

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.

> January 8, 1985 ESE No. 84 222 0200 1130

Commanding General Marine Corps Base Office of Assistant Chief of Staff Facilities ATTN: R.E. Alexander Bldg. 1, Holcomb Boulevard Camp Lejeune, North Carolina 28542

RE: Contract No. N62470-83-C-6106, Confirmation Study, Marine Corps Base, Camp Lejeune, North Carolina

Dear Bob:

Enclosed are the well construction forms for the fifty five ground water monitoring wells installed at Camp Lejeune. Item 18 of the form (Water Quality) was completed using the specific conductance data collected during well sampling _ activities and the following guideline:

Specific Conductance (<u>micromhos/centimeter</u>)	Water Quality
0 - 400	Good
401 - 700	Fair
greater than 700	Poor

These forms will need to be forwarded to the State of North Carolina Department of Natural Resources & Community Development.

Please do not hesitate to call me at (904) 332-3318 if you have any questions regarding these forms.

Sincerely,

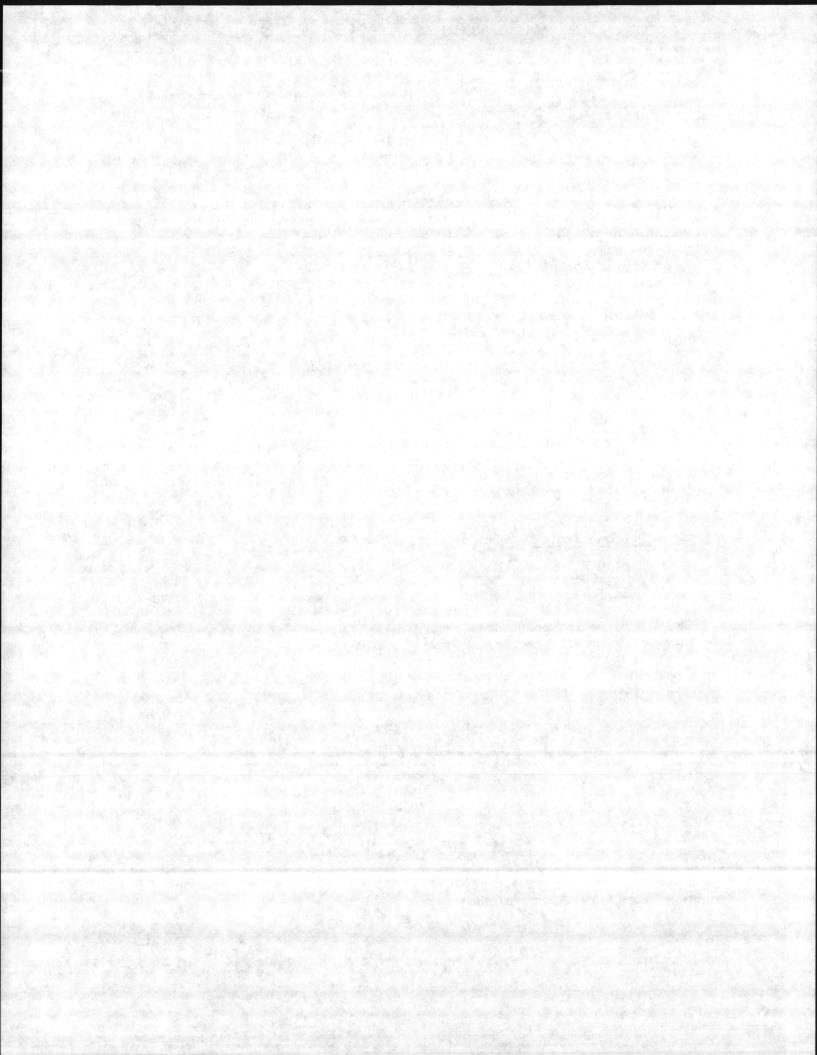
Russ Bowe

Russell V. Bowen, P.E. Project Manager

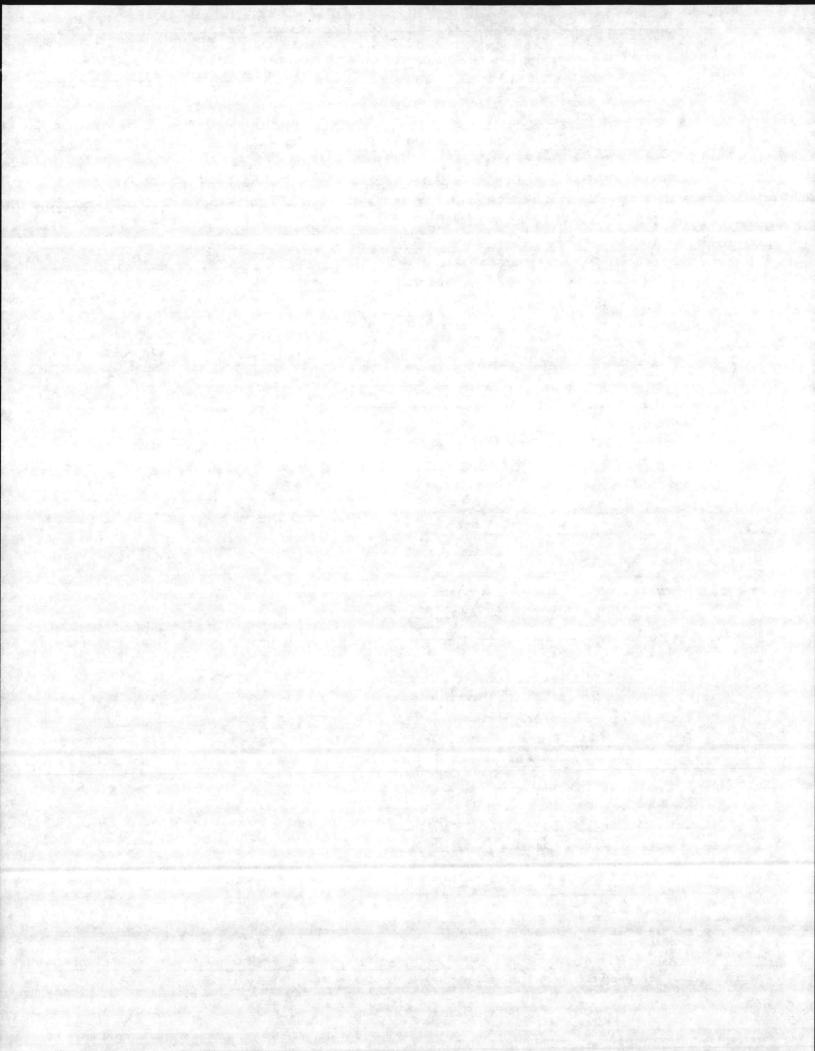
RVB/ags.

enclosures

cc: Bruce McMaster (ESE), w/o enclosure Cherryl Barnett (NAVFAC), w/enclosure

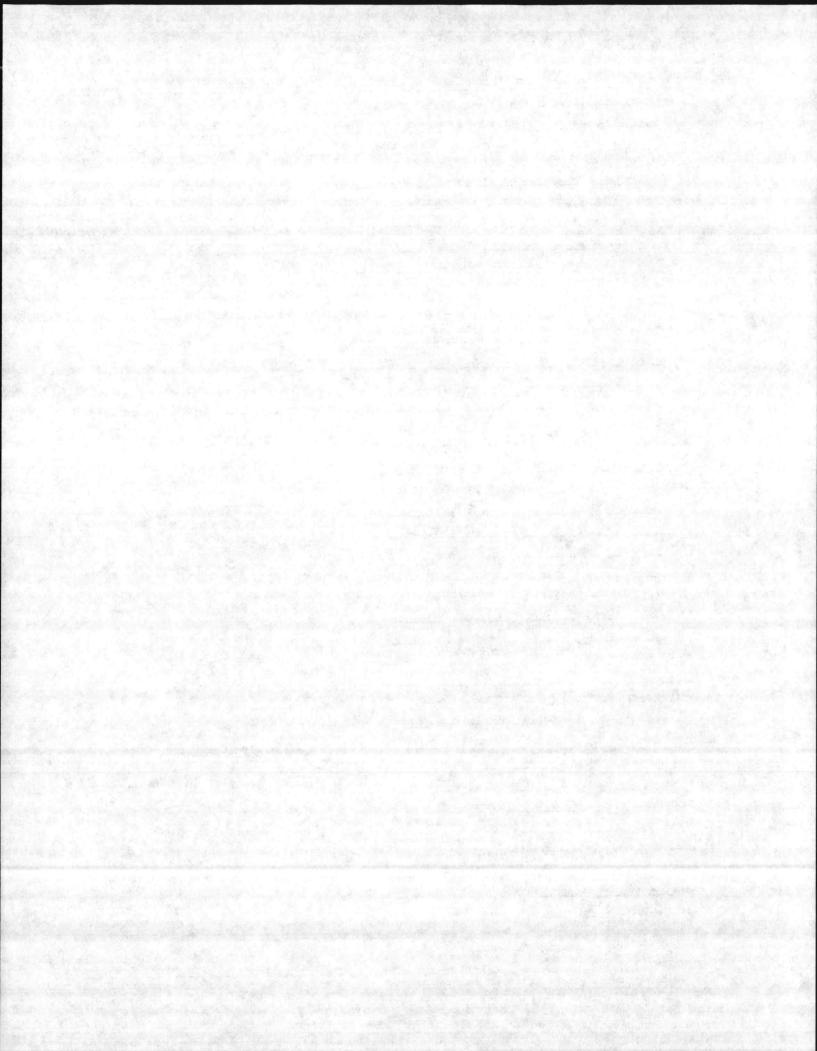


DRILLING CONTRACTOR STS CONSULTANTS, LIL REG. N	NO. 191 WELL CONS	TRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location belo	(wc	
Nearest Town: MIDWAY PARK	County:	SNSLOW
MAIN SERVICE NOAD , CAMP LEJEUA	UE Quadrangle #	. CAMP LEJEUNE
(Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING COMMAL, MALINE COLP B	las or	DRILLING LOG G-WI-(
3. ADDRESS: OFFICE OF AS/C FACILITIES CAMP LETEUNE	and the second	
22 TOPOGRAPHY: draw,valley,slope,hilltop flat(circl		FORMATION DESCRIPTION
5. USE OF WELL: HO Sampling DATE: 7-5-89	<u> </u>	
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO	- 0-1.5 /	SM
. TOTAL DEPTH: 21.79 RIG TYPE OR METHOD: H.S.	A. 1.5-30	SM-SC
. FORMATION SAMPLES COLLECTED: YES / NO	30-75	SC-SM
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	75-105	SM
From O to 7.32 ft 2" Sel 40 PUC	15-16	SM-SC
	16-16.5	limestone marl
	20-20.5	SM
GROUT: Depth Material Method	205-20.8	Still clas lens
From 1 to 5. Dit comentail) _ poured	268-215	finestone mark
	: 25-26.5	SP
	If additional spa	ce is needed use back of form
SCREEN: Depth Dia. Type & Opening From 732 to 21.76ft 2" Sch 40 PVC		ATION SKETCH roads, or other map reference points)
From 7.32 to 21. Mit d" Sel 40 PVC		
From 7.32 to 21.76 ft A" Sch 40 fVC		ATION SKETCH roads, or other map reference points)
From 7.32-to 21.76tt à" Sel 40 PVC 		ATION SKETCH roads, or other map reference points)
From 7.32 to 21.76 ft A" Sch 40 fVC		ATION SKETCH roads, or other map reference points)
From 7.32 to 21.76tt A" Sch 40 PVC .010 Slat .010 Slat .010 Slat .010 Slat		ATION SKETCH roads, or other map reference points) G-WI-1 ~1000 from +
Prom 7.32 to 21.76 tt d" Sch 40 PVC . Old Slat . GRAVEL: Depth Size Material Prom 6.32 to 11.76 ft Silico Sand S.32 6.32 Bentenite		ATION SKETCH roads, or other map reference points)
From 7.32 to 21.76tt A" Sch 40 PVC .010 Slat .010 Slat		ATION SKETCH roads, or other map reference points) G-WI-I ~1000 from +
From 7.32 to 21.76tt A" Sch 40 PVC . 010 Slat . 010 Slat . GRAVEL: Depth Size Material From 6.32 to A1.76 ft Silice Sind . S33 6.31 Bentenite . WATER ZONES (depth): 9.1 71.78	(Show distance to numbered	ATION SKETCH roads, or other map reference points) G-WI-I ~1000 'from + N-NW
From 7.32 to 21.76 tt d" Sch 40 PVC . Old Slat . GRAVEL: Depth Size Material From 6.32 to AL 75 ft Sile Sand S.33 6.32 Bentenite . WATER ZONES (depth): 9.1 - 71.78 FLOW TOP OF CASING (TOC) . STATIC WATER LEVEL: 3.1 ft. above top of casing	(Show distance to numbered	ATION SKETCH roads, or other map reference points) G-WI-I ~1000 from +
From 7.32 to 21.76 tt d" Sch 40 PVC . OIO Slat . GRAVEL: Depth Size Material From 6.32 to 21.76 ft Size Material . WATER ZONES (depth): 9.1 - 71.78 FROM TOP OF CASING (TOC) . STATIC WATER LEVEL: 3.1 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 92.37	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-I NI000'from + N-NW
From 7.32 to 21.76 tt d" Sch 40 PVC . OIO Slat . GRAVEL: Depth Size Material From 6.32 to ALX ft <u>Siles Sand</u> <u>S32 6.32</u> WATER ZONES (depth): 9.1 - 71.78 <u>FAOWA TOP OF CASING (TOC)</u> . STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: 92.33 . YIELD (gpm): 9.5 METHOD OF TESTING: <u>fumPed</u> . POMPING WATER LEVEL: <u>8.8</u> ft.	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-I NI000'from + N-NW
From 7.32 to 21.76t <u>d</u> " <u>Sch 40 PVC</u> <u>. 010 Slat</u> . GRAVEL: Depth Size Material From <u>632 to Al 75 ft</u> <u>Silice Srad</u> <u>S32 632</u> <u>Bealenite</u> . WATER ZONES (depth) : <u>9.1 71.78</u> <u>FROM TOP OF CASING (TOC)</u> . STATIC WATER LEVEL: <u>3.1 ft. above top of casing</u> Casing is <u>3.5 ft. above land surface ELEV: 92.33</u> . YIELD (gpm) : <u>9.5</u> METHOD OF TESTING: <u>fu VAPED</u> PUMPING WATER LEVEL: <u>8.8</u> ft. after <u>hours at</u> <u>8.5</u> gpm.	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-I NI000'from + N-NW
From 7.32 to 21.76 tt d ⁿ Sch 40 PVC . OIO Slot . GRAVEL: Depth Size Material From 6.32 to 11.76 ft <u>Size Sand</u> S.32 6.32 <u>Size Sand</u> S.32 6.32 <u>Size Sand</u> . WATER ZONES (depth): 9.1 71.78 <u>FROM TOP OF CASING (TOC)</u> . STATIC WATER LEVEL: <u>Si</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: 92.37 . YIELD (gpm): 9.5 METHOD OF TESTING: fu UNPED . PUMPING WATER LEVEL: <u>SiB</u> ft. after <u>1</u> hours at <u>8.5</u> gpm. . CHLORINATION: Type <u>MA</u> Amount_	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-I ~1000 'from + N-NW SERVICE Rd
From 7.32 to 21.76t <u>d</u> " <u>Sch 40 PVC</u> <u>. 010 Slat</u> . GRAVEL: Depth Size Material From <u>632 to 11.75 ft</u> <u>Silice Srad</u> <u>S32 6.32</u> <u>Beatenite</u> . WATER ZONES (depth) : <u>9.1 71.78</u> <u>FROM TOP OF CASING (TOC)</u> . STATIC WATER LEVEL: <u>3.1 ft. above top of casing</u> Casing is <u>3.5 ft. above land surface ELEV: 92.33</u> . YIELD (gpm) : <u>9.5 METHOD OF TESTING: fv VAPED</u> . PUMPING WATER LEVEL: <u>8.8</u> ft. after <u>hours at</u> <u>8.5 gpm.</u> . CHLORINATION: Type <u>MA</u> Amount . WATER QUALITY: <u>PODA</u> TEMPERATURE (^O F) 71.5	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-I NI000'from + N-NW
From 7.32 to 21.76t <u>d</u> " Sch 40 PVC OIO 50.4 GRAVEL: Depth Size Material From 6.32 to 1/7 ft S.32 6.32 <u>Size Sand</u> S.32 6.32 <u>Bendenite</u> WATER ZONES (depth): <u>8.1 71.78</u> FROM TOP OF CASING (TOC) STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>92.33</u> YIELD (gpm): <u>9.5</u> METHOD OF TESTING: <u>60 MAPCO</u> PUMPING WATER LEVEL: <u>8.8</u> ft. after <u>1</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>PODA</u> TEMPERATURE (^O F) 71.5 ^C PERMANENT PUMP: Date Installed <u>MA</u>	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-I NI000'from + N-NW
From 7.32 to 21.76 tt d ⁿ Sch 40 PVC . OIO Slot . GRAVEL: Depth Size Material From 6.32 to 11.76 ft <u>Size Sand</u> <u>S.32</u> 6.32 <u>Size Material</u> WATER ZONES (depth): 9.1 71.78 <u>FROM TOP OF CASING (TOC)</u> . STATIC WATER LEVEL: <u>S.1</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: 92.37 YIELD (gpm): 9.5 METHOD OF TESTING: fu UNPED PUMPING WATER LEVEL: <u>S.3</u> ft. after <u>1</u> hours at <u>8.5</u> gpm. . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>PODA</u> TEMPERATURE (^O F) 71.5 ^C PERMAMENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP	(Show distance to numbered	ATION SKETCH roads, or other map reference points) G-WI-1 ~ 1000 'from + N-NW
From 7.32 to 21.76 tt d" Sch 40 PVC . OIO 50.4 . OIO	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-1 ~1000 from + N-NW SERVICE RA
From 7.32 to 21.76tt <u>d</u> " <u>Sch 40 PVC</u> <u>.010 Slat</u> . GRAVEL: Depth Size Material From <u>6.32 to 1/17 ft</u> <u>Silica Sand</u> <u>S.3.2 6.32</u> <u>Rendmits</u> . WATER ZONES (depth): <u>9.1 - 71.78</u> <u>FROWN TOP OF CASING (TOC)</u> . STATIC WATER LEVEL: <u>3.1 ft. above</u> top of casing casing is <u>2.5 ft. above land surface ELEV: 92.17</u> . YIELD (gpm): <u>9.5 METHOD OF TESTING: fv VAPCO</u> . PUMPING WATER LEVEL: <u>8.8 ft.</u> after <u>1</u> hours at <u>8.5 gpm</u> . . CHLORINATION: Type <u>MA</u> Amount . WATER QUALITY: <u>POPA</u> TEMPERATURE (°F) 71.5" . PERMANENT PUMP: Date Installed <u>MA</u> . Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> . HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD	(Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-1 NI000' from + N-NW SERVICE RU DALY Rd
From 7.32 to 21.76tt <u>d</u> " <u>Sch 40 PVC</u> <u>.010 Slat</u> . GRAVEL: Depth Size Material From <u>6.32</u> to <u>31</u> ft <u></u>	Show distance to numbered	ATION SKETCH Toads, or other map reference points) G-WI-1 NI000' from + N-NW SERVICE RU DALY Rd



DIVISION OF ENVIRONMENTAL M P. O. Box 27687 - RALEIGH, N.C. 276 DRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO.	11 919-733-2020
1. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: MIDWAY PARK	County: ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No. CAMP LEJEUNE
2. OWNER: COM MANOING GINISTAL, MARINE CORP BASE	DRILLING LOG GUI-2
3. ADDRESS : OFFICE OF ACIS FACILITIES , CAMP LEJEUNE N.L.	DEPTH Gr6/2
4. TOPOGRAPHY: draw, valley, slope, hilltop, (lap(circle one)	FROM TO FORMATION DESCRIP
5. USE OF WELL: H.D Sampling DATE: 7-5-84	(Uscs clauf
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-1.5 SP-SM
T. TOTAL DEPTH: 21,95 RIG TYPE OR METHOD: H.S.A.	1.5-7.5 SM
. FORMATION SAMPLES COLLECTED: YES V NO	7.5-80 SM-SC
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	10-10 SC
From 0 to 9,8 ft 2" Sel 40 PVC	9.0-105 SM
<u> </u>	15.0-16.3 SM-SC
	155 21.5 limestry e mapl
GROUT: Depth Material Method	
From D to 15.25 ft comment (2:1) poured	
GRAVEL: Depth Size Material Prom 15.73 to 21.95 ft <u>Sclice Send</u> <u>1673 15.73</u> <u>Bentonit</u> WATER ZONES (depth): <u>9.7 - 21.95'(Tbc.)</u> STATIC WATER LEVEL: <u>9.7</u> ft. above top of casing Casing is <u>2.6</u> ft. above land surface ELEV: <u>94.39</u> YIELD (gpm): <u>6</u> METHOD OF TESTING: <u>PUMPED</u>	MAIN Service Rd
PUMPING WATER LEVEL: 9.8 ft. after hours at 6 gpm. CHLORINATION: Type NA Amount WATER QUALITY: PBOA TEMPERATURE (°F) 71° PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP	C DALY Rd
after hours at 6 gpm. CHLORINATION: Type NA Amount WATER QUALITY: POOL TEMPERATURE (°F) 71° PERMANENT PUMP: Date Installed NA	C DALY Rd
after hours at gpm. CHLORINATION: Type Amount WATER QUALITY: POO / TEMPERATURE (°F) 71° PERMANENT PUMP: Date Installed PERMANENT PUMP: Date Installed Type Capacity (gpm) HP Make Intake Depth	

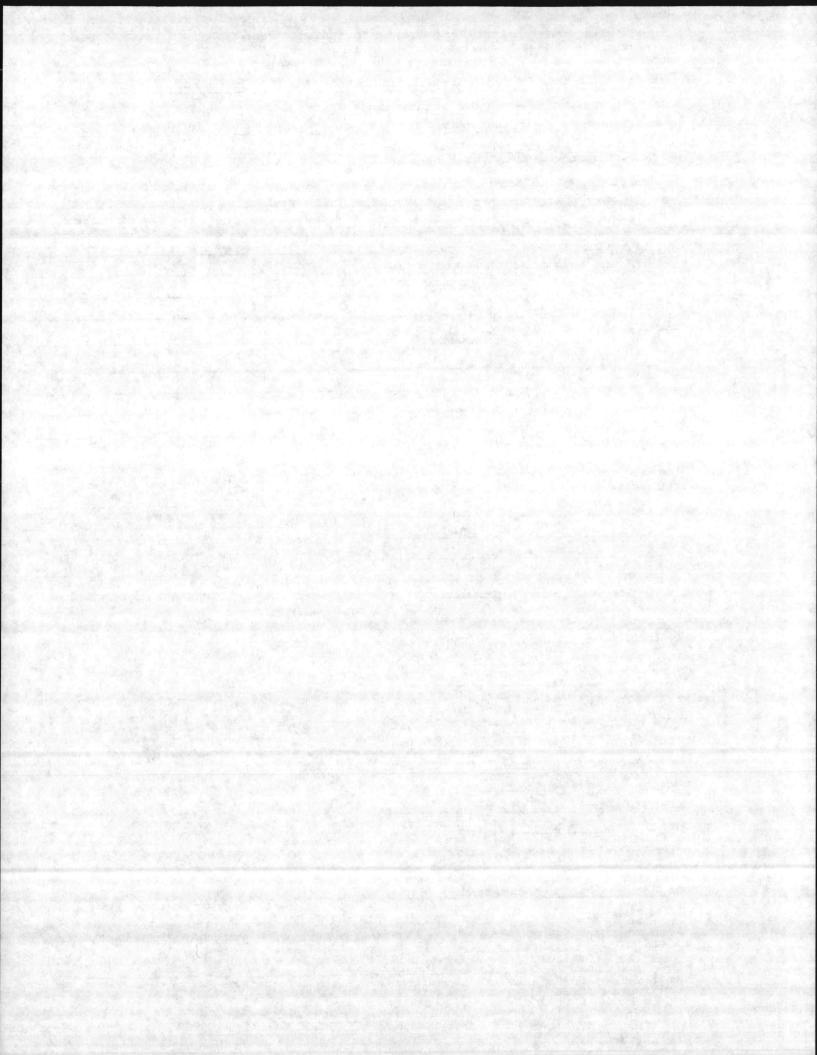
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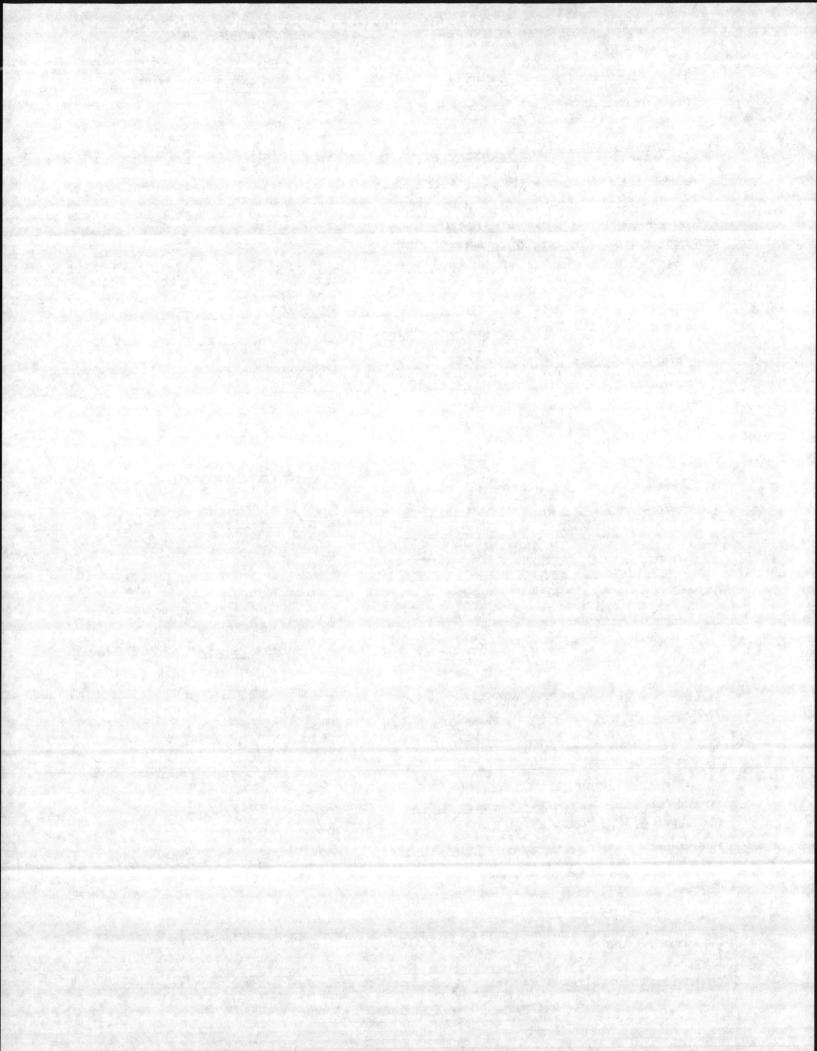
P. O. Box 27687 - RALEIGH, N.C. 276 DRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO.		STRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: MIDWAY PARK	County:	OMSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle +	AMA LESEUNE
2. OWNER: COMMANQUE & ENERAL, MARINE OLP BASE		
3. ADDRESS : OFFICE OF AC/S PACILITIES , CAMP LETEUNE, N.C.	DEPTH	DRILLING LOG G-61-4
4. TOPOGRAPHY: draw, valley, slope, hilltop (flat) circle one)		FORMATION DESCRIP
5. USE OF WELL: 160 Samueline DATE: 7-5-84		(4scs charife
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-10.0	SM
7. TOTAL DEPTH: 29.96 RIG TYPE OR METHOD: H.S.A.	20-215	SC-SM
8. FORMATION SAMPLES COLLECTED: YES V NO	30.0-31.5	SM
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.		
Dia. or weight/ft. From 0 to 15 ft 2, 50A 40 PK	· · · · · · · · · · · · · · · · · · ·	and the second second second
1.1 JA 10 FR		
0. GROUT: Depth Material Method	1 . 1	
From O to 11. 15 ft comment (2:0 _ sourced		
1. SCREEN: Depth Dia. Type & Opening	If additional spa	ace is needed, use back of for
From 15 to 29% It a" Sch 40 PVC -	LOC	CATION SKETCH
	istance to numbered	roads, or other map reference point
	0	0
. GRAVEL: Depth Size Material		
From 135 to 29% It Selice Send 0		
11×5 135 Bentonite		
. WATER ZONES (depth) : 16 - 29.96 (700)		
And the second		
. STATIC WATER LEVEL: 16.0 ft. above top of casing		
Casing is 2.4 ft. above land surface ELEV: 100.0	MATN SE	rvice RD-
METHOD OF TESTING: TOMPED	11 +	COALY Rd
PUMPING WATER LEVEL: 16.15 ft.	as from	1
after hours at 7.5 gpm. to W	-50 () in man
CHLORINATION: Type NA Amount	×	
WATER QUALITY: FAIR TEMPERATURE (PF) 77		
PERMANENT PUMP: Date Installed NA		
TypeCapacity(gpm) HP		
MakeIntake Depth		
Airline Depth		na sena a ser a ser En a ser a
HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INF RECOMMENDATIONS?	ORMED OF THE DEP	ARTMENTS REQUIREMENTS AND
REMARKS		
I do hereby certify that this well was constructed in acc	ordance with N.C ue and exact.	Well Construction

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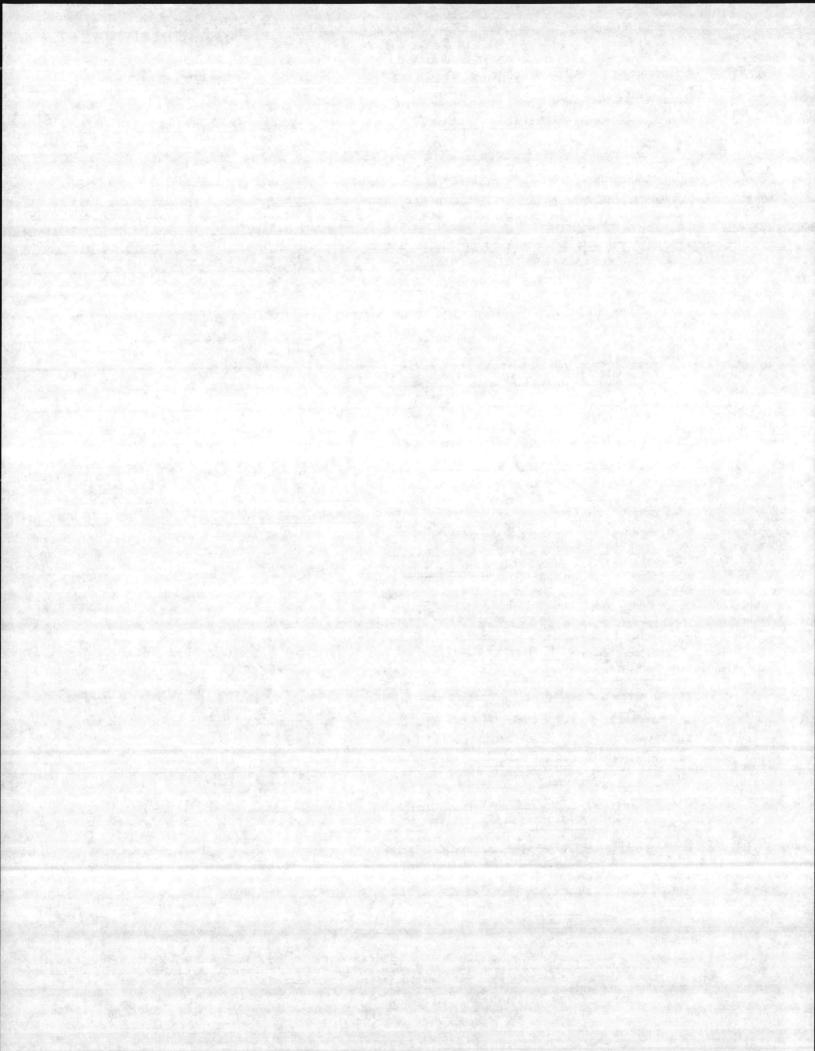
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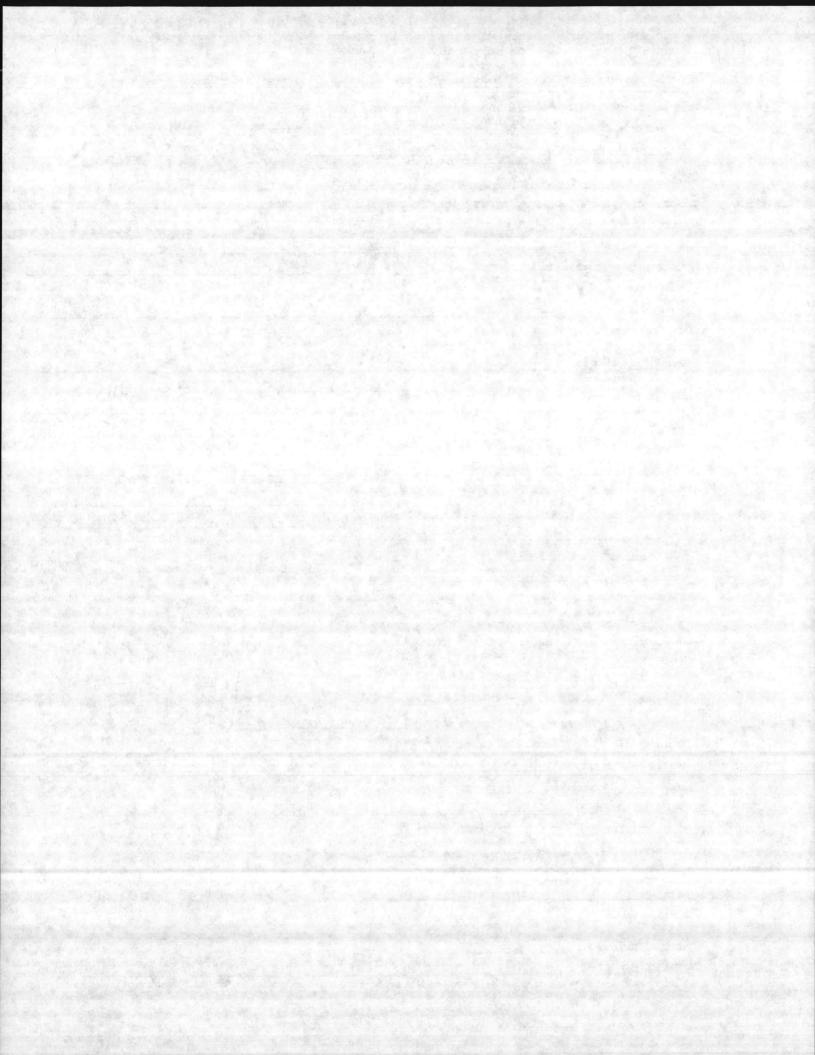
WELL RECORD DIVISION OF ENVIRONMENTAL MA P. O. Box 27687 — RALEIGH, N.C. 2761	ANAGEMENT
	91 WELL CONSTRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: MIDWAY PARK	County:ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle-No. CAMP LEJEUNE
2. OWNER: COMMANDING GENERAL MANINE CORP BACE	DRILLING LOG GUI-5
3. ADDRESS OFFICE OF ACIS FACILITIES, CAMPLESEUNE, N.C.	DEPTH
4. TOPOGRAPHY: draw, valley, slope, hilltop (flat) (circle one)	FROM TO FORMATION DESCRIPTION
5. USE OF WELL: HO Sampling DATE: 7-5-84	(nots - ingreen
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-1.5 SM
7. TOTAL DEPTH: 29.48 RIG TYPE OR METHOD: H.S.A	1.5-30 SM-5C
8. FORMATION SAMPLES COLLECTED: YES 🖌 NO	3.0-365 SM
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	
From D to 15. Aft At Sch 40 PUC	
10. GROUT: Depth Material Method	
From O to 13.02 ft amond (2:1) sourced	
11. SCREEN: Depth Dia. Type & Opening	If additional space is needed, use back of form
From /SQL to 14. 45t 2" Sch 40 PVC	
(Show d	LOCATION SKETCH iistance to numbered roads, or other map reference points
,010 slat	
	0 0
12. GRAVEL: Depth Size Material	
12. GRAVEL: Depth Size Material From 14.02 to 29,48 ft Silica Sand	۵
13.02 14.02 Bentonite	MAIN SEGVICE Rd
13. WATER ZONES (depth) : 14.0 - 27.48 (70)	- Midelle Contraction
	DALY Rd
14. STATIC WATER LEVEL: 14.0 ft. above top of casing	0
Casing is 2.5 ft. above land surface ELEV: 98.27	
5. YIELD (gpm) : 4.5 METHOD OF TESTING: PUMPED	
6. PUMPING WATER LEVEL: 16 ft.	~ 1500 from + .
after Z hours at 4.5 gpm.	to SW
7. CHLORINATION: Type NA Amount	
8. WATER QUALITY: FAIR TEMPERATURE (°F) 79	0
9. PERMANENT PUMP: Date Installed NA	G-W1-5
TypeCapacity(gpm) HP	
MakeIntake Depth	
Airline Depth	
0. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INF RECOMMENDATIONS?	CORMED OF THE DEPARTMENTS REQUIREMENTS AND
1. REMARKS	
I do hereby certify that this well was constructed in acc Regulations and Standards and that this well record is tr Refuse-Non-free 12	cordance with N.C. Well Construction rue and exact.



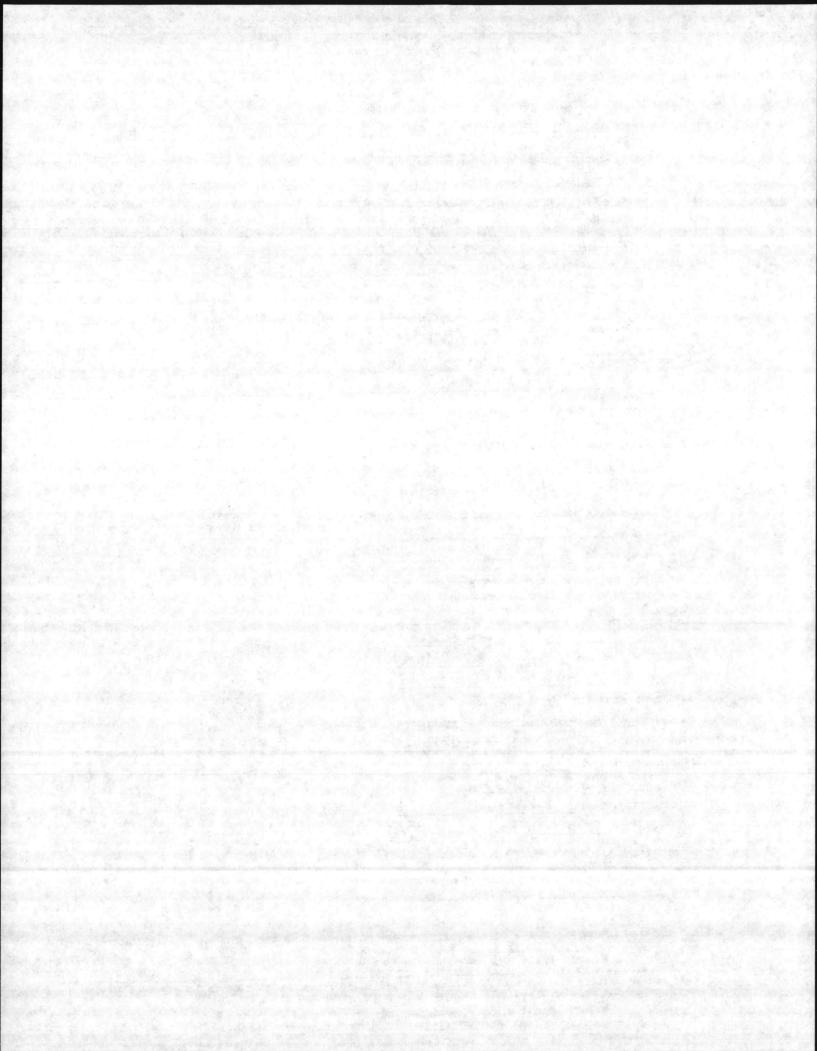
P. O. Box 27687 - RALEIGH, N.C. 27 DRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO.	191 WELL CONSTRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: MIDWAY PACK	County: ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No CAMP LEJE
2. OWNER: COMMANDING GENERAL MARINE CORP BASE	DRILLING LOG GL
3. ADDRESS : OFFICE OF ACIS FACILITIES, CAMPLEJENNE, N	.C. DEPTH
4. TOPOGRAPHY: draw, valley, slope, hilltop flat circle one	FROM TO FORMATION
5. USE OF WELL: H.O Sempling DATE: 7-5-84	
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-16.5 SM
7. TOTAL DEPTH: <u>29.42</u> RIG TYPE OR METHOD: <u>H.S.A.</u> 8. FORMATION SAMPLES COLLECTED: YES V NO	20215 CL
	<u>25-315 SM</u>
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	(
From D to 1494ft & Sch 40 PUC	
	· · · ·
10. GROUT: Depth Material Method	
From O to 129 ft comont 2:0 poured	
11. SCREEN: Depth Dia. Type & Opening	If additional space is needed, use be
From 14.44 to 2842 th a" Sek 40 PUC -	LOCATION SKETCH
	distance to numbered roads, or other map ref
12. GRAVEL: Depth Size Material	
From 136 to 299 It Silica Sand	
11.9 136 Sentonite	
13. WATER ZONES (depth) : /5.6 - 29.42 (FOC)	MATH Service Rd
	Moto A 150'from +
14. STATIC WATER LEVEL: 15.6 ft. above top of casing	MAIN Service Rd 150'from + 450'from + 455' DALY H
Casing is 2.5% ft. above land surface ELEV: 103.39	GWI-6
15. YIELD (gpm) : METHOD OF TESTING: PUMPER	\frown
16. PUMPING WATER LEVEL: / 5.8 ft.	()
after hours at gpm.	
17. CHLORINATION: TypeAmount	
18. WATER QUALITY: GOOD TEMPERATURE (°F) 7/	
19. PERMANENT PUMP: Date Installed	
TypeCapacity(gpm) HP	
MakeIntake Depth	
Airline Depth	
and the second secon	
20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND I RECOMMENDATIONS?	INFORMED OF THE DEPARTMENTS REQUIREMENT



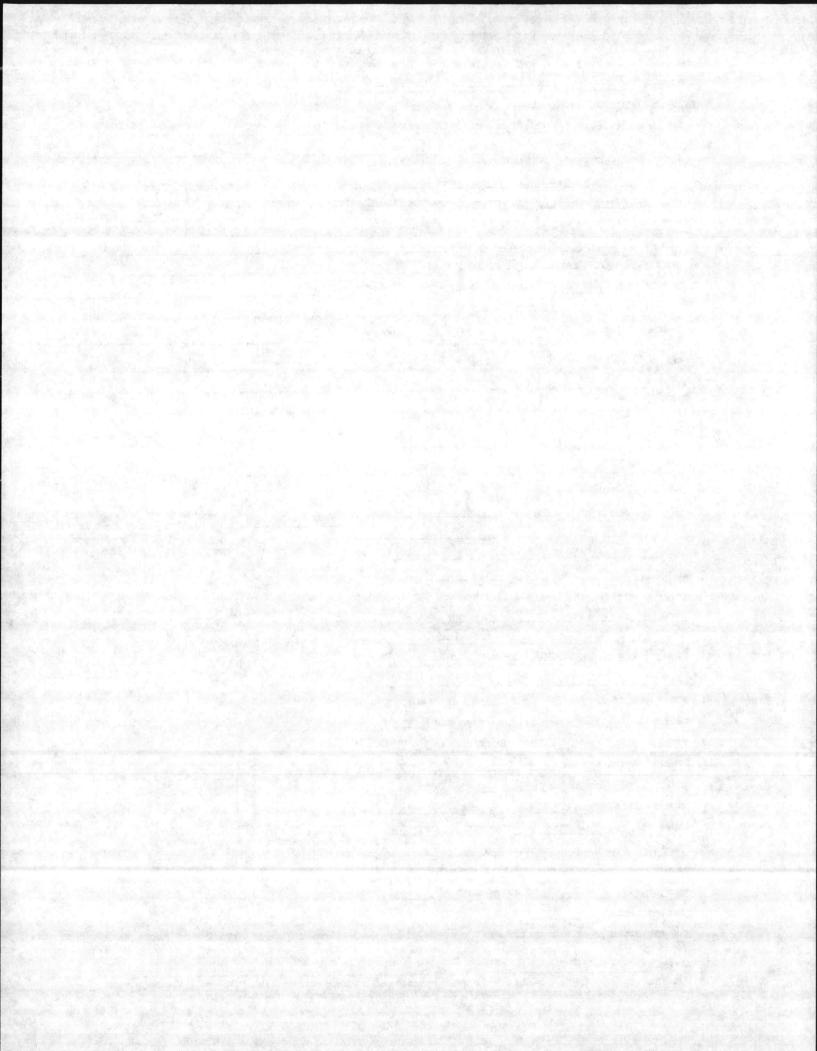
	P. O. Box 27687 - RALEIGH, N.C. 27 DRILLING CONTRACTOR STS COUSULTANTS, Lfd. REG. NO.	101	TRUCTION PERMIT NO.
	. WELL LOCATION: (Show sketch of the location below)		
	Nearest Town:MIDWAY PARK	County:	ONSLOW
	(Road, Community or Subdivision and Lot No.)	Quadrangle #	CAMP LEJEUN
	. OWNER: COMMANDING GENERAL, MARINE COAP BA	ue.	DRILLING LOG GU
	ADDRESS : OFFICE OF AC & FALLITIES , CAMPLETITURE N.C.	A State of the second state of the	
	. TOPOGRAPHY: draw, valley, slope, hilltop (lat) circle one	TROM MO	FORMATION
	. USE OF WELL: H. O Sampling DATE: 7-4-84		(
. 6	. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-45	SM
7	. TOTAL DEPTH: 22.47 RIG TYPE OR METHOD: H.S.A.	4.5=60	SM-SC.
8	. FORMATION SAMPLES COLLECTED: YES 🖌 NO	6.0-16.5	SM
9	. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	165-215	sc
	From O to \$ Olft 2; Sch 40 PVC	21.0-23.0	SP
		43-24.5	SM
	and the second sec		
10	GROUT: Depth Material Method	· · · :	
	- IN sond- find 1		
	From O to GDI It Coment (1.1) poured		ALL STREAM
11	SCREEN: Depth Dia. Type & Opening	If additional spa	ce is needed, use bad
	From S.O to 229 ft 2' Set 40 PVC -	100	ATION SKETCH
·	(Sho		roads, or other map refe
			- Andrew Street in
12	GRAVEL: Depth Size Material		
	From 7.01 to 2247st Selice Send		
	601 7.01 Bentonite		
13.	WATER ZONES (depth) : 8.0 - 22.47 (Toc)	March 1	
		Renter and some	, GW2
14.	STATIC WATER LEVEL: 2.0 ft. below top of casing	and the second second	~30
	Casing is 20 ft. above land surface ELEV: - Bre	ewster Blud	
15.	YIELD (gpm) : 4.5 METHOD OF TESTING: PSMPED		
16.	PUMPING WATER LEVEL: 9.0 ft.		H
	after 1.5 hours at . 4.5 gpm.		
17.	CHLORINATION: Type NA Amount		Holcemb
	WATER QUALITY: GOOD TEMPERATURE (°F) 7/	58 S. A. A.	P
	PERMANENT PUMP: Date Installed		B
-3.	Type Capacity (gpm) BP		Ke .
			Γ.
	MakeIntake Depth		
	Miniline Benth		No. 104 Company responses of the
	Airline Depth		
20.	Airline Depth HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND RECOMMENDATIONS?	INFORMED OF THE DEL	PARTMENTS REQUIREMENT



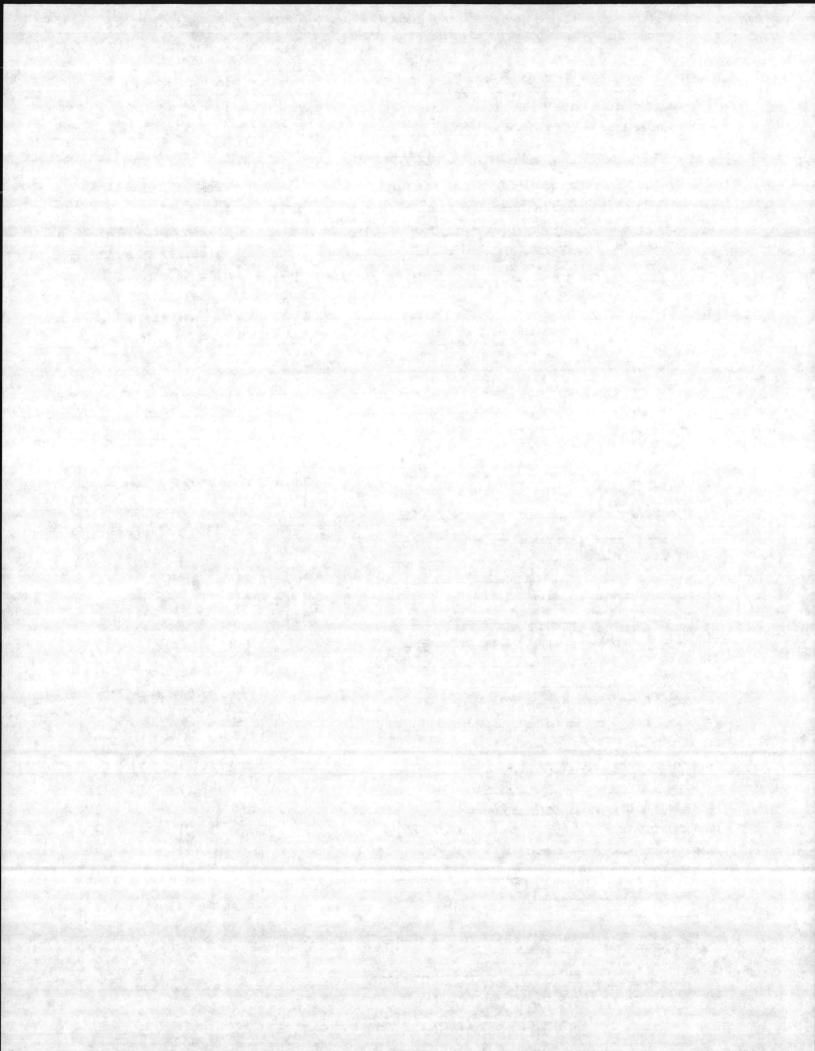
NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCE WELL RECORD DIVISION OF ENVIRONMENTAL MA P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTANTS, LTd. REG. NO. 19	CES & COMMUNITY NAGEMENT 1 919-733-2020	DEVELOPMENT
1. WELL LOCATION: (Show sketch of the location below)	WELL CONS	TRUCTION PERMIT NO.
Nearest Town:MIDWAY PARK	County:	ONSLOW
PINEY GREEN NO CHUP IE JEUNE	A TA AND AND A DISC AN AND	- CAMP LE JEUNE
(Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL MARINE COMP BASE	All parties and a	and the second second
3. ADDRESS: OFFICE OF AC/S FACILITIES, CAMPLEJEURE, N.C.		DRILLING LOG GU9-1
4. TOPOGRAPHY: draw, valley, slope, hilltop (flat) circle one)	FROM TO	FORMATION DESCRIPTION
5. USE OF WELL: 4.0 Sampling DATE: 7-5-84		(uses consideration
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-225	CM
7. TOTAL DEPTH: 22.17 RIG TYPE OR METHOD: H.S.A.		
8. FORMATION SAMPLES COLLECTED: YES V NO		
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.		
From O to T. M ft 2, Sch 40 PVC		
10. GROUT: Depth Material Method	. :	
From O to 5.71 ft comenta:1) poured	×	
······································	f additional space	e is needed, use back of form
11. SCREEN: Depth Dia. Type & Opening From 7.7/to 22/1ft 2 Sch 40 PVC		is included, use back of form
12. GRAVEL: Depth Size Material From 67 to 22/7ft Silica Sond S.7/ 6.7/ Annotate 13. WATER ZONES (depth): 9.7 - 22.17'(Toc)		i sarhead ck
	Halleman	/ Ne
14. STATIC WATER LEVEL: 9.7 ft. below top of casing	Line .	£
Casing is 2.3 ft. above land surface ELEV: 103.6	×	TEILI
5. YIELD (gpm): 8.0 METHOD OF TESTING: PUMPED 6. PUMPING WATER LEVEL: 10.80 ft.		E HOBLIH
after 75 hours at 9 gpm.	A Part	~1500'from the
7. CHLORINATION: Type NA Amount		et as mutil AL
8. WATER QUALITY: POOR TEMPERATURE (°F) 7/		To SE
9. PERMANENT PUMP: Date Installed		NI
TypeCapacity(gpm) HP		SNEADS
MakeIntake Depth		Ren S
Airline Depth		19
. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFO RECOMMENDATIONS?	RMED OF THE DEPAR	RTMENTS REQUIREMENTS AND
I. REMARKS		
I do hereby certify that this well was constructed in acco Regulations and Standards and that this well record is true MILL-Monday 12- SIGNATURE OF CONTRACTOR OF ACENT	and exact.	Well Construction



