
MATRIX DENSITY	: 2.68	RM TEMPERATURE	: 0	LOG	: 2
FLUID DENSITY	: 1.0	MATRIX DELTA T	: 57	PLOT	: REPORT 20
NEUTRON MATRIX	: LIMESTONE	FLUID DELTA T	: 210	THRESH	: 2500

REMARKS :

OBSERVER: P. KWIAKOWSKI -- CH2M HILL (DFB)

LOG PERFORMED ON WELL PUMPING @ 115 GPM

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS





# ASR-1 0013-0129

COMPANY : FRAA WELL : ASR-1 0013-0129 LOCATION/FIELD : STOCK ISLAND COUNTY : MONROE STATE : FL SECTION : 35      TOWNSHIP : 67S      RANGE : 25E	OTHER SERVICES: FLOW TEMP CALIPER
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DATE	: 11/01/91	PERMANENT DATUM	: GL	ELEVATIONS
DEPTH DRILLER	: 710	ELEV. PERM. DATUM:		KB :
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LOG TOP	: 119.50	DRL MEASURED FROM:	GL	GL :

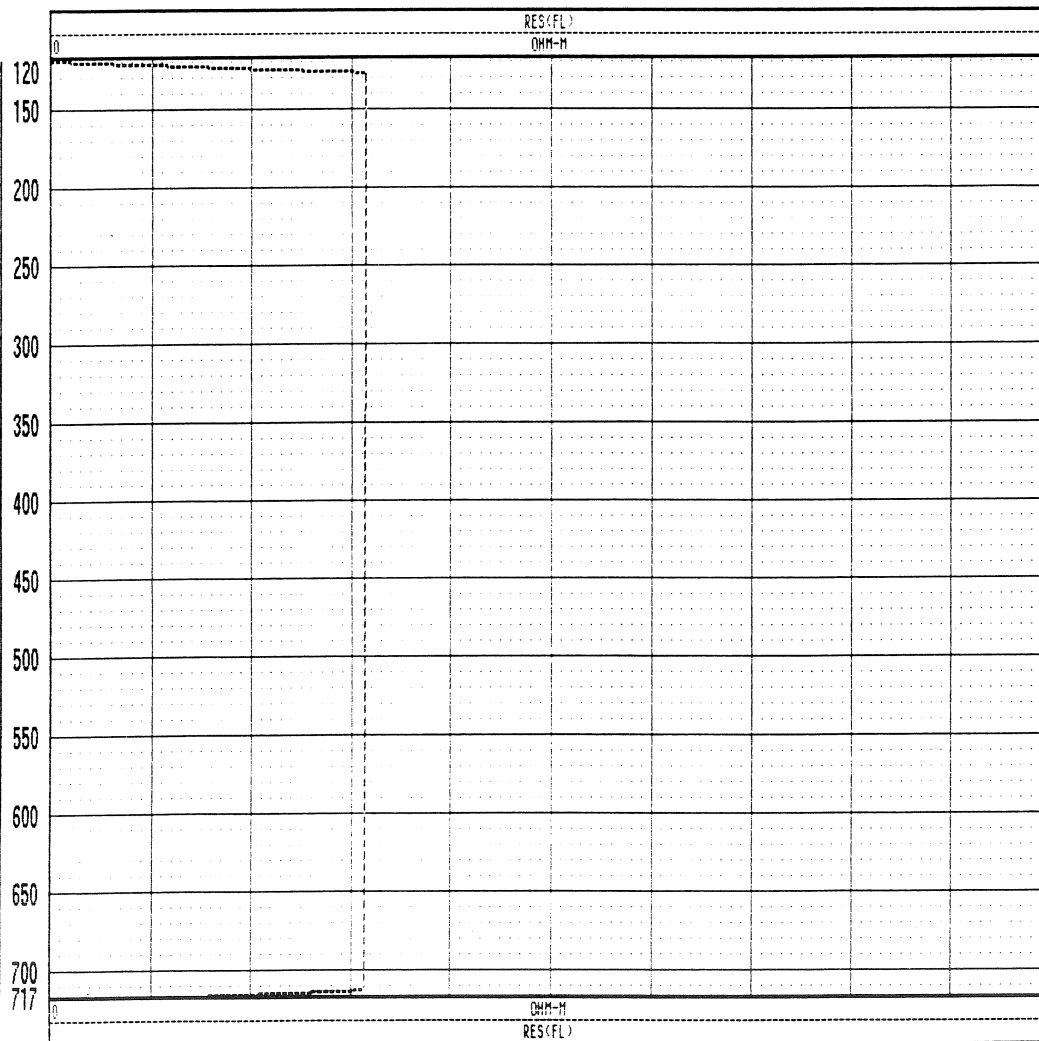
CASING DRILLER	: 680	LOGGING UNIT	: 1
CASING TYPE	: STEEL	FIELD OFFICE	: DFB
CASING THICKNESS:	.5	RECORDED BY	: M. SCHILLING