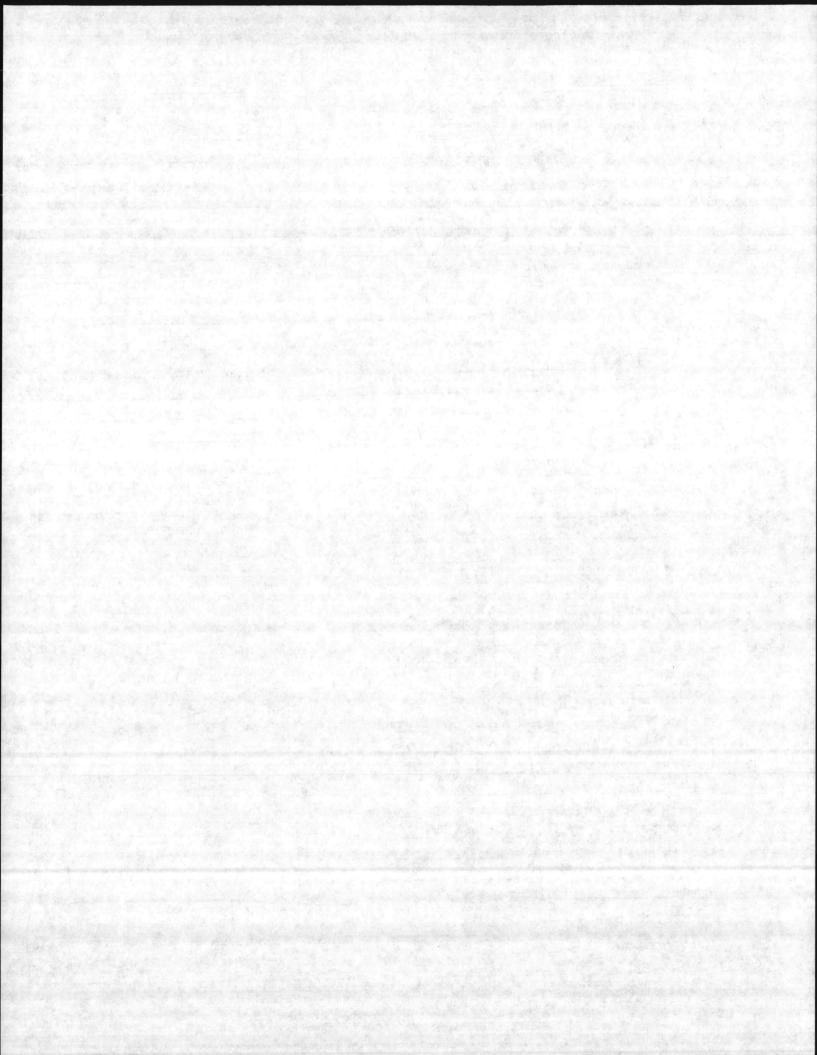
P. O. Box 27687 - RALEIGH, N.C. : DRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO.		UCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: MIDWAY PARK	County:	ONSCOC
PINET GAEEN LD CAMP LEJEUNE (Road, Community or Subdivision and Lot No.)	Quadrangle No.	CAMP LEJEUNE
2. OWNER: COMMANDING GOWERAC, MANINE CORP (ever 1	DRILLING LOG GU9-2
3. ADDRESS : OFRE OF AC/S FACILITIES CAMPLETEULE .	C DEPTH	135
4. TOPOGRAPHY: draw, valley, slope, hilltop flat circle on	ne) FROM TO	FORMATION DESCRIPT
5. USE OF WELL: H.O Sampling DATE: 7-5-84		(
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-21.5	SM
7. TOTAL DEPTH: 18.46 RIG TYPE OR METHOD: H.S.A.		
8. FORMATION SAMPLES COLLECTED: YES V NO		And the state of the state
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.		
From O to 4 ft d", Sch 40 PUC		
0. GROUT: Depth Material Method	\ :	
From D to d tt comment :1) poured	· · · · ·	
	Contract Provide States	
L. SCREEN: Depth Dia. Type & Opening	If additional space	'is needed, use back of for
From 4 to Killet 2" Sch 40 PUC -		
(Sb		ION SKETCH ads, or other map reference point
	d	J.F.
· · · · · · · · · · · · · · · · · · ·		
	Beachesa	
. GRAVEL: Depth Size Material	1991	
From 3 to 19.4 ft Silica Soul	~10001	ta and
23 Bentonite	~1000 fra 8 ce + 14 0	m tal
. WATER ZONES (depth) : 9.5 - 19.46 (foc)	\ 5E	not to
	λ	1-1-1
. STATIC WATER LEVEL: 9.5 ft. below top of casing		-F
Casing is 2.5 ft. above land surface ELEV: 100.0		
. YIELD (gpm) : 7.5 METHOD OF TESTING: PUMPED		P_
PUMPING WATER LEVEL: 9.75 ft.	Ŧ	/ 4
the structure which is an affect to a structure of the st	old	
after hours at gpm.	Holcomb	SAME
CHLORINATION: Type NA Amount		SNCADS Ferry Re
WATER QUALITY: GOOD TEMPERATURE (°F) 73	Bis	r Rq
PERMANENT PUMP: Date Installed	-	
TypeCapacity(gpm)HP	/	
MakeIntake Depth	· / ·	
Airline Depth	/	
HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND RECOMMENDATIONS?	INFORMED OF THE DEPAR	IMENTS REQUIREMENTS AND



P. O. Box 27687 - RALEIGH, N.C. 2 DRILLING CONTRACTOR STS CONSULTANTS, Ltd REG. NO.	101	STRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: MIDWAY PARK	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle	No. CAMPLEJE
2. OWNER: COMULANDING GOUGHAL MANNE CONP BA	KE	DRILLING LOG GU21
3. ADDRESS: OFFICE OF ACIS FACILITIES CAMP LETENE	and the second sec	
4. TOPOGRAPHY: draw, valley, slope, hilltop, flat, circle or	FROM TO	FORMATION D
5. USE OF WELL: HO Sempling DATE: 7-4-84		(4505
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-1.5	GM
7. TOTAL DEPTH: 23.35 RIG TYPE OR METHOD: H.S.A.	1.5-3	ML
8. FORMATION SAMPLES COLLECTED: YES V NO	3 - 7.5	CL
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	7.5-1.0	SC-SM
From D to 9.97ft 2. Sch 40 PVC	and the second second	
	15-250	SM
10. GROUT: Depth Material Method From O to S.S ft Comenta:() Acting		
From 0 to 3.5 ft compet (A: 0 pouring		
11. SCREEN: Depth Dia. Type & Opening	If additional sp	ace is needed, use back
II. SCREEN: Depth Dia. Type & Opening From 8.17 to 23.35 ft a" Sch 40 PVC -		
	LO w distance to numbered	CATION SKETCH i roads, or other map refere
	/	
	· · · >	
12. GRAVEL: Depth Size Material		\mathbf{x}
12. GRAVEL: Depth Size Material Prom 7.35 to 23.35 ft Silice Soud	$\langle \rangle$	×,
	/,	****
Prom 7.35 to 23.35 ft Silice Soud		******
From 7.35 to 23.35 et Silice Sand 5.5 7.35 Aentonite		ATT SNEAD
From 7.35 to 23.35 et Silice Sand 5.5 7.35 Aentonite	He	MITOO Frank to
Prom 7.35 to 23.35 et Silice Sond 5.5 7.35 Aentonite 13. WATER ZONES (depth) : 11 23.35'(TOC)	House	MITOO Frank t to
Prom 7.35 to 23.35 ft Silice Soud 5.5 7.35 Aentonite 13. WATER ZONES(depth): 11 - 2.7.35 (Tol) 14. STATIC WATER LEVEL: 11.0 ft. above top of casing	Home	MITOO Premit to
Prom 7.35 to 23.35 ft		and the second
Prom 7.35 to 23.35 et		MITOO Franks + 24
Prom 7.35 to 23.35 ft		STATE OF THE STATE
Prom 7.35 to 23.35 ft		STATE OF THE STATE
From 7.35 to 23.35 ft Silice Soud 5.5 7.35 Acatomite 13. WATER ZONES (depth): 11 - 23.35 (700) 14. STATIC WATER LEVEL: 11.0 ft. above top of casing casing is 1.17 ft. above land surface ELEV: 103.23 15. YIELD (gpm): 7.5 16. PUMPING WATER LEVEL: 11.3 17. CHLORINATION: Type		STATE OF THE STATE
Prom 7.35 to 23.55 ft		STATE OF THE STATE
Prom 7.35 to 23.85 ft		Some Bive
From 7.35 to 23.55 ft Silice Soud 5.5 7.35 Acatomite 13. WATER ZONES (depth): 11 - 23.35 (Tol) 14. STATIC WATER LEVEL: 1.0 ft. above top of casing casing is 1.17 ft. above land surface ELEV: 103.23 15. YIELD (gpm): 7.5 16. PUMPING WATER LEVEL: 11.3 17. CHLORINATION: Type 18. WATER QUALITY: F4/A Type Capacity (gpm) HP		Some Bive
From 7.35 to 23.85 ft Silice Sond 5.5 7.35 Acentonite 13. WATER ZONES (depth): 11 23.35'(Toc) 14. STATIC WATER LEVEL: 11.0 ft. above top of casing casing is 1.17 ft. above land surface ELEV: 103.23' 15. YIELD (gpm): 7.5' METHOD OF TESTING: 16. PUMPING WATER LEVEL: 11.3 ft. after 4' hours at 7.5' gpm. 17. CHLORINATION: Type NA 18. WATER QUALITY: F4/A TEMPERATURE (°F) 75' 19. PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth		Ash ST

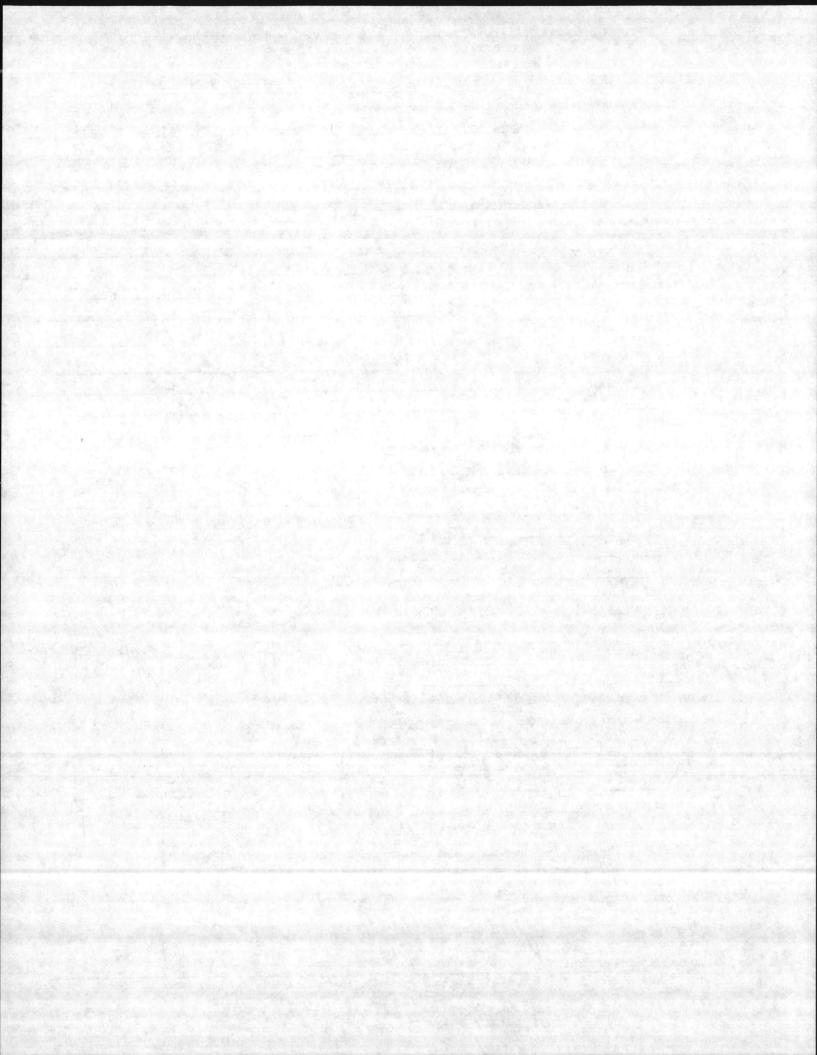


	P. O. Box 27687 - RALEIGH, N.C. 276 DRILLING CONTRACTOR STS COMPUTANTS, Ltd - REG. NO.		STRUCTION PERMIT NO.
7	1. WELL LOCATION: (Show sketch of the location below)		
	Nearest Town: MIDLI AY PARK	County:	MUSCOC
	(Road, Community or Subdivision and Lot No.)	Quadrangle	to CAMP LEJEUNE
	2. OWNER: (DAMALONG GENERAL, MANNE CORP BASE		DRILLING LOG GW22-(
	3. ADDRESS : OFFICE OF ACIS FACILITIES CAMP LEJEUNE NO	Depth	
	4. TOPOGRAPHY: draw, valley, slope, hilltop (flat (circle one)	TRAL TA	FORMATION DESCRIPT
	5. USE OF WELL: HO Sampling DATE: 7-6-84		(uses clamifical
	6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-1.75	SM
	7. TOTAL DEPTH: 20.38 RIG TYPE OR METHOD: H.S.A.	1.75-30	CL
	. FORMATION SAMPLES COLLECTED: YES V NO	3-4	CL
	CASING: Depth Inside Wall thick. type Dia. or weight/ft.	4-55	GM
	From O to 59 ft 2" Sch 40 PUC	5.25-21.5	
		<u> </u>	SM
10	GROUT: Depth Material Method		
e e	From () to 2.42 ft camout (2:1) poured		
6. 7			
11	the state of the s	il additional spa	ace is needed, use back of for
1	From E9 to 203 ft & Sek 40 PUC	LOC	LATION SKETCH
•			roads, or other map reference point
13. 14. 15.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sand</u> <u>2.42</u> <u>4.59</u> <u>Bestonife</u> MATER ZONES (depth): <u>10,5 - 20.38' (Toc)</u> STATIC MATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.99</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUX 1050</u> PUMPING WATER LEVEL: <u>11.5</u> ft.	Holeomb &	Shenos ferret
13. 14. 15. 16.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sand</u> <u>2.42</u> <u>4.59</u> <u>Bestonife</u> WATER ZONES (depth): <u>10,5</u> <u>20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.99</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUX 980</u> PUMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm.	Holeomb	
13. 14. 15. 16. 17.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sanl</u> <u>2.42</u> <u>4.59</u> <u>Bestonite</u> MATER ZONES (depth): <u>10,5 - 20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>7.5</u> ft. above land surface ELEV: <u>102.49</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUMPED</u> POMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>NA</u> Amount	Holeomb	
13. 14. 15. 16. 17. 18.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sanl</u> <u>2.42</u> <u>4.58</u> <u>bestonite</u> WATER ZONES (depth): <u>10,5</u> <u>20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. <u>above</u> top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.49</u> VIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUM PED</u> PUMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>PDON</u> <u>TEMPERATURE</u> (^O F) <u>7</u> [Holeomb	Shenos Feered
13. 14. 15. 16. 17. 18.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sand</u> <u>2.42</u> <u>4.59</u> <u>Bestonife</u> WATER ZONES (depth): <u>10,5</u> <u>20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.49</u> VIELD (gpm): <u>4</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>Poon</u> <u>TEMPERATURE</u> (^O F) <u>71</u> PERMANENT PUMP: Date Installed <u>NA</u>	Holeomb	Shenos Feered
13. 14. 15. 16. 17. 18. 19.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sanl</u> <u>2.42</u> <u>4.59</u> <u>Bestonite</u> MATER ZONES (depth): <u>10,5</u> <u>20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>7.5</u> ft. above land surface ELEV: <u>102.49</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUMPED</u> PUNPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>POON</u> TEMPERATURE (^o F) <u>71</u> PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP	Holeomb	Shenos Feered
13. 14. 15. 16. 17. 18. 19.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sanl</u> <u>2.42</u> <u>4.58</u> <u>bestonite</u> WATER ZONES (depth): <u>10,5</u> <u>20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.49</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUM PED</u> PUMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>PDON</u> TEMPERATURE (^O F) <u>71</u> PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP	Holeomb	Shenos Feered
13. 14. 15. 16. 17. 18. 19. 20.	GRAVEL: Depth Size Material Prom <u>4.58</u> to <u>2038</u> ft <u>Silica Sand</u> <u>3.42</u> <u>4.57</u> <u>Bestonite</u> WATER ZONES (depth): <u>10,5 - 20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.99</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>MA</u> Amount <u>5</u> WATER QUALITY: <u>PDON</u> TEMPERATURE (^O F) <u>71</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth	Holcomb Blug	Shenos Seent
13. 14. 15. 16. 17. 18. 19. 20.	GRAVEL: Depth Size Material From <u>4.58</u> to <u>20.38</u> ft <u>Silica Sand</u> <u>a.42</u> <u>4.59</u> <u>Bestonife</u> MATER ZONES (depth): <u>10,5</u> <u>20.38</u> (Toc) STATIC WATER LEVEL: <u>10.5</u> ft. above top of casing Casing is <u>3.5</u> ft. above land surface ELEV: <u>102.99</u> YIELD (gpm): <u>4</u> METHOD OF TESTING: <u>AUM ABOD</u> PUMPING WATER LEVEL: <u>11.5</u> ft. after <u>1.5</u> hours at <u>4</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>POON</u> TEMPERATURE (^O F) <u>71</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u>	Holcomb Blug	Shenos Search naso'hom of ER+AS,

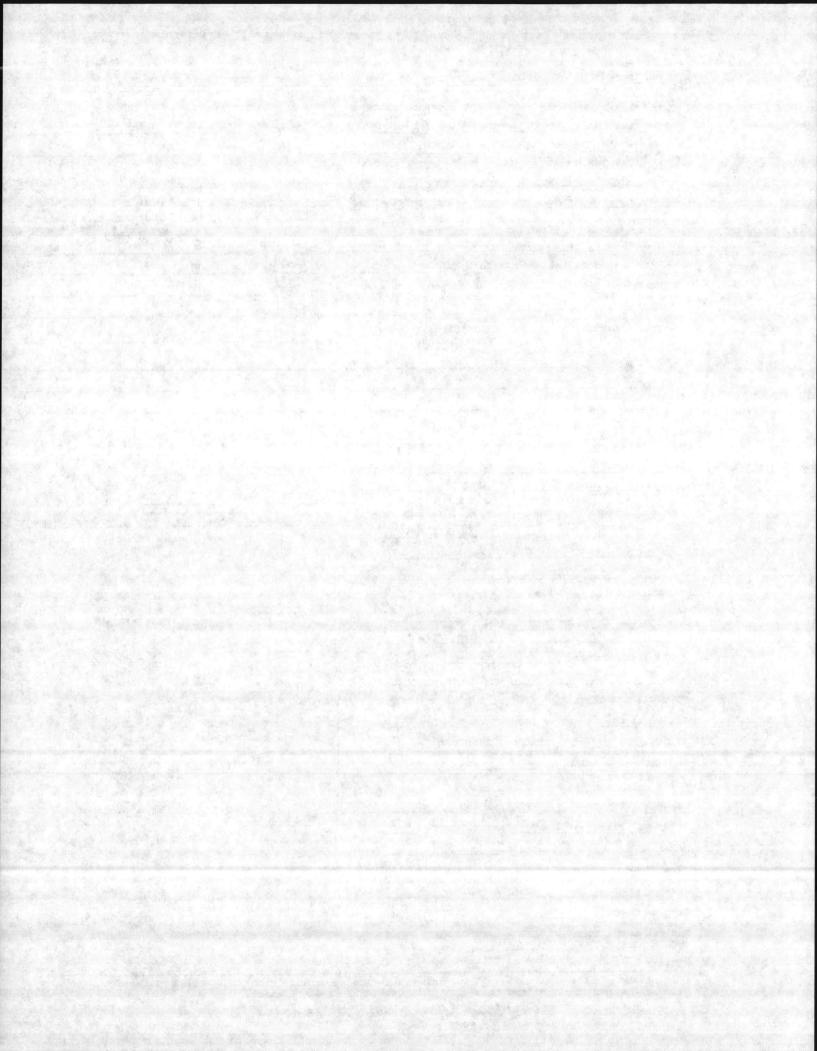


DRILLING CONTRACTOR STS CONSULTANTS, Ltd, REG. NO. 1	11 919-733-2020 91 WELL CONSTRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	
Nearest TOWN: MIDWAY PARK	County: ONSLOW
ASH ST., CAMP LEJEUNE (Road, Community or Subdivision and Lot No.)	Quadrangle to CAMPLEJEUNE
2. OWNER: COMMANDINE GENERAL, MARINE WAR &	
3. ADDRESS: OFRCE OF AC/S FACILITIES, CAMPLESEUNE, N.C.	
4. TOPOGRAPHY: draw, valley, slope, hilltop (lat(circle one)	FROM TO FORMATION DESCRIPT
5. USE OF WELL: H.O Sangling DATE: 7-6 - 84	(uses classified
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-60 SM
7. TOTAL DEPTH: 21.00 RIG TYPE OR METHOD: H.S.A.	60-85 SM-SC
8. FORMATION SAMPLES COLLECTED: YES V NO	1.5-910 SM
9. CASING: Depth Inside Wall thick. type	90-100 SM-56
Dia. or weight/ft.	
From O to 654 + 27 Sel 40 PVC	100-las sm
	15:165 SM-SC
	20-21.5, SM
GROUT: De Material Method	
From O to 4,5912 coment(a:1) poured	
	If additional space is needed, use back of form
y a septement of a se	
From 654 to 21.00 ft 2 Sch 40 PVC (Show d	LOCATION SKETCH listance to numbered roads, or other map reference point
. GRAVEL: Depth Size Material From Socied 210 ft Silica Soul	
HATER ZONES (depth): 9.6 21.0' (TOC)	Sheaps Ferry
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing	Sheaps Ferry
WATER ZONES (depth): <u>9.6</u> 21.0' (TOC) STATIC WATER LEVEL: <u>9.6</u> ft. above top of casing Casing is <u>2.5</u> :t. above land surface ELEV: 100.06	
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 it. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: 90 MPED	
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 It. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: 90 MPED PUMPING WATER LEVEL: 9.9 ft.	
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 it. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: 90 MPED	Holoom Guida -2 Guida -2 O ~200 'from + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 It. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: 90 MPED PUMPING WATER LEVEL: 9.9 ft. after 3 hours at 5 gpm.	Holcom G-422-2 0~200 1 from + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 It. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: PUMPED PUMPING WATER LEVEL: 9.9 ft. after 3 hours at 5 gpm. CHLORINATION: Type NA Amount	Holcom Gw22-2 ~200 4 rom + A.S. + the N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 it. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: $PUMPED$ PUMPING WATER LEVEL: 9.9 ft. after 3 hours at 5 gpm. CHLORINATION: Type NA Amount WATER QUALITY: FAIL TEMPERATURE (°F) 7/	Holcom G-422-2 0~200 1 from + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 it. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: $PUMPED$ PUMPING WATER LEVEL: 9.9 ft. after 3 hours at 5 gpm. CHLORINATION: Type NA Amount WATER QUALITY: FAIL TEMPERATURE (°F) 7/	Holcom G-422-2 0~200 1 from + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5.2 t. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: 90 MPED PUMPING WATER LEVEL: 9.9 ft. after 3 hours at 5 gpm. CHLORINATION: Type NA Amount WATER QUALITY: FAIR TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed NA	Holcom G-422-2 0~200 1 from + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.5 It. above land surface ELEV: 100.06 YIELD (gpm): 5 METHOD OF TESTING: $PUMPED$ PUMPING WATER LEVEL: 9.9 ft. after 3 hours at 5 gpm. CHLORINATION: Type NA Amount WATER QUALITY: FAIA TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP	Holcom G-422-2 0~200 1 from + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.0 S:t. above land surface ELEV: 100.06 YIELD (gpm): S METHOD OF TESTING: 904988 PUMPING WATER LEVEL: 9.9 ft. after <u>3</u> hours at <u>909</u> . CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>FAAA</u> TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth	Holcomb Guida-2 Ash ST Holcomb Holom + A.S. + to ~200 'from + A.S. + to N.E. Blug Holcomb Holcomb + A.S. + to N.E.
WATER ZONES (depth): 9.6 21.0 (TOC) STATIC WATER LEVEL: 9.6 ft. above top of casing Casing is 2.0 S. it. above land surface ELEV: 100.06 YIELD (gpm): S	Holcomb Guida-2 Ash ST Holcomb Holom + A.S. + to ~200 'from + A.S. + to N.E. Blug Holcomb Holcomb + A.S. + to N.E.

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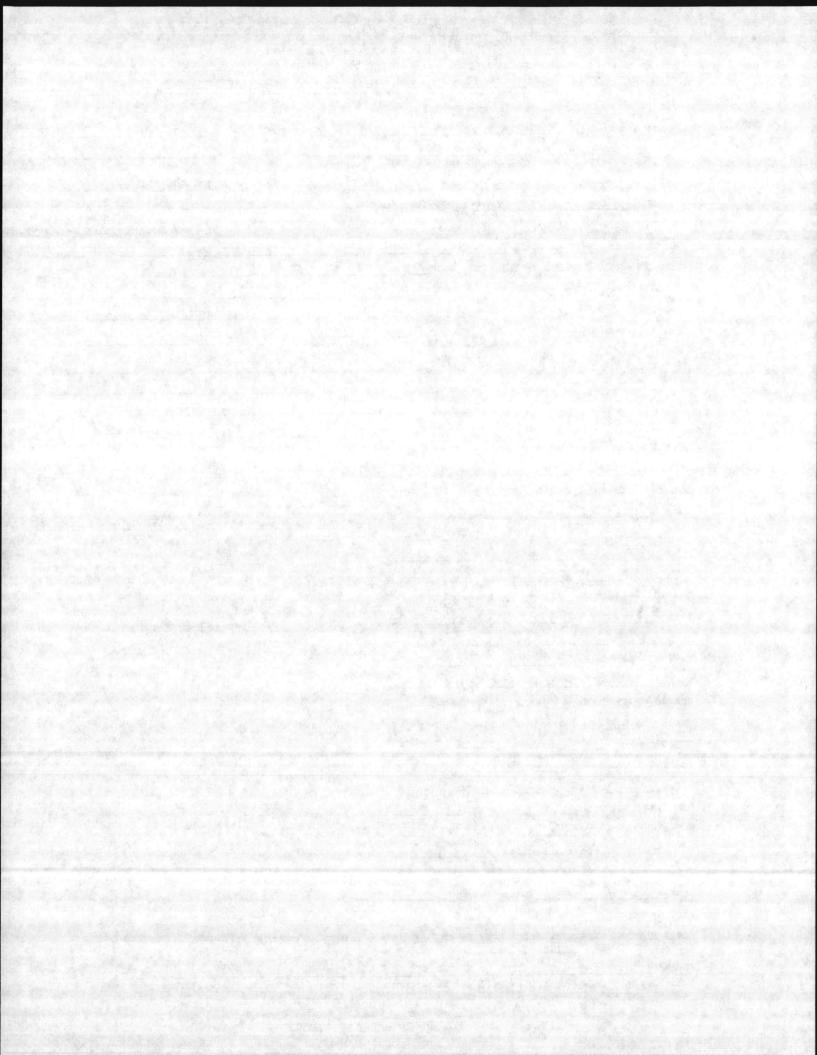
UUC NU. ULEU - UOU 13 - 3.19 - 1/2/185 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS. CONSULTMATS, LTd. REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) Nearest Town: MIDWAY PANK ONSCOU County: Louisno CAMP LEJEUNE CAMP LEJEUNE Quadrangle to. (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMENDINC GENERAL, MANINE CONP BASE DRILLING LOG G-W24-1 . . . 3. ADDRESS: OFACE OF ACIS FACILITIES CAMP LETEUNE N.C. DEPTH FROM FORMATION DESCRIPTION 4. TOPOGRAPHY: draw, valley, slope, hilltop, Tlat) circle one) USCS classification 5. USE OF WELL: H.D. Sameling DATE: 7-7-84 SN 6. DOES THIS WELL REPLACE AN EXISTING WELL? NO ML 70.7 7. TOTAL DEPTH: 20.27 RIG TYPE OR METHOD: H.S.A. 30-45 SM 8. FORMATION SAMPLES COLLECTED: YES NO < 9. CASING: Inside Depth Wall thick. type Dia. or weight/ft. From to 58 ft a, Sek 40 PUC 10. GR Depth Material Method From O to 327 ft our If additional space is needed, use back of form 11. SCREEN: Depth Dia Type & Opening From 5. 5 to 202) ft A 40 PUC LOCATION SKETCH (Show distance tonumbered roads, or other map reference points) 010 sla FRANK 5 12. GRAVEL: Depth Size Material From 4. 41 to 2627 ft DOGWOOD ST 3.27 4.41 1000 from + LR.+ D.S tr S.W. 13. WATER ZONES (depth) : 9.7 20.2 7 (Toc 14. STATIC WATER LEVEL: <u>9.7</u> ft. above top of casing Casing is 2.7 ft. above land surface ELEV: 91.1" Re Gw24-15. YIELD (gpm) : 7.5 METHOD OF TESTING: PS MAPED 9.8 16. PUMPING WATER LEVEL: 2015 hours at 7.5 after opm. 17. CHLORINATION: Type NA Amount 18. WATER QUALITY: GOOD TEMPERATURE ("F) 67 19. PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth Airline Depth 20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. litte K 2 12-17-84 SIGNATURE OF CONTRACTOR OF AGENT 17.440



WELL RECORD DIVISION OF ENVIRONMENTAL M. P. O. Box 27687 - RALEIGH, N.C. 276 PRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO.	11 919-733-2020	
	WELL CONS	TRUCTION PERMIT NO.
Nearest Town: MUCUAY PARK		ONSLOW
Louis RD. , CAMP LEJEUNE	County:	CAMP LEJEUNE
(Road, Community or Subdivision and Lot No.)	Ouadrangle w e	<u></u>
. OWNER: COMMANDING GENERAL, MANINE COAP BASE		DRILLING LOG GW24-2
ADDRESS : OFFICE OF AC/S FACILITIES, CAMP LETONE,	TRAL MA	FORMATION DESCRIPT
. TOPOGRAPHY: draw, valley, slop hilltop, flat (circle one)	0	(45CS Clanific
. USE OF WELL: H.O Sampling DATE: 7-7-34	Contraction of the	Charles and the second second
DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-a1.5	SM
TOTAL DEPTH: 19.42 RIG TYPE OR METHOD: H.S.A.		
FORMATION SAMPLES COLLECTED: YES NO		
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	1016	
From O to 4.99 ft 2." Sel 40 PUC		
		·
GROUT: Depth Material Method	$\langle \cdot \rangle$	A COLOR AND A
From O to 1,72 ft comment(a:1) pourcel	1 M.	
SCREEN: Depth Dia. Type & Opening	If additional space	e is needed, use back of for
From 4.99 to 19.92 ft 2" Sel 40 PVC -	LOCA	TION SKETCH
, OIO Blat (Show		roads, or other map reference point
		á.
and the second se		in h
		. 7
GRAVEL: Depth Size Material	\sim	V. 1
From 2.67 to 1940 ft Silico Sand		OGUN !!
1.72 267 Rentonite		OGWOODST
WATER ZONES (depth) :	1	7
3.6- 19.42' (TOC)		~ 1000 ! DS.+05
STATIC WATER LEVEL: 3.6 ft. above op of casing	1	~ 1000 05.+05
Casing is 2.5 ft. above land surface ELEV: 16.57	X	- Herry
VIELD (gpm) : 3.0 METHOD OF TESTING: PURPED	4	Guay-2
PUMPING WATER LEVEL: 3.6 ft.	0	4 va 7-7
after hours at 8-0 gpm.		States and ask and
CHLORINATION: TypeAmount	State State	
WATER QUALITY: GODD TEMPERATURE (°F) 71		
PERMANENT PUMP: Date Installed NA	2 지수는 신망소율	
TypeCapacity(gpm) HP		
Make Intake Depth		
MakeIntake Depth		
Airline Depth	FORMED OF THE DEPA	RTMENTS REOUTREMENTS AND
	FORMED OF THE DEPA	RTMENTS REQUIREMENTS AND

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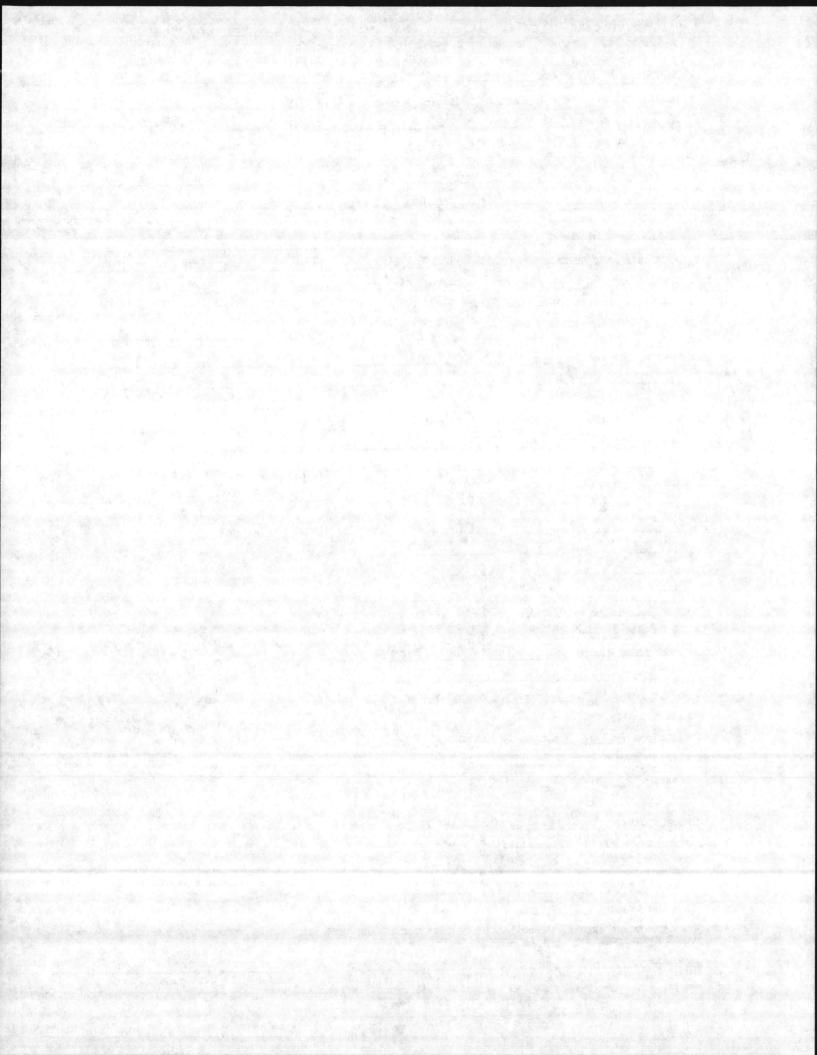


	91 WELL CO	INSTRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	115	
Nearest Town: MIDWAY ALAK	County:	OUSIDU
(Road, Community of Subdivision and Lot No.)	Quadrangle	No. CAMPLEJEUNE
2. OWNER: COMMANDING CONTAL, MAINE CONP BACE	1	DRILLING LOG GU24-3
3. ADDRESS DEFICE OF ACIS FACILITIES, CAMPLEJOUNE, N.C.	DEPTH	
4. TOPOGRAPHY: draw valley, slope, hilltop, flat (circle one)	FROM TO	FORMATION DESCRIPTI
5. USE OF WELL: H.O Sampling DATE: 7-7-84		(45 - concepto
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-35	SM
7. TOTAL DEPTH: 19.90 RIG TYPE OR METHOD: H.S.A.	3.5-4.5	SM-SC
B. FORMATION SAMPLES COLLECTED: YES NO	4.5-16.5	SM
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	20.0-265	G-M
From D to 5.3 ft 21 Sel 40 PUC		

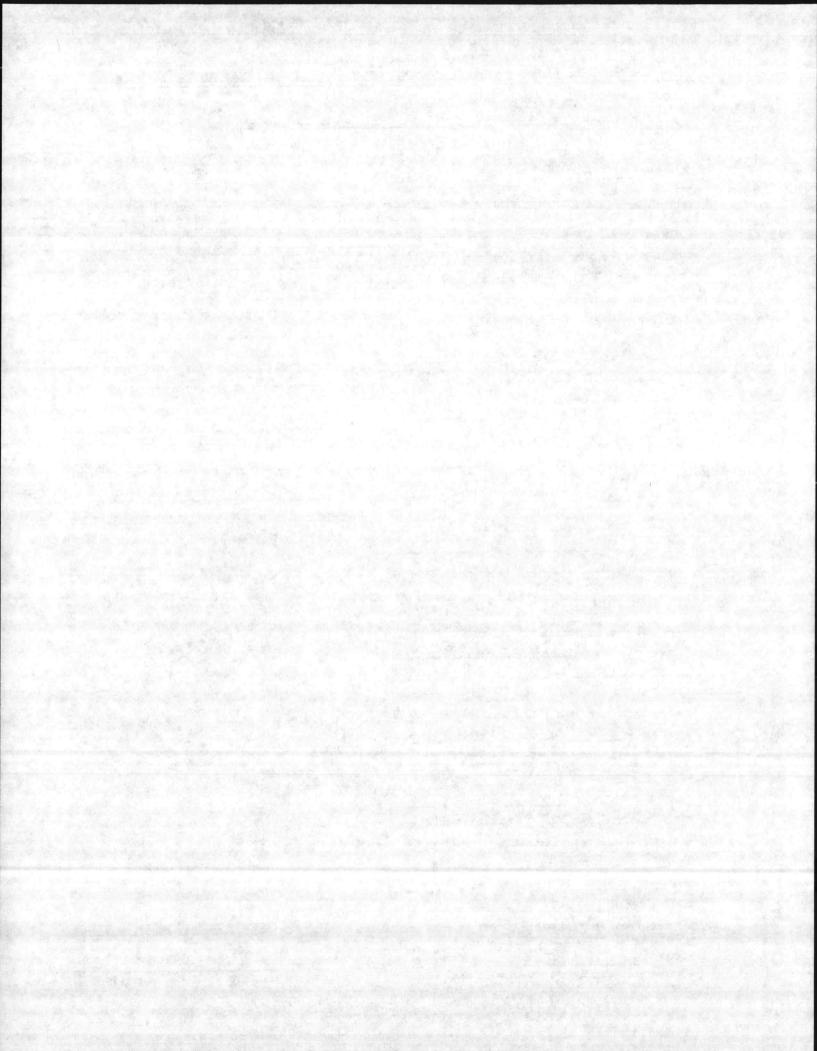
		A share the second second second
. GROUT: Depth Material Method		
From O to 3 25 ft (emerila:1) sourced		•
	and the second second	
. SCREEN: Depth Dia. Type & Opening	f additional sp	pace is needed, use back of form
	· · · · · · · · · · · · · · · · · · ·	and a second production of the
From 5.3 to 198 ft 2 Sch 40 PVC	L	OCATION SKETCH
	istance to numbere	d roads, or other map reference points
GRAVEL: Depth Size Material		
GRAVEL: Depth Size Material		
From 4.3 to 19.8 st Silica Send		\sim
		HUR
From 4.3 to 19.8 ft Silice Send 3.25 4.3 Bentonite		Franklun
From 4.3 to 19.8 st Silica Send	1/30	Franklun Outre
From <u>4.3 to 19.8 ft</u> <u>Silics Sind</u> <u>3.25 4.3</u> <u>Bentenite</u> WATER ZONES (depth) : <u>5.1 19.8'(Toc)</u>	ed lock	Franklun St Quace
From <u>4.3 to 19.8 ft</u> <u>Silics Sind</u> <u>3.25 4.3</u> <u>Bentenite</u> WATER ZONES (depth) : <u>5.1 19.8'(Toc)</u>	Re Dog	
From <u>4.3 to 19.8 ft</u> <u>Silics Sind</u> <u>3.25 4.3</u> <u>Bentenite</u> WATER ZONES (depth) : <u>5.1 19.8'(Toc)</u>	ed or	
From 4.3 to 19.8 ft Silics Send 3.25 4.3 Bentenite WATER ZONES (depth) : 5.1 19.8' (Toc) STATIC WATER LEVEL: 5.1 ft. above top of casing Casing is 3.5 ft. above land surface ELEV: 88.8	Rd OF	Franklin and so st looo' prom + '0' OS. To S.E.
From 4.3 to 19.8 ft	ed Oct	
From 4.3 to 19.8 ft Silics Send 3.25 4.3 Bentenite WATER ZONES (depth) : 5.1 19.8' (Toc) STATIC WATER LEVEL: 5.1 ft. above top of casing Casing is 3.5 ft. above land surface ELEV: 88.8	er or	- 1000' from + "0. DS to s. E. C-W24-
From 4.3 to 19.8 ft		
From 4.3 to 19.8 ft		2005 ~ 1000 / from + "0. DS. To S. E. C-W24-
From <u>4.3 to 19.8 ft</u> <u>Silics Send</u> <u>3.25 4.3</u> <u>Bentmite</u> WATER ZONES (depth): <u>5.1 19.8 '(Toc)</u> STATIC WATER LEVEL: <u>5.1 ft. above top of casing</u> Casing is <u>3.5 ft. above land surface ELEV: <u>89.8</u> YIELD (gpm): <u>5.5 METHOD OF TESTING: <u>RowARD</u> PUMPING WATER LEVEL: <u>5.3 ft.</u> after <u>3</u> hours at <u>5.5 gpm.</u> CHLORINATION: Type <u>NA</u> Amount <u>5</u></u></u>		2005 ~ 1000 / from + "0. DS. To S. E. C-W24-
From 4.3 to 19.8 ft		- 1000' from + "0. DS to s. E. C-W24-
From 4.3 to 19.8 ft		- 1000' from + "0. DS to s. E. C-W24-
From 4.3 to 19.8 ft		- 1000' from + "0. DS to s. E. C-W24-
From 4.3 to 19.8 ft		- 1000' from + "0. DS to s. E. C-W24-
From 4.3 to 19.8 ft	8	- 1000' from + "0. 05. to s. E. 0 G-W24-5
From 4.3 to 19.8 ft	8	05. 1000 / prom + "0. 05. 100 5. E. 0 G-W24-3

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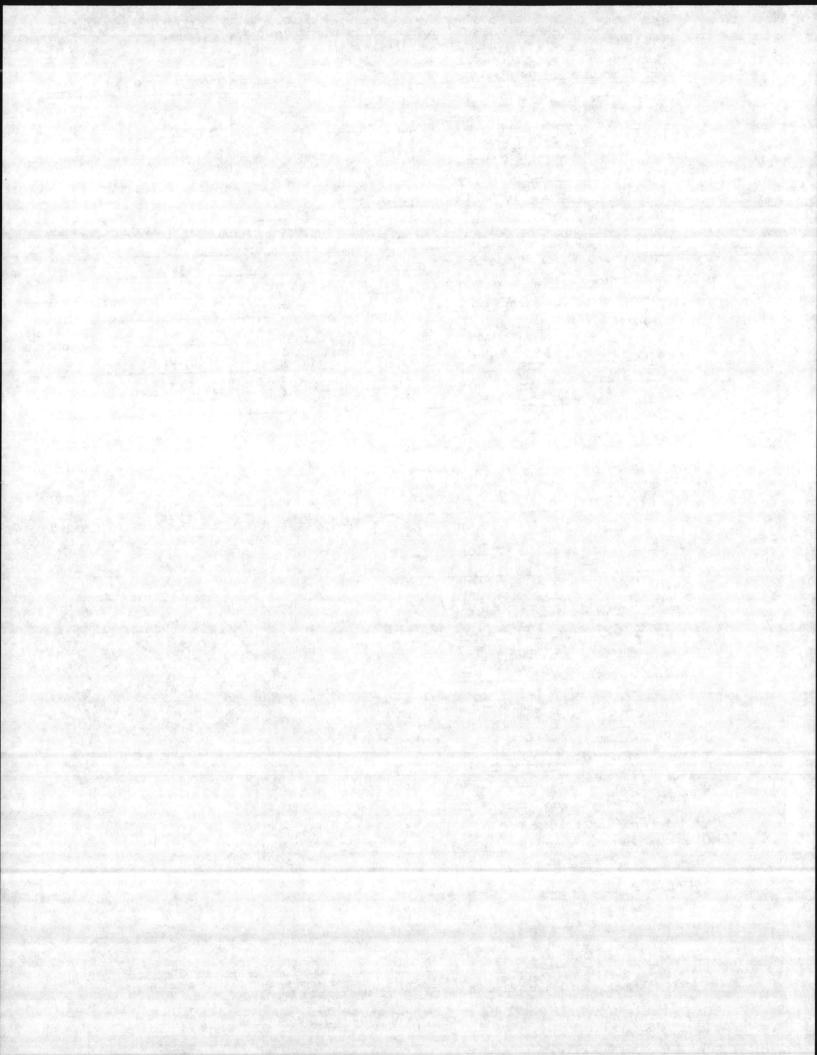
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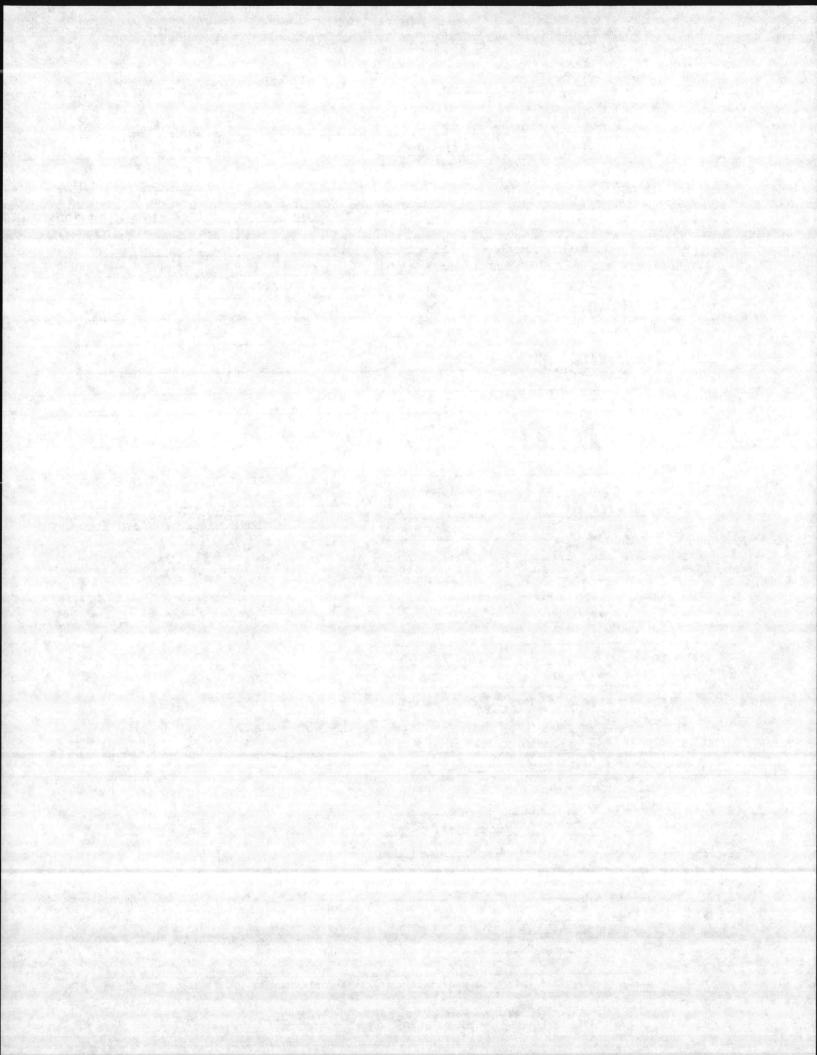
DRILLING CONTRACTOR STS COOSULTANTS, LH. REG. NO. 19	1 919-733-2020 WELL CONSTRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	and the second
Nearest Town: MIDWAY PANK	County: ONSCOL
(Road, Community or Subdivision and Lot No.)	Quadrangle to. CAMP LEJEUNE
2. OWNER: COMMANDING GENERAL, MARINE CORP BASE	
3. ADDRESS : OFFICE OF ACIS FACILITIES, CAMP LETEUNE N.C. 28540	DRILLING LOG GU24-4
	FROM TO FORMATION DESCRIPTI
4. TOPOGRAPHY: draw, valley, slope, hilltop (flat(circle one)	(uses confect
5. USE OF WELL: <u>H.O. Sampline</u> DATE: 7-7-84 6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	
7. TOTAL DEPTH: 21.37 RIG TYPE OR METHOD: H.S.A.	0-1.5 SM
	1.5-6 SM-SC
. FORMATION SAMPLES COLLECTED: YES NO	60-235 SM
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	
From O to 6.9 ft 3" Sch 40 PUC	
. GROUT: Depth Material Method	· · ·
From O to 4.9 ft coment()) course	· · · · ·
SCREEN: Depth Dia. Type & Opening	f additional space is needed, use back of form
Type opening	
From 6.9 to 2137 ft 2" Sak 40 PVC	LOCATION SKETCH Istance to numbered roads, or other map reference point
· · · · · · · · · · · · · · · · ·	
GRAVEL: Depth Size Material From <u>59 to 21.3 ft</u> <u>Silica Sand</u> <u>4.9 5.9</u> <u>Bentonile</u> WATER ZONES (depth): <u>8.5 - 21.37' (To c)</u>	Leader June
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9 5.9</u> <u>Bentonile</u> WATER ZONES (depth) : <u>8.5 - 21.37' (To L)</u>	Care and
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> WATER ZONES (depth) : <u>8.5</u> - <u>21.37</u> ' (To L) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing	read out
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lowtonile</u> WATER ZONES (depth) : <u>8.5</u> <u>-</u> <u>21.37</u> (Toc) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u>	author the
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonile</u> WATER ZONES (depth) : <u>8.5</u> <u>- 21.37' (Toc)</u> STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <i>fumPero</i>	the transferred in willow for
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonile</u> WATER ZONES (depth) : <u>8.5</u> <u>- 21.37' (Toc)</u> STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <i>fumPero</i>	the transferred in willow for
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonile</u> WATER ZONES (depth) : <u>8.5</u> <u>21.37</u> (TDL) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <i>fumper</i>	the transferred in willow for
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonila</u> WATER ZONES (depth) : <u>8.5</u> <u>21.37</u> (foc) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>fumPero</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm.	the transferred in willow for
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonile</u> WATER ZONES (depth) : <u>8.5</u> <u>21.37</u> (TDL) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>90 MPED</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>3</u> hours at <u>7</u> gpm.	A DOG WAD A S-SE
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonile</u> WATER ZONES (depth) : <u>8.5</u> <u>21.37</u> (foc) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>fumPero</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>GUDD</u> TEMPERATURE (^o F) <u>67</u>	A DOG WAD A S-SE
From 5.9 to 21.3 ft <u>Silica Sand</u> <u>4.9 5.9</u> <u>Londonile</u> WATER ZONES (depth): <u>8.5 - 21.37' (foc)</u> STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>fUMPED</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>GUDD</u> TEMPERATURE (°F) <u>67</u> PERMANENT PUMP: Date Installed <u>NAT</u>	A DOG WAD A S-SE
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonila</u> WATER ZONES (depth) : <u>8.5</u> <u>21.37</u> (foc) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.91</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>60 MPED</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>N/A</u> Amount WATER QUALITY: <u>60000</u> TEMPERATURE (°F) <u>67</u> PERMANENT PUMP: Date Installed <u>N/A</u> Type <u>Capacity</u> (gpm) HP	A DOG WAD A S-SE
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Londonila</u> WATER ZONES (depth) : <u>8.5</u> <u>-</u> <u>21.37</u> '(DL) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>fUMPED</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>GUDD</u> TEMPERATURE (°F) <u>67</u> PERMANENT PUMP: Date Installed <u>A/A</u> Type <u>Capacity (gpm) HP</u> Make <u>Intake Depth</u>	A DOG WAD A S-SE
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonila</u> WATER ZONES (depth) : <u>8.5</u> <u>21.37</u> (foc) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3.60</u> ft. above land surface ELEV: <u>91.91</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>60 PAPED</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>GODO</u> <u>TEMPERATURE</u> (^o F) <u>67</u> PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth	A Dog was a S-SE 0 6
From <u>59</u> to <u>21.3</u> ft <u>Silica Sand</u> <u>4.9</u> <u>5.9</u> <u>Lontonile</u> WATER ZONES (depth) : <u>8.5</u> <u>-</u> <u>21.37</u> (foc) STATIC WATER LEVEL: <u>8.5</u> ft. above top of casing Casing is <u>3./0</u> ft. above land surface ELEV: <u>91.41</u> YIELD (gpm) : <u>7</u> METHOD OF TESTING: <u>fUMPED</u> PUMPING WATER LEVEL: <u>8.7</u> ft. after <u>7</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>GUDD</u> TEMPERATURE (°F) <u>67</u> PERMANENT PUMP: Date Installed <u>A/A</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u>	A Dog was a S-SE 0 6



DRILLING CONTRACTOR STS CONSULTANTS, L+d REG. NO.	611 919-733-2020 191 WELL CON	STRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		LANII NO.
Nearest Town: MIDWAY PACK	and a second	Outra (and
	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle N	en CAMP LEJEUNE
2. OWNER: COMMANDING GENERAL MARINE ORD BLEE		DRILLING LOG &U 24-5
3. ADDRESS : O FACE OF ACIS FACILITIES CAMPLETEUNE, M.C.	DEPTH	110
4. TOPOGRAPHY: draw, valley, slope, hilltop (flat circle one)	FROM TO	FORMATION DESCRIPT
5. USE OF WELL: H.O Sampling DATE: 7-7-84		(now company
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0- 5	Tousel
7. TOTAL DEPTH: 22.37 RIG TYPE OR METHOD: H-S.A.	5-75	SM
8. FORMATION SAMPLES COLLECTED: YES / NO	7.5-9.0	SM-SC
9. CASING: Depth Inside Wall thick. type		
Dia. or weight/ft. From D to 19 ft d' Club Ave	9.0-10.5	SM
From D to LY ft dr Sch 40 PVC	15.0-163	SW-SC
	20.0-245	SM
0. GROUT: Depth Material Mathed		
Method		
From O to S. 9 It amout (:1) _ poured		
	Li additional spac	e is needed, use back of form
From 7.9 to 2237 ft d' Sel 40 PVC	LOCA	TION SKETCH
		roads, or other map reference points
CRAUET . Renth		
GRAVEL: Depth Size Material		*
From 6.5 to 2237st Selica Sand		\wedge
From 6.5 to237tt Selica Sand 4.5 6.5 Bentonite		
From 6.5 to 2237st Selica Sand		the /
Prom 6.5 to 237ft Selica Sand 4.5 6.5 Bentonite WATER ZONES (depth) : 124 - 22.37' (70c)		where si
From 6.5 to 2.37ft Selice Send 4.5 6.5 Rentonite WATER ZONES (depth) : 124 - 22.37' (Toc) STATIC WATER LEVEL: 124 ft. above top of casing	. A and the	Loutellan SI
From 6.5 tod237ft Selica Sand <u>4.5 6.5</u> <u>Sententle</u> WATER ZONES (depth) : <u>124</u> - 22.37' (Toc) STATIC WATER LEVEL: <u>124</u> ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: 100 h	ouis ad agent	100 the 10 st
From 6.5 to 2.37ft Selice Send <u>4.5 6.5</u> <u>Rentonite</u> WATER ZONES (depth) : <u>12.4</u> - 22.37'(Toc) STATIC WATER LEVEL: <u>12.4</u> ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: <u>100.5</u> YIELD (gpm) : <u>7.5</u> METHOD OF TESTING: <u>PUMPED</u>	Louis ad agent	100 cm 24-5 20 cm 24-5 2250' prom + of
From 6.5 to 2137ft Selice Send <u>4.5 6.5</u> <u>Selice Send</u> WATER ZONES (depth) : /2.4 - 2.2.37' (Toc) STATIC WATER LEVEL: /2.4 ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: /00.b YIELD (gpm) : METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: /2.5ft.	Louis ad agent	100 Gway-5 Naso'pone top Ds. to's. to E
From 6.5 to 2.37ft Selica Sand <u>4.5 6.5</u> <u>Rentonite</u> WATER ZONES (depth) : <u>124 22.37'(Toc)</u> STATIC WATER LEVEL: <u>124</u> ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: <u>100.0</u> YIELD (gpm) : <u>7.5</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>12.5</u> ft. after hours at <u>7.5</u> gpm.	Louis Bd agent	100 4w24-5 200 4w24-5 2250' prom + of DS. +"0'S. & E
From 6.5 to 2137ft Selice Send <u>4.5 6.5</u> <u>Selice Send</u> WATER ZONES (depth) : /2.4 - 2.2.37' (Toc) STATIC WATER LEVEL: /2.4 ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: /00.b YIELD (gpm) : METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: /2.5ft.	Louis ad agent	united in strain of the state o
From 6.5 to 2.37ft Selica Sand <u>4.5 6.5</u> <u>Rentonite</u> WATER ZONES (depth) : <u>124 22.37'(Toc)</u> STATIC WATER LEVEL: <u>124</u> ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: <u>100.0</u> YIELD (gpm) : <u>7.5</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>12.5</u> ft. after hours at <u>7.5</u> gpm.	Louis ad agent	100 4w24-5 200 4w24-5
From 6.5 to 2137ft Selice Send <u>4.5 6.5</u> <u>Sententie</u> WATER ZONES (depth) : /2.4 - 2.2.37'(70c) STATIC WATER LEVEL: /2.4 ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: /00.b' YIELD (gpm) : <u>7.5</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: /2.5 ft. after hours at <u>7.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount	Louis ad any	unter si o Gway-s nasa'pon tot Ds. to's. to E
From 6.5 to 2.3.7ft Selice Send <u>4.5 6.5</u> <u>Kentonite</u> WATER ZONES (depth) : /24 - 22.37' (70c) STATIC WATER LEVEL: /24 ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: /00.0 YIELD (gpm) : <u>7.5</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: /2.5 ft. after hours at <u>7.5</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>G. 3000</u> TEMPERATURE (^O P) <u>68</u>	Louis ad agent	with si "Do Gway-5 Naso'prom top Ds. to's. to E
From 6.5 to 2137ft Selice Send <u>4.5 6.5</u> <u>Sententite</u> WATER ZONES (depth) : /2.4 - 2.2.37'(Toc) STATIC WATER LEVEL: /2.1 ft. above top of casing Casing is <u>2.1</u> ft. above land surface ELEV: /00.0 YIELD (gpm) : <u>7.5</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: /2.5 ft. after hours at <u>7.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>G.SOLO</u> TEMPERATURE (°F) <u>68</u> PERMANENT PUMP: Date Installed <u>MA</u>	Louis ad any	with ist a gway-s nasa' from top Ds. to's. to E
From 6.5 to 2137ft Selice Send 4.5 6.5 Kentonite WATER ZONES (depth) : /24 - 22.37' (70c) STATIC WATER LEVEL: /24 ft. above top of casing Casing is 2.1 ft. above land surface ELEV: /00.0' YIELD (gpm) : 7.5 METHOD OF TESTING: PUMPED PUMPING WATER LEVEL: /2.5 ft. after hours at5 gpm. CHLORINATION: Type Amount WATER QUALITY:600.0 TEMPERATURE (°F) 68 PERMANENT PUMP: Date Installed	Louis ad agent	with ist "0 Gw24-5 Naso'prom top Ds. +0's. & E
From 6.5 to 2137ft Selice Send 4.5 6.5 Acatemile WATER ZONES (depth): /2.4 - 2.2.37'(70c) STATIC WATER LEVEL: /2.1 ft. above top of casing Casing is 2.1 ft. above land surface ELEV: /00.0 YIELD (gpm): 7.5 METHOD OF TESTING: PUMPED PUMPING WATER LEVEL: /2.5 ft. after hours at5 gpm. CHLORINATION: Type Amount WATER QUALITY: G. 300 0 TEMPERATURE (°F) 68 PERMANENT PUMP: Date Installed Type (gpm) HP Make Intake Depth	WHED OF THE DEPART	
From 6.5 to 2137ft Selice Send 4.5 6.5 Antonite WATER ZONES (depth) : /24 - 22.37' (70c) STATIC WATER LEVEL: /24 ft. above top of casing Casing is 2./ ft. above land surface ELEV: /00.0 YIELD (gpm) : 7.5 METHOD OF TESTING: PUMPED PUMPING WATER LEVEL: /2.5 ft. after hours at 7.5 gpm. CHLORINATION: Type Amount WATER QUALITY: 6.000 TEMPERATURE (°F) 68 PERMANENT PUMP: Date Installed PERMANENT PUMP: Date Installed Type (gpm) HP Make Intake Depth		TMENTS REQUIREMENTS AND

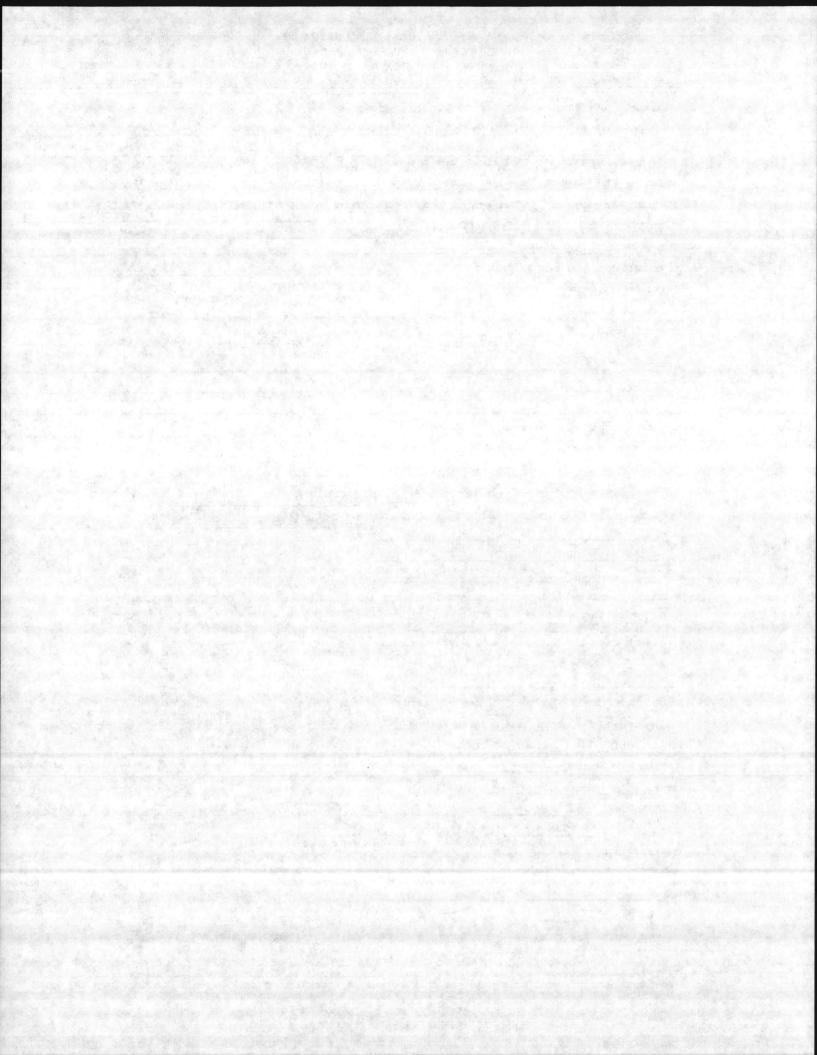


	NORTH CAROLINA DEPARTMENT OF NATURAL RE WELL RECORD DIVISION OF ENVIRONMENT P. O. Box 27687 — RALEIGH, N.	SOURCES & COMMUNITY DE AL MANAGEMENT	VELOPMENT
	DRILLING CONTRACTOR STS CONSULTANTS, L+d. REG. NO		RUCTION PERMIT NO.
	1. WELL LOCATION: (Show sketch of the location below	r)	
	Nearest Town: MIDLAY MARY	County:	ONSCO W
	(Road, Community or Subdivision and Lot No.)	Quadrangle No.	CAMP LEJEUNE
	2. OWNER: COMMANDING BOUGRAC, MARINE COAP BA	<u>sē</u>	DRILLING LOG GU28-1
	3. ADDRESS : OFFICE OF AC/S FACILITIES CAMP LETTUNE, A	DEPTH	· ·
	4. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle	2. STYD FROM TO one)	(USGS Classific
	5. USE OF WELL: HO Sampling DATE: 7-7-84		
	6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	- 0-30	SM
	7. TOTAL DEPTH: 19.21 RIG TYPE OR METHOD: H.SA	. 30-60	GM
	8. FORMATION SAMPLES COLLECTED: YES / NO	6.0-165	SM
	9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.		
	From D to 4.68 tt 2" Sel 40 PVC		
			•
1	0. GROUT: Depth Material Method		The All Providence of the
	From O to 2.17 ft coment (2:1) courd		
	A CARLES AND A C		
1	1. SCREEN: Depth Dia. Type & Opening	- If additional space	is needed, use back of for
	From 465 to 1221 ft 2" Sel 40 PVC	· · · · · · · · · ·	
)		(Show distance to numbered ro	ION SKETCH ads, or other map reference point
		1	
1:	2. GRAVEL: Depth Size Material	1	
	From 392 to 19.21 ft Cilica Sand	3	
	217 3.92 bentonite	:	
	11/ 10 7/161	-0	
13	3. WATER ZONES (depth) : 4.6 - 19.21' (Toc)	34 /	
1:	. WATER ZONES(depth): 4.6 - 19.21 (76c)		
	. STATIC WATER LEVEL: 4.6 ft. above top of casing		
14	Casing is		- Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q
14	. STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing Casing is 1.31 ft. above land surface ELEV: <u>bo.</u> A . YIELD (gpm): 8.5 METHOD OF TESTING: <u>RUMPED</u>		- quizg-1 mt of RR +05. To S.E
14	. STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing Casing is 2.31 ft. above land surface ELEV: <u>bo.</u> A ft. . YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>RUMPER</u> . PUMPING WATER LEVEL: <u>4.6</u> ft.	iver Rd ~1000'the	awag-1 mt of RR +OS. To S.E
14 15 16	S. STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing Casing ia2.31 ft. above land surface ELEV: <u>bo.32</u> Al S. YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>RUMPED</u> DUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm.	iver Rd ~1000'the	<u> </u>
14 15 16 17	 STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing Casing is <u>3.31</u> ft. above land surface ELEV: <u>bo.3</u> All YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>RUMPER</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>Ma Amount</u> 		<u> </u>
14 15 16 17 18	 STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing Casing is <u>3.31</u> ft. above land surface ELEV: <u>bo.7</u> Ale. YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>BUMPED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>Mathematical Structure</u> (^oF) <u>71</u> 	iver Rd ~1000'the	River
14 15 16 17 18	 STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing (Casing is). <u>31</u> ft. above land surface ELEV: <u>be.</u> A ft. YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>RUMPED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount	iver Rd ~1000'the	<u> </u>
14 15 16 17 18	 STATIC WATER LEVEL: <u>4.6</u> ft. <u>below</u> top of casing Casing is <u>3.51</u> ft. above land surface ELEV: <u>bo.7</u> Ali . YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>BUMPED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>FA/A</u> TEMPERATURE (^OF) <u>7/</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity (gpm) HP</u> 	iver Rd ~1000'the	<u> </u>
14 15 16 17 18	 STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing (Casing is). <u>31</u> ft. above land surface ELEV: <u>be.</u> A ft. YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>RUMPED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount	iver Rd ~1000'the	<u> </u>
14 15 16 17 18	 STATIC WATER LEVEL: <u>4.6</u> ft. <u>below</u> top of casing Casing is <u>3.51</u> ft. above land surface ELEV: <u>bo.7</u> Ali . YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>BUMPED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>FA/A</u> TEMPERATURE (^OF) <u>7/</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity (gpm) HP</u> 	iver Rd ~1000'the	
14 15 16 17 18 19	 STATIC WATER LEVEL: <u>4.6</u> ft. <u>below</u> top of casing Casing is <u>1.34</u> ft. above land surface ELEV: <u>be.</u> A if . YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>8.44 PED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>FA/A</u> TEMPERATURE (^oF) <u>7/</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth EAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND 	Iver Rd ~1000'the New	River
14 15 16 17 18 19 20	STATIC WATER LEVEL: <u>4.6</u> ft. above top of casing Casing ia <u>2.31</u> ft. above land surface ELEV: <u>bo.37</u> Al S. YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>BUMPED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>FA/A</u> TEMPERATURE (^O F) <u>7</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth_ EAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AN RECOMMENDATIONS? <u>44</u>	Iver Rd ~1000'the New	River
14 15 16 17 18 19 20	 STATIC WATER LEVEL: <u>4.6</u> ft. <u>below</u> top of casing Casing is <u>3.54</u> ft. above land surface ELEV: <u>be.</u> A if . YIELD (gpm): <u>8.5</u> METHOD OF TESTING: <u>8.44 PED</u> PUMPING WATER LEVEL: <u>4.6</u> ft. after <u>3</u> hours at <u>8.5</u> gpm. CHLORINATION: Type <u>MA</u> Amount . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>FA/A</u> TEMPERATURE (^oF) <u>7/</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity (gpm) HP</u> Make <u>Intake Depth</u> Airline Depth EAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND ADDITED A COPY OF THIS RECORD ADDITED ADDITE	NO INFORMED OF THE DEPAR	River



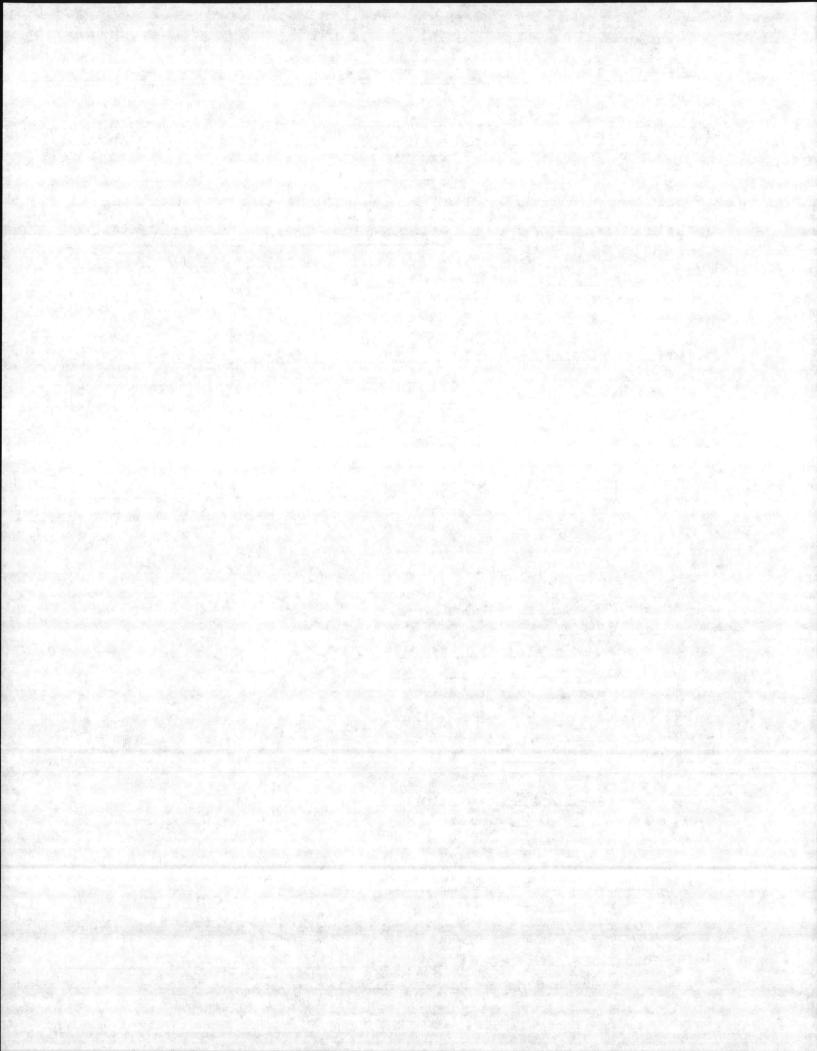
RILLING CONTRACTOR STS CONSULTANTS, LTd. REG. NO. 191	WELL CONSTRU	CTION PERMIT NO.
WELL LOCATION: (Show sketch of the location below)		and a strength
Nearest Town: MIDWAY PARK	County:	Ouscow
(Road, Community or Subdivision and Lot No.)	Quadrangle No	CAMP LE JEUNE
OWNER: COMMANDIAL GENERAL CAMP CETEUNE	<u>D</u>	RILLING LOG G-U28-2
ADDRESS : OFFICE OF ACIS FACILITIES , CAMP LEDENNE ALC.	DEPTH	BORNARY BROOTEN
TOPOGRAPHY: draw, valley, lope, hilltop, flat (circle one)	FROM TO	GANATION DESCRIPT
USE OF WELL: HO Sampling DATE: 7-7-84		<u> </u>
DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-160:	SM
TOTAL DEPTH: 19.47 RIG TYPE OR METHOD: H.S.A.	16.0-165	SW
FORMATION SAMPLES COLLECTED: YES VNO	19.5-20.0	SM
CASING: Depth Inside Wall thick. type		und mit
Dia. or weight/ft.	20.0-21.0	worry per
Prom D to SOL ft AF Sch 40 PVC		
	· · ·	
GROUT: Depth Material Method		
From A to Z ft comment (2:1) poured -	A Contraction of the second	
	f additional space	is needed, use back of for
SCREEN: Depth Dia. Type & Opening	General Sector	
GRAVEL: Depth Size Material	31	
	. 51/	
From 3.0 to 19.47 tt Slice Sand	"5 ¹	
Prom 3.0 to 19.47 st Selice Sand 2000 S.D Lestonite	"0, 51	1
From 3.0 to 19.47 tt Slice Sand	"o' 51	/
From 3.0 to 19.47 St Silica Sand 2.00 S.D Restonite WATER ZONES (depth) : 2.8 - 19.47 (Toc) :	"0 51	
From 3.0 to 19.47ft Selice Sand 2.00 S.D <u>Mentomile</u> WATER ZONES (depth) : 2.8 - 19.47 (Toc) STATIC WATER LEVEL: 2.9 ft. above top of casing River	"o' 51	
From 3.0 to 19.47ft <u>Selice Sand</u> 2.00 S.D <u>Lectonite</u> WATER ZONES (depth) : Z.8 - 19.47 (roc) STATIC WATER LEVEL: 2.9 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.98 Rd	"o 51	
From 3.0 to 19.97ft	"o st	
From 3.0 to 19.47ft <u>Selice Sand</u> 2.00 S.D <u>Lectonite</u> WATER ZONES (depth): 2.8 - 19.47 (roc) STATIC WATER LEVEL: 2.9 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.98 VIELD (gpm): 8.5 METHOD OF TESTING: PJMAPP PUMPING WATER LEVEL: 2.9 ft.	"o 51	~ 17.50 'from + R.R.
From 3.0 to 19.47ft <u>Selice Sand</u> 2.00 S.D <u>Lectonite</u> WATER ZONES (depth): 2.8 - 19.47 (roc) STATIC WATER LEVEL: 2.9 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.98 VIELD (gpm): 8.5 METHOD OF TESTING: PJMAPP PUMPING WATER LEVEL: 2.9 ft.	"o st	~ MSO'from + RR. to 'S.E.
From 3.0 to 19.47ft	"o st	~ 1750 / from + RR. to S.E
From 3.0 to 19.97ft	"0 ST	~ 1750 'prom + RR. to S.E
From 3.0 to 19.47ft	"0" ST	~ 1750' from + RR. to S.E.
From 3.0 to 19.97ft	New o	0 4
From 3.0 to 19.47ft	New RIN	0 4
From 3.0 to 19.47ft	New Riv	0 4
From 3.0 to 19.97ft	∿ ()	0 rev
From 3.0 to 19.47ft <u>Selice Sand</u> 2.00 S.D <u>Lectonite</u> WATER ZONES (depth) : Z.8 - 19.47 (roc) STATIC WATER LEVEL: 2.9 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.98 Rd	∿ ()	0 rev

.



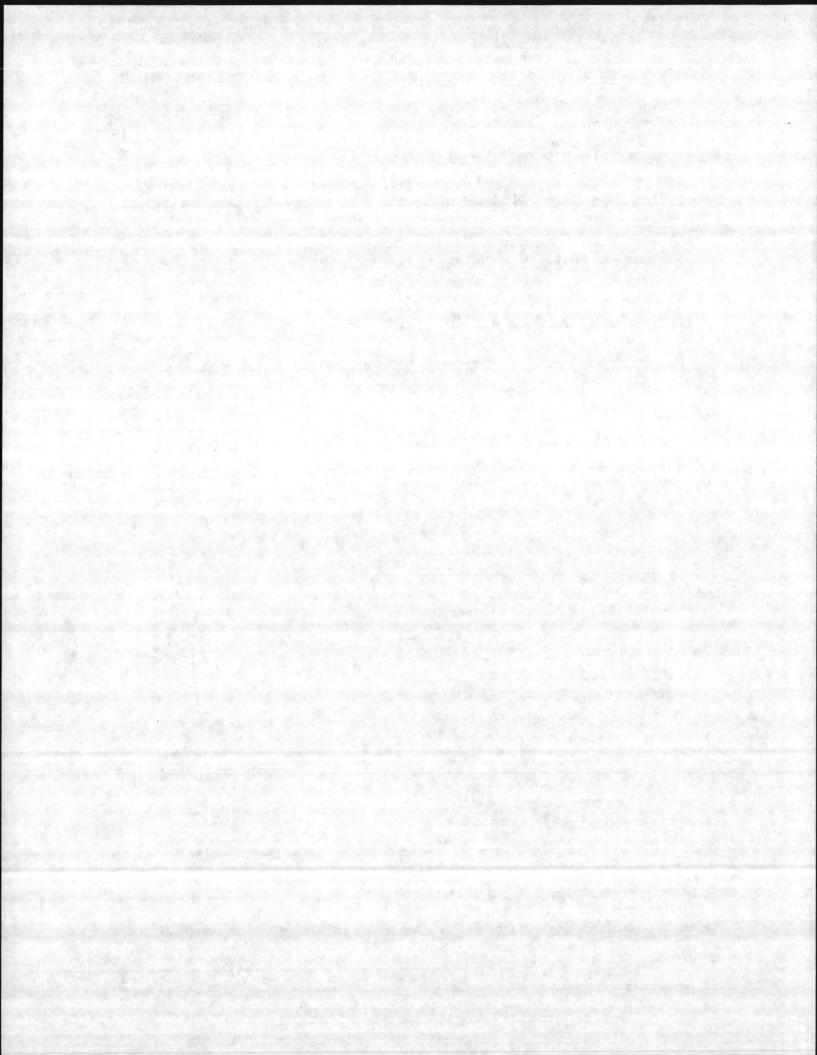
P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTANT Ctd. REG. NO. 19		UCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: MID WAY PAAK	County:	Onslow
(Road, Community or Subdivision and Lot No.)	Quadrangle Ne.	CAMP LEJOUNE
2. OWNER: COMMANDING GENERAL, MARINE CORP BA	<i></i>	
3. ADDRESS: OFACE OF ACIS FACILITIES CAMP LETEUNE N.		DRILLING LOG GW29-3
. TOPOGRAPHY: draw, valley, slope, hilltop, flat(circle one)	FROM TO	FORMATION DESCRIPTI
5. USE OF WELL: HO Sameling DATE: 7-7-84		(45 CS Classificat
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-3.0	SM
. TOTAL DEPTH: 18.57 RIG TYPE OR METHOD: H.S.A.	30-4.0	SM-SC
. FORMATION SAMPLES COLLECTED: YES > NO	40-55	
		wood + other organic
Dia. or weight/ft.	J.5-60	SM-SC
From B to 4,1 ft de Sch 40 PVC	60-7.5	part .
	65-26.5	SM
	and the second second second	
. GROUT: Depth Material Method		
From to 211 ft coment/2:1) poured		
. SCREEN: Depth Dia. Type & Opening	f additional space	is needed, use back of form
From 41 to 19.57 ft 2" Sch 40 PUC -	LOCATI	ION SKETCH
.010 slot	istance to numbered roa	ds, or other map reference points
	's ST	
GRAVEL: Depth Size Material	">	
From 3/1 to/ 5,3/It Select Source	4	
2.11 3.11 Bentonite	/	
WATER ZONES (depth) : 3.5 - 19-57 (Toc) 714	> /	~ 4500 from + RR+ tr E-SE
	\sim	~ 4500 From SE
STATIC WATER LEVEL: 3.5 ft. above top of casing		THE T
Casing is 2.5 ft. above land surface ELEV: 99.8		
YIELD (gpm) : 3.5 METHOD OF TESTING: PUMPED	0	0
PUMPING WATER LEVEL: 5.5 ft.		GNDS
after 12 hours at 3.5 gpm.		. 4 Not
CHLORINATION: Type NA Amount -	te de prosente de la constante	
		영상은 것 이것 술 것 것
PERMANENT PUMP: Date Installed		0
TypeCapacity(gpm) HP	River	\mathbf{V}
MakeIntake Depth	l'rer	· · ·
Airline Depth		
HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INF RECOMMENDATIONS?	ORMED OF THE DEPART	MENTS REQUIREMENTS AND
REMARKS		

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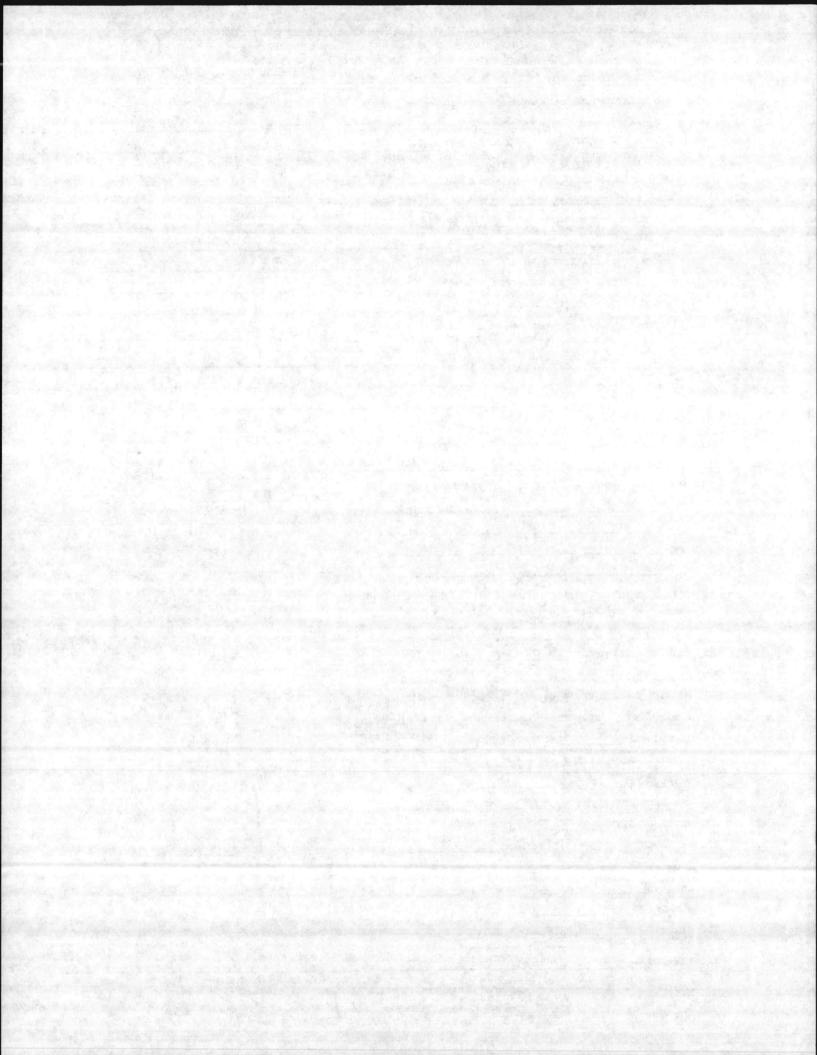


1. WELL LOCATION: (Show sketch of the location below) Nearest Town: <u>Mile AF BAC</u> <u>County:</u> <u>OMICaul</u> <u>County:</u> <u>Cou</u>		WELL CONSTRU	CTION PERMIT NO.
Charter Parce A.D. Caller Solution and Los No.) Chart Classingle No.	1. WELL LOCATION: (Show sketch of the location below)	an a	
SUPPORT REPORT AD. CALLAR STRUCTURE Quadrangia No. LAMP LEVENCE (Road.Community or Subdivision and Los Ro.) DETERMINE CALLAR CANADAS CONS SACC DETERMINE CALLAR CALL		County:	ONSCOU
2. OWNER: <u>CDULTE AUGUS STOCK</u> 3. DORESS: <u>CDECE OF ACL AND A ANIME CONSAT</u> 4. TOPOGRAPHY: <u>drawy valley, aloge shilleng</u> <u>CARTHAN & MAXIME CONSAT</u> 4. TOPOGRAPHY: <u>drawy valley, aloge shilleng</u> <u>DATE:</u> <u>7-6-37</u> 5. USE OF WELL: <u>H.O. Semifler</u> DATE: <u>7-6-37</u> 6. DOES THIS WELL RELACE AN EXISTING WELL? <u>MO</u> 7. TOTAL DEFT: <u>2057</u> ALG TYPE OR METHOD: <u>H.S. A</u> 6. DOES THIS SAMPLES COLLECTED: <u>YES & NO</u> 9. CASING: Depth Inside Well thick: type 11. SCREEN: Depth <u>Niterial</u> <u>Method</u> 7. TOTAL DEPTH: <u>2057</u> ALG TYPE OR METHOD: <u>H.S. A</u> 9. CASING: Depth <u>Inside Well thick</u> : type 12. SCREEN: Depth <u>Niterial</u> <u>Method</u> 7. TOTAL DEPTH: <u>2057</u> ALG TYPE OR METHOD: <u>H.S. A</u> 9. CASING: Depth <u>Inside Well thick</u> : type 13. SCREEN: Depth <u>Dis.</u> Type & Opening 7. From <u>6/1</u> to <u>2057</u> t: <u>SLR 400 PVC</u> 10.00 <u>Cdef</u> 1. SCREEN: Depth <u>Dis.</u> Type & Opening 7. From <u>6/1</u> to <u>2057</u> t: <u>SLR 400 PVC</u> 1. SCREEN: Depth <u>Sise</u> <u>Naterial</u> 7. TOTAL DEPTH: <u>10.2</u> <u>20.57</u> (TO) 3. WATER COMER LEVEL, <u>D.2</u> to <u>100 Cdef</u> 4. SCREEN: <u>Depth</u> <u>Sise</u> <u>Naterial</u> 7. TAKER COMERCE (<u>D.C. TOTESTING</u> , <u>TUMPYON</u> 7. WATER COMERTE LEVEL, <u>D.2</u> to <u>100 C Casing</u> Casing is <u>35</u> ft. above land surface <u>ELEV</u> . <u>-</u> 1. TIRLO GRADIT: <u>D.2</u> <u>TOTESTING</u> , <u>TUMPYON</u> 7. TAKER COMLITY: <u>G.OSD</u> <u>TRAPERATURE</u> (⁵) <u>T/</u> 7. TAKER COMLITY: <u>G.OSD</u> <u>TRAPERATURE</u> (⁵) <u>T/</u> 7. MARER COMLITY: <u>G.OSD</u> <u>TRAPERATURE</u> (⁵) <u>T/</u> 7. MARER COMLITY: <u>G.OSD</u> <u>TRAPERATURE</u> (⁵) <u>T/</u> 7. MARER COMLITY: <u>G.OSD</u> <u>TRAPERATURE</u> (⁵) <u>T/</u> MARE COMLITY: <u>G.OSD</u> <u>TRAPERATURE</u> (⁵) <u>T/</u> 7. CARONE: <u>Trape Capacity</u> (iggm) <u>FF</u> MARE <u>COMLITY</u> <u>SCREENT</u> <u>COML</u> <u>MON</u> <u>COM</u> 4. MAGO <u>1</u> ALTINE DEPTH. <u>COMPACE</u>	SNEWS PERAL RD. CAMP LEJEUNE	Quadrangle No.	CAMP LESEVAL
3. JODESS: <u>OFFEC OF ACIT PRESIDENCE OF PACTORS AND AND AND AND AND AND AND AND AND AND</u>		and the second	We wanted to be a
4. TOPOGRAPHY: draw, valley, slope, hillcop, flat (Cities one) 5. USE OF WELL: <u>b.O Sempling</u> DATE: 7-6-84 6. DOES WILS WELL ARELACE AN EXISTING WELL? <u>NO</u> 7. TOTAL DEPTH: <u>20.57</u> RIG TYPE OR METHOD. <u>4.5. A</u> 8. FORMATION SAMPLES COLLECTED: YES <u>/ NO</u> 9. CASING: Depth Inside Wall thick. type Dia. or weight/ft. From <u>O</u> to <u>6.11</u> ft <u>3</u> , <u>5.440</u> <u>PUC</u> 9. CASING: Depth Meteorial Method From <u>O</u> to <u>6.11</u> ft <u>3</u> , <u>5.440</u> <u>PUC</u> 9. CASING: Depth Meteorial Method From <u>O</u> to <u>6.11</u> ft <u>6.8647</u> <u>11</u> <u>6.8647</u> <u>11</u> <u>15.8647</u> <u>11</u> <u>15.8647</u> <u>11</u> <u>15.8647</u> <u>11</u> <u>15.8647</u> <u>11</u> <u>15.8647</u> <u>15.8677</u> <u>17.86778</u> <u>15.86778</u>			LILLING LOG GU30-/
S. USE OF WELL: <u>H.O. Securificity</u> DATE: <u>7-6-84</u> 6. DOES THIS WELL REPLACE AN EXISTING WELL? <u>MO</u> 7. TOTAL DEPTH: <u>D.S.T</u> ALG TYPE OR METHOD: <u>H.S.A</u> 8. FORMATION SAMPLES COLLECTED: YES <u>MO</u> 9. CASTNG: Depth Inside Wall thick. type Dia. or weight/ft. 9. CASTNG: Depth Meterial Method From <u>O</u> to <u>6</u> [1] ft. <u>A</u> ", <u>S.A.400</u> <u>PUC</u> 9. CASTNG: Depth Meterial Method From <u>O</u> to <u>6</u> [1] ft. <u>A</u> ", <u>S.A.400</u> <u>PUC</u> 9. CASTNG: Depth Meterial Method From <u>O</u> to <u>6</u> [1] ft. <u>A</u> ", <u>S.A.400</u> <u>PUC</u> 9. CASTNG: Depth Meterial Method From <u>CAL</u> to <u>6</u> [1] ft. <u>Calender</u> <u>Alignment</u> <u>Alig</u>	- 2640	the second se	FORMATION DESCRIPTI
6. DOES THIS WELL REPLACE AN EXISTING WELL? <u>NO</u> 7. TOTAL DEPTH: <u>JO.ST</u> RIG TYPE OR METHOD: <u>H.S.A</u> 8. FORMATION SAMPLES COLLECTED: YES / NO 9. CASING: Depth Inside Wall thick. type Dia. or weight/fi. 9. CASING: Depth Niterial Method From O to Gill ft <u>3</u> , <u>SA40</u> PUC 9. CASING: Depth Niterial Method From O to Gill ft <u>3</u> , <u>SA40</u> PUC 9. CASING: Depth Dia. Type & Opening 9. CORVEL: Depth Size Material 9. CORVEL: Depth Size Material 9			(45 CS clamific
7. TOTAL DEFTH: <u>JOS</u> RIG TYPE OR METHOD: <u>H.S.A</u> 8. FORMATION SAMPLES COLLECTED: YES <u>NO</u> 9. CASING: Depth Inside Wall thick: type Prom <u>O</u> to <u>6</u> [1] ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CASING: Depth Material Method 5. CREWE: Depth Dia. Type & Opening From <u>C</u> to <u>6</u> [1] ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Dia. Type & Opening From <u>C</u> to <u>6</u> [1] ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Dia. Type & Opening From <u>C</u> to <u>6</u> [1] ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Dia. Type & Opening From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Dia. Type & Opening From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA40</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA400</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA400</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> ft <u>X''</u> <u>SA400</u> <u>PUC</u> 9. CREWE: Depth Size Naterial From <u>SUI</u> to <u>6057</u> <u>T</u> <u>T</u> <u>TEMPENATURE</u> <u>Copacity</u> <u>T</u> <u>TEMPENATURE</u> <u>TOPE</u> <u>T</u> <u>TEMPENATURE</u> <u>Capacity</u> <u>(spm) EP</u> Nake <u>Tataks Depth</u> Airline Depth <u>C</u>			
8. FORMATION SAMPLES COLLECTED: YES <u>NO</u> 9. CASING: Depth Inside Wall thick. type From <u>O</u> to <u>6</u> [1] to <u>A</u> " <u>Sch40</u> <u>PUC</u> 9. CASING: Depth Miterial Nethod From <u>O</u> to <u>6</u> [1] to <u>A</u> " <u>Sch40</u> <u>PUC</u> 9. CROT: Depth Miterial Nethod From <u>O</u> to <u>4</u> [1] to <u>Content</u> (<u>Gil</u>) <u>perfect</u> 9. CREEN: Depth Dia. Type i Opening From <u>C</u> [1] to <u>1057</u> tt <u>A</u> " <u>Sch40 PVC</u> 9. CREEN: Depth Dia. Type i Opening From <u>C</u> [1] to <u>1057</u> tt <u>A</u> " <u>Sch40 PVC</u> 9. CREEN: Depth Size Material From <u>S</u> [1] to <u>2057</u> tt <u>A</u> " <u>Sch40 PVC</u> 9. CREEN: Depth Size Material From <u>S</u> [1] to <u>2057</u> tt <u>Silest Sead</u> 9. MATER SOMES(depth): <u>D</u> , 2 <u>ZD.S7</u> (Too) 5. MATER INVEL: <u>D.2</u> ft. <u>shore</u> <u>Status</u> <u>Fumperatures</u> <u>Construct</u> <u>Status</u> <u>St</u>		0-21.5	SM
D. CASING: Depth Inside Wall thick. type Dia. or weight/ft. From O to(All ft A" SLA 40 PUC 		-	
Dia. or weight/ft. Green From O to(All ft A" Sch 40 PUC GROUT: Depth Meterial Method From O to 4/II ft (General Gil) person From O to 4/II ft (General Gil) person From C to 4/II ft (General Gil) person GRAVEL: Depth Size Material From SII to 2057 ft	. FORMATION SAMPLES COLLECTED: YES V NO		
GROUT: Depth Niterial Method From () to () () ft (method fail) SCREEN: Depth Dis. Type & Opening From () to () () () () () () () () () () () () ()	and		
GROUT: Depth Miterial Method Prom () to (//) ft (ferent (2:))	From O to 6 11 ft 2" Sel 40 PUC		
Prom () to (111 ft (Decention)) powered SCREEN: Depth Dia. Type & Opening From () to (11 to (105) ft) () Sk (40 PVC GRAVEL: Depth Size Material From Sil to (205) ft) () Silect Send () Show distance to numbered reads, or other map reference point () Show distance to numbered reads, or other map reference point () Startic watter Level: (D.2 ft. above top of casing Casing is 3.5 ft. above land surface ELEV:		and a sub-	E State of the State of the State of the
Prom () to (1.11) tt (Description) (1.11) (1		a distantia dia m	
SCREEN: Depth Dia. Type 6 Opening If additional space is needed, use Back of In From Gell to 2057ft 2" Sch 40 PVC Incomposition of the second processing GRAVEL: Depth Size Material From S.II to 2057ft Sile Sch 40 PVC GRAVEL: Depth Size Material From S.II to 2057ft Sile Sch 40 Material MATER IONES (depth): D.2 2D.57'(Toc) STATIC WATER LEVEL: D.2 ft. shows top of casing Nature state sector for the sector process of the sector s	. GROUT: Depth Material Method	\ . :	Contraction of the second
SCREEN: Depth Dia. Type 6 Opening If additional space is needed, use Back of Id From Gell to 1057ft 1" Sch 40 PVC IdOattion Stepter	From () to 4.11 ft (manth:1) anned		
SCREEN: Depth DIA. Type & OpenLag From G.H. to 2057tt 2" Scl 40 PVC LOCATION SERTCH			
From 6.11 to 20.57tt 2 Sch 40 PUC IDCATION SERTCH .010 Sebt .010 Sebt (Show distance to numbered roads, or other map reference point .GRAVEL: Depth Size Material From 511 to 20.57ft Siles Send Material WATER SONES (depth): .D.2 2D.57'(Toc) STATIC WATER LEVEL: .D.2 2D.57'(Toc) STATIC WATER LEVEL: .D.2 2D.57'(Toc) STATIC WATER LEVEL: .D.2	SCREEN: Denth Dia mme i Georgian	f additional space i	s needed, use back of for
GRAVEL: Depth Size Material From <u>SII</u> to <u>2057</u> ft <u>Silica/Sen/</u> <u>4II</u> <u>5I</u> <u>Silica/Sen/</u> <u>4II</u> <u>5I</u> <u>Silica/Sen/</u> <u>4II</u> <u>5I</u> <u>Silica/Sen/</u> <u>4II</u> <u>5I</u> <u>Silica/Sen/</u> <u>4II</u> <u>5I</u> <u>Silica/Sen/</u> <u>4II</u> <u>5I</u> <u>Bentonith</u> WATER SORES(depth): <u>D.2</u> <u>2D.57'(Toc)</u> STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: YIELD(gpm): <u>5</u> METHOD OF TESTING: <u>FUMPERD</u> PUMPING WATER LEVEL: <u>10.9</u> ft. after <u>1.5</u> hours at <u>5</u> gpm. CHLORINATION: Type <u>AA</u> Amount WATER QUALITY: <u>G 070 D</u> TEMPERATURE(⁹ 7) <u>7/</u> PERMANENT PUMP: Date Installed <u>MA</u> TypeCapacity(gpm) HP MakeIntake Depth Airline Depth		· · · · · · · · · · · · · · · · · · ·	
GRAVEL: Depth Size Material From SII to 2057 ft	(Show da	LOCATIC stance to numbered road	N SKETCH s, or other map reference point
411 SI Rentraits WATER ZONES (depth): 10.2 20.57'(700) STATIC WATER LEVEL: 10.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV:	010 slot	the Landshare	and the second of the
411 SI Rentraits WATER ZONES (depth): D.2 2D.57'(Toc) STATIC WATER LEVEL: D.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV:			
411 SI Rentraits WATER ZONES (depth): D.2 2D.57'(Toc) STATIC WATER LEVEL: D.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV:			1
411 SI Rentraits WATER ZONES (depth): 10.2 20.57'(700) STATIC WATER LEVEL: 10.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV:		Rel	71
WATER ZONES (depth): 10.2 20.57'(Ted) STATIC WATER LEVEL: 10.2 11. above top of casing Casing is 2.5 ft. above land surface ELEV:	From S.II to 20.57 ft Silica Sand	Marines	\$
STATIC WATER LEVEL: D.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV:			
PUMPING WATER LEVEL: 10.9 ft. after 1.5 hours at 5 gpm. CHLORINATION: Type $1/A$ Amount WATER QUALITY: $G. OBD$ TEMPERATURE (^{O}F) $7/$ TANK Trail PERMANENT PUMP: Date Installed NA Type (gpm) HP Make Intake Depth Airline Depth			23
PUMPING WATER LEVEL: 10.9 ft. after 1.5 hours at 5 gpm. CHLORINATION: Type $1/A$ Amount WATER QUALITY: $G. OBD$ TEMPERATURE (^{O}F) $7/$ TANK Trail PERMANENT PUMP: Date Installed NA Type (gpm) HP Make Intake Depth Airline Depth			2 3
PUMPING WATER LEVEL: 10.9 ft. after 1.5 hours at 5 gpm. Galacity MA Amount WATER QUALITY: G. 000 TEMPERATURE (°F) 7/ WATER QUALITY: G. 000 TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed NA Tank. Trail Type Capacity (gpm) HP Make Intake Depth GHU30-1		4	Ta hara
PUMPING WATER LEVEL: 10.9 ft. after 1.5 hours at 5 gpm. Galacity MA Amount WATER QUALITY: G. 000 TEMPERATURE (°F) 7/ WATER QUALITY: G. 000 TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed NA Tank. Trail Type Capacity (gpm) HP Make Intake Depth GHU30-1	WATER ZONES (depth) : 10.2 20.57 (700)	44	Farry RA
after 1.5 hours at 5 gpm. CHLORINATION: Type 1/A Amount — WATER QUALITY: GOOD TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed 1/A Type Capacity (gpm) HP Make Intake Depth Airline Depth	WATER ZONES (depth) : 10.2 20.57 (700) STATIC WATER LEVEL: 10.2 ft. above top of casing	1. 4 A.	the Ferry Rd
after 1.5 hours at 5 gpm. CHLORINATION: Type 1/A Amount — WATER QUALITY: GOOD TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed 1/A Type Capacity (gpm) HP Make Intake Depth Airline Depth	WATER ZONES (depth): <u>10.2</u> 20.57 (70c) STATIC WATER LEVEL: <u>10.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV:	6470 42	code Ferry RA
CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>G OBD</u> TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed <u>NA</u> Type (gpm) HP Make Intake Depth Airline Depth	WATER ZONES (depth): 10.2 20.57 (70c) STATIC WATER LEVEL: 10.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: - YIELD (gpm): 5 METHOD OF TESTING: 14 MARD	~ 6400 ' 4 A.	Sheads Ferry Rd
WATER QUALITY: GOOD TEMPERATURE (°F) 7/ PERMANENT PUMP: Date Installed NA Type (gpm) HP Make Intake Depth Airline Depth	WATER ZONES (depth): <u>10.2</u> 20.57 (70c) STATIC WATER LEVEL: <u>10.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	N 6473' 4 2.	Sheads Ferry Rd
MakeIntake DepthG+W30-1	WATER ZONES (depth): <u>10.2</u> 20.57 (70c) STATIC WATER LEVEL: <u>10.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	\$	Ś
MakeIntake DepthG+W30-1	WATER ZONES (depth): <u>/D.2</u> <u>2D.57</u> (700) STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	\$	Ś
MakeIntake DepthG+W30-1	WATER ZONES (depth): $10.2 - 20.57'(70c)$ STATIC WATER LEVEL: 10.2 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: YIELD (gpm): METHOD OF TESTING: 10.49 ft. after ft. after ft. Amount CHLORINATION: Type Amount WATER QUALITY: GOOD TEMPERATURE ($^{\circ}F$) 7/	\$	Ś
Airline Depth	WATER ZONES (depth): <u>/D.2</u> <u>2D.57</u> (700) STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	\$	Ś
	WATER ZONES (depth): <u>D.2</u> <u>2D.57</u> (Toc) STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	Tank.Trail	Ś
THE WALK SEEN PROVIDED & COPY OF THIS RECORD AND INFORMED OF THE DEDIDENTE BEORED AND AND THE DEDIDENTE BEORED AND AND THE DEDIDENTE BEORED AND AND AND AND AND AND AND AND AND AN	WATER ZONES (depth): <u>/D.2</u> <u>2D.57</u> (700) STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	Tank.Trail	Ś
RECOMMENDATIONS?	WATER ZONES (depth): <u>D.2</u> <u>2D.57</u> (Toc) STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u>	TANK.Trail Causo-1	hom + of TT+SFR to SI
REMARKS	WATER ZONES (depth): <u>D.2</u> <u>2D.57</u> (Toc) STATIC WATER LEVEL: <u>D.2</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u></u> YIELD (gpm): <u>S</u> METHOD OF TESTING: <u>PUMPERO</u> PUMPING WATER LEVEL: <u>10.9</u> ft. after <u>1.5</u> hours at <u>5</u> gpm. CHLORINATION: Type <u>MA</u> Amount <u></u> WATER QUALITY: <u>G.50D</u> TEMPERATURE (^O F) <u>7</u> / PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth EAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFO	TANK.Trail Causo-1	hom + of TT+SFR to SI