BIT SIZE	: 16	BOREHOLE FLUID	: WATER	FILE : ORIGINAL
MAGNETIC DECL.	: 7.5	RM	: 0	TYPE : WFLR
MATRIX DENSITY	: 2.68	RM TEMPERATURE	: 0	LOG : 3
FLUID DENSITY	: 1.0	MATRIX DELTA T	: 57	PLOT : REPORT 19
NEUTRON MATRIX	: LIMESTONE	FLUID DELTA T	: 210	THRESH: 2500

REMARKS :

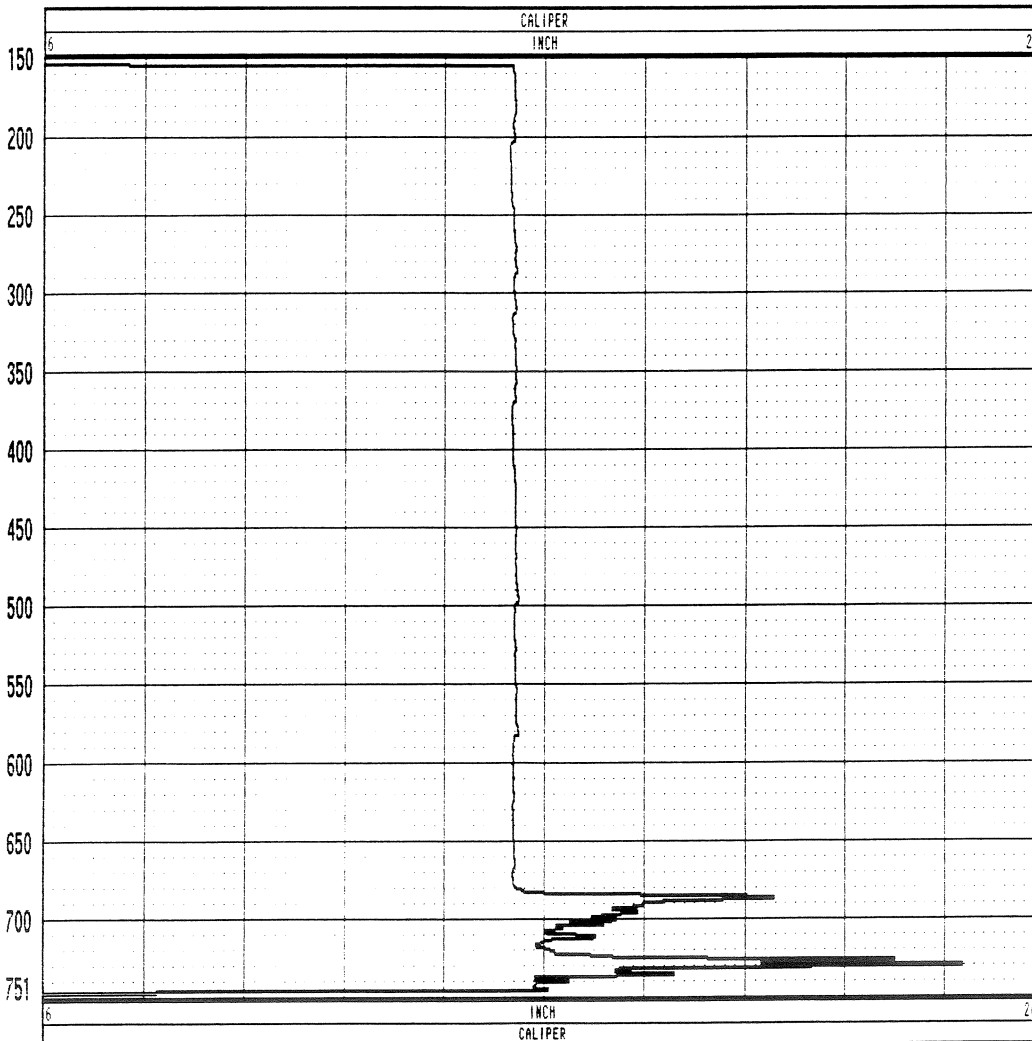
OBSERVER: P. KWIAKOWSKI - CH2M HILL (DFB)  
 LOG PERFORMED ON WELL PUMPING @ 115 GPM

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



**ASR-1 0013-0130**

COMPANY : FKA WELL : ASR-1 0013-0130 LOCATION/FIELD : STOCK ISLAND COUNTY : MONROE STATE : FL SECTION : 35      TOWNSHIP : 67S      RANGE : 25E	OTHER SERVICES: FLOW TEMP
DATE : 11/05/91      PERMANENT DATUM : GL      ELEVATIONS DEPTH DRILLER : 750      ELEV. PERM. DATUM:      KB : LOG BOTTOM : 750.50      LOG MEASURED FROM: GL      DF : LOG TOP : 150.00      DRL MEASURED FROM: GL      GL :	
CASING DRILLER : 680      LOGGING UNIT : 1 CASING TYPE : STEEL      FIELD OFFICE : DFB CASING THICKNESS: .5      RECORDED BY : M.SCHILLING	
BIT SIZE : 16      BOREHOLE FLUID : WATER      FILE : ORIGINAL MAGNETIC DECL. : 7.5      RM : 0      TYPE : CCAL2 MATRIX DENSITY : 2.68      RM TEMPERATURE : 0      LOG : 1 FLUID DENSITY : 1.0      MATRIX DELTA T : 57      PLOT : REPORT 17 NEUTRON MATRIX : LIMESTONE FLUID DELTA T : 210      THRESH: 2500 REMARKS :	
OBSERVER: S. SKEHAN - CH2M HILL (DFB) LOG PERFORMED UNDER STATIC CONDITIONS ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS	



**ASR-1 0013-0130**

COMPANY : FKA  
 WELL : ASR-1 0013-0130  
 LOCATION/FIELD : STOCK ISLAND  
 COUNTY : MONROE  
 STATE : FL  
 SECTION : 35 TOWNSHIP : 67S RANGE : 25E

OTHER SERVICES:  
 FLOW  
 CALIPER

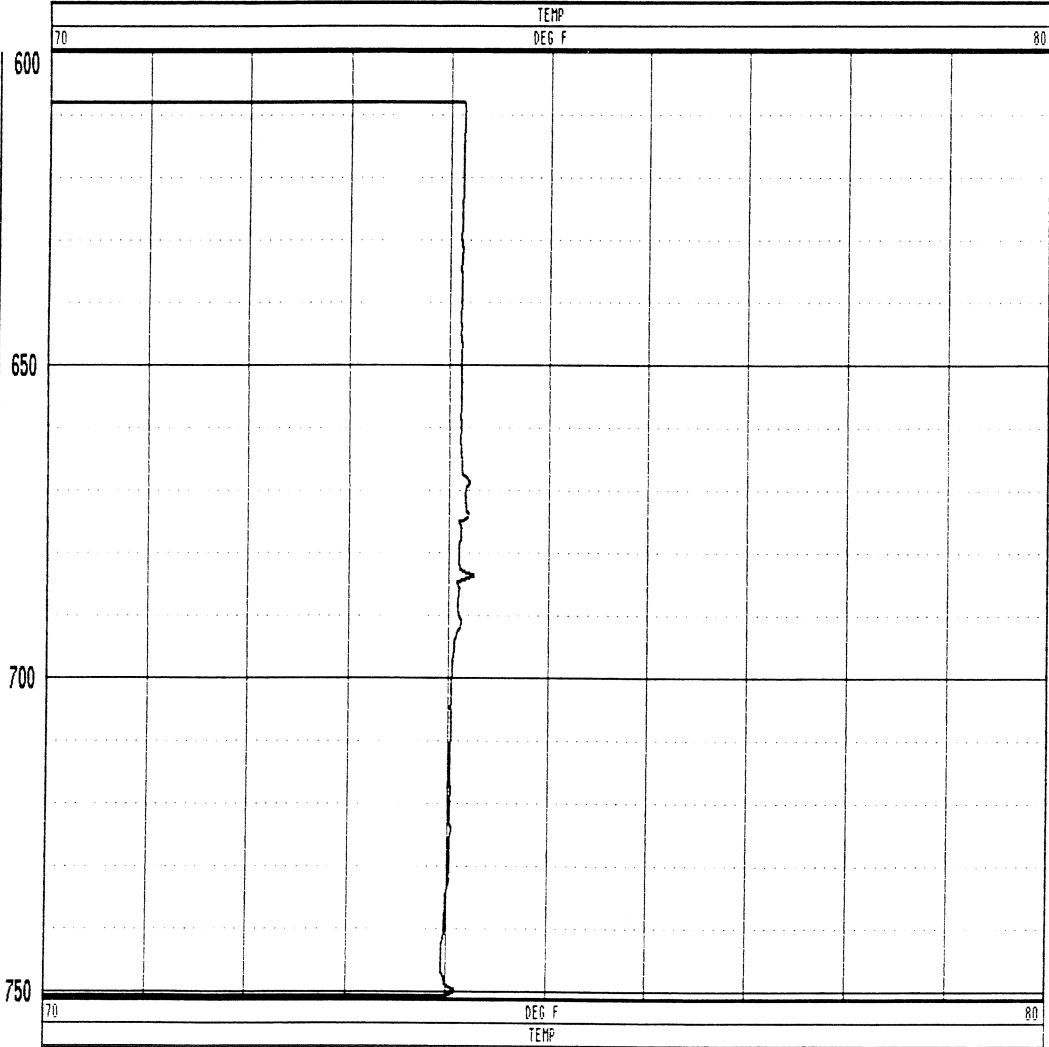
DATE : 11/05/91 PERMANENT DATUM : GL ELEVATIONS  
 DEPTH DRILLER : 750 ELEV. PERM. DATUM: KB :  
 LOG BOTTOM : 751.00 LOG MEASURED FROM: GL DF :  
 LOG TOP : 600.00 DRL MEASURED FROM: GL GL :