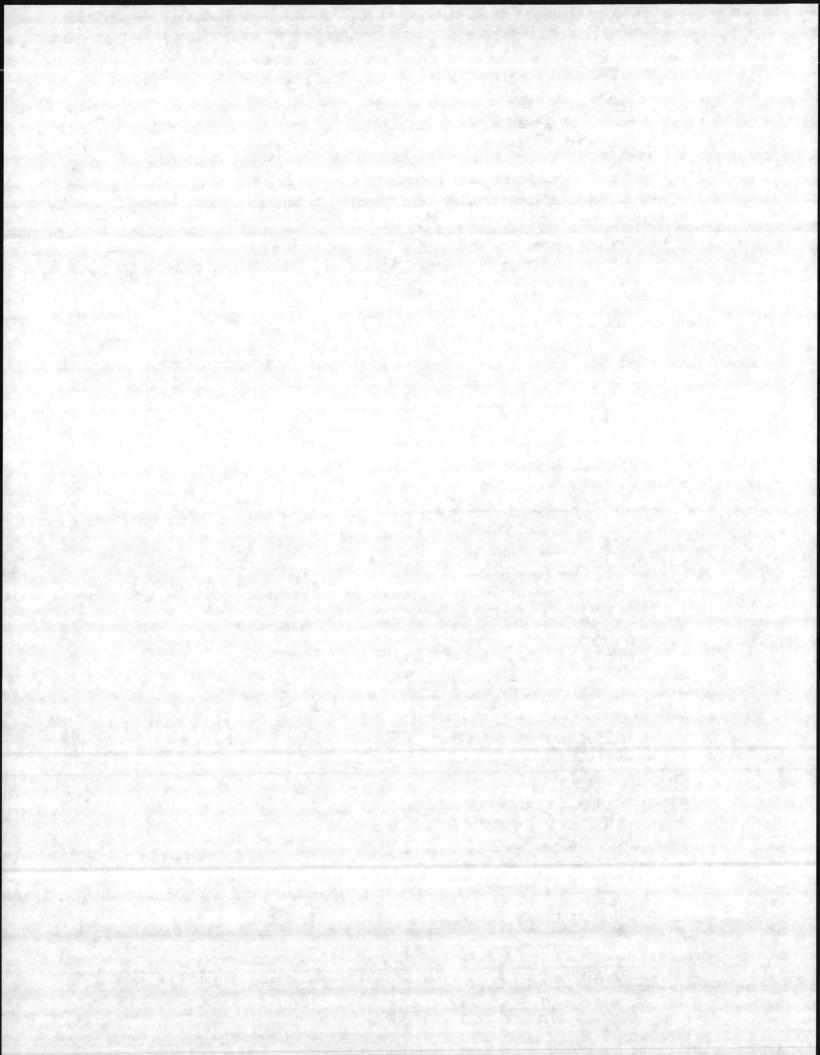
GW-1	Revised	10/1/80



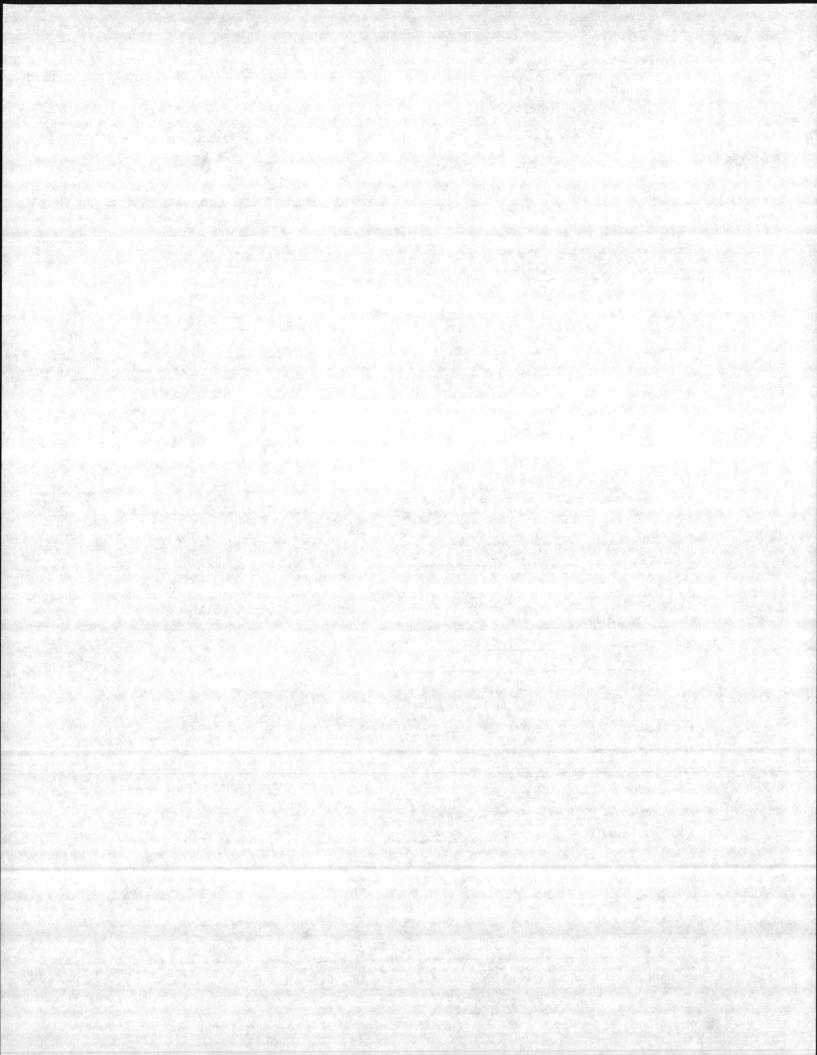
DRILLING CONTRACTOR STS CONJULTALIT Ltd. REG. NO.	19/ WELL CONSTR	RUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: JACK JON VILLE	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle NO.	JACESONVILLE S
2. OWNER: COMMANDING GENERAL, MARINE CONP BASE		
3. ADDRESS: OFFICE OF AC/S FACILITIES, CAMP LE TOUNE N		DRILLING LOG G43
4. TOPOGRAPHY: draw, valley, slope, hilltop, lat circle on	FROM TO	FORMATION
5. USE OF WELL: H.O Samueling DATE: 7-31-84		(uses a
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-151	SM
7. TOTAL DEPTH: 21.00 RIG TYPE OR METHOD: 4.5.4.	1.5-3.0	SM-SC.
8. FORMATION SAMPLES COLLECTED: YES VNO	3.0-60	SM-SC.
9. CASING: Depth Inside Wall thick. type	Vision and the second second second	a chair ann a star
Dia. or weight/ft.	6.0-7.5	SM-SC
From D to 65 ft 2" Sch 40 PVC	7.5-105	CL
	15.0-21.5	SM
		·
10. GROUT: Depth Material Method	\mathbf{i}	
From O to 310 ft (man (2:1) poured		
		A CARLAND
11. SCREEN: Depth Dia. Type & Opening	If additional space	is needed, use bad
From 6.5 to 21 mit A" Sch 40 PUC -	LOCAT	ION SKETCH
. Oro slot	w distance to numbered ro.	ads, or other map refer
		5
		6.14
		Trong
12. GRAVEL: Depth Size Material		STP without a
From O Deon Wite	.' 4	w
342 6.33 Bentonete	Sewage ~ 000	ie, in
13. WATER ZONES (depth) : 5.0 - 2/. D (Toc)	Plant =	S. Marken
		Y .
14. STATIC WATER LEVEL: 5.0 ft. above top of casing		e hum
Casing is 2.5 ft. above land surface ELEV: 99.89	TH	7
15. YIELD (gpm) : 8.0 METHOD OF TESTING: PUPPED		
16. PUMPING WATER LEVEL: S.D ft.	/	
after 3, hours at 9.3 gpm.	/	
17. CHLORINATION: Type NA Amount		
18. WATER QUALITY: GOOD TEMPERATURE (°F) 67		
19. PERMANENT PUMP: Date Installed		
Type Capacity (gpm) HP	5 "G" ST	
	the second s	
	¥.	
Airline Depth	2	
20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND RECOMMENDATIONS?	INSORMED OF THE DEPAR	TMENTS REQUIREMENTS
		2 ¹ 1



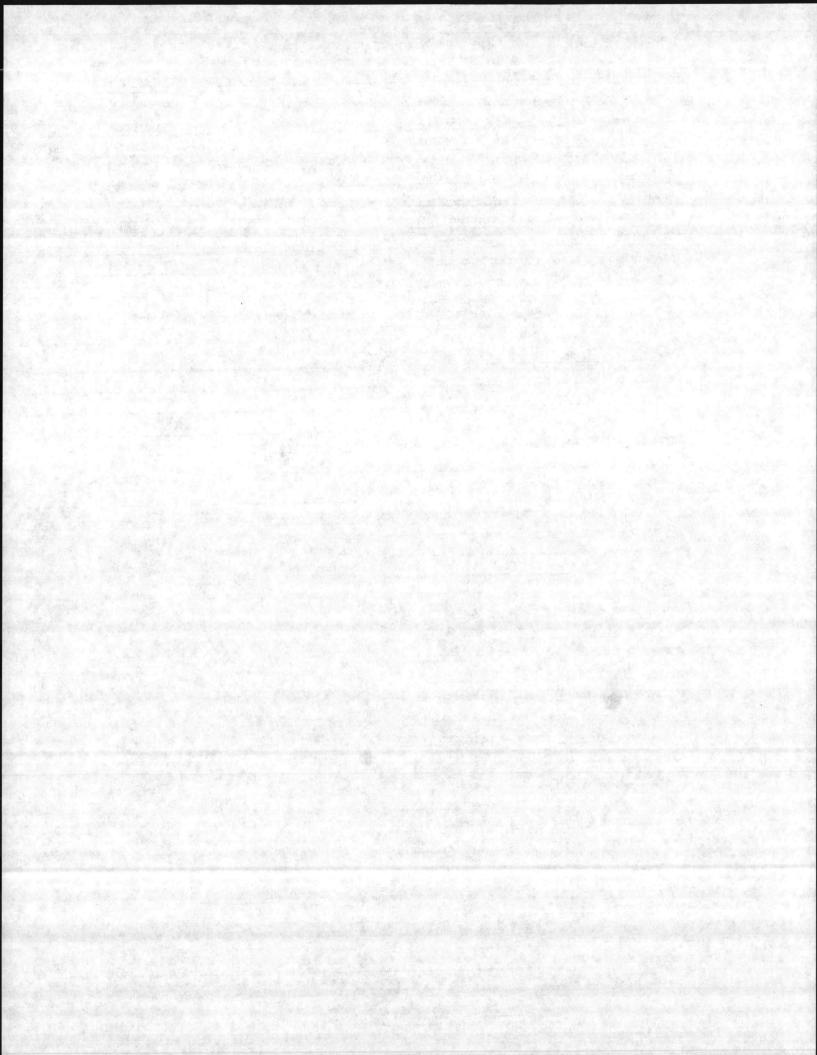
DRILLING CONTRACTOR STS CONSULTANTS, LTd., REG. NO. 191	919-733-2020 WELL CONS	TRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	State Park	
Nearest Town:JACKSON VILLE	County:	ONSLOW
G STREET CAMPLETENNE		. JACKSONVILLE SOUTH
(Road, Community of Subdivision and Lot No.)		100001000 10017
2. OWNER: COM MANDING GENERAL, MANUNE CONP BASE		DRILLING LOG GN 36-18
3. ADDRESS: OFFICE OF AC/S FACILITIES CAMP LEDEUNE, N.L.	DEPTH	10 M
4. TOPOGRAPHY: draw, valley, slope, hilltop, flat(circle one)	FROM TO	FORMATION DESCRIPT
5. USE OF WELL: HO Sangling DATE: 7-31-84		(4000
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-1.5	5M
7. TOTAL DEPTH: 20.88 RIG TYPE OR METHOD: H.S.A.	1.5 - 3.	SM-SC
8. FORMATION SAMPLES COLLECTED: YES / NO	36.	SM
9. CASING: Depth Inside Wall thick. type		
Dia. or weight/ft.	675	SM-SC
From O to 6.4 ft dr Sch 40 PUC	7.5-105	CL
	1521.5	SM
	and the second second	
. GROUT: Depth Material Method	1 :	
From 1 to 25 ft coment(:1) round	/	
	the safety of the second	
. SCREEN: Depth Dia. Type & Opening	additional space	e is needed, use back of for
· · · · · · · · · · · · · · · · · · ·	A MAR . Charles Any	
(Show di	LOCA stance to numbered r	TION SKETCH map reference point
		ſ
and the second		G-W36-1R
. GRAVEL: Depth Size Material		G-1036-1R
From 492 to 2054 ft Selice San/		mstr O
	if	
203 492 Rentenite	~ 405	
WATER ZONES (depth) : 5.0 - 20.88 (Tol)	_ /	
		i net
STATIC WATER LEVEL: 5.0 ft. above of casing		in the second
Casing is 15 ft. above land surface ELEV: 100.0		
YIELD (gpm) : 7.0 METHOD OF TESTING: PUAPED		al <u>sector</u>
PUMPING WATER LEVEL: 5.2 ft.		
	Contraction in	and the second
after 3 hours at 7.0 gpm.		
after <u>3</u> hours at 7.0 gpm. CHLORINATION: Type N/A Amount	ſ	
after 3 hours at 7.0 gpm. CHLORINATION: Type NA Amount WATER QUALITY: <u>GOOD</u> TEMPERATURE (°F) 67		
after <u>3</u> hours at 7.0 gpm. CHLORINATION: Type N/A Amount		
after 3 hours at 7.0 gpm. CHLORINATION: Type N/A Amount WATER QUALITY: <u>GOOD</u> TEMPERATURE (°F)67	****	
after 3 hours at 7.0 gpm. CHLORINATION: Type NA Amount WATER QUALITY: $QOOD$ TEMPERATURE (^{O}F)67 PERMANENT PUMP: Date Installed MA	"&" S	F
after 3 hours at 7.0 gpm. CHLORINATION: Type NA Amount WATER QUALITY: $QOOD$ TEMPERATURE (°F)67 PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP		
after <u>3</u> hours at <u>7.0</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>GOOD</u> TEMPERATURE (^O F)67 PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity (gpm) HP</u> Make <u>Intake Depth</u>	Fourth ST	
after hours at gpm. CHLORINATION: Type Amount WATER QUALITY: QOOD TEMPERATURE (°F)67 PERMANENT PUMP: Date Installed Type Capacity (gpm) HP Type Capacity (gpm) HP Make Intake Depth Airline Depth EAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFO	Fourth ST	



DRILLING CONTRACTOR STS CONFOLTMANT Ltd., REG. NO. 19 1. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: JACKCON UILLE	County: ONSLOW
• • • • • • • • • • • • • • • • • • •	Quadrangle No. JACKIONVILLE S
2. OWNER: COMMANDING GENERAL, MARINE CONPOSE	DRILLING LOG GW
3. ADDRESS: OFFICE OF ACK FACILITIES, CAMP LEDEUNE, N.C.	DEPTH
4. TOPOGRAPHY: draw, valley, slope, hilltop, flat circle one)	FROM TO FORMATION
5. USE OF WELL: HO Sameling DATE: 7-31-84	(4000 4
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-1.5 SM
7. TOTAL DEPTH: 19.92 RIG TYPE OR METHOD: H.S.A.	1.5-30 S.C - SM
8. FORMATION SAMPLES COLLECTED: YES 🗸 NO	30-6.0 SM
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	5.5-6.0 SC-SM
From D to 5.44 st 2" Sch 40 PVC	60-9.25 CL
2- 3	9.15-21.5 SM
10. GROUT: Depth Material Method	•
From () to 2.27 ft comment(2:1) coursed	
11. SCREEN: Depth Dia. Type & Opening	f additional space is needed, use ba
From 5:44 to 19.90 ft 2" Sel 40 PUC -	
(Show d	LOCATION SKETCH istance to numbered roads, or other map refe
	1-1
	()
12. GRAVEL: Depth Size Material	(1. mart ; 0 /
Prom 4.42 to 19.92 st Silica Sand	(Established
2.27 4.42 Bentonite	58 11
13. WATER ZONES (depth) :	WELL I'L
4.8-19.92' (Toc)	TOPEST
14. STATIC WATER LEVEL: 4.8 ft. below top of casing	
Casing is 2.5 ft. above land surface ELEV: 100.03	STP - 1
15. YIELD (gpm) : 9.0 METHOD OF TESTING: PUMPED	
16. PUMPING WATER LEVEL: S.D ft.	
after 37 hours at 8.0 gpm.	
17. CHLORINATION: Type NA Amount	ALL ALL ALL
18. WATER QUALITY: POOR TEMPERATURE (°F) 66	
19. PERMANENT PUMP: Date Installed	
TypeCapacity(gpm) HP	
MakeIntake Depth	
Airline Depth	'G" ST
20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INF	
	VE THE PERMIMENTS REQUIREMENT
RECOMMENDATIONS?	

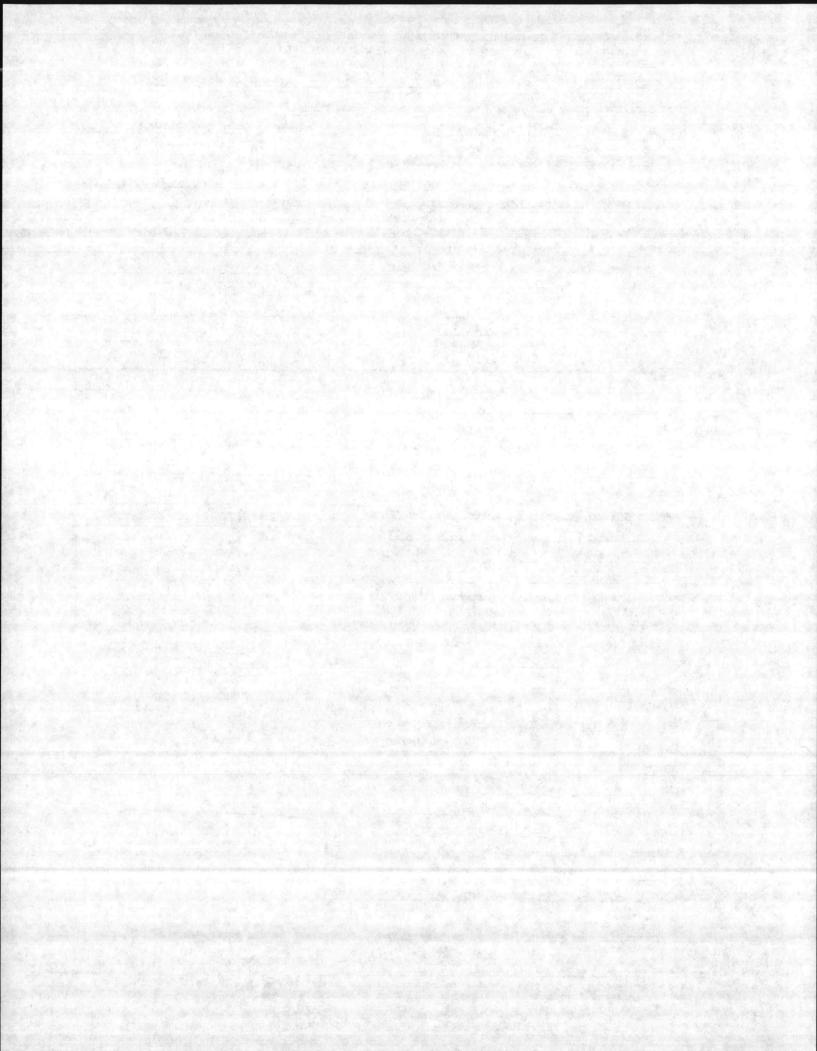


P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS COMJULTANTS, Ltd. REG. NO.		TRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town:JALKSON UILLE		
"G" STREET, CAMP LEFEUNE	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No	JACKSDUVILLE SOUT
2. OWNER: COM MANDING GENERAL, MARINE CONP BASE		
3. ADDRESS: OFFICE OF Ack Share T Charles		DRILLING LOG GW36-3
3. ADDRESS: OFFICE OF AC/S FALLITES, CAMPLETEUNE N.C.	DEPTH FROM TO	POPULATON
4. TOPOGRAPHY: draw, valley, slope, hilltop (flat) circle one)		FORMATION DESCRIPT
5. USE OF WELL: HO Some ling DATE: 7-31-84	a strain of the state of the	
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-1.5	ML-CL
T. TOTAL DEPTH: 18.79 RIG TYPE OR METHOD: H.S.A.	1.5-625	CL. SL
. FORMATION SAMPLES COLLECTED: YES NO	625-165	
. CASING: Depth Inside Wall thick. type	a fail the second for the second of the	SM
Dia. or weight/ft.	20 21.5	CL-ML
From O to 4.3/ ft 2" Chlyo PVC		
and the second	and a surger state to a	
the second s		
. GROUT: Depth Material Method	1 .	
Cand. Method	1.	
From O to 1.84 st comentail poured		
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
SCREEN: Depth Dia. Type & Opening	additional space	is needed, use back of for
From 4.31 to 18.79 Et 2" Sch 40 PVC -	TOCAR	TION SKETCH
	stance to numbered ro	ads, or other map reference point
		GW36-7 (
		p d.
GRAVEL: Depth Size Material		
From 2.92 to 18 7 the Selice Sand		1 Start Contraction of the second sec
1.84 2.92 Bentonita		9 :00
WATER ZONES (depth) :	8	
4.9 - 18.79' (TOC)	5	4 1
	S/4	
STATIC WATER LEVEL: 4.9 ft. above top of casing	en i	· · ·
Casing is 2.5 ft. above land surface ELEV: 100.17'		at i have
YIELD (gpm) : 8 METHOD OF TESTING: PJ PCD	STP V V	1
PUMPING WATER LEVEL: 4.9 ft.	1 1	2
after 3 hours at 8 gpm.	and the second second	
(/	, , , , , , i	
WATER QUALITY: FAIN TEMPERATURE (°F) 65		
PERMANENT PUMP: Date Installed NA	/	
TypeCapacity(gpm) HP	Contraction of the second	and the second
Make Intake Depth		프랑아이 것 선생님이.
Incake Depth		
Make Intake Depth Airline Depth HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD ANY INFOR	"OF ST RMED OF THE DEPART	IMENTS REQUIREMENTS AND
Airline Depth	"G" ST RMED OF THE DEPART	IMENTS REQUIREMENTS AND

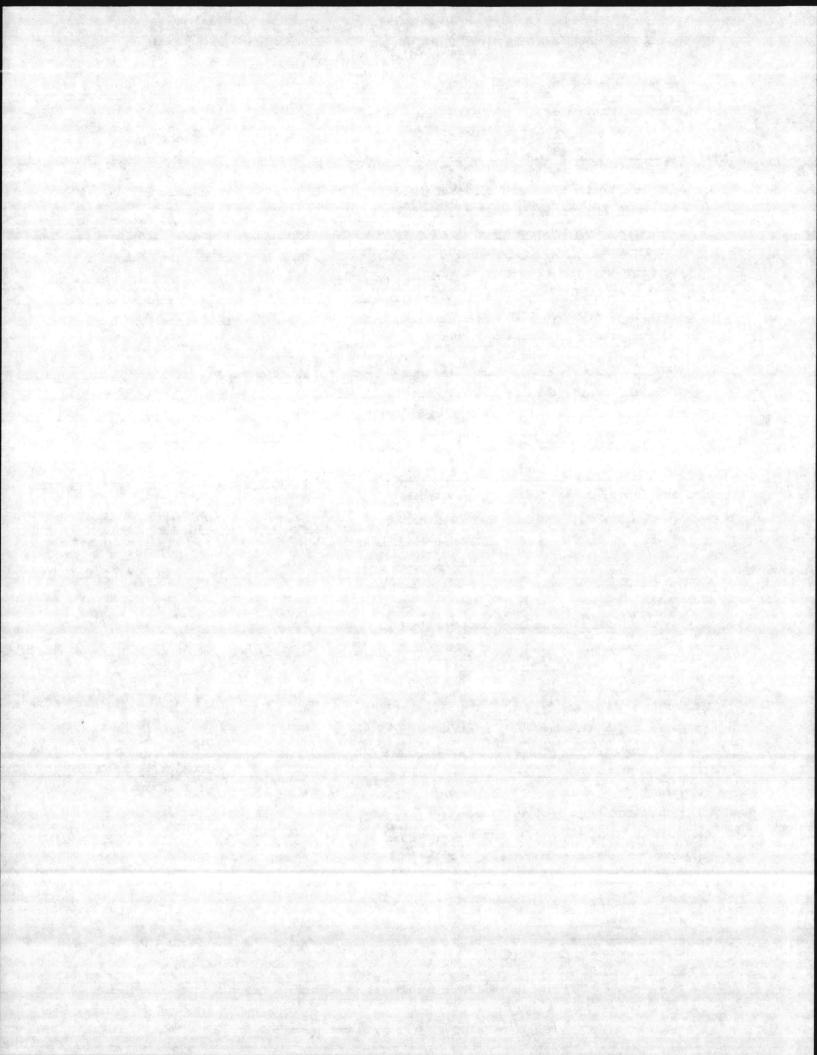


	1 919-733-2020 WELL CONSTRUCTION PERMIT NO.
. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: JACICSON VILLE	County: Ouscow
G STREET, CAMP LEJEVINE	Quadrangle No. JACKSON VILLE SOUTH
(Road, Community of Subdivision and Lot No.)	
. OWNER: COMMANDING GON WAR MANNE WAR BASE	DRILLING LOG GU36-4
ADDRESS: OFFICE OF ACIS FACILITIES CAMP LETEURE N.C.	FROM TO FORMATION DESCRIPTI
. TOPOGRAPHY: draw, valley, slope, hilltop, flat circle one)	(4ses Classifie
. USE OF WELL: HO Sampling DATE: 7-31-34	0-60 SM
DOES THIS WELL REPLACE AN EXISTING WELL? NO	
. TOTAL DEPTH: 19.67 RIG TYPE OR METHOD: H.S.A.	
. FORMATION SAMPLES COLLECTED: YES NO	7.5-10.5 5.4
. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	13.5 -14.0 SW
From O to 5.2 1+ 9.1 Sel 40 PUC	1415. SM-SC
	17.5-20. SM
. GROUT: Depth Material Method	
From () to 4.21 ft convert (2:1) sourced	· · · · · · · · · · · · · · · · · · ·
SCREEN: Depth Dia. Type & Opening	If additional space is needed, use back of for
From 5.2 to 1967 ft 2" Sel 40 PVC	LOCATION SKETCH Ø
. GRAVEL: Depth Size Material Prom <u>424</u> to/ <u>467</u> ft <u>Silics Soud</u> <u>321 421</u> <u>Sentenita</u> WATER ZONES(depth): <u>5.7 - 19.67</u> (Toc) . STATIC WATER LEVEL: <u>5.7</u> ft. above top of casing	STP ~300' from to Grw36-4 STP Entrence 1 TO S. TO S. TO S.
Casing is <u>2.5</u> ft. above land surface ELEV: <u>105.65</u> . YIELD (gpm): <u>4.5</u> METHOD OF TESTING: <u>PUMPED</u> . PUMPING WATER LEVEL: <u>6.25</u> ft.	
. YIELD (gpm): <u>4.5</u> METHOD OF TESTING: PUMPED . PUMPING WATER LEVEL: <u>6.25</u> ft. after <u>hours</u> at <u>4.5</u> gpm.	
. YIELD (gpm): <u>4.5</u> METHOD OF TESTING: <u>PUMPED</u> . PUMPING WATER LEVEL: <u>6.25</u> ft. after <u>1</u> hours at <u>4.5</u> gpm. . CHLORINATION: Type <u>A/A</u> Amount	The ST
. YIELD (gpm): <u>4.5</u> METHOD OF TESTING: <u>PUMPED</u> . PUMPING WATER LEVEL: <u>6.25</u> ft. after <u>/</u> hours at <u>4.5</u> gpm. . CHLORINATION: Type <u>A/A</u> Amount . WATER QUALITY: <u>FAIN</u> TEMPERATURE (°F) <u>68</u>	K'ST
. YIELD (gpm): <u>4.5</u> METHOD OF TESTING: <u>PUMPED</u> . PUMPING WATER LEVEL: <u>6.25</u> ft. after <u>/</u> hours at <u>4.5</u> gpm. . CHLORINATION: Type <u>Λ/A</u> Amount . WATER QUALITY: <u>FA:</u> <u>M</u> TEMPERATURE (^O F) <u>68</u> . PERMANENT PUMP: Date Installed <u>Λ/A</u>	14'ST
. YIELD (gpm): <u>4.5</u> METHOD OF TESTING: <u>PUMPED</u> . PUMPING WATER LEVEL: <u>6.25</u> ft. after <u>/</u> hours at <u>4.5</u> gpm. . CHLORINATION: Type <u>MA</u> Amount . WATER QUALITY: <u>FA:</u> <u>M</u> TEMPERATURE (°F) <u>68</u> . PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP	K ST
. YIELD (gpm): 4.5 METHOD OF TESTING: PUMPED . PUMPING WATER LEVEL: 6.25 ft. after hours at 4.5 gpm. . CHLORINATION: TypeAMA . WATER QUALITY: FAIN TEMPERATURE (°F) 68 L . PERMANENT PUMP: Date InstalledA Type Capacity (gpm) HP A Make Intake Depth	14 ST
. YIELD (gpm): <u>4.5</u> METHOD OF TESTING: <u>PUMPED</u> . PUMPING WATER LEVEL: <u>6.25</u> ft. after <u>/</u> hours at <u>4.5</u> gpm. . CHLORINATION: Type <u>MA</u> Amount . WATER QUALITY: <u>FA:</u> <u>M</u> TEMPERATURE (°F) <u>68</u> . PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP	Faulth 31

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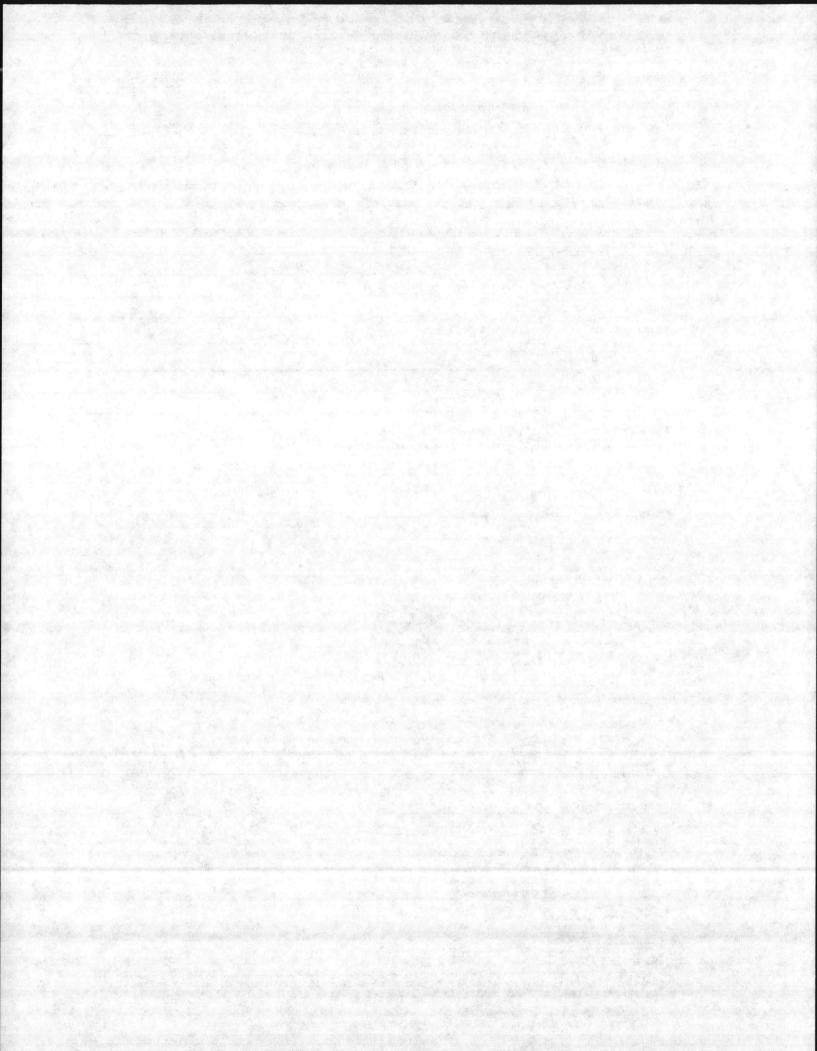
P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CON SULTING , Ltd REG. NO. 19		TRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		And the second second
Nearest Town: JACKSDNUILLE	County:	OUSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle ₦	. JACKSOU VILLE JOUTH
2. OWNER: COMMANNA GENERAL, MANINE CONP BASE		DRILLING LOG GU41-1
ADDRESS OFFICE OF AC'S FACILITIES CAMPLETELINE N.C.	DEPTH	And and a second se
. TOPOGRAPHY: draw, valley, slope, hilltop (circle one)	FROM TO	FORMATION DESCRIPTIO
. USE C? WELL: HO Samplin DATE: 8-1-84		· · · · · · · · · · · · · · · · · · ·
. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-10.0	SM
. TOTAL DEPTH: 20.17 RIG TYPE OR METHOD: H.S.A.	100-10.5	SM-SC
. FORMATION SAMPLES COLLECTED: YES V NO	13.5 45.	SM
. CASING: Depth Inside Wall thick. type		SM
Dia. or weight/ft.	2021.5	3/4
From A == 5.7 ft & Sel 40 PVC	·	and the second second second second
<u></u>		
. GROUT Depth Material Method	\backslash :	
From D to 37 ft coment(2:1) sourced	· · · · · ·	
	the state of the	· · · ·
SCREEN: Depth Dia. Type & Opening	f additional spa	ce is needed, use back of form
From 5.7 to 20/1 t 2" Set 40 PVC -	tor	ATION SKETCH
	/	
. GRAVEL: Depth Size Material	/	/ /
From 4.7 to2017 ft Silies Send	/	/ /
3.7 4.7 Bentonite	L Ban	/ /
WATER ZONES (depth) : 7.0 - 20.17 (Toc)	/ Conty	man ST
	$\Im \setminus /$	7
STATIC WATER LEVEL: 7.0 ft. below top of casing	1	
Casing is 2.5 ft. above land surface ELEV: 103.55	Y	d
YIELD (gpm) : METHOD OF TESTING: for PED	, OG	-141-1
PUMPING WATER LEVEL: 7.4 ft.	1	-1000 from + 4517+ B.S.
after 65 hours at 5 gpm.	1	SUSE
CHLORINATION: Type NA Amount .	and the state of the	
WATER QUALITY: GOOD TEMPERATURE (°F) 70		
·		
PERMANENT PUMP: Date Installed		n han name in the second
TypeCapacity(gpm) HP		
MakeIntake Depth		
Airline Depth		
HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INF	ORMED OF THE DEP	ARTMENTS REQUIREMENTS AND
RECOMMENDATIONS?		



P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTANTS LH REG. NO. 19	and the second of the second	RUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town:JACICSOULLE	County:	ONSCOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No.	JACKSONVILLE SOUTH
2. OWNER: COMMANDING GENERAL MALINE WAP BASE		DRILLING LOG GU41-1R
3. ADDRESS: OFACE of Ac/s FACILITIES CAMP LETEUNE, P.C.		1000 CA V41-1K
TOPOGRAPHY: draw, valley, slope, hilltop (flap)(circle one)		FORMATION DESCRIPT
5. USE OF WELL: H.O Sampling DATE: 7-16-84		1000 confin
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-10.0	SM
. TOTAL DEPTH: 1804 RIG TYPE OR METHOD: H.S.A.	10:-10.5	SM-SC
. FORMATION SAMPLES COLLECTED: YES / NO	13.5-15.	SM
. CASING: Depth Inside Wall thick. type	2021.5	SM
Prom O to 356 ft 2" Sch 40 PVC		
	Aug.	
- GROUT: Depth Material Method	· · ·	
- A. In send -		
From () to 1.42 ft comont (2:1) _ poured		
	f additional space	is needed, use back of fo
. SCREEN: Depth Dia. Type & Opening		
From J.Sto to 1804t 2 Sen 40 PUC -	LOCAT	ION SKETCH
(Show d	istance to numbered ro	ads, or other map reference point
010 slat		
		4
		8
. GRAVEL: Depth Size Material		
		3
From 2.92 to 1804th Silice Sand	The second second	¥ ,
1.42 3.92 Kentmite		*
WATER ZONES (depth) : 9.12 - 18.04' (TOL)		
	BO	ayman co
and a showe		myman st
STATIC WATER LEVEL: 912 ft. above top of casing	S	1
Casing is 2.5 ft. above land surface ELEV: 103,58	3	
YIELD (gpm) : 7.5 METHOD OF TESTING: PUMPED		Grwyi-IR
PUMPING WATER LEVEL: 9.2 ft.		
after / hours at 7.5 gpm.) (.	~1000 from + 4517+C S-SE
and the second		2-5E
CHLORINATION: Type Are Amount		
WATER QUALITY: GOOD TEMPERATURE (°F) 70		
WATER QUALITY: GOOD TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed NA		
WATER QUALITY: GOOD TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP		
WATER QUALITY: GOOD TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth		
WATER QUALITY: GOOD TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP	ORMED OF THE DEPAR	TMENTS REQUIREMENTS AND
WATER QUALITY: GOOD TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth Airline Depth	ORMED OF THE DEPAR	RTMENTS REQUIREMENTS AND

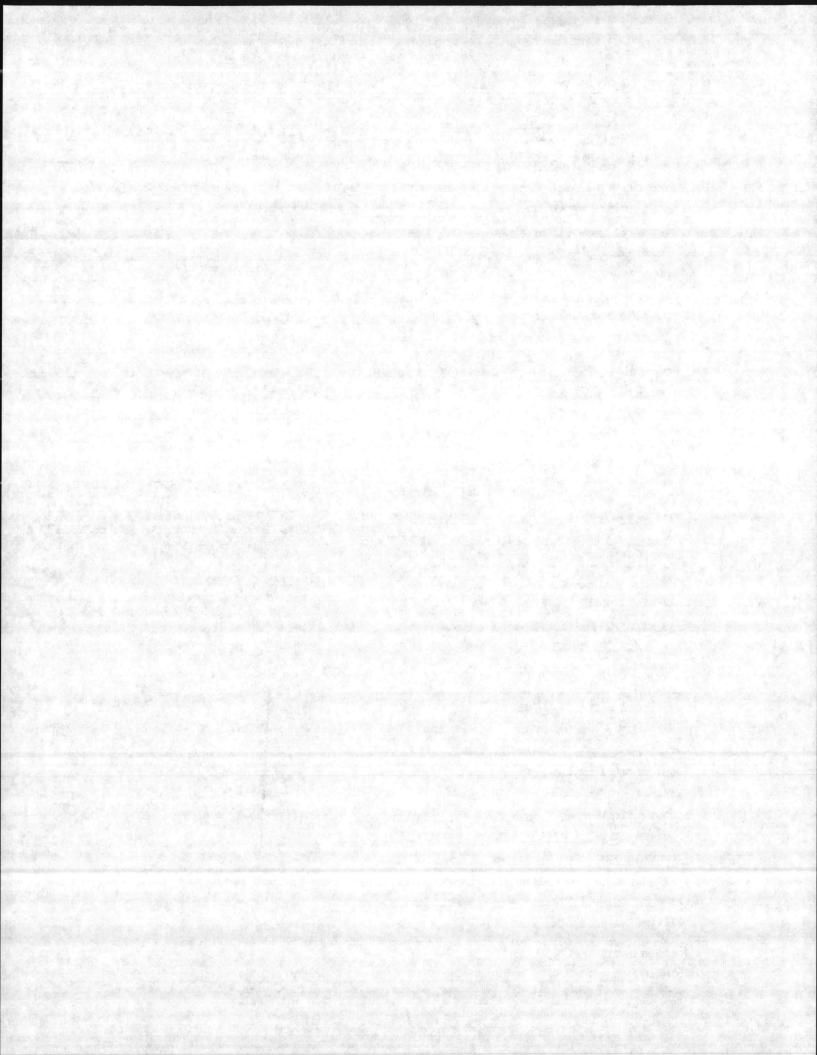
 ${}^{\mathrm{C}}(\mathbf{s}_{1}, \mathbf{s}_{2})$.

n New P

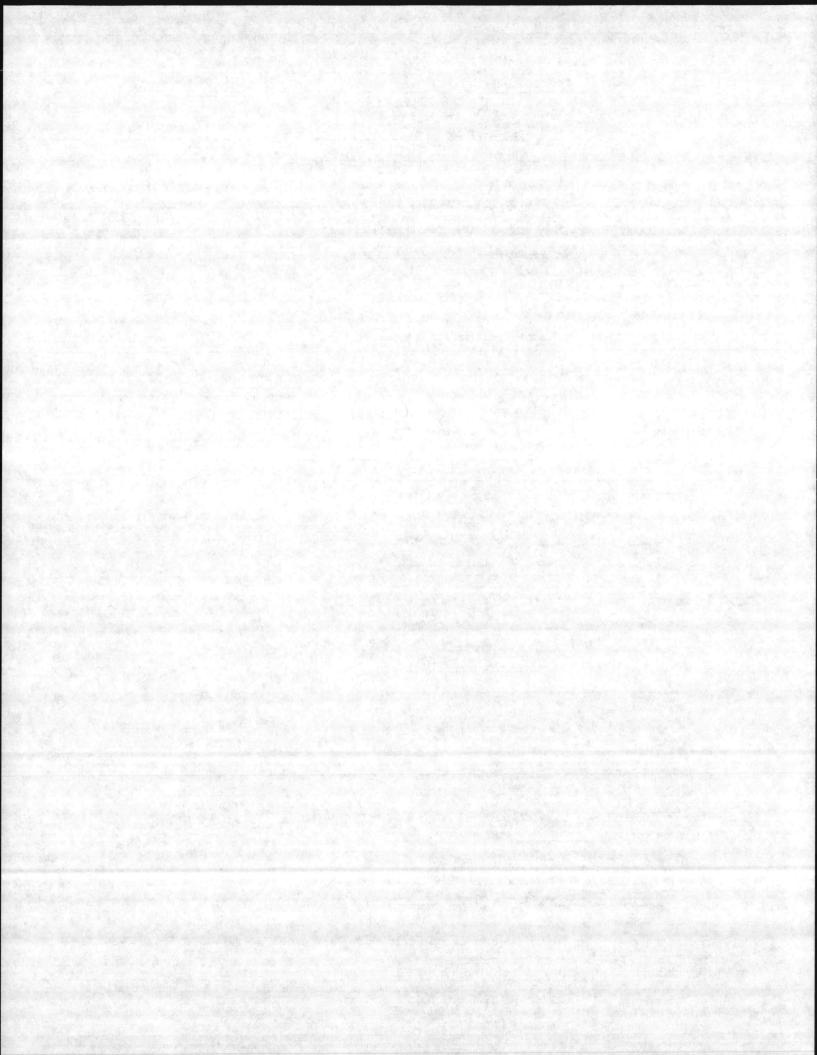


	NORTH CAROLINA DEPARTMENT OF NATURAL RESOURC WELL RECORD DIVISION OF ENVIRONMENTAL MA P. O. Box 27687 - RALEIGH, N.C. 2761	NAGEMENT	CLOPMENT
	DRILLING CONTRACTOR STS CONSULTANTS Ltd REG. NO. 1	9/ WELL CONSTRU	UCTION PERMIT NO.
)	1. WELL LOCATION: (Show sketch of the location below) Nearest Town:	County:	0456862
	US 17 CAMP LEJEUNE		JACKSON VILLE SOUTH
	(Road, Community or Subdivision and Lot No.)	Quadrangie	for the second
	2. OWNER: COMMANDING GENERAL, MARINE CORP BASE	<u>1</u>	DRILLING LOG GW4/-2
	3. ADDRESS : OFFICE OF AC/S FACILITIES ,	DEPTH	FORMATION DESCRIP
	4. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one)	FROM TO	(4SCS Classific
	5. USE OF WELL: HO Sengling DATE: 7-16-84		
	6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	075	SM
	7. TOTAL DEPTH: 19.96 RIG TYPE OR METHOD: H-S.A .	175-1.23	ML
	8. FORMATION SAMPLES COLLECTED: YES VNO	1.25-1.35	CL
	9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	1,75-425	SM
	From O to S. Wift 2" Sel 40 PUC	4.25-4.5	SC-SM
		4.5-215	SM
÷.,	10. GROUT: Depth Material Method	1 :	· ·
· · ·	cond-		
•	From () to 293 It coment(:)) _ poured		
		If additional space	is needed, use back of f
1	LI. SCREEN: Depth Dia. Type & Opening	· · · ·	
legals in the	From 5.48 to 1996 It 2" Set 40 PUC (Show		ION SKETCH ads, or other map reference po
			and a count mp recorded po
1	010 elst	1	A.,
2		1	St h
2 3 1 1		/	Jose Ja
1	2. GRAVEL: Depth Size Material	/	the first
, 	12. GRAVEL: Depth Size Material	/	the first state
/	12. GRAVEL: Depth Size Material Prom 4.50 to 1996 ft Silica Sand		the first
	12. GRAVEL: Depth Size Material From 4.Depth ft <u>Silice Sand</u> 2.83 4.52 <u>Bentonite</u>		fullows and the
	12. GRAVEL: Depth Size Material Prom 4.50 to 1996 ft Silica Sand	- Card	AN CONTRACTOR
1	12. GRAVEL: Depth Size Material Prom 4.52 to 1996 ft <u>Silica Sand</u> 2.83 4.52 <u>Bentomite</u> 3. WATER ZONES (depth) : <u>6.21 - 19.96'(Toc)</u>	Acet	Starting of the second
1	12. GRAVEL: Depth Size Material From 4.52 to 1996 ft <u>Silica Sand</u> 2.83 4.52 <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing	A contraction	And the second second
1	12. GRAVEL: Depth Size Material Prom 4.5 to 1996 ft <u>Silica Sand</u> 2.83 4.51 <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u>	And Io	The second second
1	12. GRAVEL: Depth Size Material From 4.D to 1996 ft <u>Silica Sand</u> 283 4.51 <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>AUM PED</u>	The seal	The second secon
1	12. GRAVEL: Depth Size Material Prom 4.D to 1996 ft <u>Silica Sand</u> 283 4.51 <u>Bentowite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>PUM PED</u> 6. PUMPING WATER LEVEL: <u>6.35</u> ft.	in the second	And the second second
1	12. GRAVEL: Depth Size Material From 4.D to 1996 ft <u>Silica Sand</u> 283 4.51 <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>AUM PED</u>	7	the second second
1	12. GRAVEL: Depth Size Material Prom 4.D to 1996 ft <u>Silica Sand</u> 283 4.51 <u>Bentowite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>PUM PED</u> 6. PUMPING WATER LEVEL: <u>6.35</u> ft.	7	from + USIT + B.S. to -S
1	12. GRAVEL: Depth Size Material From 4.9 to 1996 ft <u>Silis Sand</u> 283 4.51 <u>Bentonite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. <u>above</u> top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>AUM PED</u> 6. PUMPING WATER LEVEL: <u>6.35</u> ft. after <u>3</u> hours at <u>8</u> gpm.	7	friom + USI7 + B.S. to -S
1 1 1 1 1 1 1 1 1	 12. GRAVEL: Depth Size Material From <u>4.D</u>to <u>1996</u> ft <u>Silica Sand</u> <u>283</u> <u>4.51</u> <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Tec)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>PUM PED</u> 6. PUMPING WATER LEVEL: <u>6.35</u> ft. after <u>3</u> hours at <u>8</u> gpm. 7. CHLORINATION: Type <u>MA</u> Amount 	7	from + USI7 + B.S. to-S
1 1 1 1 1 1 1 1 1	 12. GRAVEL: Depth Size Material From 4.D to 1996 ft <u>Silica Sand</u> 283 4.51 <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21 - 19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>AUM PED</u> 6. PUMPING WATER LEVEL: <u>6.35</u> ft. after <u>3</u> hours at <u>8</u> gpm. 7. CHLORINATION: Type <u>MA</u> Amount 8. WATER QUALITY: <u>8000</u> TEMPERATURE (^O7) 71 9. PERMANENT PUMP: Date Installed <u>MA</u> 	~3000'	
1 1 1 1 1 1 1 1 1	 12. GRAVEL: Depth Size Material Prom 4.9 to 1996 ft <u>Silia Sand</u> 283 4.51 <u>Bentowite</u> 3. WATER ZONES (depth): <u>6.21-19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>PUM PED</u> 6. PUMPING WATER LEVEL: <u>6.35</u> ft. after <u>3</u> hours at <u>8</u> gpm. 7. CHLORINATION: Type <u>MA</u> Amount 8. WATER QUALITY: <u>PDOM</u> TEMPERATURE (^OT) <u>71</u> 9. PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP 	7	
1 1 1 1 1 1 1 1 1	12. GRAVEL: Depth Size Material From 4.Dec /446 ft Silis Sand 283 4.51 Bantonits 3. WATER ZONES (depth): 6.2(-19.96'(Toc) 4. STATIC WATER LEVEL 6.21 ft. above top of casing (asing is 2.5 ft. above land surface ELEV: 95.66 5. YIELD (gpm): METHOD OF TESTING: full period 6. PUMPING WATER LEVEL: 6.35 ft. after abouts at gpm. 7. CHLORINATION: Type MA Amount 8. WATER QUALITY: FOON TEMPERATURE (°P) 7/ 9. PERMANENT PUMP: Date Installed MA Make Intake Depth	~3000'	
1 1 1 1 1 1 1 1 1 1	12. GRAVEL: Depth Size Material Prom Y.D.to ///// ft Silis Sand 2.83 Y.S1 Bentonits 3. WATER ZONES (depth): 6.2(-19.96'(Toc) 4. STATIC WATER LEVEL 6.21 ft. above top of casing (casing is 2.5 ft. above land surface ELEV: 95.66 5. YIELD (gpm): METHOD OF TESTING: PUMPED 6. PUMPING WATER LEVEL: 6.35 ft. after after 9 Dention: 7. CHLORINATION: Type 18. WATER QUALITY: POON 70. CELORINATION: Type 19. PERMANENT PUMP: Date Installed MAt Type Capacity (gpm) HP Make Intake Depth		- λ ∙
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 12. GRAVEL: Depth Size Material From 4.52 to 1996 ft		- λ ∙
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 12. GRAVEL: Depth Size Material From <u>4.D</u>to <u>1996</u> ft <u>Silis Sand</u> <u>283</u> <u>4.51</u> <u>Bentomite</u> 3. WATER ZONES (depth): <u>6.21-19.96'(Toc)</u> 4. STATIC WATER LEVEL <u>6.21</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>95.66</u> 5. YIELD (gpm): <u>8</u> METHOD OF TESTING: <u>6.040 PED</u> 6. FUMPING WATER LEVEL: <u>6.35</u> ft. after <u>3</u> hours at <u>8</u> gpm. 7. CHLORINATION: Type <u>MA</u> Amount 8. WATER QUALITY: <u>6.000</u> TEMPERATURE (^OF) <u>71</u> 9. PERMANENT FUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make Intake Depth Airline Depth <u>EEN PROVIDED A COPY OF THIS RECORD AND IN</u> RECOMMENDATIONS? <u>Mater</u> 1. REMARKS <u></u> 	NFORMED OF THE DEPAR	ATMENTS REQUIREMENTS AND
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 12. GRAVEL: Depth Size Material From 4.52 to 1996 ft	NFORMED OF THE DEPAN	-2.

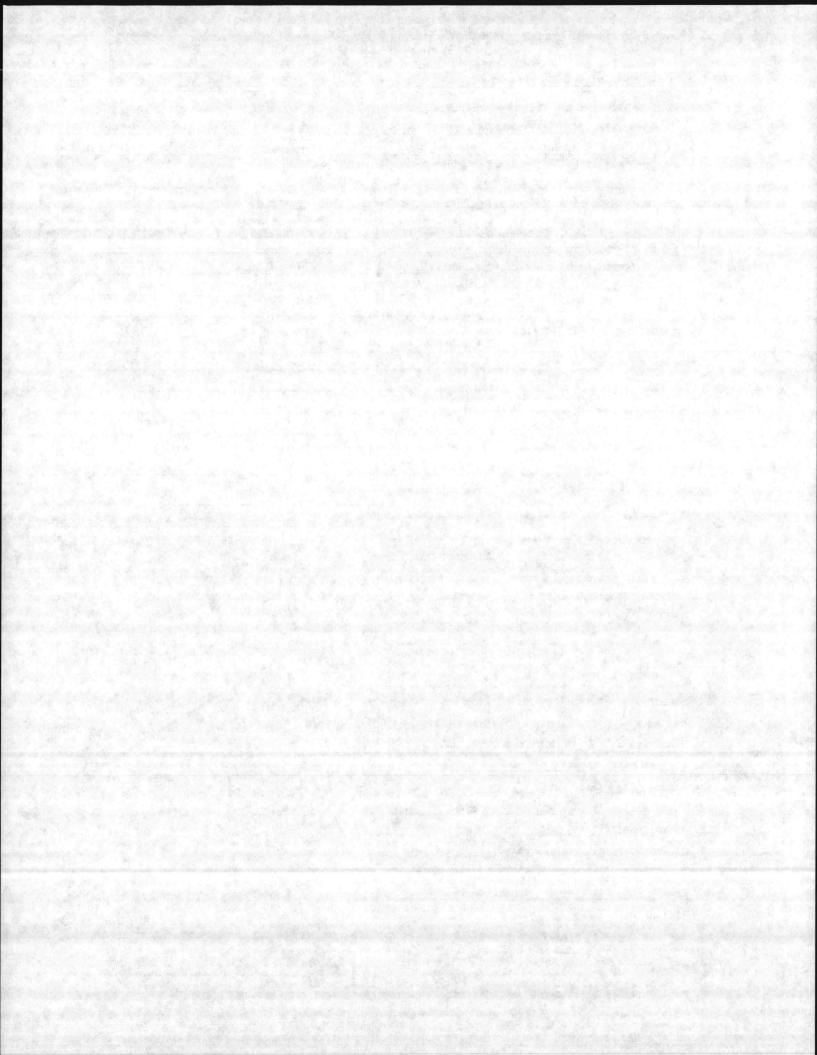
Cubmis asistant to Division of Environmental Management and conv to well owner



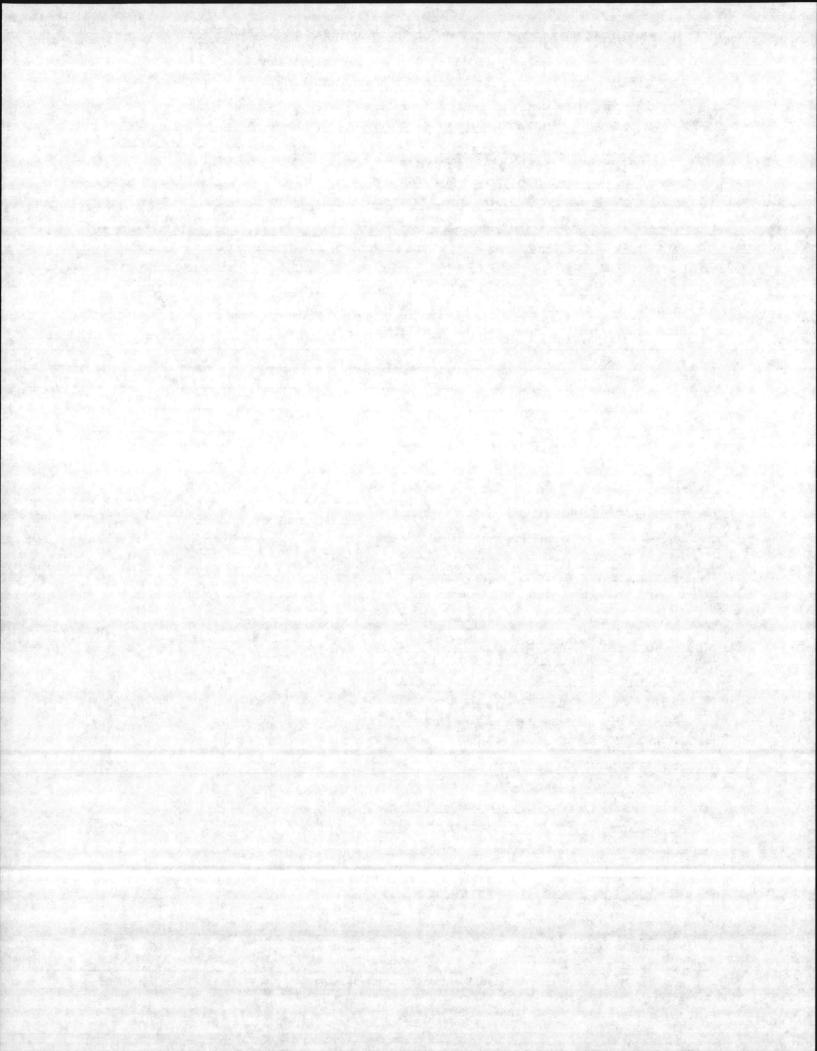
	DOC NO. CLEJ-0007 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURD WELL RECORD DIVISION OF ENVIRONMENTAL MA P. O. BOX 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTANTS CHU REG. NO. 19	NAGEMENT 1 919-733-2020	RUCTION PERMIT NO.
	SRILLING CONTRACTOR 213 CONTOCIMENTS CHE REG. NO. 1	WELL CONST.	ROCIION PERMII NO.
(1) }	L. WELL LOCATION: (Show sketch of the location below)		ONSLOW
	Nearest Town:	County:	
	(Road, Community or Subdivision and Lot No.)	Quadrangle No.	SACKSONUKLE SOUT
2	. OWNER: COMMANDING GOUGHAC MANUT BASE		DRILLING LOG G-W4/- 3
	. ADDRESS : OFFICE OF ACIS FACILITIES , CAMP LETEVINE N.C.		1
4	. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one)	FROM TO	FORMATION DESCRIPTION
5	. USE OF WELL: H.O Samaline DATE: 7-16-294		(1
	. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-80.	SM
7	. TOTAL DEPTH: 19.31 RIG TYPE OR METHOD: H.S.A.	8.0-9.25	SC-SM
8	. FORMATION SAMPLES COLLECTED: YES V NO	925405	ML
9	. CASING: Depth Inside Wall thick. type	15-16.5	SM
	Dia. or weight/ft.		
	From O to 493 ft 2, Sch 40 PVC	20-21.5	SM
			·
6		1	and the second
10	GROUT: Depth Material Method		
	From O to 267 ft coment(2:1) _ poured		
		If additional spac	e is needed, use back of f
11.	SCREEN: Depth Dia. Type & Opening		
	From 4.83 to 19.31 ft 2" Sch 40 PVC (Show		TION SKETCH mads, or other map reference po
)	010 slot		/
			Alud
έφ -		. /	
12.	. GRAVEL: Depth Size Material	/	the
	From 383 to /9.31 ft Silice Sout	6	H93
6. C - 1	267 383 Rentonite		and st
13.	WATER ZONES (depth) : 12.7 - 19.31 (04)	∇	There it
		3 10	1 st
14	STATIC WATER LEVEL: 12.7 ft. above top of casing	y 1º	Y
	Casing is 25 ft. above land surface ELEV: 100.0	1 1	0
15	YIELD (gpm): 8 METHOD OF TESTING: PUMPED	/ .	U U
	PUMPING WATER LEVEL: /2.8 ft.		~ 3000 prom + 4517+B5
10.	after 3 hours at 8 gpm.		
	WATER QUALITY: GOOD TEMPERATURE (°P) 72	and the second second	Gw41-3
		A STATE	
19.	PERMANENT FUMP: Date Installed		
	TypeCapacity(gpm) HP		
	MakeIntake Depth		
	Airline Depth		an the second and a second definition of
20.	HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND IN RECOMMENDATIONS?	NFORMED OF THE DEPI	ARTMENTS REQUIREMENTS AND
21.	REMARKS		
	I do hereby certify that this well was constructed in a	cordance with N.C.	Well Construction



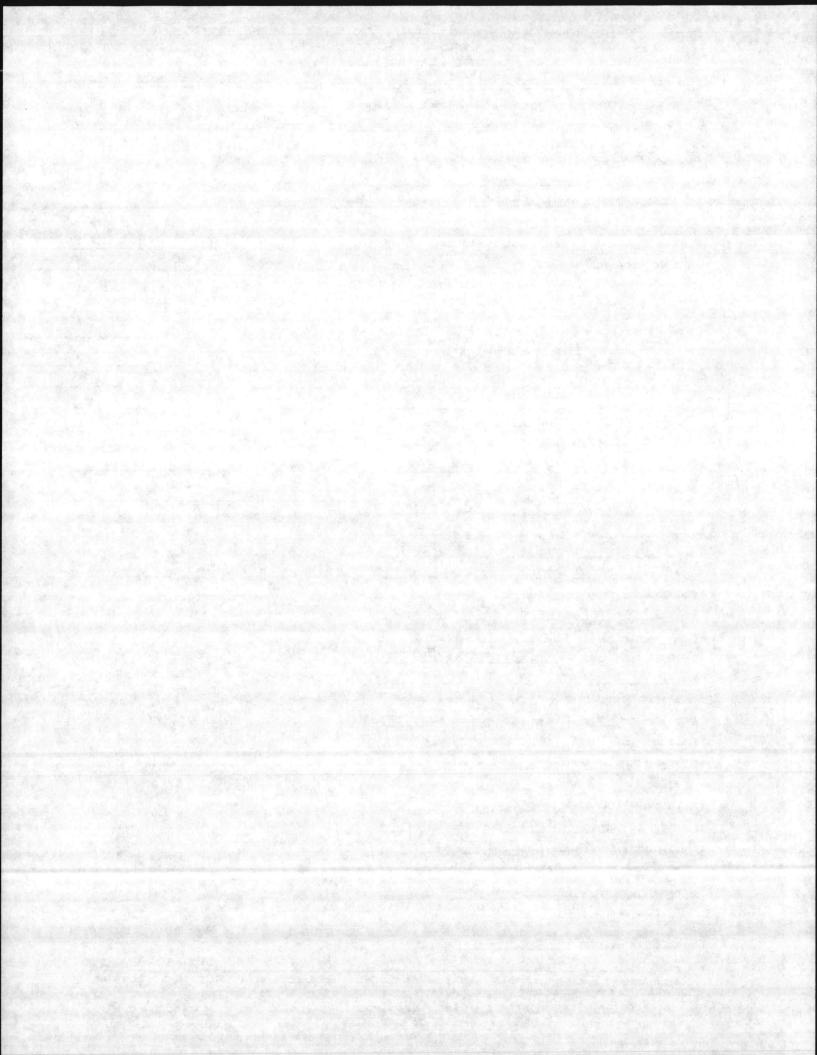
NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT DC NO: CLF DIVISION OF ENVIRONMENTAL MANAGEMENT WELL RECORD P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 00075 - 3.13 - 1/21/85 191 DRILLING CONTRACTOR JTS OPSULTANTS LTL REG. NO. WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) DNSLOW JACKSONVILLE Nearest Town: County: JACKSONVILLE SOUTH 0517 CAMP LEJEUNE Quadrangle No. (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL , MANINE CORP BASE DRILLING LOG 6441-4 3. ADDRESS: OFACE OF ACLE FACILITIES, CAMP LETEURE, NC. DEPTH FORMATION DESCRIPTION FROM TO 4. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one) US CS Classificate 5. USE OF WELL: H.O Someling DATE: 7-17-84 SM 6. DOES THIS WELL REPLACE AN EXISTING WELL? 0-725 7. TOTAL DEPTH: 19.67 RIG TYPE OR METHOD: H.S.A. 725-75 OL 8. FORMATION SAMPLES COLLECTED: YES / NO 7.5-10.5 SM 9. CASING: Depth Inside Wall thick. type 15. -165 SC-SN or weight/ft. Dia. 11 From D to S/9 ft 5640 PUC SC-SM 20. -21.5 10. GROUT: Depth Method Material comenta:1) 1 to 2.67 ft From amer If additional space is needed, use back of form Dia. Type & Opening 11. SCREEN: Depth From 519 to 19.67 ft 40 PUC LOCATION SKETCH bered roads, or other map reference points) 010 51 12. GRAVEL: Depth Size Material Silica From 3 15 to 19.67 tt 2.67 3.75 13. WATER ZONES (depth) : 7.09 -(Toc) 14. STATIC WATER LEVEL . 7.09 ft. above top of casing NaSOO from + 4517 BS to SE Casing is 2.5 ft. above land surface ELEV: 92.82 15. YIELD (gpm): 4 METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: 8.60 ft. after 1.75 hours at gpn. Gw41-4 NA 17. CHLORINATION: Type Amount 18. WATER QUALITY: FAIR TEMPERATURE ("P") 19. PERMANENT PUMP: Date Installed Capacity (gpm) HP Type Intake Depth Make Airline Depth 20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. R) Kush mound 12-18-14 SECNATURE OF CONTRACTOR OF AGENT DI VUS



P. O. Box 27687 - RALEIGH, N.C. 27611 RILLING CONTRACTOR STS CONSULTING , Ltd REG. NO. 191	
. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: JACKSON VILLE	ONSWW
CAMPBELL ST. CAMP LEJEUNE	Quadrangle No. JACKSONVILLE SOUTH
(Road, Community or Subdivision and Lot No.)	DRILLING LOG GU45-1
. OWNER: COMMANDING CONTRAL, MANUNE CONPOSE	
. ADDRESS: OFACE OF AC/S FACILITIES, CAMP LETEUNE N.C	FROM TO FORMATION DESCRIPTION
. TOPOGRAPHY: draw, valley, slope, hilltop, flat circle one)	145CS Classificat
. USE OF WELL: <u>H.O Sampling</u> DATE: <u>P-1-34</u> . DOES THIS WELL REPLACE AN EXISTING WELL? <u>NO</u>	0-15 SM
. TOTAL DEPTH: 19.47 RIG TYPE OR METHOD: H.S.A.	15-30 SM-SC
FORMATION SAMPLES COLLECTED: YES V NO	30-165 ML
	and the second
. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	20-21.5 SM
Prom 0 to 5.01 ft 2" Sch 40 PUC	
	· · ·
. GROUT: Depth Material Method	
Prom D to 301 ft coment(2:1) poured	
	If additional space is needed, use back of for
· · · · · · · · · · · · · · · · · · ·	LOCATION SKETCH
(Show of	distance to numbered roads, or other map reference point
	JP, F.F
the second s	J.F. F.F
. GRAVEL: Depth Size Material	
From 3.5 col9.47 ft Solice Sand	GWAST ST
2.5 3.5 <u>Bentonite</u> WATER ZONES (depth): 3 - 19.47' (TOC)	
. WATER ZONES (depth) : 3 - 19.47 (702)	uso from t CS thus to W
above.	
. STATIC WATER LEVEL: J.O ft. below top of casing	5
Casing is 2.5 ft. above land surface ELEV: 98.99	
. YIELD (gpm) : 4 METHOD OF TESTING: PUMPED	N A
PUMPING WATER LEVEL: 4.0 ft.	
after hours at 9 gpm.	1
. CHLORINATION: Type <u>NA Amount</u>	The second se
. WATER QUALITY: FAIR TEMPERATURE (°F) 69	St
. PERMANENT PUMP: Date Installed	1
TypeCapacity(gpm)HP	
MakeIntake Depth	
Airline Depth	
. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND I	NFORMED OF THE DEPARTMENTS REQUIREMENTS AND
RECOMMENDATIONS?	



DRILLING CONTRACTOR STS CONSULTANTS Ltd. REG. NO. 1	91 WELL CONST	RUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		Dura
Nearest Town: JACKSONUILLE	County:	U CU ZU CU ZU CU
(Road, Community or Subdivision and Lot No.)	Quadrangle No.	JACKSONVILLE SDOTH
2. OWNER: COMMANDING GONERAC, MALINE CONP BA	re	DRILLING LOG GW45-2
3. ADDRESS: OFACE OF AC/S FACILITIES , CAMP CEJEUM	FROM TO	FORMATION DESCRIPTIO
. TOPOGRAPHY: draw, valley, slope, hilltop (flat)(circle one)		(USCS classificate
. USE CE HALL. ILL STATISTICS		C 14
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-40	SM
TOTAL DEPTH: 18.47 RIG TYPE OR METHOD: H.S.A.	4.0-10.5	ML
B. FORMATION SAMPLES COLLECTED: YES NO	1516.0	SM-SC
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	16165	SM
Prom 0 to 4.01 ft 2." Sek 40 PUC	20-21.5	SM
. GROUT: Depth Material Method	1 1	•
sand- 1	· · · · ·	
From to 2.00 ft (Ament (3:1) _ poured		
	If additional space	e is needed, use back of form
. SCREEN: Depth Dia. Type & Opening	ALL	the second second second
From 401 to 19.47 ft 2" Sch 40 PUC (Show		TION SKETCH roads, or other map reference points
010 slat		The second set the second set
and the second		GW45-2
. GRAVEL: Depth Size Material		~ soo'pom + cs+ws to
From 3.01 to 19.471th Silies Sand	Comment of the second	NSOO FF
2.00 3.01 Bentonita		
. WATER ZONES (depth) : 3.4 - 18.47'(Toc)	Sa and the second	
. MATER ZORES (depch):		Al _
7.4 above		CAMPBell
. STATIC WATER LEVEL: 24 ft. above top of casing		and and the state of the
Casing is 2.5 ft. above land surface ELEV: 100.61	/	
. YIELD (gpm) : 4.5 METHOD OF TESTING: PUMPED		
. PUMPING WATER LEVEL: 4-9 ft.		L
after 7 hours at 4.5 gpm.		S ·
. CHLORINATION: Type //A Amount	1	2
WATER QUALITY: BOR TEMPERATURE (°F) 73	5	4
	al la l	A .
PERMANENT PUMP: Date Installed NA	No. of the second secon	Sandy C. A.
. PERMANENT PUMP: Date Installed NA		
TypeCapacity(gpm) HP	4	
TypeCapacity(gpm)HP MakeIntake Depth	4	
TypeCapacity(gpm) HP MakeIntake Depth Airline Depth	Y	
TypeCapacity(gpm)HP MakeIntake Depth	NFORMED OF THE DEP.	ARTMENTS REQUIREMENTS AND

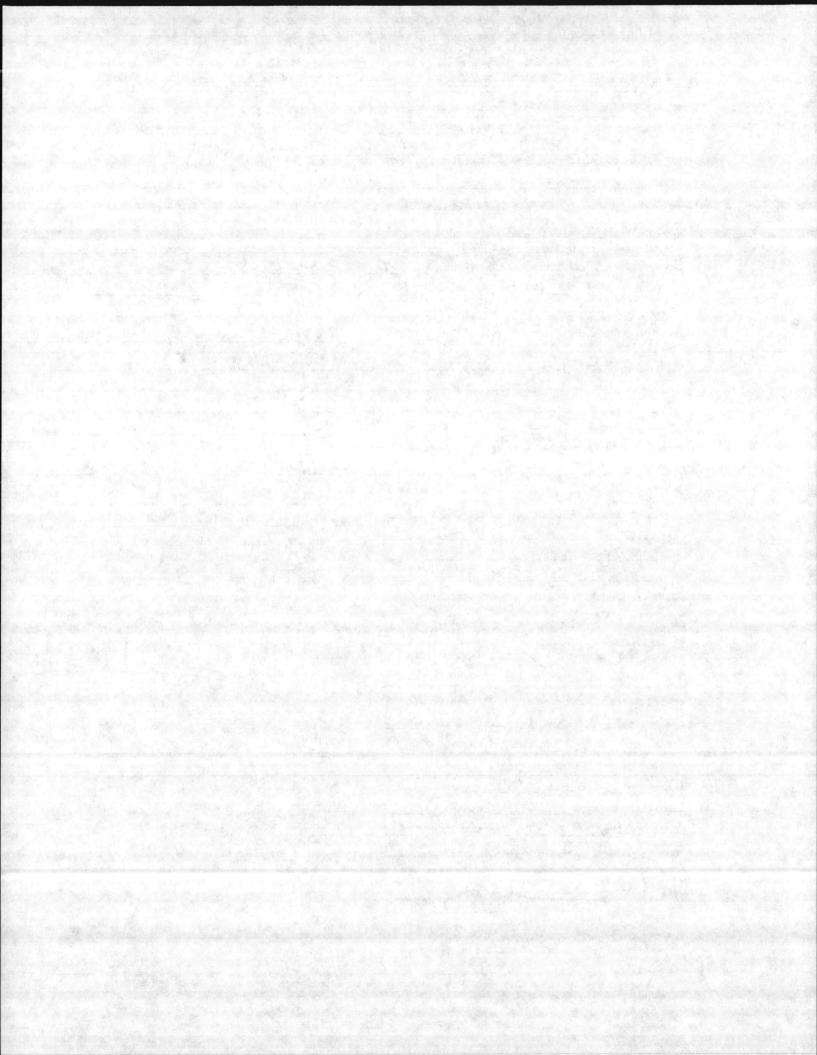


P. O. Box 27687 - RALEIGH, N.C. 27611 DRILLING CONTRACTOR STS COUSULTANTS CHd REG. NO.		ICTION PERMIT NO).
. WELL LOCATION: (Show sketch of the location below)			
Nearest Town: JACKSON VILLE	County:	ONSLOW	<u></u>
(Road, Community or Subdivision and Lot No.)	Quadrangle No	JALKSONULL	E SOUTH
. OWNER: COMMANDING GENERAL MANNE CONP B.	ASE D	RILLING LOG G	445-3
. ADDRESS: OFFICE OF AC/S FACILITIES, CAMPLETEUNE A			
. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one)	FROM TO		ON DESCRIPTI
. USE OF WELL: H. O Sampling DATE: 8-1-84		(
. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-3.25	CL	and the second second
. TOTAL DEPTH: 19.04 RIG TYPE OR METHOD: H.S.A.	3.25-45	SM	
FORMATION SAMPLES COLLECTED: YES VNO	4.5-7.5	CL	
. CASING: Depth Inside Wall thick. type	7.5-9.5	CH	
Dia. or weight/ft. From 10 to 4.5 ft 2 ⁴ Sch 40 PK	9.5-21.5		
SCREEN: Depth Dia. Type & Opening From 4. Sto 1904 th & Sel 40 PUC	f additional space LOCAT: istance to numbered row	ION SKETCH	reference point
2.42 3.5 Bentonite			WASO from WS to E
WATER ZONES (depth) : 5.6 - 19.04 (Toc)	0		-
		ABELLST	
STATIC WATER LEVEL: 5.6 ft. above top of casing	CAN	and the second second	
Delow	- CAN	h.	2
STATIC WATER LEVEL: 5.6 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 100.0' VIELD (gpm): 4.5 METHOD OF TESTING: PUMPED		t.	2) 2)
Casing is 2.5 ft. above land surface ELEV: 100.0' YIELD (gpm): 4.5 METHOD OF TESTING: PUMPED		17 1	2
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): 4.5 METHOD OF TESTING: PUMPED PUMPING WATER LEVEL: 6.3 ft.		46.47	2
Casing is 2.5 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm.</u>	Com	4	
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount		49.40	
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount <u></u> WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 77</u>		44.47	
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount <u></u> WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 77 PERMANENT PUMP: Date Installed <u>NA</u></u>		49 mm	
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 77 PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP</u>		49.44	2] 2] -
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount <u></u> WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 77 PERMANENT PUMP: Date Installed <u>NA</u></u>		40.44	2
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>6000</u> TEMPERATURE (⁰F) 77 PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u> Airline Depth</u>		44.44	2 2
Casing is 25 ft. above land surface ELEV: 100.0' YIELD (gpm): <u>Y.S</u> METHOD OF TESTING: <u>PUMPED</u> PUMPING WATER LEVEL: <u>6.3</u> ft. after <u>hours at <u>Y.S</u> gpm. CHLORINATION: Type <u>NA</u> Amount WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 77 PERMANENT PUMP: Date Installed <u>NA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u></u>		THENTS REQUIREM	ENTS AND

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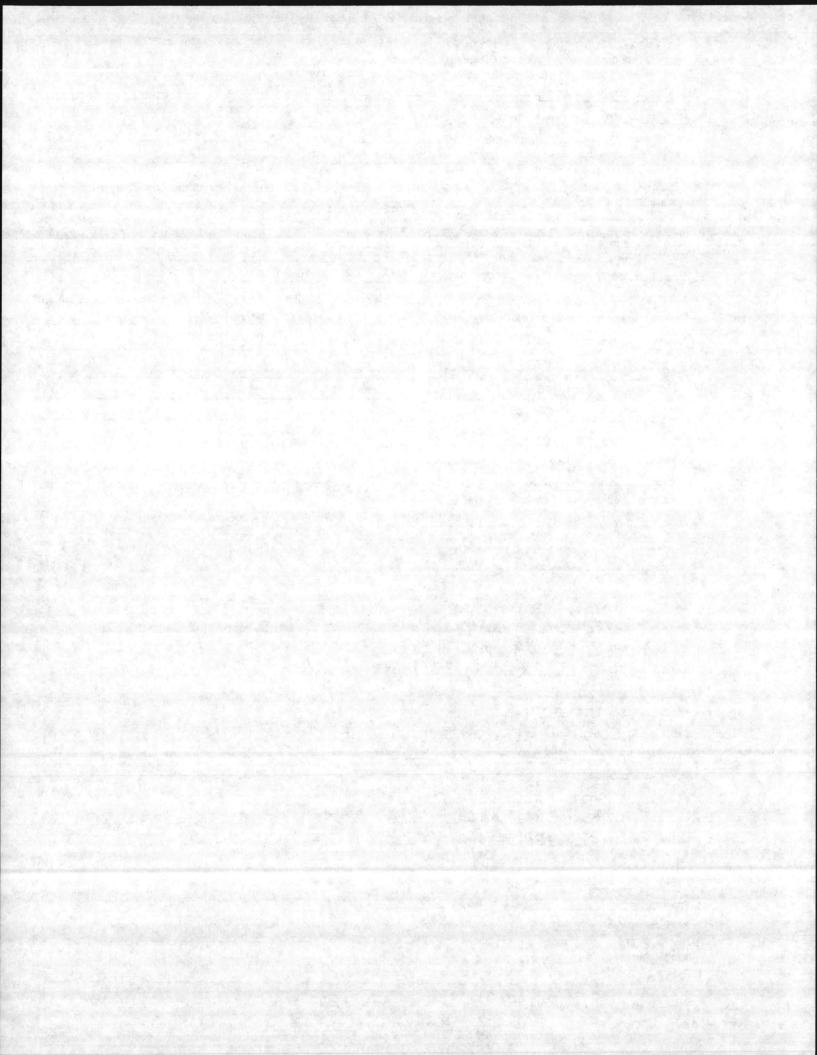


D	P. O. Box 27687 - RALEIGH, N.C. 2761 RILLING CONTRACTOR STS CONSULTANTS, LHL REG. NO. 19		TRUCTION PERMIT NO.
1	. WELL LOCATION: (Show sketch of the location below)		0
	Nearest Town: JACKSDAUICLE	County:	ONSCOL
	(Road, Community or Subdivision and Lot No.)	Quadrangle No	JACKSONVILLE
2.	OWNER: COMMANDING GENERAL, MANNE CONP BASE		DRILLING LOG GASY
3.	ADDRESS: OFFICE OF ACIS FACILITIES, CAMP LETENNE A	.C DEPTH	FORMATION DES
4.	TOPOGRAPHY: draw, valley, lope hilltop, flat (circle one)	FROM TO	(4SCS Classing
	USE OF WELL: Had SamplingDATE: 7-16-84	L. P. Strategie	
	DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-90	SM
7.	TOTAL DEPTH: 19.37 RIG TYPE OR METHOD: H.S.A.	9.0-10.0	SP
8.	FORMATION SAMPLES COLLECTED: YES / NO	10.0-20.0	SM
9.	CASING: Depth Inside Wall thick. type		
	Dia. or weight/ft. From 7 to 4.91 ft 2. Sal 40 PUC		
	From D to 4.91 ft 2" Sol 40 PUC		
			•
		\	A PROPERTY AND
10.	GROUT: Depth Material Method		
	From O to 29/ It Coment(:1)	Constant of the	
		If additional spa	ce is needed, use back of
11.	SCREEN: Depth Dia. Type & Opening From 4.91 to 19.37ft 2" Sch 40 PVC		ATION SKETCH
	(Show (roads, or other map reference
		and the second and the	.1
			t.
12.	GRAVEL: Depth Size Material	Runway #5	A
	From 3. 11 to 19.37ft Silica Sand		TI
	2.91 3.91 Rentenite		Ares Pares
13.	WATER ZONES (depth) : 9.0 - 19.37'(Tol)		a ar Us
			1 000
14.	STATIC WATER LEVEL: 9.0 ft. below of casing		YE
	Casing is 25 ft. above land surface ELEV:		ete
	YIELD (gpm) : S METHOD OF TESTING: PUMPED		no bun + cs+
16.	PUMPING WATER LEVEL: 10.0 ft.		prtose
	after / hours at 5 gpm.		prtose y
	CHLORINATION: Type NA Amount		
18.	WATER QUALITY: 6000 TEMPERATURE (°F) 72		
19.	PERMANENT PUMP: Date Installed MA		+
	TypeCapacity(gpm) HP	CANAL	51
	MakeIntake Depth	CAR	
	Airline Depth	and the second second	
20.	HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND IN	NFORMED OF THE DE	PARTMENTS REQUIREMENTS
	RECOMMENDATIONS?		
21.	REMARKS I do hereby certify that this well was constructed in a		

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	21	18	-			-	5	0	,	w	n	m	2	la
	ANA				N.	(c)		OF	OR	CT	RA	CONT	OF	URE
and MAns	 			-							-			

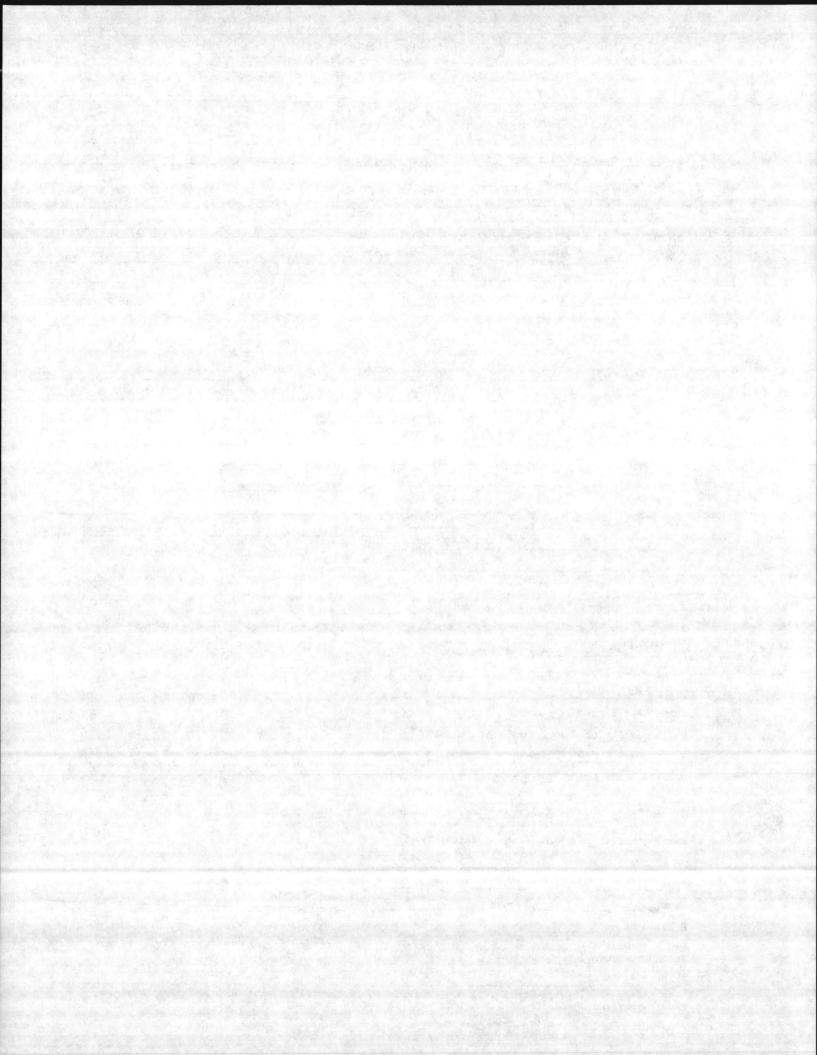
ment and come to well owner



WELL RECORD DIVISION OF ENVIRONMENTAL M P. O. Box 27687 - RALEIGH, N.C. 276 DRILLING CONTRACTOR STS CONSULTING CONTRACTOR STS CONSULTING CONTRACTOR STS	611 919-733-2020	CLEJ 3.13 - 1/2/8 TION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: SNEADS FERRY	County:	ONSCOL
(Road, Community or Subdivision and Lot No.)	Quadrangle Nor	SNEADS FERR
2. OWNER: COMMANDING GENERAL MANUT CAP &	Carpo DF	ILLING LOG GWG
3. ADDRESS: OFFICE OF ACIS FACILITIES, CAMPLOTEINE A		
4. TOPOGRAPHY: draw, valley, slope, hilltop, flat circle one	FROM TO	FORMATION DI
5. USE OF WELL: H. O Sampling DATE: 8-2-84		
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-3.0	SM
7. TOTAL DEPTH: 20.36 RIG TYPE OR METHOD: 4.S.A.	30-5.5	SM-SC
8. FORMATION SAMPLES COLLECTED: YES V NO	5.5-7.5	<u> </u>
Dia. or weight/ft.	7,5-215	CL
From D to 5. 5% ft 2" Sal 40 PVC		A starting of the second
10. GROUT: Depth Material Method		
From 1 to It coment(2:1) poured	1. 1 M	
	If additional space .	is pooded use back
11. SCREEN: Depth Dia. Type & Opening	II additional space	Is needed, use such
From 5.98 to 236 st 2" Sch 40 PUC	LOCATI w distance to numbered ros	ON SKETCH
. 010 Elet	W distance to numbered ros	as, or other map reserv
12. GRAVEL: Depth Size Material		\backslash
From 429 to 2036 St Silica Sand		λ
2.63 4.29 Rentancte		- \
13. WATER ZONES (depth) : 2.3 - 20.36 (Toc)		GUBT-I
13. WATER SURES (depth) :	- 0	1 8
2.0 above		1 lig
14. STATIC WATER LEVEL: 2.9 ft. above top of casing	'a i	1 - 1
Casing is 2.5 ft. above land surface ELEV: 17.37	10	
15. YIELD (gpm) : 7.5 METHOD OF TESTING: PUMPED	~ ~ ~ 5000'	trom + SFR+
16. PUMPING WATER LEVEL: 2.9 ft.	. RR to	VE \
after hours at gpm.		
17. CHLORINATION: Type NA Amount		
18. WATER QUALITY: COUD TEMPERATURE (°F) 75	** **	
19. PERMANENT PUMP: Date Installed		. \
TypeCapacity(gpm) HP		· \/
MakeIntake Depth	SNEADS FE	Vicey Rd
Airline Depth	STEADS FE	
20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND RECOMMENDATIONS?	INFORMED OF THE DEPAR	TMENTS REQUIREMENTS

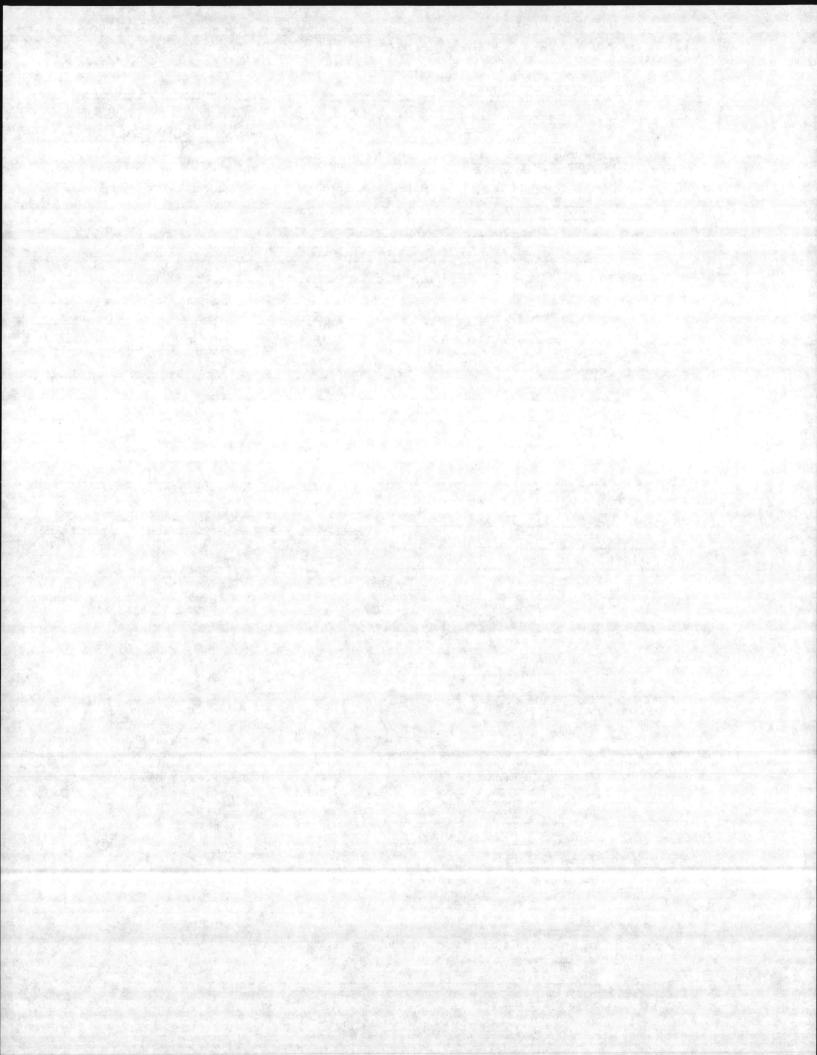
DAVE SIGNATURE OF CONTRACTOR OF AGENT . -

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P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS COASULTING, LHJ REG. NO. 1	A i	RUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: SNEADS FENNY	County:	ONSCOM
(Road, Community of Subdivision and Lot No.)	Quadrangle No.	SNEHOS FERI
2. OWNER: COM MAN BING CENERAL, MANINE COMP BA	32	DRILLING LOG GAL
3. ADDRESS: OFFICE OF AC/S FACILITIES , CAMP LEJENE, N.C.	The second state of the second state of the second	
4. TOPOGRAPHY: draw, valley, slope, hilltop, flat(circle one)		USCS CE
5. USE OF WELL: HO Sampling DATE: 7-17-84	for the second second	(200 4
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-3.	· SM
7. TOTAL DEPTH: 20.42 RIG TYPE OR METHOD: H.S.4.	3-6.5	SM-SC
8. FORMATION SAMPLES COLLECTED: YES VNO	5.5-7.5	CL
9. CASING: Depth Inside Wall thick. type	75-145	CL
Dia. or weight/ft.		
Prom D to 5.94 ft 2+" Sch 4D PVC		
10. GROUT: Depth Material Method		
From () to 283 ft comment (2:1) _ poured		
	If additional space	e is needed, use bac
11. SCREEN: Depth Dia. Type & Opening		
From S.94 to Ja42 ft 2" Sch 40 PUC		TION SKETCH roads, or other map refer
,010 slot		
		~
12. GRAVEL: Depth Size Material		
Prom 463 to 20 42 It Silies Send		
201 442 Bentonite		7
13. WATER ZONES (depth) : 8.67 - 20.42 (Toc)		
IS. WATER SUNES (DEPCH)		GW68-IR
14. STATIC WATER LEVEL: 0.67 ft. above top of casing	1	90
Deater.	" "	
Casing is 25 ft. above land surface ELEV: 97.83		X L
15. YIELD (gpm): 7.5 METHOD OF TESTING: PUMPED	i i	
16. PUMPING WATER LEVEL: 9.9 ft.	- ~500	to NE
after 3 hours at 7.5 gpm.	RR	GNE \
17. CHLORINATION: Type AA Amount		
18. WATER QUALITY: GOOD TEMPERATURE (°F) 78		/
19. PERMANENT PUMP: Date Installed MA		•
TypeCapacity(gpm)HP		
TypeCapacity(gpm)HP MakeIntake Depth Airline Depth		Ferry Rd
TypeCapacity(gpm)HP MakeIntake Depth		

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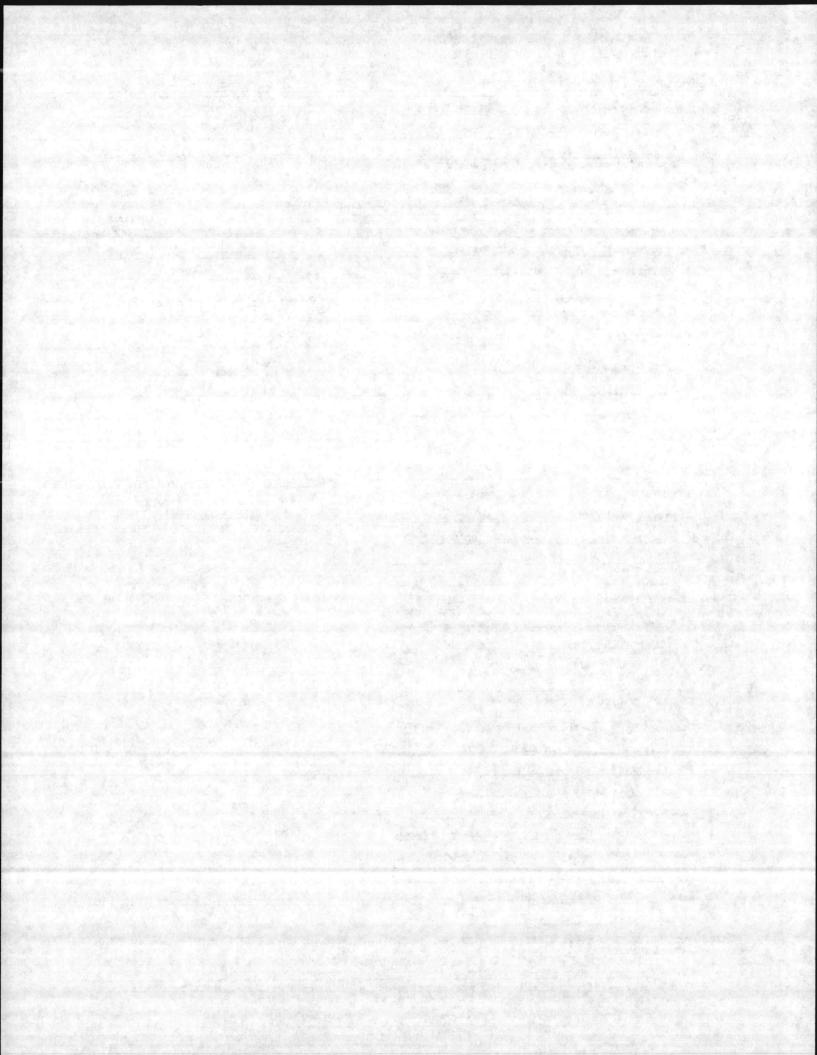


DRILLING CONTRACTOR STS CONSULTING LH. REG. NO. 19	1 919-733-2020 WELL CONSTRUCTION PERMIT NO.	
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: SNEADS FENNY	ON SLOW	(a) (
(Road, Community of Subdivision and Lot No.)	Quadrangle No: SNEADS FERRY	(az. 18) No. 19
2. OWNER: COMMANDING GONONAL MANING COMP BAS	DRILLING LOG GU68-	2
3. ADDRESS: OFFICE OF ACIS FACILITIES . CAMP LE SEUNE N.C.		*
. TOPOGRAPHY: draw, valley, Slope, hilltop, flat (circle one)	FROM TO FORMATION DESCR	
5. USE OF WELL: H.O Soughing DATE: 9-2-84	(uses care	al
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-35 SM	tarth.
TOTAL DEPTH: 21.07 RIG TYPE OR METHOD: H.S.A.	3570.3 SM-SC	
FORMATION SAMPLES COLLECTED: YES V NO		
P. CASING: Depth Inside Wall thick. type Dia. or weight/ft. From O to Gb/ ft 2," Sch 40 PUC	<u>20:21.5</u> SM	
. GROUT: Depth Material Method		
From O to 4. (d ft comosto:1) _ poured		
. SCREEN: Depth Dia. Type & Opening	If additional space is needed, use back of	for
From 6-6/ to2107st 2" Sch40 PUC -	LOCATION SKETCH	
(Show d	distance to numbered roads, or other map reference	poin
GRAVEL: Depth Size Material		
. GRAVEL: Depth Size Material Prom 44 to 2100 ft Silica Cand		
From Fild to 2107 ft Silica Soul		
From Fild to 2107 ft Silica Soud 461 Ald Bentonite	Gw68-2	
From Fild to 2107 ft Silica Soud 461 Ald Bentonite	Gw68-2	
From <u>File</u> to <u>2107</u> ft <u>Silice Send</u> <u>461 Ald</u> <u>Bentonite</u> WATER ZONES (depth) : <u>15.9</u> 21.07'(TOC)	Gw68-2	
From <u>5.61</u> to <u>2107</u> ft <u>Silice Send</u> <u>4.61 EL1 <u>Bentonite</u> WATER ZONES (depth) : <u>15.9 21.07'(TOC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing</u>	9	
From <u>Field</u> to <u>2107</u> ft <u>Silice Send</u> <u>4.61 ALI</u> <u>Bentonite</u> WATER ZONES (depth) : <u>15.9</u> <u>21.07'(TDC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>69.27</u>		L
From <u>Field</u> to <u>2107</u> ft <u>Silice Send</u> <u>4.61 ALI</u> <u>Bentonite</u> WATER ZONES (depth) : <u>15.9</u> <u>21.07'(TDC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>69.27</u>		RAIG
From <u>J.61</u> to <u>2107</u> ft <u>Silice Send</u> <u>461 <u>A</u><u>61</u> <u>Bentonite</u> WATER ZONES (depth) : <u>15.9</u> <u>21.07'(TOC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>69.37</u> YIELD (gpm) : <u>Z</u> METHOD OF TESTING: <u>Remper</u></u>	9	Ruige
From <u>J.61</u> to <u>2107</u> ft <u>Silice Send</u> <u>461 <u>A.61</u> <u>Bentonite</u> WATER ZONES (depth) : <u>15.9</u> <u>21.07'(TOC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>69.37</u> YIELD (gpm) : <u>Z</u> METHOD OF TESTING: <u>Remper</u></u>		Range Ro
From <u>J.61</u> to <u>2107</u> ft		Raige Ra
From <u>J.61</u> to <u>2107</u> ft <u>Silice Send</u> <u>4.61</u> <u>Alai</u> <u>Bentenite</u> WATER ZONES (depth) : <u>15.9</u> <u>21.07'(TDC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>69.27'</u> YIELD (gpm) : <u>Z</u> METHOD OF TESTING: <u>Runner</u> PUMPING WATER LEVEL: <u>20</u> ft. after <u>2</u> houry at <u>2</u> gpm. CHLORINATION: Type <u>MA</u> Amount		Raige Ra
From J.6/ to 2107 ft		Ruige Ra
From <u>J.61</u> to <u>2107</u> ft		Raige Ra
From <u>J.6</u> to <u>2107</u> ft		Raige Ra
From <u>J.66</u> to <u>2107</u> ft	NSTSO / Jesum t SFR+RR To N	Ruige Ra
From <u>Gible</u> to <u>2107</u> ft <u>Silice Send</u> <u>4464</u> <u>Attal</u> <u>Benterite</u> WATER ZONES (depth): <u>15.9</u> <u>21.07'(TDC)</u> STATIC WATER LEVEL: <u>15.9</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>69.37</u> YIELD (gpm): <u>Z</u> METHOD OF TESTING: <u>Rumper</u> PUMPING WATER LEVEL: <u>20</u> ft. after <u>2</u> houry at <u>2</u> gpm. CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>G.DUTD</u> TEMPERATURE (^O F) <u>65</u> PERMANENT PUMP: Date Installed <u>MA</u> Type (gpm) HP	SAVEADS Ferry Rd	Raige Ral

12 S. (* 14)

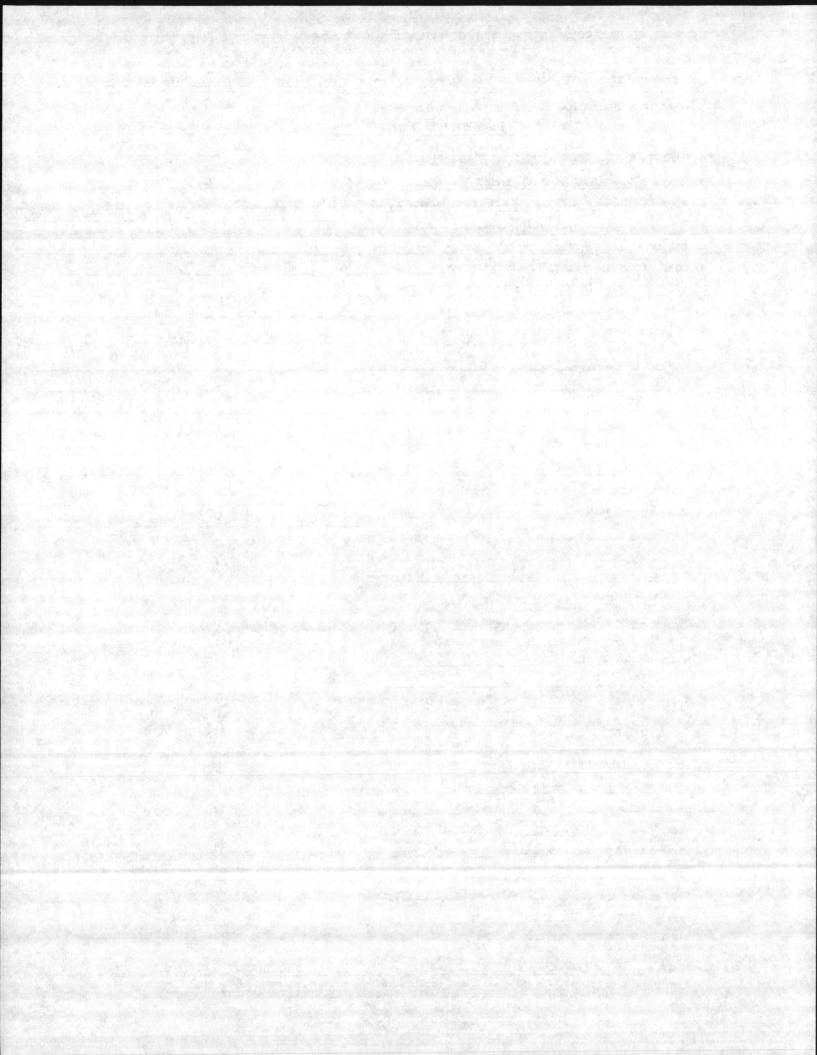
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P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTING CHI, REG. NO. 191		UCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	÷ /	
Nearest Town: SNEADS FERNY	County:	ONSCOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No.	Sweros Forny
2. OWNER: (DAMANON GENERAL, MANNE CONP BAS	re r	
3. ADDRESS: OFFICE OF AUS FACILITIES, CAMP LASEVAGE		DRILLING LOG GU68-2R
. TOPOGRAPHY: draw, valley, flop, hilltop, flat (circle one)	FROM TO	FORMATION DESCRIPT
5. USE OF WELL: H.O Sempley DATE: 7-17-84		(uscs class.)
5. DOES THIS WELL REPLACE AN EXISTING WELL?	0-3.5	SM
. TOTAL DEPTH: 20,94 RIG TYPE OR METHOD: H.S. A.	3.5-10.5	sm-sc
. FORMATION SAMPLES COLLECTED: YES / NO	1516.5	SM-SC
CASING: Depth Inside Wall thick. type		
Dia. cr weight/ft.	20215	SM
From & to 646 ft 2" SI 40 PVC	The second second	
GROUT: Depth Materia! Method		
Prom o to 383 ft comentail poured	<u> </u>	
	If additional space	is needed, use back of for
. SCREEN: Depth Dia. Type & Opening	and the second	
From 64 to 20.99 ft 2" Sel 40 PUC (Show		ION SKETCH ads, or other map reference point
	-	
		\mathbf{i}
the second se		
. GRAVEL: Depth Size Material	o Gwbson	
From 544 to 20.99 ft Silica Sand	0.0	
3.53 5.44 Antonite	14 1	00
. WATER ZONES (depth) : 20.37 - 20.94 (Toc)		F
20.27 c. above.		NST75 from + BAR
. STATIC WATER LEVEL 20.37 ft. above top of casing	1	N5775 Oto N 3
Casing is 25 ft. above land surface ELEV: 61.32		SFR+KK 0
. VIELD (GPM) : CAS METHOD OF TESTING: CALLED		
after 2 hours at 0 . 2 gpm.	ningtottania internetionali di	\backslash .
	N Sarapana ang Kabupatén Kabupatén Kabupatén Kabupatén Kabupatén Kabupatén Kabupatén Kabupatén Kabupatén Kabupa	
WATER QUALITY: Good TEMPERATURE (°P) 65		
	»·-	
PERMANENT PUMP: Date Installed		
TypeCapacity(gpm)HP MakeIntake Depth	CUDAN	s Ferry Rd
	SNEM	s reny wi
Airline Depth		
. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND IN RECOMMENDATIONS?	NFORMED OF THE DEPAI	THENTS REQUIREMENTS AND
REMARKS		