CASING DRILLER : 680 LOGGING UNIT : 1  
 CASING TYPE : STEEL FIELD OFFICE : DFB  
 CASING THICKNESS: .5 RECORDED BY : M.SCHILLING

BIT SIZE : 16 BOREHOLE FLUID : WATER FILE : ORIGINAL  
 MAGNETIC DECL. : 7.5 RM : 0 TYPE : 9040A  
 MATRIX DENSITY : 2.68 RM TEMPERATURE : 0 LOG : 0  
 FLUID DENSITY : 1.0 MATRIX DELTA T : 57 PLOT : REPORT 20  
 NEUTRON MATRIX : LIMESTONE FLUID DELTA T : 210 THRESH: 2500

REMARKS :  
 OBSERVER: S. SKEHAN - CH2M HILL (DFB)  
 LOG PERFORMED ON WELL PUMPING @ 700 GPM

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



**ASR-1 0013-0130**

<p>COMPANY : FRAA          WELL : ASR-1 0013-0130          LOCATION/FIELD : STOCK ISLAND          COUNTY : MONROE          STATE : FL          SECTION : 35      TOWNSHIP : 67S      RANGE : 25E</p> <p>DATE : 11/05/91      PERMANENT DATUM : GL      ELEVATIONS          DEPTH DRILLER : 750      ELEV. PERM. DATUM: KB :          LOG BOTTOM : 750.50      LOG MEASURED FROM: GL      DF :          LOG TOP : 150.00      DRL MEASURED FROM: GL      GL :</p> <p>CASING DRILLER : 680      LOGGING UNIT : 1          CASING TYPE : STEEL      FIELD OFFICE : DFB          CASING THICKNESS: .5      RECORDED BY : M.SCHILLING</p> <p>BIT SIZE : 16      BOREHOLE FLUID : WATER      FILE : PROCES          MAGNETIC DECL. : 7.5      RM : 0      TYPE : CCAL2          MATRIX DENSITY : 2.68      RM TEMPERATURE : 0      LOG : 0          FLUID DENSITY : 1.0      MATRIX DELTA T : 57      PLOT : FLOW 1          NEUTRON MATRIX : LIMESTONE FLUID DELTA T : 210      THRESH: 2500</p> <p>REMARKS :          OBSERVER: S. SKEHAN - CH2M HILL (DFB)          LOG PERFORMED ON WELL PUMPING @ 670 GPM          ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS</p>	<p>OTHER SERVICES:          FLOW          TEMP          CALIPER</p>
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