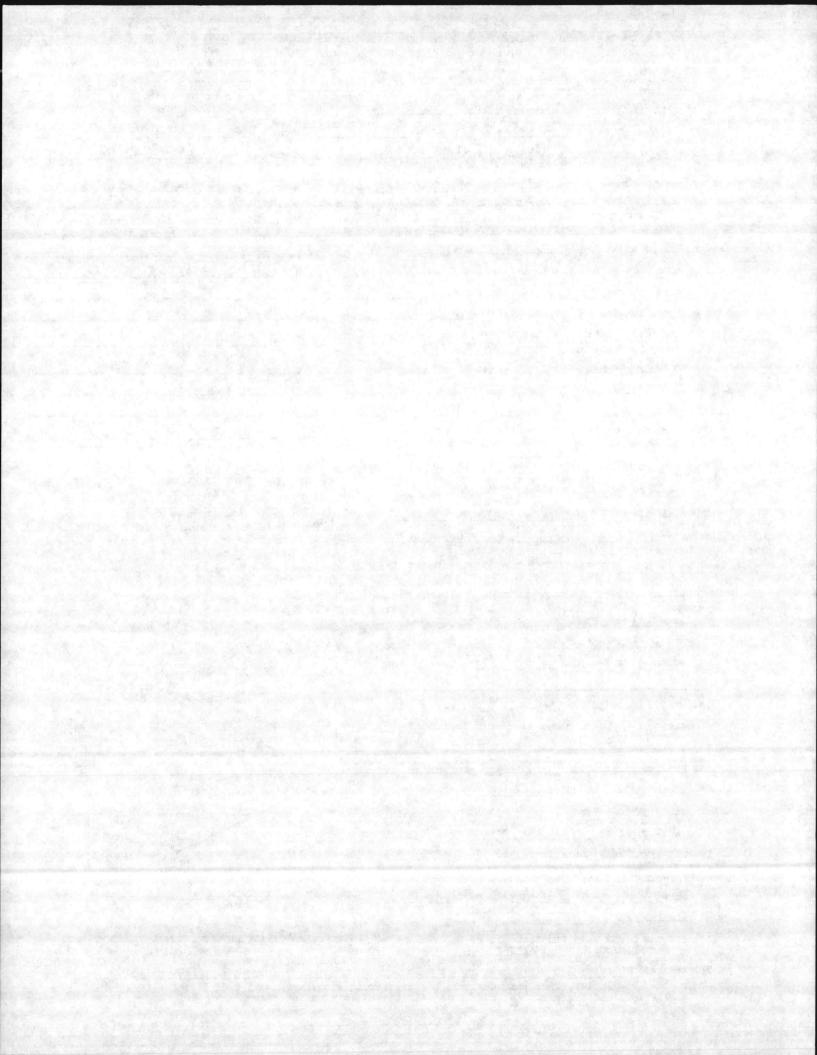
GW-1 Revised 10/1/80



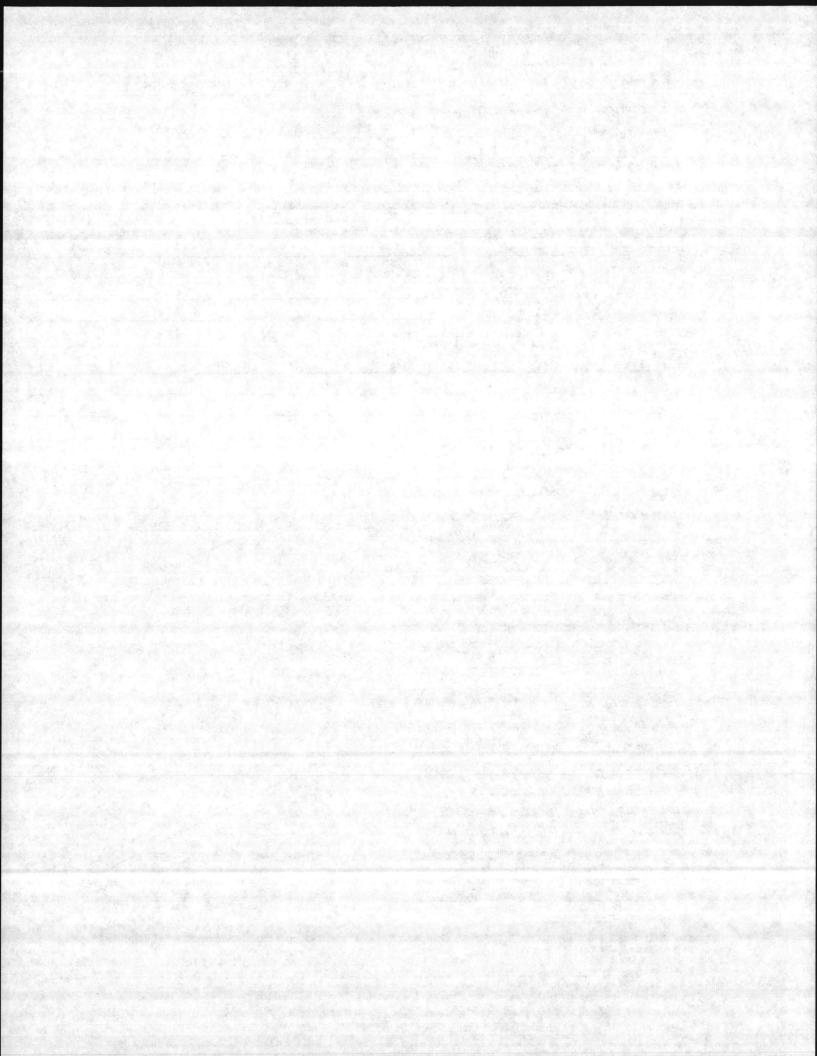
NORTH CAROLINA DEPARTMENT OF NATURAL RESOUR WELL RECORD DIVISION OF ENVIRONMENTAL MA P. O. Box 27687 - RALEIGH, N.C. 276 DRILLING CONTRACTOR STS CONSULTING, LT REG. NO. 19	ANAGEMENT
1. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: Sweaps Fenny	County: ONSCOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No. SNEADS FERRY
. OWNER: COMMANDING GENERAL, MALINE CONP BASE	
B. ADDRESS: OFFICE OF ACIS FACILITIES, CHAMP LEJEVINE A	BOOM BO BODMARTON DRACDTDRY
. TOPOGRAPHY: draw, valley, slope, filltop, flat (circle one)	(USCS Classifica
. USE OF WELL: Hac Sempling DATE: 8-2-84	
. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-45 SM
. TOTAL DEPTH: 19.77 RIG TYPE OR METHOD: H.S.A -	4.5-60 SC-SM
. FORMATION SAMPLES COLLECTED: YES V NO	_60-165 SM
. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	- 2021.5 CL
From 0 to 5.29 ft 3" Sch 40 PVC	
	· · ·
. GROUT: Depth "terial Method	
From O to 2.7 ft coment (2:1) poured	
	If additional space is needed, use back of for
GRAVEL: Depth Size Material	distance to numbered roads, or other map reference point
From 4.10 to/9.77 It Selice Send 2.71 4.10 Bestonite	
WATER ZONES (depth) : /9.15 - 19.7 7(TOC)	00
STATIC WATER LEVEL: 19.15 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 76.33 YIELD (gpm): O.5 METHOD OF TESTING: BALLED (Gwb	F3
PUMPING WATER LEVEL: 19.25 ft.	A I
after 2 hours at 0.5 gpm.	N 5000 from + SFR+RR.
CHLORINATION: Type NA Amount	TON
WATER QUALITY: GOOD TEMPERATURE (°F) 70	
PERMANENT PUMP: Date Installed	
TypeCapacity(gpm)HP	
Make Intake Depth	
	SNEADS FERTY Rd
Airline Depth HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND IN	NFORMED OF THE DEPARTMENTS REQUIREMENTS AND
RECOMMENDATIONS? <u>985</u>	
REMARKS	

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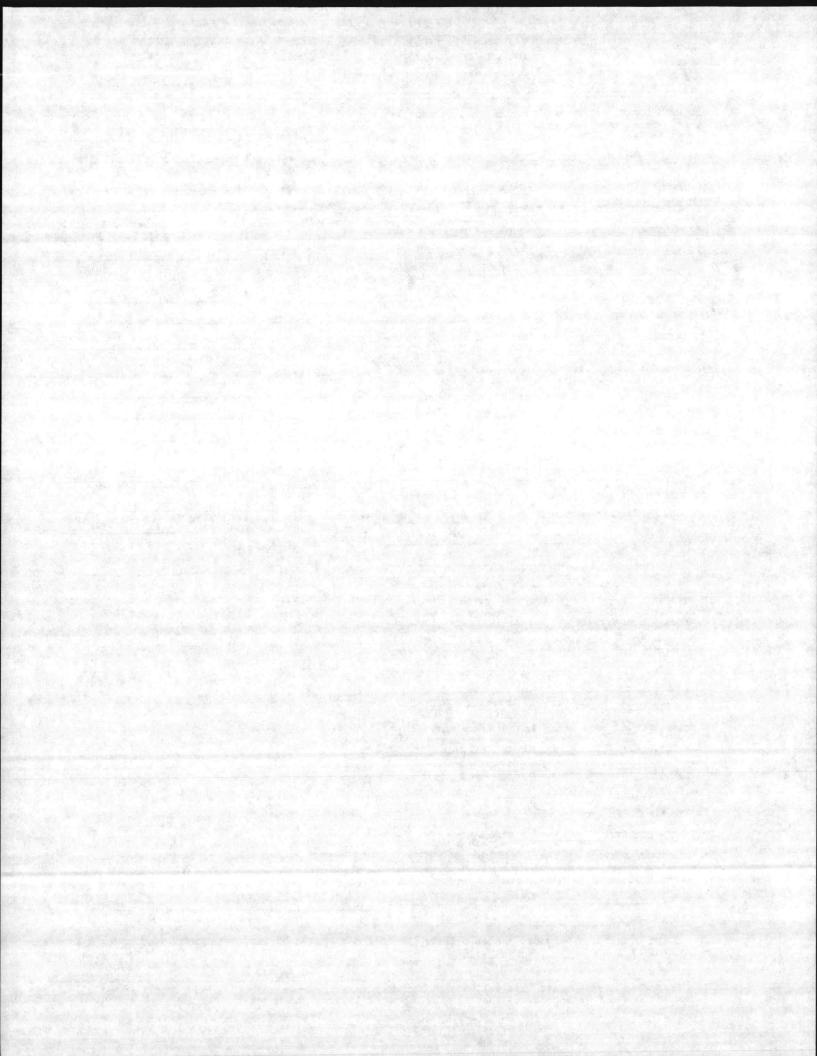
)



P. O. Box 27687 - RALEIGH, N.C. 276	ANAGEMENT	LOPMENT
DRILLING CONTRACTOR STS COUSULTANTS, L+J REG. NO. 1	A .	CTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: SWEADS FERRY	County:	ON200
(Road, Community or Subdivision and Lot No.)	Quadrangle	SWEAD'S FURRY
2. OWNER: COMMANDING GENERAL , MANNE CONP BASE	e <u>DI</u>	TILLING LOG GW68-3R
3. ADDRESS: OFACE OF ACIS FACILITIES , CAMP LEJEUNE N	.C. DEPTH	
4. TOPOGRAPHY: draw, valley, slope, haltop) flat (circle one)	FROM TO	FORMATION DESCRIPTION
5. USE OF WEIL: HO Sandling DATE: 7-17-84		(4505 anythere
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-4.5	SM
7. TOTAL DEPTH: / CAL RIG TYPE OR METHOD: H.S.A.	4.5-6.0	SC-SM
8. FORMATION SAMPLES COLLECTED: YES V NO	6.0-16.5	SM
9. CASING: Depth Inside Wall thick. type		01
Dia. or weight/ft.	20 21.5	CL
From O to 772 ft 2" Sel 40 PVC	- And the short of	
GROUT: Material Method		
From () to 1.58 ft (oment (): 1) cource	· · · · · ·	
L. SCREEN: Depth Dia. Type & Opening	If additional space	is needed, use back of form
From 3.73 to 121 st 2 " Sch 40 PVC -	LOCATI	ON SKETCH
OID abot (Show	distance to numbered road	is, or other map reference points
		~
. GRAVEL: Depth Size Material		
From 2.71 to K.21ft Silice Sand		
158 271 Bentonite	0	
	0	
1.58 2.71 Bentonite WATER ZONES (depth) : 17.14 - 20.14 '(700)	0	00
. WATER ZONES (depth) : 17.14 - 20.14 '(Toc) . STATIC WATER LEVEL: 19.14 ft. above top of casing	0	00
152 2.71 <u>Bentomite</u> WATER ZONES (depth): <u>17.14</u> - 20.14 '(70C) . STATIC WATER LEVEL: <u>M.N4</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u> ' (466)	0 8R	Rang
158 2.71 <u>Bentomite</u> WATER ZONES (depth): <u>17.14</u> - 20.14 '(TOC) STATIC WATER LEVEL: <u>N.14</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u> ' (466) . YIELD (gpm): <u>METHOD</u> OF TESTING: <u>BAILER</u>	20 .	Range
152 2.71 <u>Bentomite</u> WATER ZONES (depth): <u>17.14</u> - 20.14 '(70C) . STATIC WATER LEVEL: <u>M.N4</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u> ' (466)	20 .	
158 2.71 <u>Bentomite</u> WATER ZONES (depth): <u>17.14</u> - 20.14 '(TOC) STATIC WATER LEVEL: <u>N.14</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u> ' (466) . YIELD (gpm): <u>METHOD</u> OF TESTING: <u>BAILER</u>	20 .	
158 2.71 <u>Bentomite</u> WATER ZONES (depth): <u>17.14 - 20.14 '(Toc)</u> STATIC WATER LEVEL: <u><i>R.N.</i></u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u> ' (466) YIELD (gpm): <u>METHOD</u> OF TESTING: <u>BAILER</u> (466) PUMPING WATER LEVEL: <u>1</u> ft. Column	20 .	as brom + SER+RR
<u>(55</u> <u>3.7)</u> <u>Bentomite</u> WATER ZONES (depth) : <u>17.14</u> - 20.14 '(70C) STATIC WATER LEVEL: <u>M.14</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u> ' (4466) YIELD (gpm) : <u>METHOD</u> OF TESTING: <u>BAILER</u> PUMPING WATER LEVEL: <u>I</u> ft. Column after <u>2</u> hours at <u>gpm</u> .	20 .	
Ist and and after 2 hours at Bentomite WATER ZONES (depth): [1.14] - 20.14 '(Toc) STATIC WATER LEVEL: [1.16] - 20.14 '(Toc) STATIC WATER LEVEL: [1.16] - 20.14 '(Toc) PUMPING WATER LEVEL: [1.16] - 20.14 '(Toc) PUMPING WATER LEVEL: [1.16] - 20.14 '(Toc) State [1.16] - 20.14 '(Toc)	20 .	
<u>(55</u> , <u>37</u>) <u><u>Bentonite</u> WATER ZONES (depth): <u>17.14</u> - 20.14 '(Toc) . STATIC WATER LEVEL: <u>M.14</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>77.45</u>' (466) . YIELD (gpm): <u>METHOD</u> OF TESTING: <u>BAILER</u> . PUMPING WATER LEVEL: <u>1</u> ft. Column after <u>2</u> hours at <u>gpm</u>. . CHLORINATION: Type <u>MA</u> Amount . WATER QUALITY: <u>COUO</u> TEMPERATURE (°F) <u>70</u> . PERMANENT PUMP: Date Installed <u>MA</u></u>	20 .	
Image: ADI	20 .	25' from +SFR+RR
LSE A.N Bentomite WATER ZONES (depth) : [1,14] - 20,14 '(70C) STATIC WATER LEVEL: [1,14] - 20,14 '(70C) VIELD (gpm) : [METHOD OF TESTING: BAILER PUMPING WATER LEVEL: [1,14] ft. Columna after 2 hours at [gpm]. CHLORINATION: Type [MA Amount] WATER QUALITY: [ACU]) TEMPERATURE (°F) [70] PERMANENT PUMP: Date Installed [MAT Type [Gapacity] (gpm) HP Make Intake Depth	20 .	25' prom + SFR+RR
Ist in the second surface Ist intermediate WATER ZONES (depth): If.14 - 20.14 '(Toc) STATIC WATER LEVEL: If.14 - 20.14 '(Toc) STATIC WATER LEVEL: Static above top of casing Casing is 2.5 ft. above land surface ELEV: T.45 '(466') YIELD (gpm): METHOD OF TESTING: BAILER PUMPING WATER LEVEL: Ift. Column G after 2 hours at gpm. CHLORINATION: Type MAA Amount WATER QUALITY: GOUOO TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed MAT Type Capacity (gpm) HP Make Intake Depth	SNPAR	as prom + SFR+RR
Ist in the second surface Ist interesting WATER ZONES (depth): [1.14] - 20.14'(Toc) STATIC WATER LEVEL: [1.14] - 20.14'(Toc) VIELD (gpm) is METHOD OF TESTING: BAILUT PUMPING WATER LEVEL: [1.14] ft. Columna after hours at gpm. [1.14] Columna CHLORINATION: Type MA_ Amount [1.14] MATER QUALITY: WATER QUALITY: [2000] TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed	SNPAR	as prom + SFR+RR
Ist in the second surface Ist intermediate WATER ZONES (depth): If.14 - 20.14 '(Toc) STATIC WATER LEVEL: If.14 - 20.14 '(Toc) STATIC WATER LEVEL: Static above top of casing Casing is 2.5 ft. above land surface ELEV: T.45 '(466') YIELD (gpm): METHOD OF TESTING: BAILER PUMPING WATER LEVEL: Ift. Column G after 2 hours at gpm. CHLORINATION: Type MAA Amount WATER QUALITY: GOUOO TEMPERATURE (°F) 70 PERMANENT PUMP: Date Installed MAT Type Capacity (gpm) HP Make Intake Depth	SA PAR	Ferry Rd

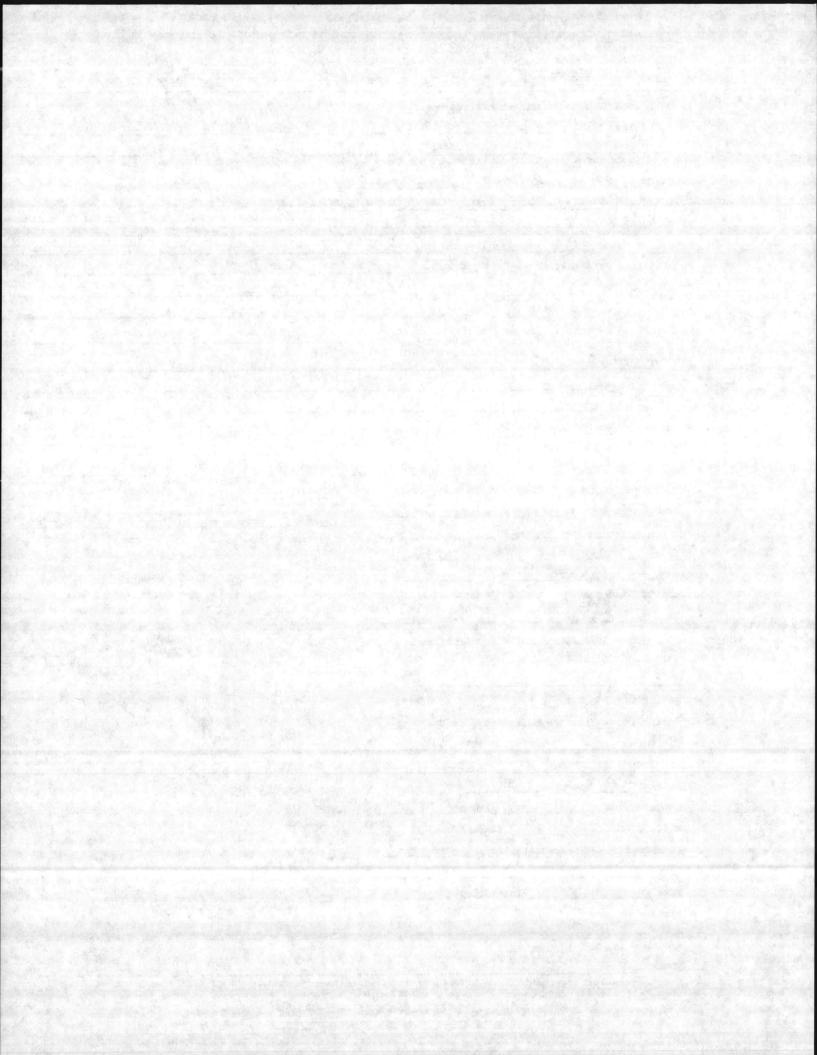


	P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTANTS Ltd REG. NO. 19		RUCTION PERMIT NO.
)	1. WELL LOCATION: (Show sketch of the location below)		
	Nearest Town: SwEADS FERRY	County:	ONSLOW
	(Road, Community or Subdivision and Lot No.)	Quadrangle He	SNET-US FERRE
	2. OWNER: COMMANDING GENERAL, MANINE GOND BACK		DRILLING LOG GW69-1
	3. ADDRESS OFFICE OF ACIS FACILITIES , CAMP LETERAL N.C.	DEPTH	
	4. TOPOGRAPHY: draw, valley, slope, Ailitop, flat (circle one)	FROM TO	FORMATION DESCR
	5. "SE OF WELL: H.O Sampling DATE: 7-18-84		and the state of the second
	6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-55	SM
	7. TOTAL DEPTH: 21.04 RIG TYPE OR METHOD: H.SA.	5.5-6.0	CL
	8. FORMATION SAMPLES COLLECTED: YES _ NO	6.0-7.5	SM
	9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	7.5-8.5	SC-SM
		8.5-215	cr
1	0. CROIT: Depth Material Method		•
	From D to 4.79 tt cament (:1) poured	*	
1	1. SCREEN: Depth Dia. Type & Opening	f additional space	e is needed, use back of
	From Ly to 2604Et 2" Sch 40 PVC -	LOCA	TION SKETCH
	OIO Slat (Show d	istance to numbered a	coads, or other map reference ;
		STONE	BAY
,	2. GRAVEL: Depth Size Material		•
	From Gito al aller Size Material		
	49547 Kentert		
1.	WATER ZONES (depth) : 0-93 - 21.04' (Toc)		
			0
14	. STATIC WATER LEVEL 2.9.3 ft. above top of casing		Q G-W69-1
	Casing is 25 ft. above land surface ELEV: 94.33		RR .
15	. YIELD (gpm): 4 METHOD OF TESTING: NUMPED		+R+RR
	. PUMPING WATER LEVEL: 10.8 ft.	· · · · · ·	/
	after 1 hours at 4 gpm.	tro-NE	
17	. CHLORINATION: Type NA Amount	50°TS	ż
	. WATER QUALITY: 6000 TEMPERATURE (°F) 75		
19	. PERMANENT PUMP: Date Installed	/	
i. Nas	TypeCapacity(gpm)HP	1	
	MakeIntake Depth	- i	
	Airline Depth	SNeaDS	Ferry Rd
20	. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INI RECOMMENDATIONS?	PORMED OF THE DEPI	ARTMENTS REQUIREMENTS AND
21	REMARKS		
-1	I do hereby certify that this well was constructed in acc		



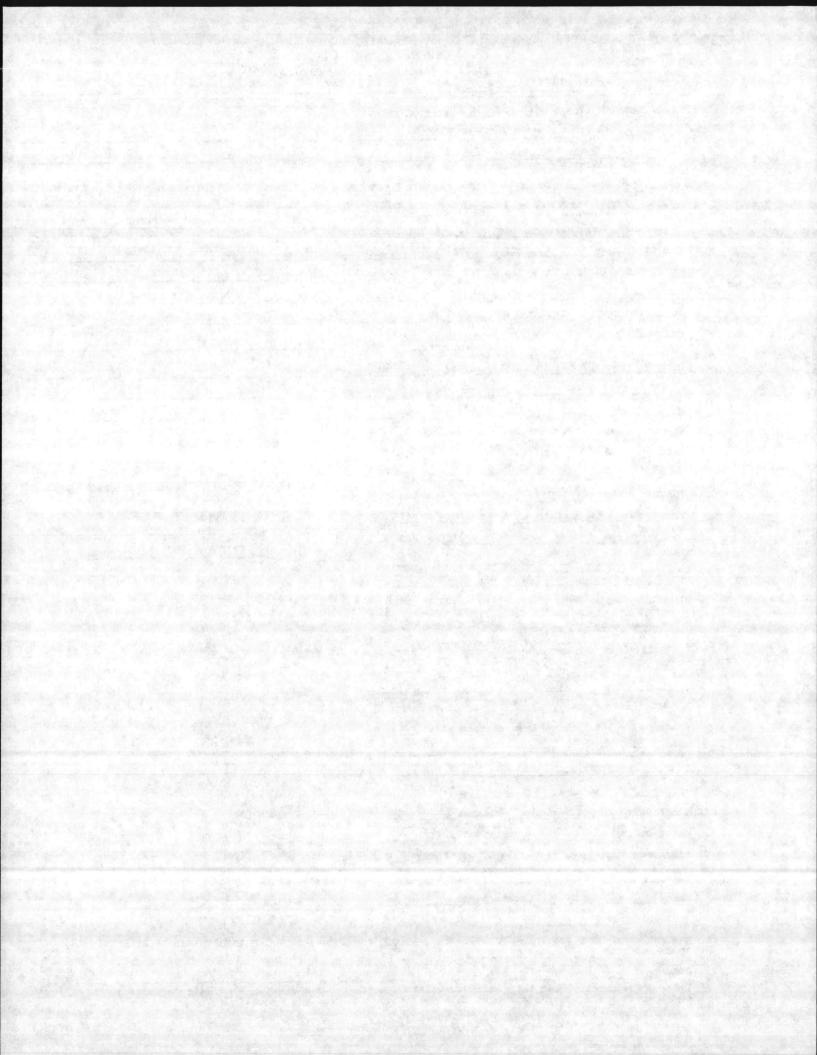
WULINU. LUNU ----> U.13-1/01/03 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS COUSSITANTS Ltd REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) SNEADS FERRY ONSLOW Nearest Town:____ County: AT 210 CAMP LEJEUNG Quadrangle No. SHEADS FERRY (Road, Community or Subdivision and Lot No.) DRILLING LOG G-669-2 2. OWNER: COMMANDING GOWMAN, MANINE CONP BASE 3. ADDRESS: OFFICE OF ACK FACKITIES CAMP LETEUNE N.C. DEPTH FROM FORMATION DESCRIPTION 4. TOPOGRAPHY: draw, valley, slope filltop, flat (circle one) uses claurficat 5. USE OF WELL: H.O Someline DATE: 7-18-84 6. DOES THIS WELL REPLACE AN EXISTING WELL? 0-SM 10 7. TOTAL DEPTH: 20.42 RIG TYPE OR METHOD: H.S.A . 875-90 SC-SM 8. FORMATION SAMPLES COLLECTED: YES / NO 0-21.5 c1 9. CASING: Depth Inside Wall thick. type Dia. or weight/ft. From () to 94 ft Seh 40 PVC 1 10. GROUT: Depth Material Method -+to 3671t From en additional space is needed, use back of form Dia Type & Opening 11. SCREEN: Depth From 5.94 to20.421t 40 PUC LOCATION SKETCH numbered roads, or other map reference points) (Sh STONE BAY 12. GRAVEL: Depth Size Material Silica From 4, 17 to 20.42 ft 367 4.77 13. WATER ZONES (depth) : P.3. (Toc 20. O G-469-2 4250 To E-NE-NE 14. STATIC WATER LEVEL: 8.3 ft. above top of casing Casing is 25 ft. above land surface ELEV: 99.23 15. YIELD (gpm): J METHOD OF TESTING: PUMPED 11.5 16. PUMPING WATER LEVEL: ft. after hours at gpn. 17. CHLORINATION: Type NA Amount 18. WATER QUALITY: GJOD -FAN TEMPERATURE ("F) 19. PERMANENT PUMP: Date Installed Ar A Type Capacity (gpm) HP Make Intake Depth Ferry SNEADS Rd Airline Depth 20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? 20 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. While mor 12-18 84 SIGNATURE OF CONTRACTOR OF AGENT D7.443

GW-1 Revised 10/1/80

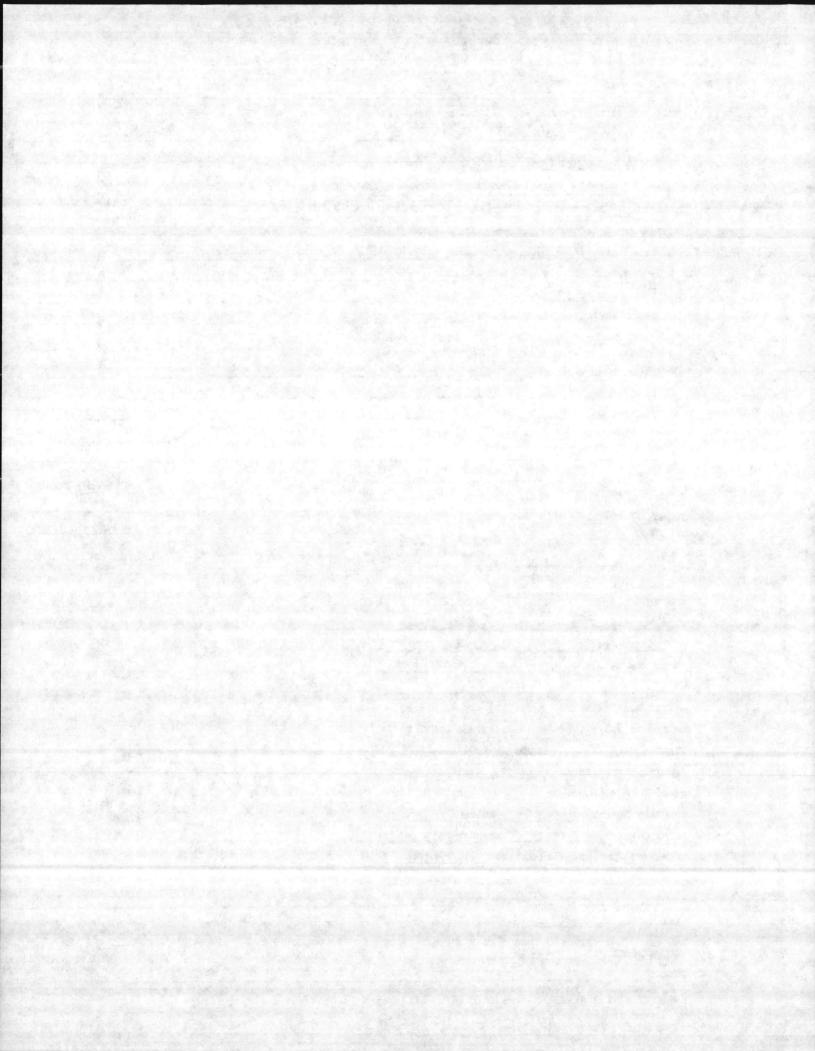


NOUNU. CLa - 00015 - 3.13 - 1/2/185 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS CONSULTANTS CHd, REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) SNEADS FORAL Nearest Town: OPSCOW County: AT 210 CAMP LEJEUNE SNEADS FERRY Quadrangle No. (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL, MARINE COND BASC DRILLING LOG G469-3 1. 3. ADDRESS: OFACE OF ALS FACILITIES , CAMPLEJEUNE N.C. DEPTH FORMATION DESCRIPTION 4. TOPOGRAPHY: draw, valley, slope militop, flat (circle one) USCS Clamificate 7-18-84 5. USE OF WELL: H.O Semeline DATE: 6. DOES THIS WELL REPLACE AN EXISTING WELL? NO SM 7. TOTAL DEPTH: 20.35 RIG TYPE OR METHOD: H.S.A. CL 8. FORMATION SAMPLES COLLECTED: YES V NO CL 20. -21.5 9. CASING: Depth Inside Wall thick. type Dia. or weight/ft. From D to 587ft PUC Sch 40 10. GROUT: Depth Material Method to 37/ ft From -If additional space is needed, use back of form 11. SCREEN: Depth Dia Type & Opening From 587to 1035tt LOCATION SKETCH how distance to numbered roads, or other map reference points) cl ßΑ STONE 12. GRAVEL: Depth Size Material From 4. Theoda 35 ft 00 GW69-371 471 13. WATER ZONES (depth) :_ 7.4 20.35 Toc 500 Hom TSERVR 14. STATIC WATER LEVEL: 74 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 98.52 15. YIELD (gpm): 3.5 METHOD OF TESTING: PUMPEN 16. PUMPING WATER LEVEL: 10.0 1 hours at 3.5 after gpn. 5 17. CHLORINATION: Type NA Amount 18. WATER QUALITY: GOOD TEMPERATURE (F) 19. PERMANENT PUMP: Date Installed Type Capacity (gpm) HP Make Intake Depth Airline Depth SNEADS Ra Ferry 20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. ľĿ -114 12-19-84 SIGNATURE OF CONTRACTOR OF AGENT D7.440

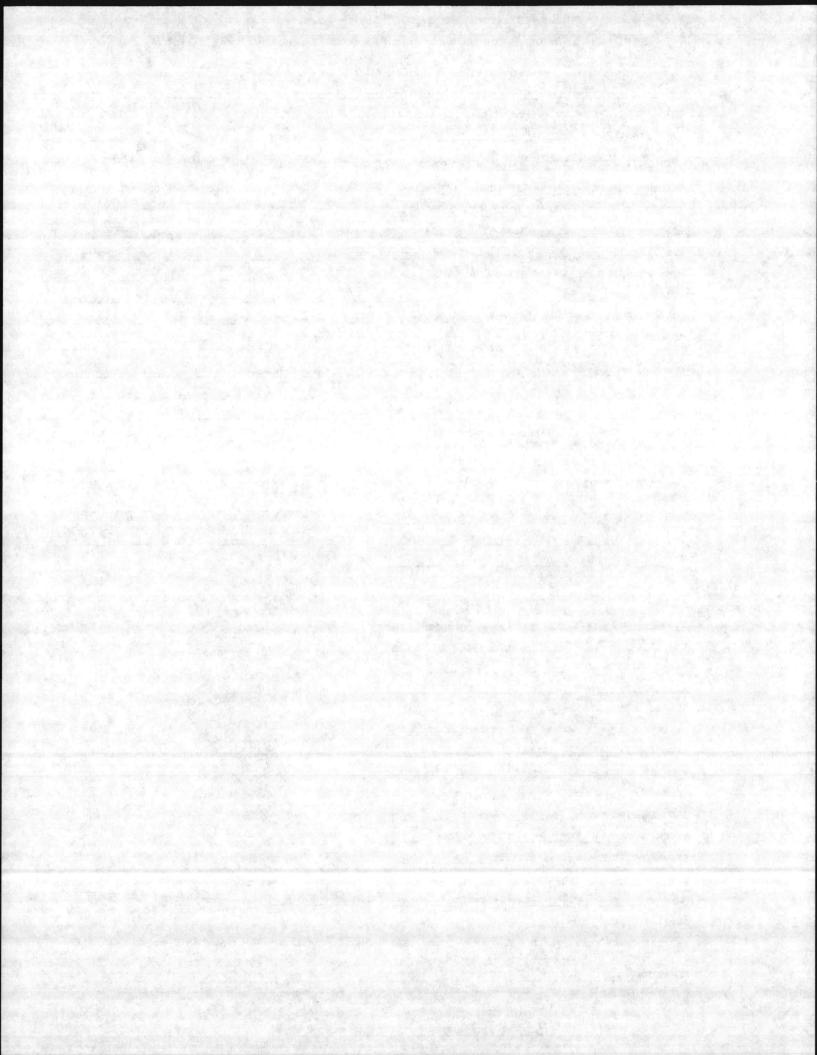
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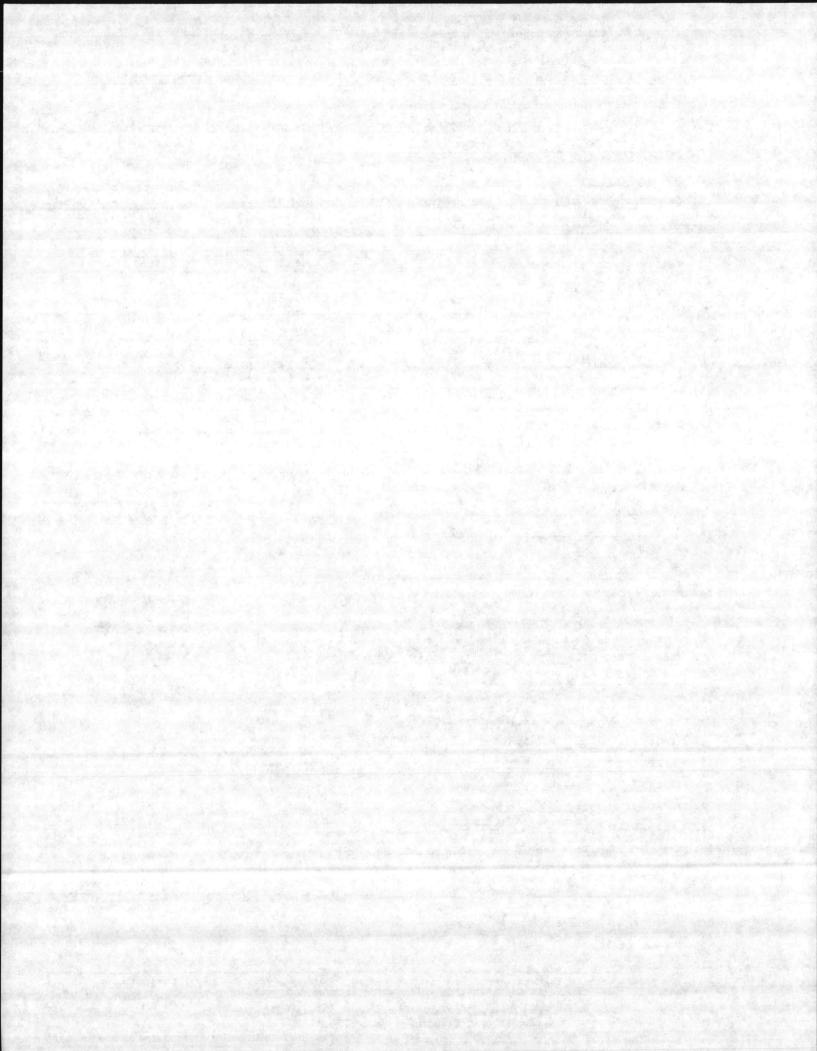
100 NU. CLAV - WUIS -0.13 - 1/21/85 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS CONSULTANTE td. REG. NO. 19/ WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) Nearest Town: SHEADS FERRY ONSLOW County: SNEADS FEMAL RT 210, CAMP LEVEUNE Quadrangle Net (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL MANINE CORP BASE DRILLING LOG GUG9-4 3. ADDRESS: OFFICE OF ACIS FACILITIES, CAMPLE JEUNE N.C. DEPTH FORMATION DESCRIPTION FROM 4. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one) Tuscs class.) 5. USE OF WELL: H. O Sampling DATE: 7-18-84 0-85 6. DOES THIS WELL REPLACE AN EXISTING WELL? SM NO 7. TOTAL DEPTH: 20.25 RIG TYPE OR METHOD: 7.S. A. 85-923 SC-SM 8. FORMATION SAMPLES COLLECTED: YES V NO 925-9. CASING: Depth Inside Wall thick. type 10-01.7 Dia. or weight/ft. From A to S. 77 ft Sek 40 PUC 10. GROUT: Depth Material Method Coment(2:1) Aura If additional space is needed, use back of form 11. SCREEN: Depth Dia. Type & Opening From 577 to 2025t R40 PUC LOCATION SKETCH (Show distance to numbered roads, or other map reference points) STONE BAY 12. GRAVEL: Depth Size Material D G-W69-4 From 4.54to 2026t 3.5 4.54 Di the SFRAR 8.94 -20.2 13. WATER ZONES (depth) :_ 14. STATIC WATER LEVEL: 294 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 102.5/ 15. YIELD (gpm) : 3.0 METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: 11.0 ft. after (hours at 3.0 gpn. a 17. CHLORINATION: Type NA Amount 18. WATER QUALITY: GOOD TEMPERATURE (°F) 20 19. PERMANENT PUMP: Date Installed Type Capacity (gpm) HP Make Intake Depth SNEADS Ferry Ra Airline Depth 20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? M 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. RIKnick Womberge SIGNATURE OF CONTRACTOR OF AGENT 12-18-87 17.440



	NORTH CAROLINA DEPARTMENT OF NATURAL RESOU WELL RECORD DIVISION OF ENVIRONMENTAL M P. O. Box 27687 - RALEIGH, N.C. 27 DRILLING CONTRACTOR STS CONSULTANTS, Ltd REG. NO.	MANAGEMENT
)	1. WELL LOCATION: (Show sketch of the location below)	
	Nearest Town: SNEHDS FERRY	County: DASLOW
	(Road, Community or Subdivision and Lot No.)	Quadrangle to. SNEADS FERRY
	2. OWNER: COMMANDING GENERAL, MARINE CONP (BASE DRILLING LOG GW69-5
	3. ADDRESS: OFFICE OF ALS FACILITIES, CAMP LEDEUNE	N.C. DEPTH
	4. TOPOGRAPHY: draw, valley, slope militop, flat (circle one	E) FROM TO FORMATION DESCRI
	5. USE OF WELL: HO Sampling DATE: 7-19-84	-
	6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-5.5 SM
	7. TOTAL DEPTH: 20.98 RIG TYPE OR METHOD: H.S.A.	5.5-6. SC-SM
	8. FORMATION SAMPLES COLLECTED: YES VNO	6.0-10.25 5M
	9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	1025-105 SC-SM
	From O to 65 ft 2" Sch 40 PVC	15 16.5 CL
	· · · ·	2021.5 CL
	10. GROUT: Depth Material Method	
	From B to 371 ft coments: p poured	
•		
		If additional space is needed, use back of f
	11. SCREEN: Depth Dia. Type & Opening	
)	From 65 to 20.95 t 2" Sch 40 PUC (Sho	LOCATION SKETCH by distance to numbered roads, or other map reference po
al a		STONE BAY
	12. GRAVEL: Depth Size Material	
	From 5.33 to 2098 st Silica Send	GW69-3
	3.71 5.33 Bantonite	P _0
1	13. WATER ZONES (depth) : 11.45 - 20.98 (TOC)	0
		R 100
	14. STATIC WATER LEVEL: N.Y ft. above top of casing	* Stranger 800°
		r* /
1	Casing is 3.5 ft. above land surface ELEV: 76 69	* /
	Casing is <u>3.5</u> ft. above land surface ELEV: <u>96.68</u>	AN A A
1	5. YIELD (gpm) : METHOD OF TESTING: PUMPED	Kom
1	15. YIELD (gpm):METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: /5.0 ft.	So the
1	15. YIELD (gpm):METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: /5.0 ft. after / 3 hours at 3 gpm.	TS HOTE
1	 15. YIELD (gpm): METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: /5.Dft. after hours at gpm. 17. CHLORINATION: Type Amount Generation 	TS HOTE
1	 15. YIELD (gpm):METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL:ft. afterhours atgpm. 17. CHLORINATION: TypeAmount	TS HOTE
1	 15. YIELD (gpm): <u>7</u> METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: <u>15.0</u> ft. after <u>13</u> hours at <u>3</u> gpm. 17. CHLORINATION: Type <u>NA</u> Amount 18. WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 73 19. PERMANENT PUMP: Date Installed <u>NA</u> 	TS HOTE
1	 15. YIELD (gpm):	TS HOTE
1	 15. YIELD (gpm): <u>7</u> METHOD OF TESTING: PUMPED 16. PUMPING WATER LEVEL: <u>15.0</u> ft. after <u>13</u> hours at <u>3</u> gpm. 17. CHLORINATION: Type <u>NA</u> Amount 18. WATER QUALITY: <u>6000</u> TEMPERATURE (°F) 73 19. PERMANENT PUMP: Date Installed <u>NA</u> 	and home
1	 15. YIELD (gpm):	a state the state is a state of the state of
1 1 1 1 1	 15. YIELD (gpm):	SWEADS Ferry Rd
1 1 1 1 1 2	 15. YIELD (gpm):	SWEADS Ferry Rd



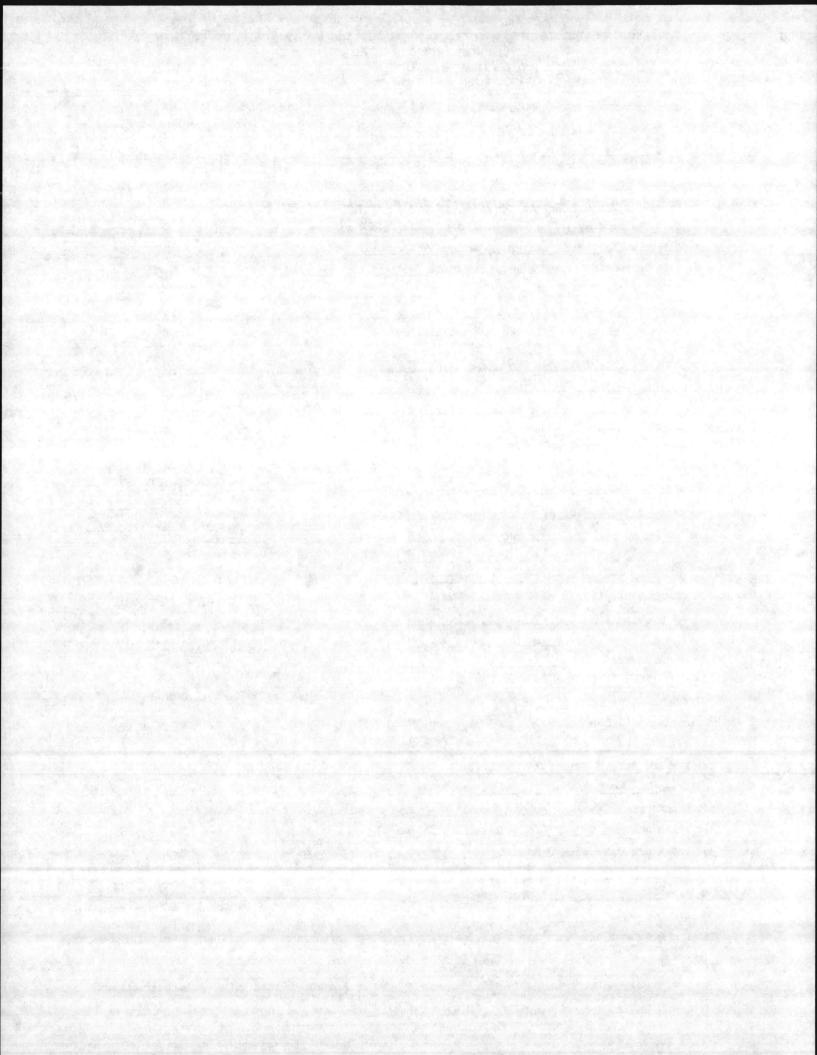
	1 919-733-2020	NOTAN DEBUTE NO
LLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO. 19	WELL CONST	RUCTION PERMIT NO.
WELL LOCATION: (Show sketch of the location below)		
Nearest Town: SNEADS FENNY	County:	ONSCOL
(Road, Community or Subdivision and Lot No.)	Quadrangle He	Sweros Ferry
OWNER: Commanding General Manue con 8455		DRILLING LOG GW69-6
ADDRESS : OFFICE OF ALS FACILITIES , CAMP LETEUNE N	-C. DEPTH	· · · · · · · · · · · · · · · · · · ·
TOPOGRAPHY: draw, valley, slope, hilltop) flat (circle one)	FROM TO	(USCS Class.)
USE OF WELL: H.O Sampling DATE: 7-17-84		the second second second
DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-3.0	SM
TOTAL DEPTH: 30.93 RIG TYPE OR METHOD: H.S.A.	30-60	ML
FORMATION SAMPLES COLLECTED: YES VNO	60-10.5	SM
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	1516.5	ML
rom O to 1637 st 2 th Sel 40 PVC	2021.5	CL
1- 1	2526.5	CL
	3031.5	SM
ROUT: Depth Material Method	2. 31.3	3/1
soul-		
rom () to 1437 tt comment (21)		•
RAVEL: Depth Size Material		a here a state has
rom/STro 30.535t Silica Sand		GW69-6
1437 15.37 Benlonite		
ATER ZONES (depth) : 27.75-30.23 (70C)		pr / a
TATIC WATER LEVEL: 27.75 ft. above top of casing asing is 2.5 ft. above land surface ELEV: 91.2	wit st	00
IELD (gpm) : Z METHOD OF TESTING: PUWED	1 km	
UMPING WATER LEVEL: 29-D ft.	-094	
fter 1 hours at 2 gpm.	ASN'	
HLORINATION: Type_NA Amount	["]	
ATER QUALITY: FAIR TEMPERATURE ("F) 65	/-	· · · · · · · · · · · · · · · · · · ·
ERMANENT PUMP: Date Installed	1 :	\
ypeCapacity(gpm) HP		\ .
akeIntake Depth		
irline Depth	SNe	ADS Ferry Rd
AS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND IN ECOMMENDATIONS?	NFORMED OF THE DEPA	RTMENTS REQUIREMENTS AND
EMARKS		



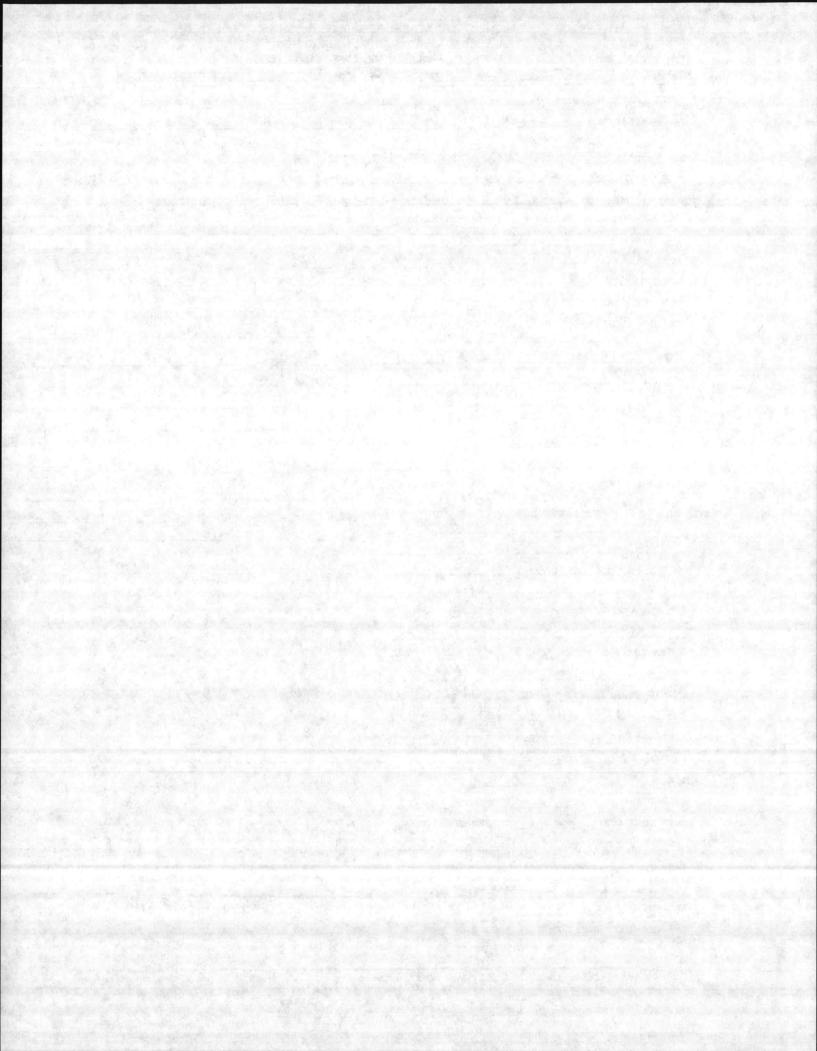
UC IVO : CLEJ -00075 NORTH CAROLINA DEPARTMENT OF NATURAL RESOUR WELL RECORD DIVISION OF ENVIRONMENTAL M. P. O. Box 27687 - RALEIGH, N.C. 276 DRILLING CONTRACTOR STS CONSULTING CHL REG. NO.	ANAGEMENT 11 919-733-2020	
1. WELL LOCATION: (Show sketch of the location below)	/ WELL CONST	RUCTION PERMIT NO.
Nearest Town: SNEARS FEAR	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Contraction of the Contraction	SNEMOS FORRY
	State and a state	and the second second second
2. OWNER: COMMANDING GENERAL MANINE CONPA		DRILLING LOG GW69-7
3. ADDRESS: OFFICE OF AC/S FALILITIES CAMP LETENE	FROM TO	FORMATION DESCRIPTIO
4. TOPOGRAPHY: draw, valley slope hilltop, flat (circle one)	a de la compañía de l	(USCS Class.)
5. USE OF WELL: H.O Sampling DATE: 7-17-84		
6. DOES THIS WELL REPLACE AN EXISTING WELL? NO	0-30	SM
7. TOTAL DEPTH: 20.69 RIG TYPE OR METHOD: H.S.A.	3.0-4.5	SC-SM
8. FORMATION SAMPLES COLLECTED: YES V NO	4.5-60	SM
9. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	6.0-8.0	SC-SM
From D to bal st 2" Sch 40 PUC	5.0-9.0	SM
	9105	CL
	1516.5	CL
0. GROUT: Depth Material Method From 0 to 27 ft coments:1) poured	20-21.5	SM
2. GRAVEL: Depth Size Material From <u>SON</u> to <u>2019</u> ft <u>Silice Sand</u> 2.71 <u>501</u> <u>Beatenite</u>	marker and	GW69-7 0000
17.7 - 20.65' (Toc)	1ª	
. STATIC WATER LEVEL: 17.7 ft. above top of casing	5 /	
	* /	
Casing is 2.0 ft. above land surface ELEV: 77.91 . YIELD (gpm): 1.5 METHOD OF TESTING: PJM-PED	Kut /	i i i i i i i i i i i i i i i i i i i
. PUMPING WATER LEVEL: 19.0 ft.	APR A	
after 2 hours at /15 gpm.	2000 A	
	2	
. CHLORINATION: Type <u>NA ABount</u> . WATER QUALITY: GOOD TEMPERATURE (°F) 65	/	· `.
PERMANENT PUMP: Date Installed NA		1
		$= \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_$
TypeCapacity(gpm) HP	/	Company State
MakeIntake Depth	SNEAD	is Ferry Rd
HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND IN RECOMMENDATIONS?	FORMED OF THE DEPAR	ATMENTS REQUIREMENTS AND
REMARKS		
I do hereby certify that this well was constructed in ac Regulations and Standards and that this well record is t	cordance with N.C.	Well Construction

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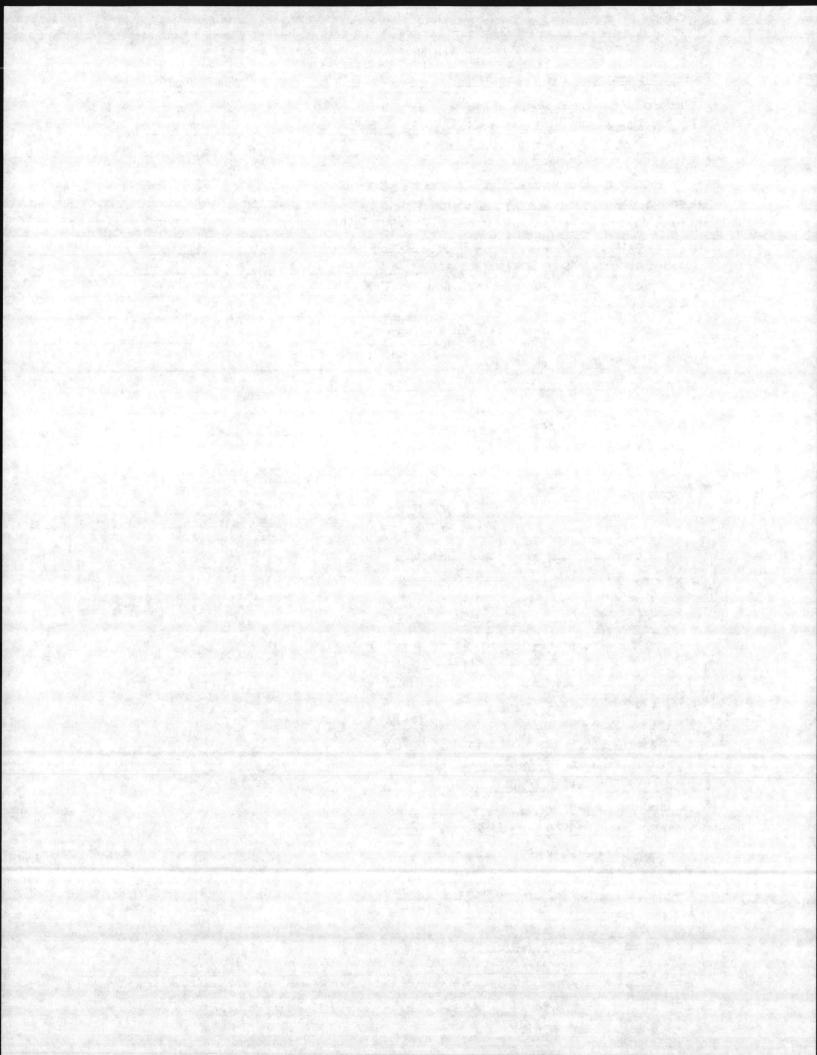
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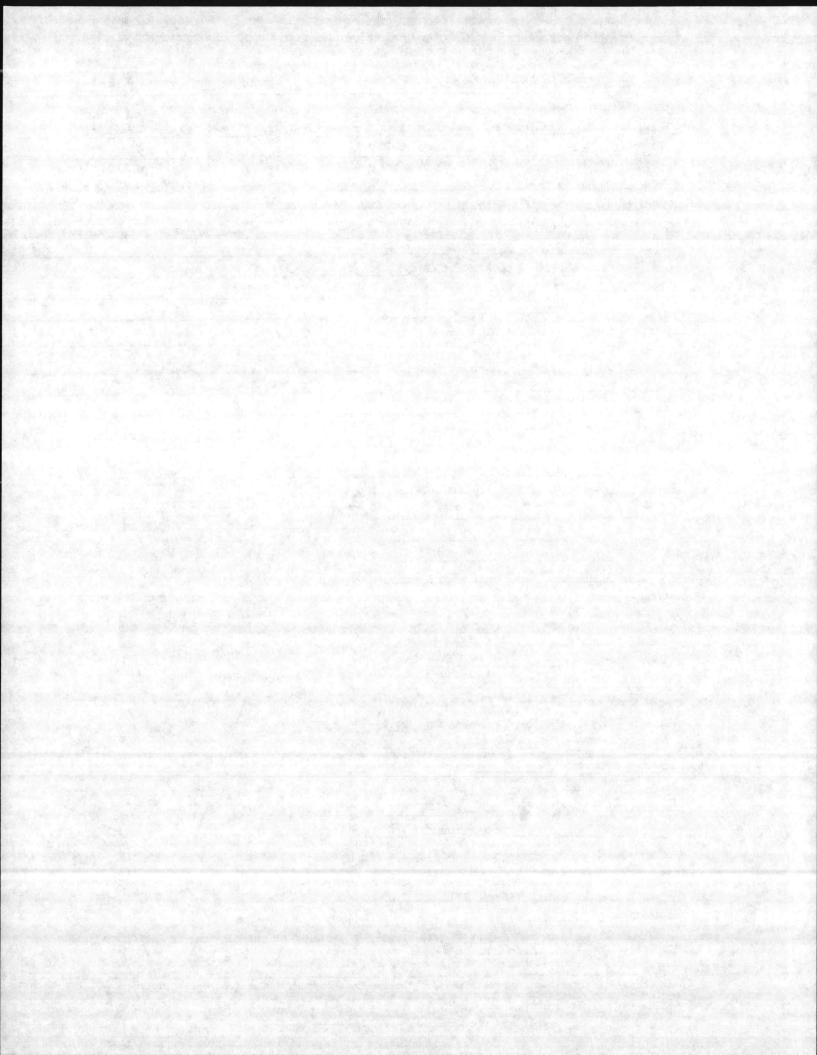
DRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO. 19	11 919-733-2020	TRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: SNEADS FORKY	County:	ONSCOL
TT 210, CAMP LESEUNE	Contraction of the second second	. Sweros Fenny
(Road, Community or Subdivision and Lot No.)		
. OWNER: COMMANDING GENERAL , MARINE CONP B		DRILLING LOG GW69-8
ADDRESS OFFICE OF AC'S FACILITIES CAMP LOTEUNE		
. TOPOGRAPHY: draw, valley, slope, flat (circle one)	FROM TO	USCS Class.)
. USE OF WELL: HO Sampling DATE: 7-17-24		
. DOES THIS WELL REPLACE AN EXISTING WELL?	0-325	SM
. TOTAL DEPTH: 20.4 RIG TYPE OR METHOD: H.S.A.	325-8.5	SC-SM
. FORMATION SAMPLES COLLECTED: YES V NO	8.5-9.	CL
. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	910.5	ML
From O to 5.92 ft at Sch 40 PVC	1516.5	SC-SM
2	20-21.5	SC-SM
GROUT: Depth . Material Method	1 :	· · · · · · · · · · · · · · · · · · ·
From to 335 ft coment 6:1) _ coursed		
	The set of the set of the	
SCREEN: Depth Dia. Type & Opening	If additional space	ce'is needed, use back of for
From 592 to 20.4 ft 2" Sch 40 PUC -		
old all (Show		ATION SKETCH roads, or other map reference point
010 <u>slat</u>		roads, or other map reference point
<u>010 <u>slat</u></u>	distance to numbered	roads, or other map reference point
<u></u>	distance to numbered	roads, or other map reference point
GRAVEL: Depth Size Material	distance to numbered	roads, or other map reference point
GRAVEL: Depth Size Material Prom 4.63 to 20.4 ft	distance to numbered	roads, or other map reference point
GRAVEL: Depth Size Material	distance to numbered	roads, or other map reference point VE BAY
GRAVEL: Depth Size Material Prom 4.63 to 20.4 ft	distance to numbered	roads, or other map reference point VE BAY
GRAVEL: Depth Size Material Prom 4.63 to 20,4 ft <u>Silica Sand</u> 3.35 4.63 <u>Bentonite</u>	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material Prom 4.63 to 20,4 ft <u>Silica Sand</u> 3.35 4.63 <u>Bentonite</u>	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.4 ft <u>Silica Sand</u> 3.35 4.63 <u>Bentenite</u> WATER ZONES (depth) : 10.52 - 20.4 '(Toc)	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.9 ft <u>Size Sand</u> 3.35 4.63 <u>Bentonite</u> WATER ZONES (depth): 10.52 - 20.4 '(Toc) STATIC WATER LEVEL: 0.52 ft. above top of casing	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From <u>4.63</u> to <u>20,9</u> ft <u>Silica Sand</u> <u>3.35 4.63</u> <u>Bentemite</u> WATER ZONES (depth) : <u>10.52 - 20.9</u> '(Toc) STATIC WATER LEVEL: <u>6.52</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.93</u> '	distance to numbered	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.4 ft <u>Silica Sand</u> 3.35 4.63 <u>Bentemite</u> WATER ZONES (depth): 10.52 - 20.4 '(Toc) STATIC WATER LEVEL: 0.52 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.03 YIELD (gpm): <u>METHOD</u> OF TESTING: <u>PUMPER</u> PUMPING WATER LEVEL: 18.0 ft.	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.9 ft <u>Silica Sand</u> 3.35 4.63 <u>Bentemite</u> WATER ZONES (depth): <u>10.52 - 20.4'(Toc)</u> STATIC WATER LEVEL: <u>0.52</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.03</u> YIELD (gpm): <u>METHOD</u> OF TESTING: <u>FUMACO</u> PUMPING WATER LEVEL: <u>18.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> .	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From <u>4.63</u> to <u>20.9</u> ft <u>Silica Sand</u> <u>3.35 4.63</u> <u>Bentemite</u> WATER ZONES (depth): <u>10.52 - 20.9</u> (Toc) STATIC WATER LEVEL: <u>0.52</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.03</u> YIELD (gpm): <u>METHOD</u> OF TESTING: <u>PUMPEND</u> PUMPING WATER LEVEL: <u>18.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.9 ft <u>Size Sand</u> 3.35 4.63 <u>Bentemite</u> WATER ZONES (depth): 10.52 - 20.4 '(Toc) STATIC WATER LEVEL: 0.52 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.03 YIELD (gpm): <u>METHOD</u> OF TESTING: <u>PUMART</u> PUMPING WATER LEVEL: 18.0 ft. after 2.5 hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (°F) 73	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.9 ft <u>Size Sand</u> 3.35 4.63 <u>Bentenite</u> WATER ZONES (depth): <u>1D.52 - 20.4'(Toc)</u> STATIC WATER LEVEL: <u>0.52</u> ft. <u>above</u> top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.03'</u> YIELD (gpm): <u>METHOD</u> OF TESTING: <u>fU4467</u> PUMPING WATER LEVEL: <u>18.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (⁰ 7) 73 PERMANENT PUMP: Date Installed <u>MA</u>	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 4.63 to 20.9 ft <u>Silica Sand</u> 3.35 4.63 <u>Bentemite</u> WATER ZONES (depth): <u>10.52 - 20.9</u> (Toc) STATIC WATER LEVEL: 0.52 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 97.03 YIELD (gpm): <u>METHOD</u> OF TESTING: <u>60.4487</u> PUMPING WATER LEVEL: <u>18.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (°F) 73 PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP	distance to numbered STON	DOB GWGAA
GRAVEL: Depth Size Material From 9.63 to 20.9 ft <u>Slice Sand</u> <u>3.35 4.63</u> <u>Bentenite</u> WATER ZONES (depth): <u>10.52 - 20.4'(Toc)</u> STATIC WATER LEVEL: <u>0.52</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.03</u> YIELD (gpm): <u>METHOD</u> OF TESTING: <u>PUMPERS</u> PUMPING WATER LEVEL: <u>18.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (⁰ F) 73 PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP	All the second states of the s	roads, or other asp reference point Ve BAY Gw694 P 0 0 P
GRAVEL: Depth Size Material From 4.63 to 20.9 ft <u>Silica Send</u> <u>3.35</u> 4.63 <u>Bentenite</u> WATER ZONES (depth): <u>10.52</u> - 20.4 (Toc) STATIC WATER LEVEL: 0.52 ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.03</u> YIELD (gpm): <u>METHOD</u> OF TESTING: <u>60.4677</u> PUMPING WATER LEVEL: <u>17.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (°F) <u>73</u> PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP Make <u>Intake Depth</u>	distance to numbered STOM Nation Net Nation Net Nation Net SMC4D	s Ferry Rd
GRAVEL: Depth Size Material From 9.63 to 20.9 ft <u>Slice Sand</u> <u>3.35 4.63</u> <u>Bentenite</u> WATER ZONES (depth): <u>10.52 - 20.4'(Toc)</u> STATIC WATER LEVEL: <u>0.52</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>97.03</u> YIELD (gpm): <u>METHOD</u> OF TESTING: <u>PUMPERS</u> PUMPING WATER LEVEL: <u>18.0</u> ft. after <u>2.5</u> hours at <u>gpm</u> . CHLORINATION: Type <u>MA</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (⁰ F) 73 PERMANENT PUMP: Date Installed <u>MA</u> Type <u>Capacity</u> (gpm) HP	distance to numbered STOM Nation Net Nation Net Nation Net SMC4D	s Ferry Rd



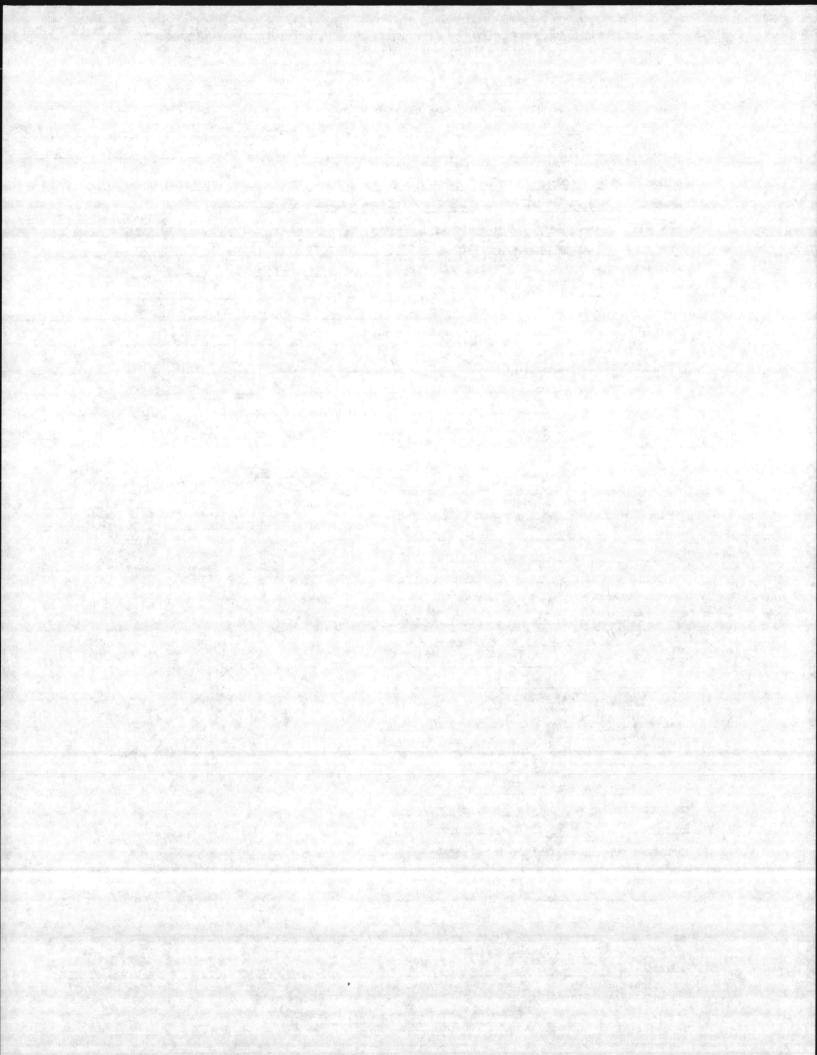
LUCINU. LLW - VUUIS · U.IJ · 1/4/105 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD **DIVISION OF ENVIRONMENTAL MANAGEMENT** P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS CONSULTING LH REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) SHEDDS FORMY Nearest Town: ONSLOW County: COURTHOUSE NO CAMP LEJENE Quadrangle to. NEW AUEN FULET (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL, MANINE CONPERSE DRILLING LOG GW73-1 3. ADDRESS: OFFICE OF ACIS FACKINES, CAMP LETEUNE, H.C. DEPTH FORMATION DESCRIPTION 4. TOPOGRAPHY: draw, valley, slope, hilltop (flat) circle one) (USCS Class.) 5. USE OF WELL: H. O Sampling DATE: 7-6-84 6. DOES THIS WELL REPLACE AN EXISTING WELL? 0-SM 7. TOTAL DEPTH: 19.57 RIG TYPE OR METHOD: H.S.A. ML 20,-21 8. FORMATION SAMPLES COLLECTED: YES V NO 9. CASING: Inside Wall thick. Depth type Dia. or weight/ft. 11 From O to S/ ft Sek 40 PUC 10. GROUT: Depth Material Method A ta 2.11 From ft anure If additional space is needed, use back of form 11. SCREEN: Depth Dia. Type & Opening From S.I to 19 Stat LOCATION SKETCH ow distance bered roads, or other map reference points) to 12. GRAVEL: Depth Size Material N 500 from + SFR + CR NEADS From 411 to 19.5712 3.11 41/ 13. WATER ZONES (depth) : 4.3 14. STATIC WATER LEVEL: 4.3 ft. above top of casing Casing is 25 ft. above land surface ELEV: 100.73 15. YIELD (gpm) : 10 METHOD OF TESTING: PUMPING 16. PUMPING WATER LEVEL: 4.4 ft. 1 after hours at /D gpm. 17. CHLORINATION: Type ArA Amount CONFINAUSE BAY 18. WATER QUALITY: GOOD TEMPERATURE (°F) 73 19. PERMANENT PUMP: Date Installed NA Type_ Capacity (gpm) HP Make Intake Depth Airline Depth 20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? ala 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. Ry Kindle Monda 12-18-84 2 SIGNATURE OF CONTRACTOR OF AGENT D7.003



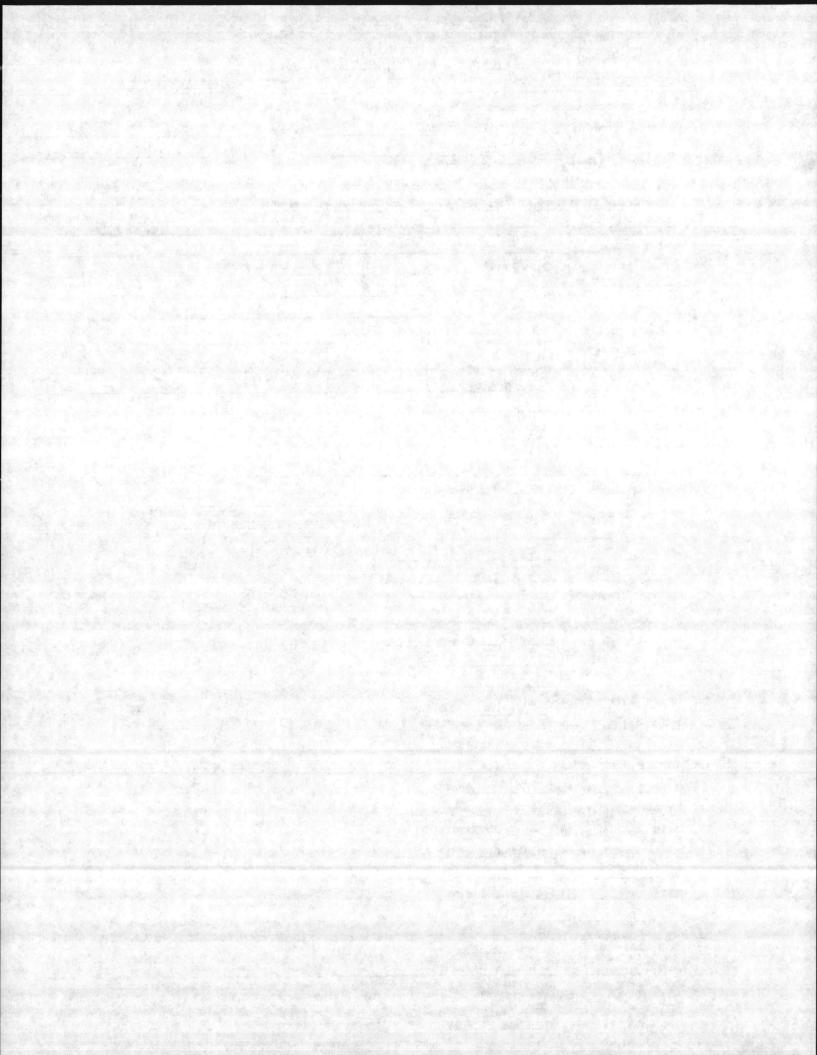
DRILLING CONTRACTOR STS CONSULTANES LHI REG. NO. 19	ANAGEMENT 11 919-733-2020 Q/ WELL CONSTRUCTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)	
Nearest Town: SUEADS FORMY	County:ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle to NEW MUEN FULET
2. OWNER: COMMANDING GENERAL, MANNE CORP BAG	E DRILLING LOG GW73-2
3. ADDRESS: OFFICE OF ACIS FACILITES CHAP LEJEWE N	.C · DEPTH
. TOPOGRAPHY: draw, valley, slope, hilltop, flap(circle one)	FROM TO FORMATION DESCRIPT
5. USE OF WELL: H.O Sam elina DATE: 7-6-84	
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO	05 SM
. TOTAL DEPTH: 19.42 RIG TYPE OR METHOD: 4.5.A.	5-1.45 ML
. FORMATION SAMPLES COLLECTED: YES / NO	1.25-9.0 SM
. CASING: Depth Inside Wall thick. type Dia. or weight/ft.	9.0-9.25 CL
From B to 4.994st 2" Sch 40 PVC	1516. SM
	1616.5 CH
	2021.5 CH
. GROUT: Depth Material Method	
From) to 275 ft comenta:1) poured	
. GRAVEL: Depth Size Material	
From 2 10 to 19.4) ft Selica Sand	Ra
275 3.85 Bentonite	S Ferry Pa
2.75 3.85 <u>Rentonite</u> WATER ZONES (depth) : <u>3.1 - 19.42' (Toc)</u> STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing	SWEADS FEELDY BY
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): $3.1 - 19.42'$ (Toc) STATIC WATER LEVEL: 3.1 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 100.0 YIELD (gpm): 7 METHOD OF TESTING: PUPAPED	
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): $3.1 - 19.42'$ (Toc) STATIC WATER LEVEL: 3.1 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 100.0 YIELD (gpm): 7 METHOD OF TESTING: PUPAPED	
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): <u>$3.1 - 19.42'$ (Toc)</u> STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>100.0</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>PUMPER</u> PUMPING WATER LEVEL: <u>$3.4'0$</u> ft. after <u>2</u> hours at <u>7</u> gpm.	50 th SE H
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): <u>3.1 - 19.42' (Toc)</u> STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>100.9</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>PUMPERD</u> PUMPING WATER LEVEL: <u>3.40</u> ft. after <u>2</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>N/A</u> Amount <u>-</u>	50 th SE H
2.75 3.85 <u>Bentomite</u> WATER ZONES (depth): <u>$3.1 - 19.42'(Toc)$</u> STATIC WATER LEVEL: <u>3.1</u> (t. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>100.9</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>PUMPAGED</u> PUMPING WATER LEVEL: <u>$3.4'0$</u> ft. after <u>2</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>$1/4$</u> Amount <u>—</u> WATER QUALITY: <u>6.000</u> TEMPERATURE ($^{\circ}$ F) <u>70</u>	50 th SE H
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): 3.1 - 19.42' (Toc) STATIC WATER LEVEL: 3.1 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 100.9 YIELD (gpm): 7 METHOD OF TESTING: PUMPEND PUMPING WATER LEVEL: 3.40 ft.	50 th SE H
2.75 3.85 <u>Bentomite</u> WATER ZONES (depth): <u>3.1 - 19.42' (Toc)</u> STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>100.9</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>PUMPAPOD</u> PUMPING WATER LEVEL: <u>3.40</u> ft. after <u>2</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>N/A</u> Amount WATER QUALITY: <u>GOUD</u> TEMPERATURE (°F) <u>7D</u> PERMANENT PUMP: Date Installed <u>N/A</u>	50 th SE H
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): <u>3.1 - 19.42' (Toc)</u> STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>100.9</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>PUMPAGED</u> PUMPING WATER LEVEL: <u>3.40</u> ft. after <u>2</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>M/A</u> Amount <u>5000</u> WATER QUALITY: <u>GODO</u> TEMPERATURE (^O F) <u>70</u> PERMANENT PUMP: Date Installed <u>M/A</u> Type <u>Capacity</u> (gpm) HP	N 3500 to SE AN INTER
2.75 3.85 <u>Rentomite</u> WATER ZONES (depth): <u>3.1 - 19.42' (Toc)</u> STATIC WATER LEVEL: <u>3.1</u> ft. above top of casing Casing is <u>2.5</u> ft. above land surface ELEV: <u>100.0</u> YIELD (gpm): <u>7</u> METHOD OF TESTING: <u>PUMPER</u> PUMPING WATER LEVEL: <u>3.40</u> ft. after <u>2</u> hours at <u>7</u> gpm. CHLORINATION: Type <u>N/A</u> Amount <u></u> WATER QUALITY: <u>GODO</u> TEMPERATURE (°F) <u>70</u> PERMANENT PUMP: Date Installed <u>N/A</u> Type <u></u> (gpm) HP Make Intake Depth	Notor the Court Nouse BA



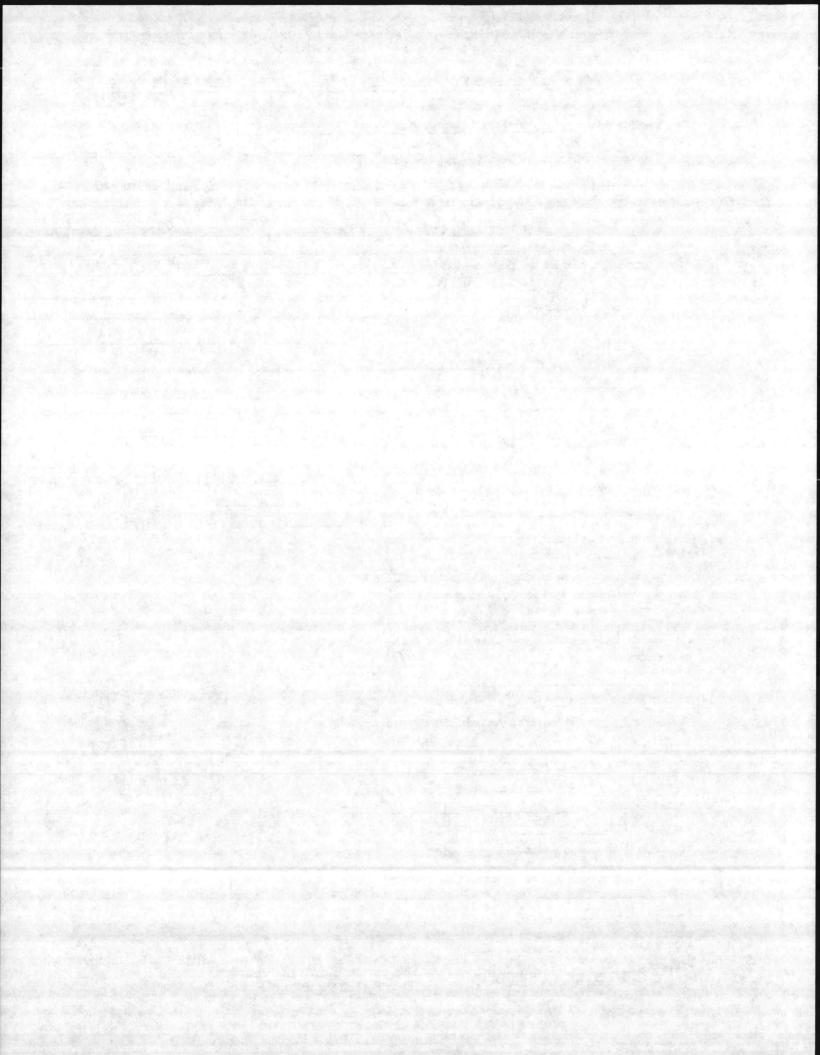
NOC NO: ULEJ -000 15 - 0.13 - 1/2/ 185 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS CONSULTAND, CH REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) SNEADS FERRY ONSLOW Nearest Town: County: COUNT HOUSE ND CAMP LESENNE NEW RIVER FULST Quadrangle No. (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL MAINECORPBASE DRILLING LOG GW73-3 3. ADDRESS: OFFICE OF ACIS FAQUITIES, CAMPLETEURE N.C. DEPTH FORMATION DESCRIPTION FROM TO 4. TOPOGRAPHY: draw, valley, slope, hilltop (lat) circle one) (USCS Class.) 5. USE OF WELL: HO Sandling DATE: 7-6-84 6. DOES THIS WELL REPLACE AN EXISTING WELL? SM 0-10 7. TOTAL DEPTH: 19.67 RIG TYPE OR METHOD: H.S.A. 1-1.25 GM 8. FORMATION SAMPLES COLLECTED: YES V NO SM 25-10.5 9. CASING: Depth Inside Wall thick. type 15.0-16 CI or weight/ft. Dia. From O to 519 ft Ser 40 PUC 20.0-21.5 n 1 10. GROUT: Depth Material. Method to 2.17 It coment dil) From ann If additional space is needed, use back of form 11. SCREEN: Depth Dia. Type & Opening 40 From 5.19 to 19.67t PUC LOCATION SKETCH (Show distance to numbered roads, or other map reference points) 010 302 Ferry Rd 12. GRAVEL: Depth Size Material From 4.08 to 19.671t Silien SNeros 2.17 4.08 4.9 0 13. WATER ZONES (depth) : + SFRAR N 2000 to SE 14. STATIC WATER LEVEL: 4.9 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 98.04 15. YIELD (gpm): 7 METHOD OF TESTING: PUM ACD 16. PUMPING WATER LEVEL: 5.2 ft. G'173-after Z hours at 7 ODEL. 17. CHLORINATION: Type NA Amount courthouse BAT 18. WATER QUALITY: FA(1 TEMPERATURE (°F) 73 19. PERMANENT PUMP: Date Installed NA 0 Type Capacity (gpa) HP Make Intake Depth Airline Depth 20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? 44 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. Of Knik thous 12-18-84 SIGNATURE OF CONTRACTOR OF AGENT 17.445



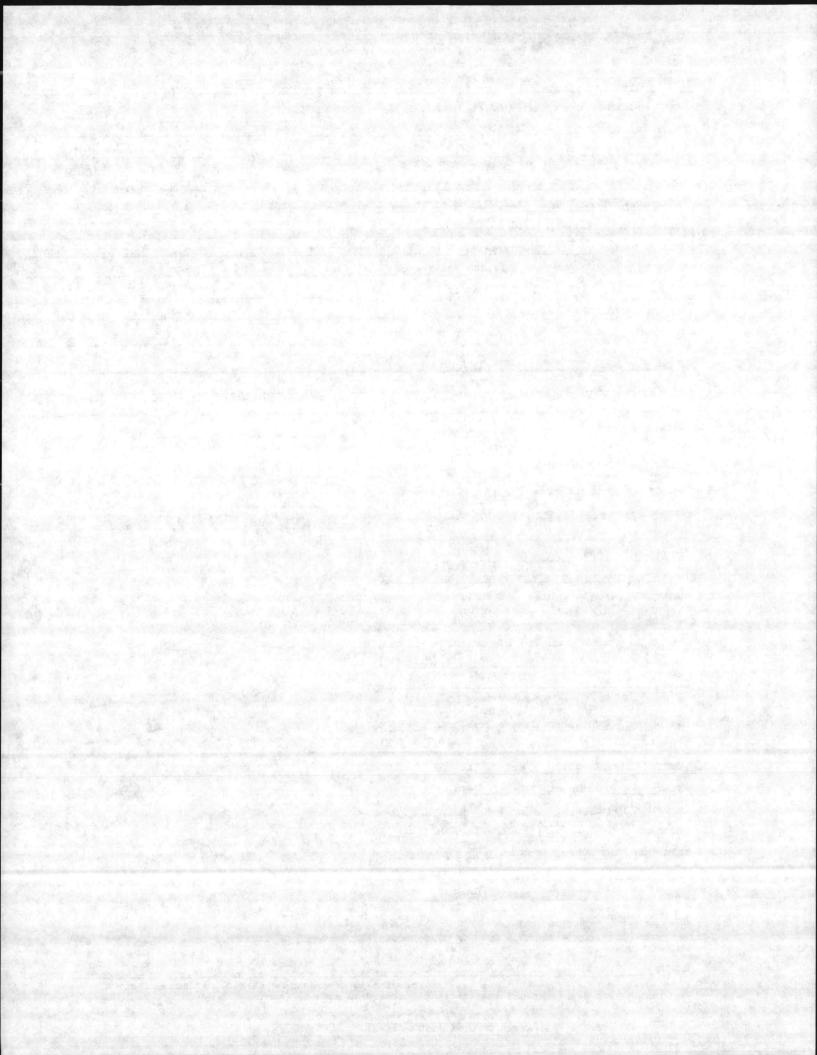
NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS CONSULTANTS LA REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) SNEADS FURRY Nearest Town:____ ONSCOW County: COUNT HOUSE R.D. CAMP LETEUNE Quadrangle to NEW NUCH FULET (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL MMINE CONP BASE DRILLING LOG GW73-4 3. ADDRESS: OFFICE OF ALS FACILITIES, CAMP LEJEUNE HC DEPTH 4. TOPOGRAPHY: draw, valley, slope, hilltop flat circle one) FROM FORMATION DESCRIPTION (USCS Class.) 7-6-84 H. O Sendling DATE: 5. USE OF WELL: 6. DOES THIS WELL REPLACE AN EXISTING WELL? NO 0-1:0 SM 7. TOTAL DEPTH: 40.0 RIG TYPE OR METHOD: H.S.A. SM-SC 10-20 8. FORMATION SAMPLES COLLECTED: YES V NO SM ζ. 0-70 9. CASING: Depth Inside Wall thick. type Pert 7.0 -75 or weight/ft. Dia. Selun From O to A SU ft SM Pur 75-165 MI 10. GROUT: Depth Method Material to 1.54ft From course If additional space is needed, use back of form 11. SCREEN: Depth Dia. Type & Opening From S.Steo 200 ft 647 LOCATION SKETCH numbered roads, or other map reference points) slat 010 SNEADS Ferry RA N2000 / From + SFR+CR 12. GRAVEL: Depth Size Material From 454to 200 ft Silica 3.54 4.54 0 Courthouse 13. WATER ZONES (depth) :_ 3.4 20.0 (Toc) 14. STATIC WATER LEVEL: 3.4 ft. above top of casing GUTS-Casing is 2.5 ft. above land surface ELEV: 94.22 15. YIELD (gpa): 9 METHOD OF TESTING: PU MAD 16. PUMPING WATER LEVEL: 3.4 ft. 0 after 2 hours at 9 gpm. 17. CHLORINATION: Type NA Amount 18. WATER QUALITY: FAIN TEMPERATURE (F) Lourihouse D 19. PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth Airline Depth 20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? mas 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. R) Wal Mombe 12-18-84 SIGNATURE OF CONTRACTOR OF AGENT DAVYS



P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONJULTANS, Ctd. REG. NO. 19	요즘 아님 먹을 때 그리면 밝혔다. 걸 바람보기는 그것에 없는	ELOPMENT
	WELL CONSTRU	JCTION PERMIT NO.
L. WELL LOCATION: (Show sketch of the location below)	la calendaria - S. A	descharter i la companya da serie da s
Nearest Town: MIDWAY PANK	County:	ONSCOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No.	CAMP LEJEUNE
. OWNER: COM MANDING GENERAL, MARINE CONP BAS	<u>ء</u> ک	RILLING LOG GW74-1
. ADDRESS OFFICE OF AC/S FACILITIES, FAMP LEJOUNE, N		
. TOPOGRAPHY: draw, valley, slope, hilltop, flat(circle one)	FROM TO	FORMATION DESCRIPT
. USE OF WELL: # O San Aling DATE: 7-4-84		(430 (100.)
. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-20.0	SM
. TOTAL DEPTH: 21.42 RIG TYPE OR METHOD: H.S.A .	2021	sc
. FORMATION SAMPLES COLLECTED: YES V NO	23245	SM
. CASING: Depth Inside Wall thick. type		
Bia. or weight/ft. From B tob96ft A" Sch 40 PVC		
	and the second second	
GROUT: Depth Material Method	\backslash :	
From D to 496st monstail) source	N	and the second second
		is needed, use back of for
GRAVEL: Depth Size Material		Pine
From 50 :02/42 selice Sand	NC SR 24	- Y
4D 5.0. Bentonite	NC	it the
WATER ZONES (depth) : 7.0 - 2/.42'(fec)	\mathbf{n}	, c
	\sim	
STATIC WATER LEVEL: 7.0 ft. below top of casing	1 26	250 from + BB++B
Casing is 2.5 ft. above land surface ELEV: 100.13		G-W74-1
YIELD (gpm) : 7 METHOD OF TESTING: PS 12- PED	Blue	
PUMPING WATER LEVEL: 7.2 ft.	er al	
after hours at 7 gpm. breve	er Blud Tse	and all
CHLORINATION: Type Amount		30 0
WATER QUALITY: GOOD TEMPERATURE (°F) 52		14
PERMANENT PUMP: Date Installed		
TypeCapacity(gpm) HP		· · ·
MakeIntake Depth		
Malling Beach		
Airline Depth		
HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INF RECOMMENDATIONS?	ORMED OF THE DEPART	MENTS REQUIREMENTS AND

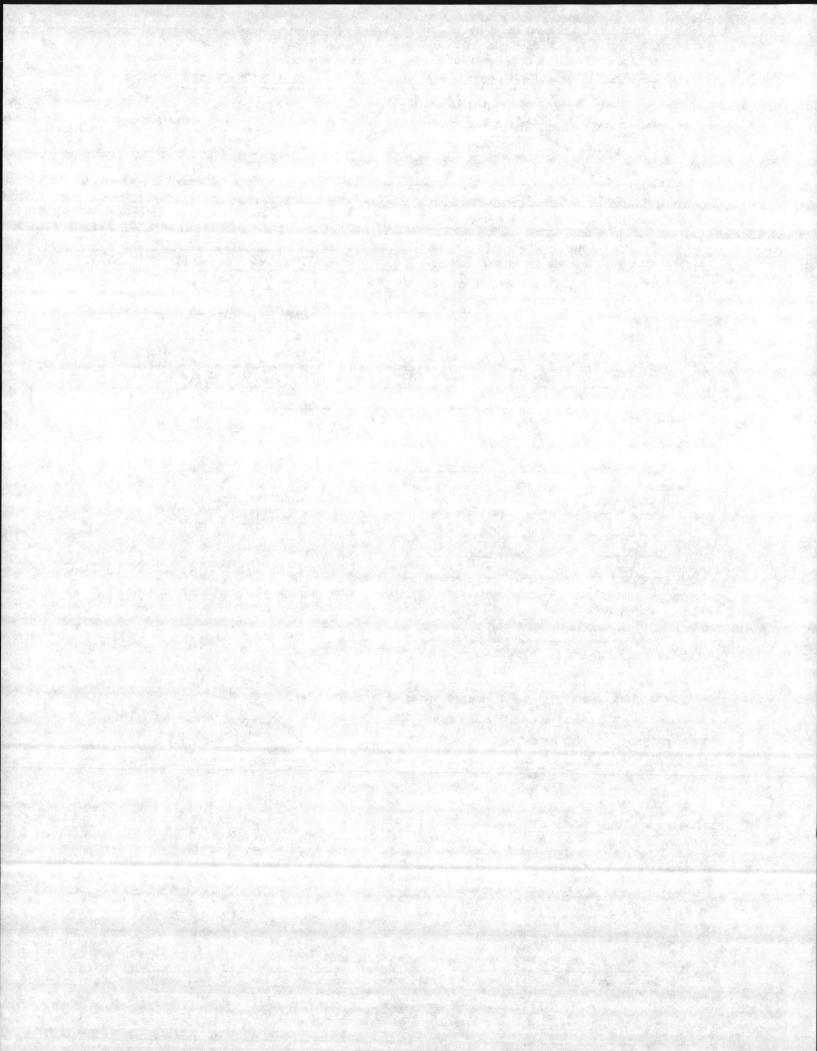


UULINU. LLW ----- 0.10 - 1/01/81 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS COLUSVITAND, LTd. REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) ONSLOW MIDWAY PARK Nearest Town:____ County: HOLCOMB BLUD. CAMP LEJEUNE CAMP LEJEUNE Quadrangle No. (Road, Community or Subdivision and Lot No.) DRILLING LOG GW74-2 2. OWNER: COMMANDING GENERAL, MANINE CONP CHEE 3. ADDRESS: OFFICE OF ACIS FACILITIES, CAMP LETENE N.C. DEPTH FROM FORMATION DESCRIPTION 4. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one) (USCS Class.) S. USE OF WELL: H.O Som Alma DATE: 7-4-84 6. DOES THIS WELL REPLACE AN EXISTING WELL? SM 0-30 7. TOTAL DEPTH: 23.96 RIG TYPE OR METHOD: H.S.A. SP 8. FORMATION SAMPLES COLLECTED: YES V NO SM 6.-26 Inside Wall thick. 9. CASING: Depth type Dia. or weight/ft. Sek 40 From O to4 TASL PUC 10. GROUT: Denth Material Method O to 45 ft comenta:D anne If additional space is needed, use back of form 11. SCREEN: Depth Dia. Type & Opening 40 PUC From 9.55 to 23.96ft LOCATION SKETCH Show distance to mu mbered roads, or other map reference points) slat 010 12. GRAVEL: Depth Size From 6.5 to 23 96tt NC SR24 4.5 6.5 9.1 23.96 (TOC 13. WATER ZONES (depth) : 14. STATIC WATER LEVEL: 9.1 ft. above top of casing ~ 6500 from + BB+HD Casing is 25 ft. above land surface ELEV: /00.0 Arewster Bly 15. YIELD (gpm) : METHOD OF TESTING: PU A PED 9.0 Gw74-2 16. PUMPING WATER LEVEL: ft. after 2 hours at 8 ODD. 17. CHLORINATION: Type NA Amount 18. WATER QUALITY: GOOD TEMPERATURE (°F) 80 19. PERMANENT PUMP: Date Installed ALA Capacity (gpm) HP Type Make Intake Depth Airline Depth 20. HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND afe RECOMMENDATIONS? 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. RAK emo 0 12-18-87 SIGNATURE OF CONTRACTOR OF AGENC 107.443

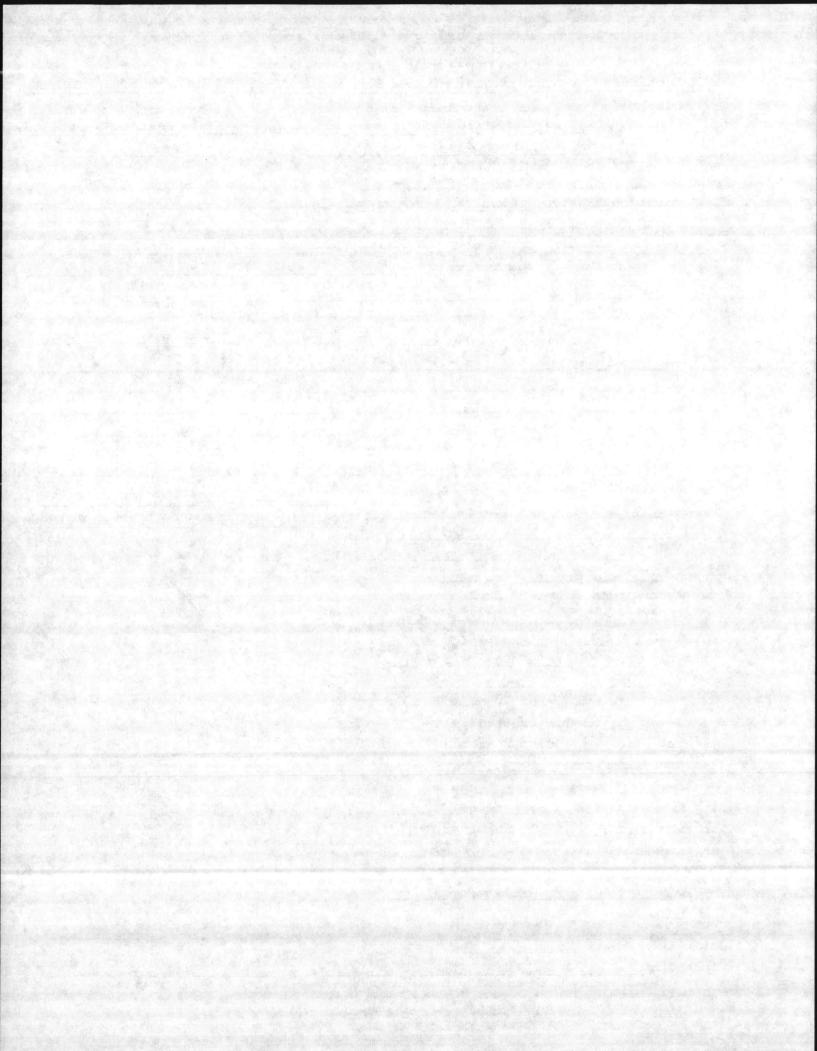


and the course of chick and 141 and 16	1 919-733-2020	
DRILLING CONTRACTOR STS CONSULTANTS LAL REG. NO. 19	WELL CONSTRUCTION PERMIT NO.	
1. WELL LOCATION: (Show sketch of the location below)		
Nearest Town: JACKSON UICLE,	ONSLOW	
(Road, Community or Subdivision and Lot No.)	Quadrangle No. JACKSouvice	E SOUT
2. OWNER: COMMANDING GONGRAL MARINE CONP BA	SE DRILLING LOG	175-1
3. ADDRESS: OFFICE OF ACIS FACILITET, CAMP LETERNEN.	Share the print, and the second states of the second	
. TOPOGRAPHY: draw, valley, slope, hilltop flat) circle one)	FROM TO FORMATION	DESCRIPTI
5. USE OF WELL: HO SamplingDATE: 7-16-84	(1000 0	
5. DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-1.5 5M	
T. TOTAL DEPTH: 20.12 RIG TYPE OR METHOD: H.S.A.	1.0-1.5 SM-SC	
. FORMATION SAMPLES COLLECTED: YES V NO	1.5-30 SM	
. CASING: Depth Inside Wall thick. type	3-4 56	
Pro ? to 5.64t 2" Sel 40 PUC		
	4.5-10.5 SC	
	15-165 SC-SM	
. CTTT: Depth Material Method	2021.5 SC-SM	and the states
From 5.6460 20/2ft 2 ⁴ Sch 40 PVC	If additional space is needed, use be LOCATION SKETCH istance to numbered roads, or other map ref	-
. GRAVEL: Depth Size Material From <u>4.58</u> tc <u>00.12</u> ft <u>Silice Send</u> <u>2.42</u> <u>4.58</u> <u>Bentomite</u> . WATER ZONES (depth) : <u>7.25 - 20.12'(Toc</u>)		
. STATIC WATER LEVEL: 7.05 ft. above top of casing	1 0 GW75-1	
. STATIC WATER DEVEN IC. below top of casing	" ws +ck	2
Casing is 1 st ft. shows land surface FT.FV. 102.04		
Casing is <u>199</u> ft. above land surface ELEV: <u>107.06</u> VIELD (gram) . 7.5 METHOD OF TESTING: (DAPEO	ta N-NE	
. YIELD (gpm) : 7.5 METHOD OF TESTING: 10 MPEO	soo' from + ws + ck to N-NE	
. YIELD (gpm) : 7.5 METHOD OF TESTING: 10 MPEO Main PUMPING WATER LEVEL: 7.0 ft.	e	
. YIELD (gpm): 7.5 METHOD OF TESTING: 10 MPEO PUMPING WATER LEVEL: 7.0 ft. Entrance after hours at 7.5 gpm.	e	Tis Rd
. YIELD (gpm): 7.5 METHOD OF TESTING: (MAPSO PUMPING WATER LEVEL: 7.0 ft. entrance after / hours at 7.5 gpm. . CHLORINATION: Type NA Amount	e	
YIELD (gpm): 7.5 METHOD OF TESTING: (MAPSO PUMPING WATER LEVEL: 7.0 ft. Anount after / hours at 7.5 gpm. CHLORINATION: Type NA Amount WATER QUALITY: 6000 TEMPERATURE (°F) 79	e	
. YIELD (gpm): 7.5 METHOD OF TESTING: MAPSO PUMPING WATER LEVEL: 7.0 ft. Ontranc. after / hours at 7.5 gpm. . CHLORINATION: Type NA Amount WATER QUALITY: GOOD TEMPERATURE (°P) 79 . PERMANENT PUMP: Date Installed NA	e	
YIELD (gpm): 7.5 METHOD OF TESTING: (MAPSO PUMPING WATER LEVEL: 7.0 ft. Anount after / hours at 7.5 gpm. CHLORINATION: Type NA Amount WATER QUALITY: 6000 TEMPERATURE (°F) 79 PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP	e	
. YIELD (gpm): 7.5 METHOD OF TESTING: MAPSO PUMPING WATER LEVEL: 7.0 ft. Ontranc. after / hours at 7.5 gpm. . CHLORINATION: Type NA Amount WATER QUALITY: GOOD TEMPERATURE (°P) 79 . PERMANENT PUMP: Date Installed NA	e	
. YIELD (gpm): 7.5 METHOD OF TESTING: (MAPEO PUMPING WATER LEVEL: 7.0 ft. Ontranc. after / hours at 7.5 gpm. . CHLORINATION: Type NA Amount . WATER QUALITY: 6000 D TEMPERATURE (°F) 79 . PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth	e Cur	<u>Tis Rd</u>

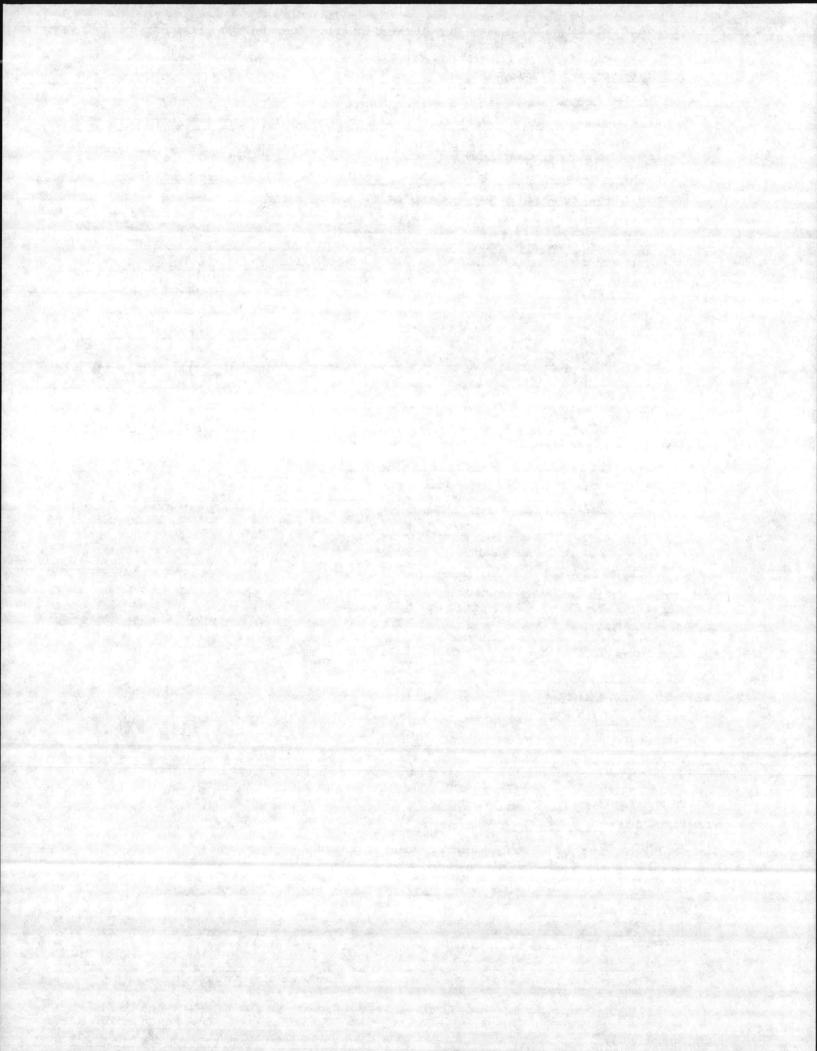
GW-1 Revised 10/1/80



UOC NU . ULW VUUIS 0.10 - 1/ 8/103 NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT WELL RECORD DIVISION OF ENVIRONMENTAL MANAGEMENT P. O. Box 27687 - RALEIGH, N.C. 27611 919-733-2020 DRILLING CONTRACTOR STS CONSULTANTS Ltd., REG. NO. 191 WELL CONSTRUCTION PERMIT NO. 1. WELL LOCATION: (Show sketch of the location below) JACKSONVILLE ONSLOW Nearest Town: County: CURTIS RD., CAMP LEJEUNE CAMP LEJEUNE Quadrangle Nor (Road, Community or Subdivision and Lot No.) 2. OWNER: COMMANDING GENERAL, MANUNE WAP BASE DRILLING LOG GW75-2 3. ADDRESS : OFFICE OF AC/S FACILITIES CHANP LESANE NG' DEPTH FORMATION DESCRIPTION FROM TO 4. TOPOGRAPHY: draw, valley, slope, hilltop (flat (circle one) (4SCS Class.) 5. USE OF WELL: HO Someling DATE: 7-16-84 6. DOES THIS WELL REPLACE AN EXISTING WELL? SM NO 0-1.5 7. TOTAL DEPTH: 2037 RIG TYPE OR METHOD: H.S.A. -45 SC-5M 8. FORMATION SAMPLES COLLECTED: YES / NO SM 9. CASING: Depth Inside Wall thick. type SC-SM 10.-21.5 or weight/ft. Dia. 2," PVC 5440 From O to 5.89 ft 10. GROUT: Material Depth Method From to1.79 ft If additional space is needed, use back of form 11. SCREEN: Depth Dia. Type & Opening From 5.89 to 10.37 LOCATION SKETCH (Show distance to numbered roads, or other map reference points) 010 Sla 12. GRAVEL: Depth Size Material Silia From 4.17 to 20.3 At 2.79 4.17 8.0-20.37 13. WATER ZONES (depth) :_ GW75-2~100 from + IVS VCR 14. STATIC WATER LEVEL: 20 ft. above top of casing Casing is 2.5 ft. above land surface ELEV: 11.75 Main TONE ntrance 15. YIELD (gpm): 8.5 METHOD OF TESTING: AD MACT Curtis Rd 8.0 16. PUMPING WATER LEVEL: hours at 8.5 after gpm. 17. CHLORINATION: Type At Amount GOOP TEMPERATURE (P) 18. WATER QUALITY: 19. PERMANENT PUMP: Date Installed NA Capacity (gpm) HP Type Intake Depth Make Airline Depth 20. HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND INFORMED OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? 21. REMARKS I do hereby certify that this well was constructed in accordance with N.C. Well Construction Regulations and Standards and that this well record is true and exact. an K 12-18-84 SIGNATURE OF CONTRACTOR OF AGENT D7.445

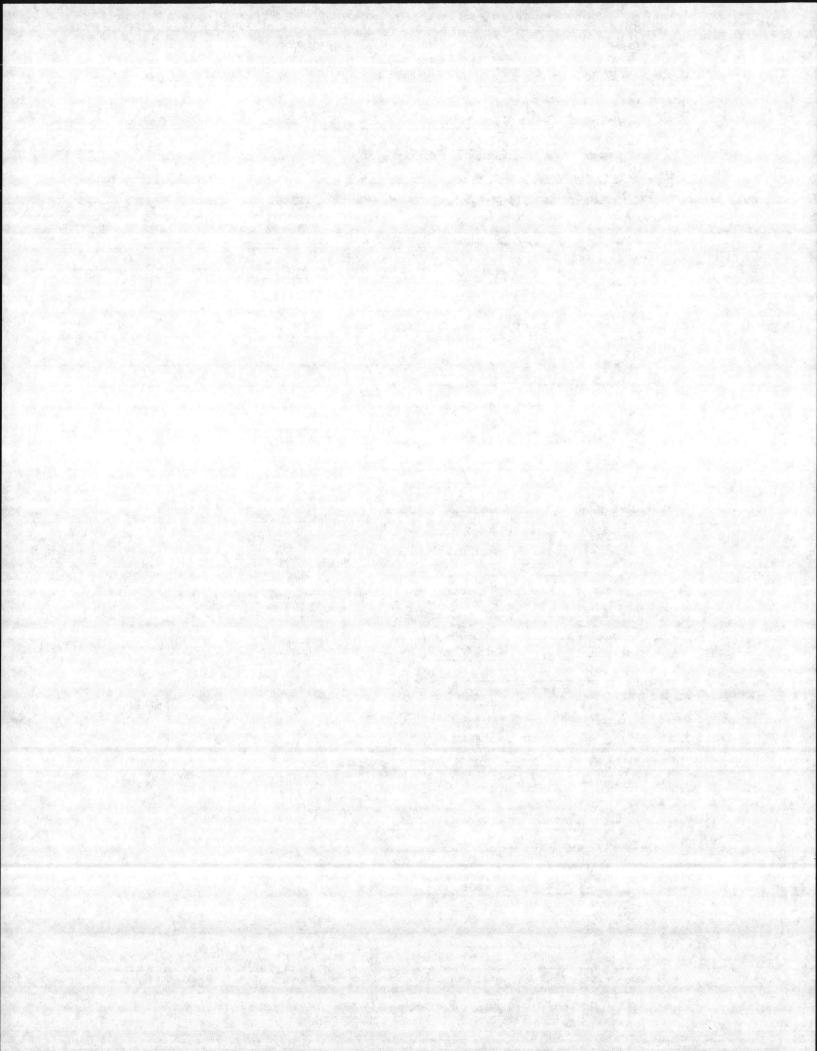


P. O. Box 27687 - RALEIGH, N.C. 2761 DRILLING CONTRACTOR STS CONSULTANTS, Ltd. REG. NO. 191		TRUCTION PERMIT NO.
. WELL LOCATION: (Show sketch of the location below)		
Nearest Town:JACILSDAU ILLE	County:	onscow
(Road, Community or Subdivision and Lot No.)	Quadrangle No	- JACKSOFVILLE SOUTH
. OWNER: COMMANDING GONGTAL, MANNECONPBAS		DETITING TOO GALLER
. ADDRESS: OFFICE OF AC/S FACILITIES, CAMP LEJEURE	· · · · · · · · · · · · · · · · · · ·	DRILLING LOG GW75-3
. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one)	FROM TO	FORMATION DESCRIPTION
. USE OF WELL: H. O Sampling DATE: 7-16-84		(4scs Class.)
DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-3.0	SM
. TOTAL DEPTH: 19.00 RIG TYPE OR METHOD: H.S.A	3-45	SM-SC
. FORMATION SAMPLES COLLECTED: YES V NO	4.5-21.5	SM
. CASING: Depth Inside Wall thick. type	21.5	SM-SC
Dia. or weight/ft.	al, 3	3/1-3 C
From Oto4.54st 2" Sch 40 PUC.	And And And Andrews	
	· · ·	
GROUT: Depth Material Method		
From B to 254 ft coment (2:1) peared		
	f additional space	ce is needed, use back of form
SCREEN: Depth Dia. Type & Opening		
From 434 to 19.0ft 2" Sch 40 PUC (Show d		ATION SKETCH roads, or other map reference point
	the second second second	
	a service and	/
and the second		,1/
GRAVEL: Depth Size Material		. 7
From 3.54 to 19.0 ft Silica Sand		white
254 3.54 Bentonite	no:	W.
WATER ZONES (depth) : 9.16 - 19.0 (762)		0
	many -	s Tan'
STATIC WATER LEVEL: 26 ft. above top of casing	/	0 GW75-3 ~ 500' WS+ CR to
Casing is 25 ft. above land surface ELEV: 1/2.Dy	/	WSFER
VIELD (gpa) : 9.5 METHOD OF TESTING: AU MACD	/	
PUMPING WATER LEVEL: 9.1 ft.	(Cari
after / hours at 8 gpm.		•
CHLORINATION: Type NA Amount WATER QUALITY: GOOD TEMPERATURE (°F) 76	1	
	1	이 슬퍼가 그 소개했다.
	1	
PERMANENT PUMP: Date Installed NA		8 N 19 19 19 19 19 19 19 19 19 19 19 19 19
PERMANENT PUMP: Date Installed NA TypeCapacity(gpm) HP		
PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth		
PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth Airline Depth		
PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth	formed of the dep.	ARTMENTS REQUIREMENTS AND



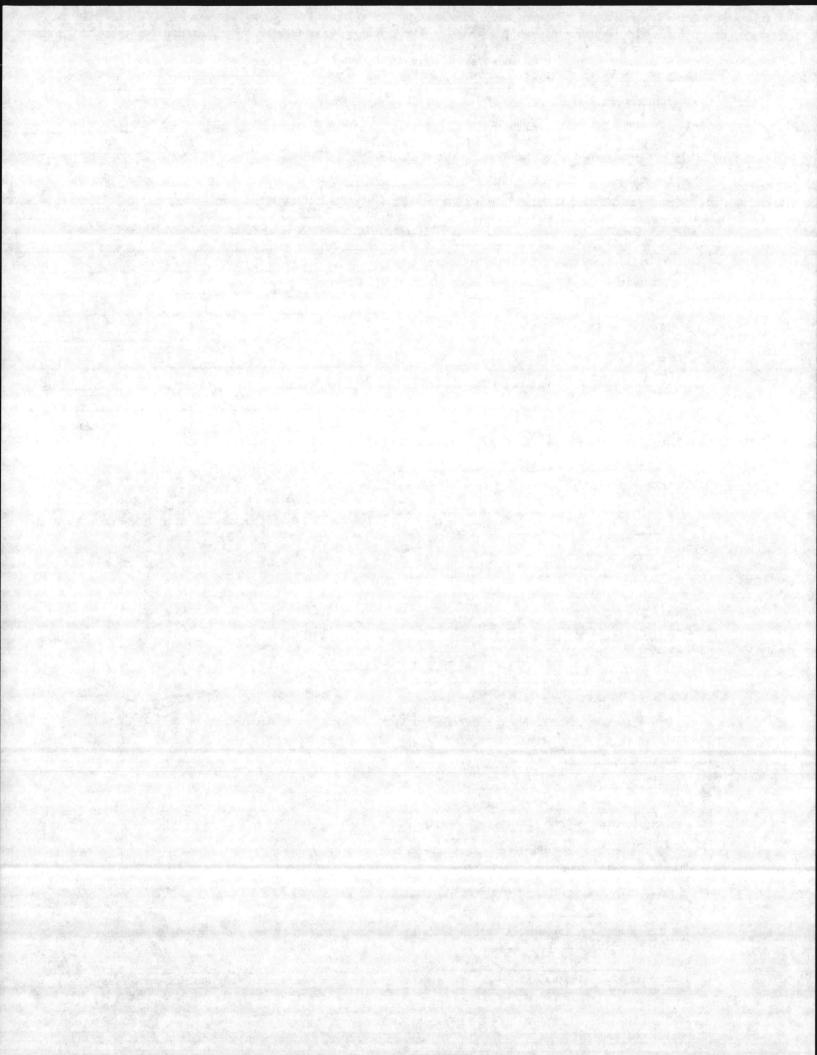
LILLING CONTRACTOR STS CONSULTANTS, LH. REG. NO. 1		TION PERMIT NO.
WELL LOCATION: (Show sketch of the location below)		
Nearest Town: JACKSONVILLE	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle **•	JACKSONVILLE SOUTH
OWNER: COM MANDING GENERAL, MARINE COLD L	GASE DR	ILLING LOG GW76-2
ADDRESS: OFFICE OF ACIS FACKLITIES, CAMP LETENNE M		
TOPOGRAPHY: draw, valley, slope, hilltop, flat (circle one)	FROM TO	(USCS Class.)
USE OF WELL: HO Sampling DATE: 7-16-84	A CONTRACTOR	and the second
DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-1.75	SM
TOTAL DEPTH: 21.0 RIG TYPE OR METHOD: H.S.A.	1:75-6.75	CL
FORMATION SAMPLES COLLECTED: YES V NO	_ 6.5-7.0	ML
CASING: Depth Inside Wall thick. type Dia. or weight/ft.	7.0-21.5	SM
From () to (LQ ft 2!" Sch 40 PUC		
GROUT: Depth Material Method	· · ·	
From d to 408 st coment(2:1) _ poured		
	If additional space i	is needed, use back of form
SCREEN: Depth Dia. Type & Opening		
From 6 Qtod 10 ft 2" Sch 40 PUC		N SKETCH s, or other map reference point:
,010 slat	distance to musbered for	s, or other map reference point.
		57
GRAVEL: Depth Size Material		white ST
From 55 to 21. D ft Silica Sand	A REAL PROPERTY OF	N
408 5.5 Bentmite m	nin /	
WATER ZONES (depth) : 474 - 21.0' (Toc)	intrans.	GW76-2
		o fromt us
STATIC WATER LEVEL: 4.74 ft. above of casing	- /	
Diracity	/	curtic
Casing is 2.5 ft. above land surface ELEV: 100.0	/	curtis Rd
YIELD (gpm): 9.0 METEOD OF TESTING: ALMPED	1	• • •
PUMPING WATER LEVEL: 4.7 ft.		
after hours at 9.0 gpm.	atte Ballines Samuelle	and the second
CHLORINATION: Type Are Amount		
WATER QUALITY: 6000 TEMPERATURE (°F) 66		
PERMANENT PUMP: Date Installed		
TypeCapacity(gpm) HP		
MakeIntake Depth		
Airline Depth		
HAS THE OWNER BEEN PROVIDED & COPY OF THIS RECORD AND IN	FORMED OF THE DEPART	MENTS REQUIREMENTS AND
RECOMMENDATIONS?		

GW-1 Revised 10/1/80



P. O. Box 27687 - RALEIGH, N.C. 27617 DRILLING CONTRACTOR STS COUSTINES, LT REG. NO. 19	The second se	CTION PERMIT NO.
1. WELL LOCATION: (Show sketch of the location below)		
Nearest TOWN: JACKSONVILLE	County:	ONSLOW
(Road, Community or Subdivision and Lot No.)	Quadrangle No.	JACKSONULLE SOUT
2. OWNER: COMMANDING GEVENAC, MARINE CONP BA	5 7 0	RILLING LOG 76-1
ADDRESS OFFICE OF ACS FACILITIES, CAMP LEJEWE		/6-1
. TOPOGRAPHY: draw, valley, slope, hilltop, (lat) circle one)	FROM TO	FORMATION DESCRIPTI
. USE OF WELL: H. O Sandling DATE: 7-16-84		(uses class,)
DOES THIS WELL REPLACE AN EXISTING WELL? NO -	0-475	CL
. TOTAL DEPTH: 18.29 RIG TYPE OR METHOD: H.S.A.	475-21.5	SM
. FORMATION SAMPLES COLLECTED: YES / NO	7.13 - al. 3	5/1
. CASING: Depth Inside Wall thick. type		
Dia. or weight/ft.	En al anti-	
From () to 38 1 ft 2" Sel 40 PVC	the state of the	A CARLES AND A CARLES
	· · ·	•
. GROUT: Depth Material Method	<u> </u>	
From 0 to ft comentail) _ poured	×	
		To manded
SCREEN: Depth Dia. Type & Opening	. additional space	is needed, use back of for
From 3.8/ to /82912 2" Sek 40 PVC -	LOCATI	ON SKETCH
GRAVEL: Depth Size Material From 275 to/2,29ft		white ST
WATER ZONES (depth) : 1.27 - 18. 27 [709	. /	
(m	trans	Gw76-1~1 from+ws
STATIC WATER LEVEL: 929 ft. below top of casing		O THE
Casing is 2.5 ft. above land surface ELEV: 109.54	/	
VIELD (gpm) : 7.5 METHOD OF TESTING: ANA PED	/	CHATTIS Rd
PUMPING WATER LEVEL: 9.25 ft.	(*9
after 2 hours at 7.5 gpm.	and the state of the second	a shake in March 1994
CHLORINATION: Type NA Amount		
	-	
WATER QUALITY: GOOD TEMPERATURE (°F) 75	a part of	
WATER QUALITY: GOOD TEMPERATURE (°F) 75 PERMANENT PUMP: Date Installed	1	
	1	
PERMANENT PUMP: Date Installed	1	
PERMANENT PUMP: Date Installed NA	1	
PERMANENT PUMP: Date Installed NA Type Capacity (gpm) HP Make Intake Depth Airline Depth Hairline Depth HAS THE OWNER BEEN PROVIDED A COPY OF THIS RECORD AND INF	ORMED OF THE DEPART	ments requirements and
PERMANENT PUMP: Date Installed NA	ORMED OF THE DEPART	ments requirements and

GW-1 Revised 10/1/80



1 February 1991

To: Stephanie Del Re Johnson From: Laurie Boucher

Subi: CAMP LEJEUNE SITE MANAGEMENT PLAN, SITES 76 AND "A"

1. I was looking over the Camp Lejeune IR Site Summary Report (SSR) and noticed a few discrepancies between the recommendations contained therein and the proposed Site Management Plan as discussed a few weeks ago. Specifically:

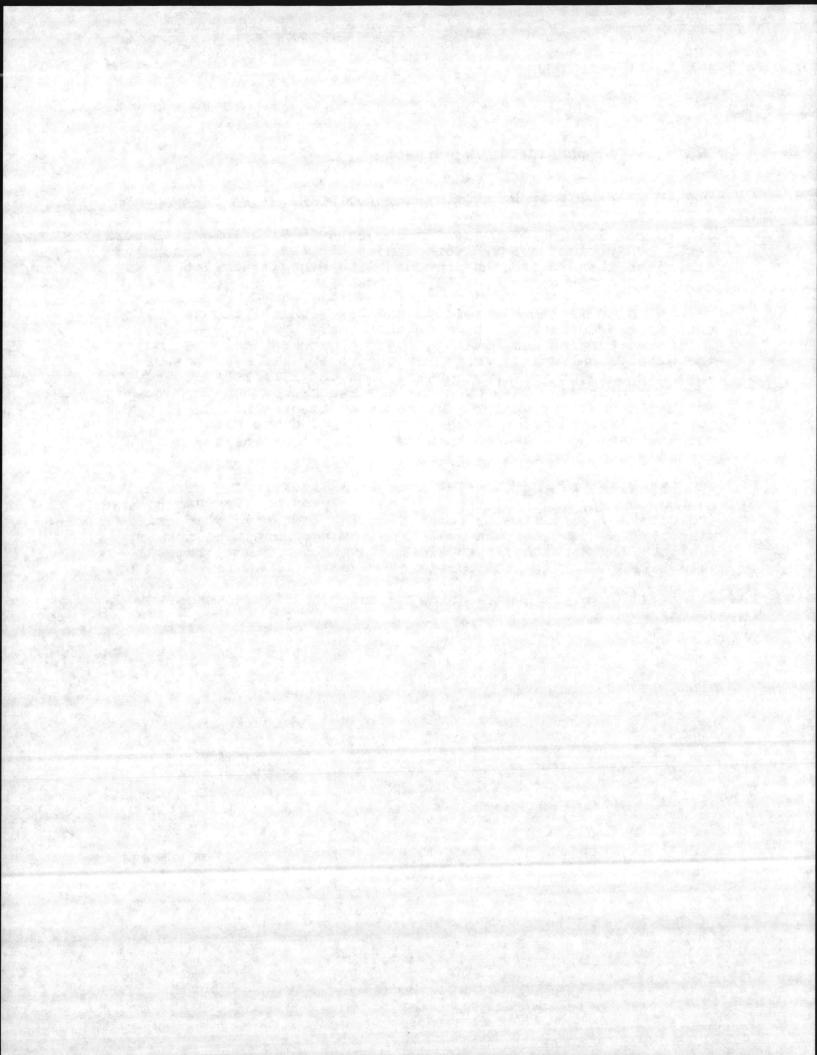
(DOC NO: CLEJ-0005-3.13-1/21/85

a) Site 76 (MCAS Curtis Road Site). This site was allegedly used as a drum disposal area at one time. However, the SSR indicates that buried metallic objects were not detected during the geophysical survey which was conducted, and analytes of interest were not detected during both the 1984/1986 groundwater sampling efforts. The SSR makes the recommendation that no further investigations are warranted at this site. EPA, in their November 1990 response to the SSR, did not argue with this recommendation. Based on this data, the Site Management Plan probably does not need to address Site 76 at this time.

b) Site "A" (MCAS Officers' Housing Area). The groundwater, surface water, and sediment samples analyzed at Site "A" did not indicate any contaminants related to the tentatively identified wastes (i.e. hospital wastes). The SSR recommends no further action. You mentioned that ATSDR expressed notable concern over this site. What is their basis of concern?

2. I'll give you a call Monday morning to discuss these two sites.

Suto A & 10 www. Add



SITE INSPECTION REPORT

ABC One Hour Cleaners NC D024644494 2127 Lejeune Boulevard Jacksonville, NC 28540

27 May 1987

By

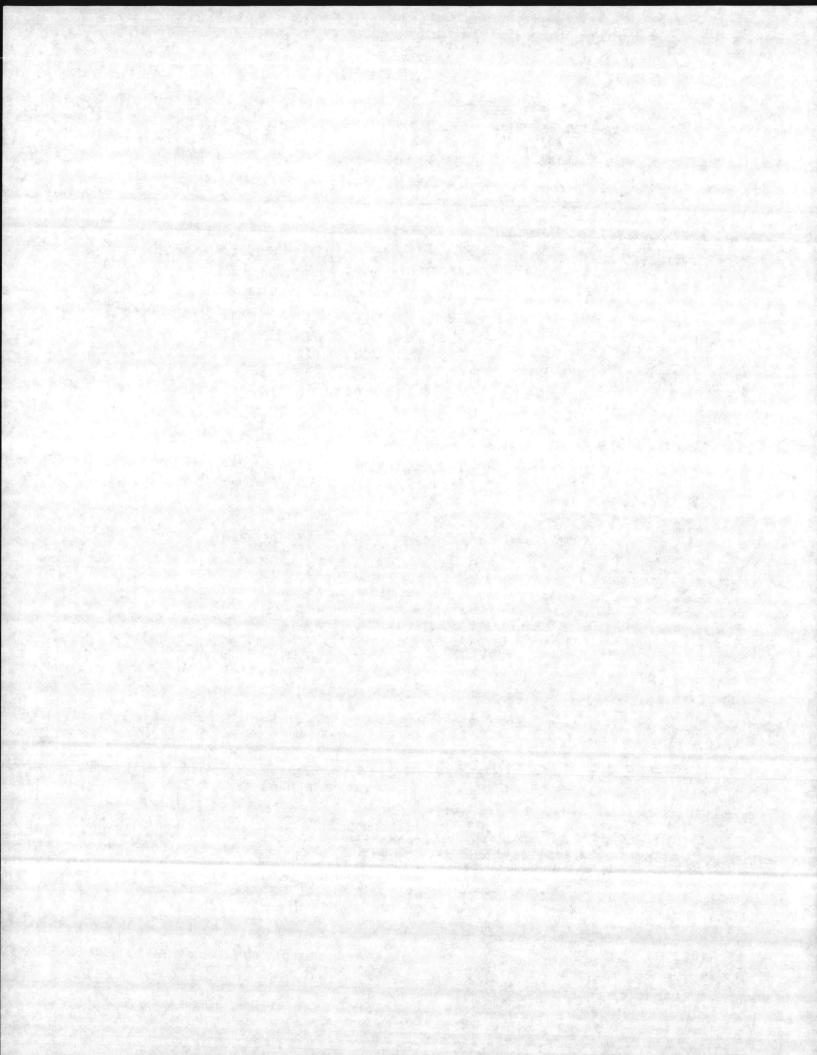
Cheryl A. McMorris, Environmental Chemist NC Solid and Hazardous Waste Management Branch Environmental Health Section CERCLA Unit

ENC1: (2)

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EXECUTIVE SUMMARY

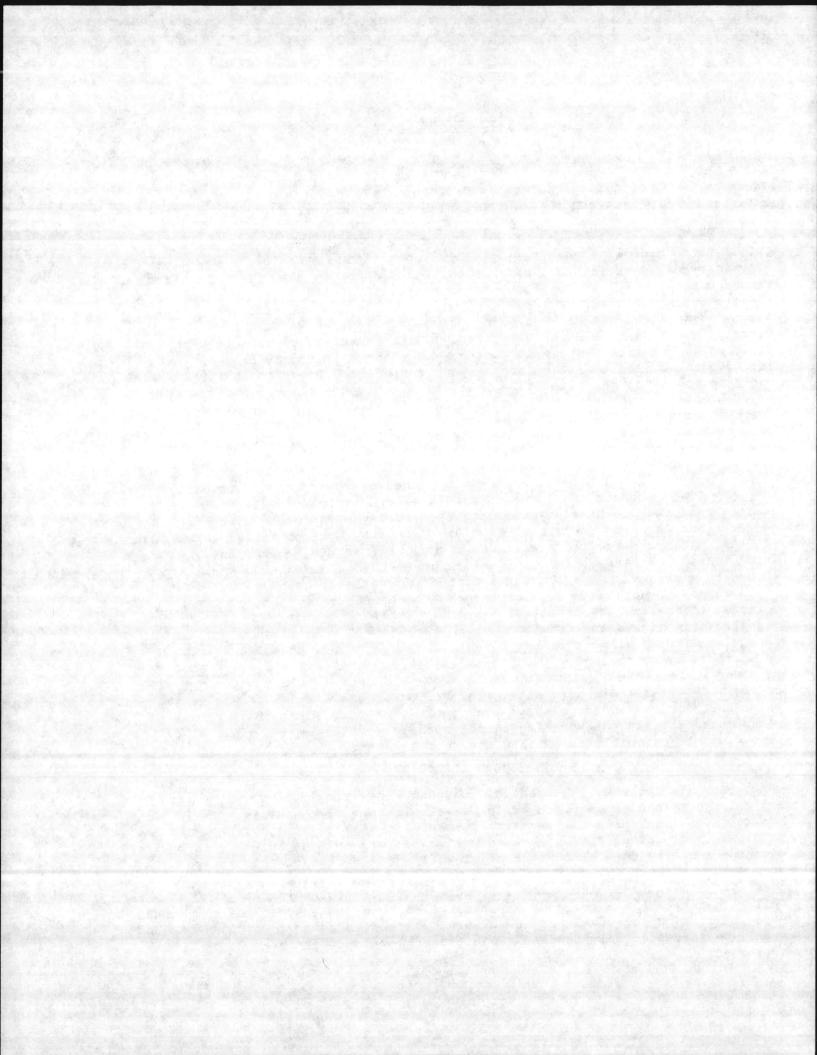
ABC One Hour Cleaners is located at 2127 Lejeune Boulevard, Jacksonville, North Carolina in Onslow County. The site consist of three buildings joined to form one complex, situated on an acre of land.

The company has been operating as a dry cleaners at the site since 1954. Tetrachloroethylene (TCE) has been used at the facility to dry clean clothes since operations began. The solvent is stored in a 250-gallon above ground tank in the rear building of the complex. Spent tetrachloroethylene is reclaimed through a filtration-distillation process in the building. Still bottoms generated from the recycling process are the only known hazardous waste generated at the site. Reportedly, "all" spent tetrachloroethylene is recycled on the site. The still bottom waste has been transported off site for disposal by Safety-Kleen for the past two years. Prior to that, the waste was disposed of on the site, sometimes it was used to fill pot holes. A septic tank-soil absorption system (ST-SAS) is also located in this rear building complex. The ST-SAS consists of an underground concrete tank with a concrete lid, situated within four feet of the TCE tank. ABC One Hour cleaners has always used the ST-SAS for the disposal of wastewater.

In 1984, the U.S. Marine Corps collected samples from 40 community supply wells. Organic contaminants were detected in three wells that were located near two off-base dry cleaning facilities. Since both cleaners,)C One Hour Cleaners and Glam-O-Rama Dry Cleaners, were potential sources, the Marine Corps requested assistance from North Carolina Department of Natural Resources and Community Development (NRCD). In addition to the three community wells, NRCD drilled three monitoring wells to help conduct a groundwater pollution study to define the source of contamination. Tetrachloroethylene was detected in all six wells. However, TCE levels were significantly higher in a monitoring well at the ABC site (12,000 ppb) and two community wells southeast of the site (1580 and 132 ppb) than TCE levels detected in a monitoring well at the Glam-O-Rama site (2.2 ppb). In addition, TCE odor was detected in the formation from 0-15 feet at the monitoring well on the ABC One Hour Cleaners site. Inspection of the area where TCE is stored shows that TCE can and does enter the septic tank-soil absorption system. Groundwater flow in the vicinity of the site is southeast. From the study NRCD was able to conclude that ABC One Hour Cleaners was the source of tetrachloroethylene contamination to groundwater.

Trichloroethene, 1,2-trans dichloroethylene, vinyl chloride, benzene, and toluene were also detected at low levels in some of the wells. It is not yet known if the source of these contaminants is tetrachloroethylene. There have been suggestions that the technical grade tetrachloroethylene used by the cleaners contains some of these contaminants and the contaminants entered groundwater through the ST-SAS, as did TCE. Evidence is inconclusive concerning theories of the microbial degradation of tetrachloroethylene in soil to generate these compounds. It has also been stated that the compounds,

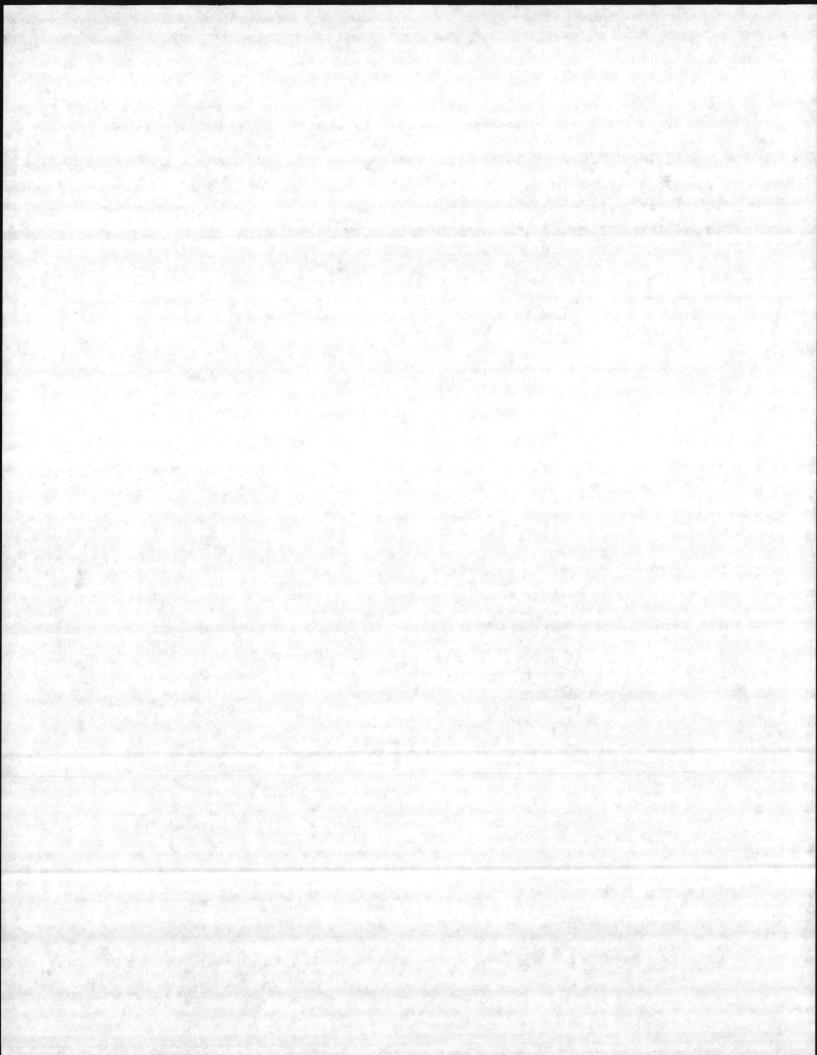
tected at such low levels as these were, are not uncommon to groundwater and buld be addressed only because the elevated levels of TCE need to be addressed.



The three contaminated community wells were part of the Tarawa Terrace well field, which furnish drinking water to 6274 people in the area. In February 1985 the two highest contaminated wells were disconnected from the system. A water line from the Holcomb Boulevard System was connected to the Tarawa Terrace system to supplement the water supply. Within a three mile radius of the site there are several community well systems, including Tarawa Terrace, serving groundwater to approximately 13,452 residents.

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BACKGROUND

Location

The site is located at 2127 Lejeune Boulevard, Jacksonville, North Carolina, in Onslow County. The coordinates are: latitude: 34° 44' 25"; Longitude: 077° 21' 50" (Appendix A, Map 1).

Site Layout

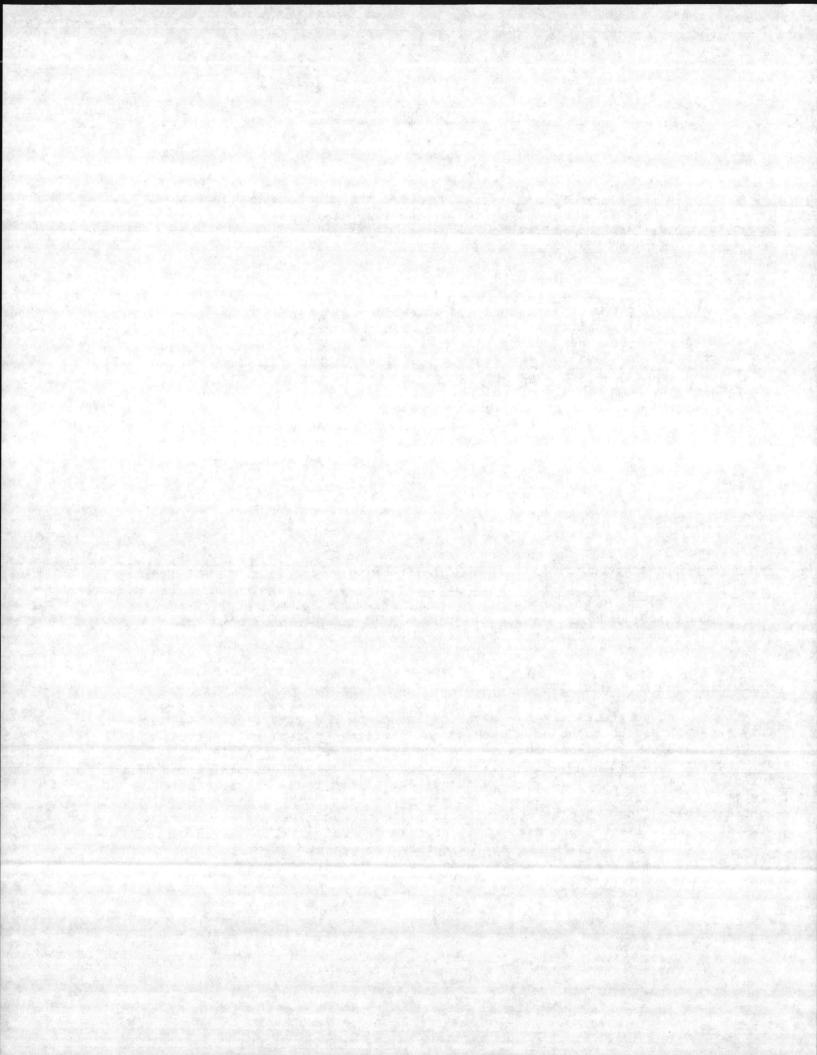
ABC One Hour Cleaners is housed in two buildings that have been joined to form one; additional improvements have been made to the buildings. Located approximately 25 feet behind the buildings is a smaller building which houses the septic tank system, two dry cleaning machines, a 250 gallon tank containing tetrachloroethylene and equipment used in the spent tetrachloroethylene recycling process. The buildings are located on an acre plot in a business district of Jacksonville (Appendix C, Ref. 1, Appendix A, Map 1). South of the site is the Seaboard Coastline Railroad tracks. Approximately 4400 feet southeast of the site is Northeast Creek, which flows in a southwestwardly direction to New River. Camp Lejeune Marine Corps Base is located south of the site (Appendix A, Map 1).

Wnership History

The site at 2127 Lejeune Boulevard was originally owned by Walter Morgan who constructed the buildings. In 1954 Mr. Morgan leased the buildings to Milton Melts of ABC One Hour Cleaners. Around 1957 Mr. Melts purchased the buildings and improvements from Mr. Morgan. Prior to ABC One Hour Cleaners, one of the buildings housed a liquor store; it is unknown what type of business was housed in the other building (Appendix C, Ref. 1).

Site Use History

ABC One Hour Cleaners has been operating at this site since 1954. The only known hazardous substances used at the facility is tetrachloroethylene, which is used to dry clean clothes. The solvent is stored in a 250 gallon above ground tank in a building situated approximately 25 feet behind the main buildings. Also located in this building is a septic tank-soil absorption system, two dry cleaning machines, and equipment used for recycling spent tetrachloroethylene. Spent tetrachloroethylene is reclaimed by a filtration-distillation process. This process generates still bottoms which have been disposed off-site for approximately two years. Prior to that, the still bottom waste was disposed of on the site (Appendix C, Ref. 1).



Permit and Regulatory History

There have been no environmentally related permits obtained for the site (Appendix C, Ref. 2).

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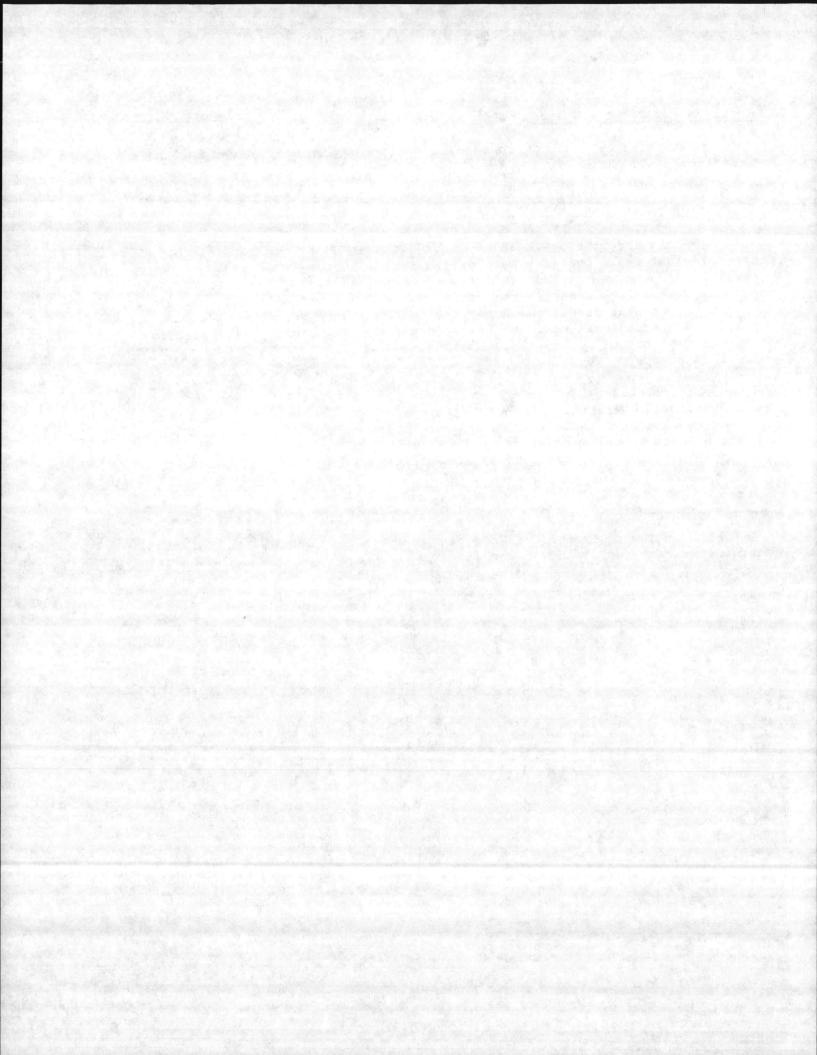
Remedial Actions to Date

In July 1984 the U.S. Marine Corps discovered organic contaminants in three of eight wells that are part of the Tarawa Terrace well-field. Because there were two potential sources for the contaminants, ABC One Hour Cleaners and Glam-O-Rama Dry Cleaners, the Marine Corps requested assistance from North Carolina Department of Natural Resources and Community Development (NRCD). NRCD drilled additional wells to help conduct a groundwater pollution study to define the source of contamination. ABC One Hour Cleaners was found to be the source (Appendix C, Ref. 3).

The contaminated wells are part of a community well system which furnish drinking water to 6274 people in the area. In February 1985 the two highest contaminated wells were disconnected from the system. A water line from the Holcomb Boulevard System was connected to the Tarawa Terrace system to supplement the water supply (Appendix C, Ref. 3,19,26).

Summary Trip Report

ABC One Hour Cleaners has not been inspected by CERCLA Unit personnel. Most information pertaining to the site was obtained from CERCLA Unit files.



Topography

Onslow County lies in the Coastal Plain province. The land surface is a plain which slopes gently eastward to the Atlantic Ocean at an overall rate of less than 3 feet per mile. This plain is relatively flat in the broad interstream areas, but is broken by low escarpments adjacent to the stream valleys (Appendix C, Ref. 4). The site's facility slope is approximately .5% toward the southeast. There is a 30 ft. drop in the elevation between the southeast corner of the site and Northeast Creek. This drop occurs over a horizontal distance of roughly 4400 feet. The terrain average slope is therefore estimated at .68% toward the southeast (Appendix A, Map 1).

ENVIRONMENTAL SETTING

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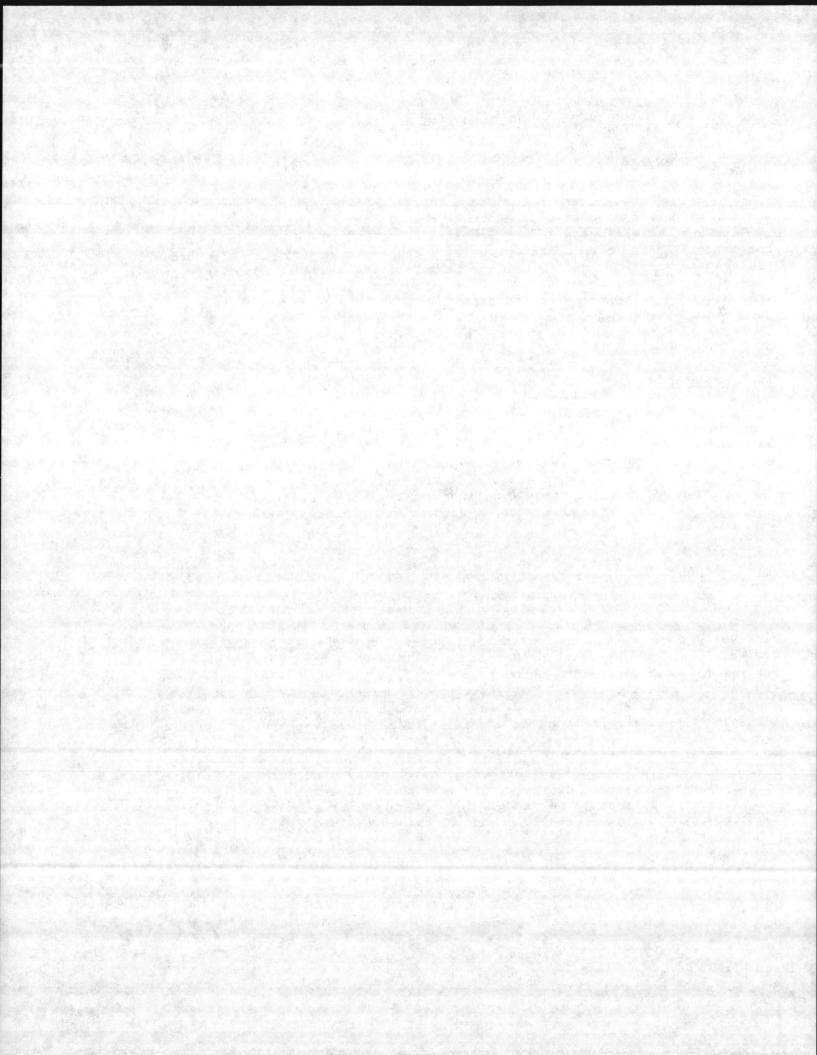
Surface Waters

The nearest surface water to the site is Northeast Creek. Northeast Creek is approximately 4400 feet southeast of the site and flows in a southwestwardly direction to New River (Appendix A, Map 1). Northeast Creek is classified as a SC-SW waterway and New River is classified as a SB-SW waterway, which means they are protected for recreational activities. Within three miles of the site swimming, water skiing, boating and fishing (recreational and commercial) occurs on both water bodies (Appendix C, 3f. 11 & 12).

Geology and Soils

The oldest formation penetrated by a water well in Onslow County is the Peedee. It is not known to crop out but lies within 30 feet of the surface in some valleys northwest of Richlands. Coastward the Peedee is more deeply buried, lying under a wedge of Castle Hayne limestone that thickens toward the coast. The Castle Hayne is exposed at many places along New River between Richlands and Jacksonville. The Yorktown formation overlies the Castle Hayne. A thin layer of sand and clay - chiefly sand of Pleistocene age conceals the older formations in the interstream areas (Appendix C, Ref. 4).

Soils of the area belong to the Onslow fine sandy soil association. Most of the surface comprises large flat to slightly undulating areas with the natural surface drainage of the county very poor (Appendix C, Ref. 5). The soil layer is believed to be relatively permeable with a hydraulic conductivity ranging between 10^{-3} and 10^{-5} cm/sec (Appendix C, Ref. 6 & 7).



roundwater

There are three aquifers in Onslow County; the surficial aquifer, the Tertiary limestone aquifer, and the Peedee aquifer. Of the three only two aquifers, the surficial and Tertiary limestone, furnish water to the wells in the area. In this area, water contained in the Peedee aquifer is brackish, making it unsuitable for drinking water (Appendix C, Ref. 8, 4, pg. 67). The surficial aquifer can be as shallow as 1 ft. bls (Appendix C, Ref. 4, pg. 72, well #55). The Tertiary limestone aquifer is approximately 58 ft. bls (Appendix C, Ref. 4, pg. 69, well #54). There are no continuous confining layers separating the surficial aquifer from the Tertiary limestone aquifers (Appendix C, Ref. 3,8,4, pg. 69).

-15-00/27/87.

Northeast Creek is located approximately 4400 feet southeast of the site. Although the creek transects a three mile radius of the site, it is not considered a groundwater divide. The deepest part of the creek is only 9 ft. deep (Appendix A, Map 1). As stated before, wells in the area receive groundwater from the surficial and Tertiary limestone aquifer. The Tertiary limestone aquifer is approximately 58 ft. bls (Appendix C, Ref. 4, pg. 69). Therefore, Northeast Creek is not a discontinuity for the much deeper Tertiary Limestone aquifer.

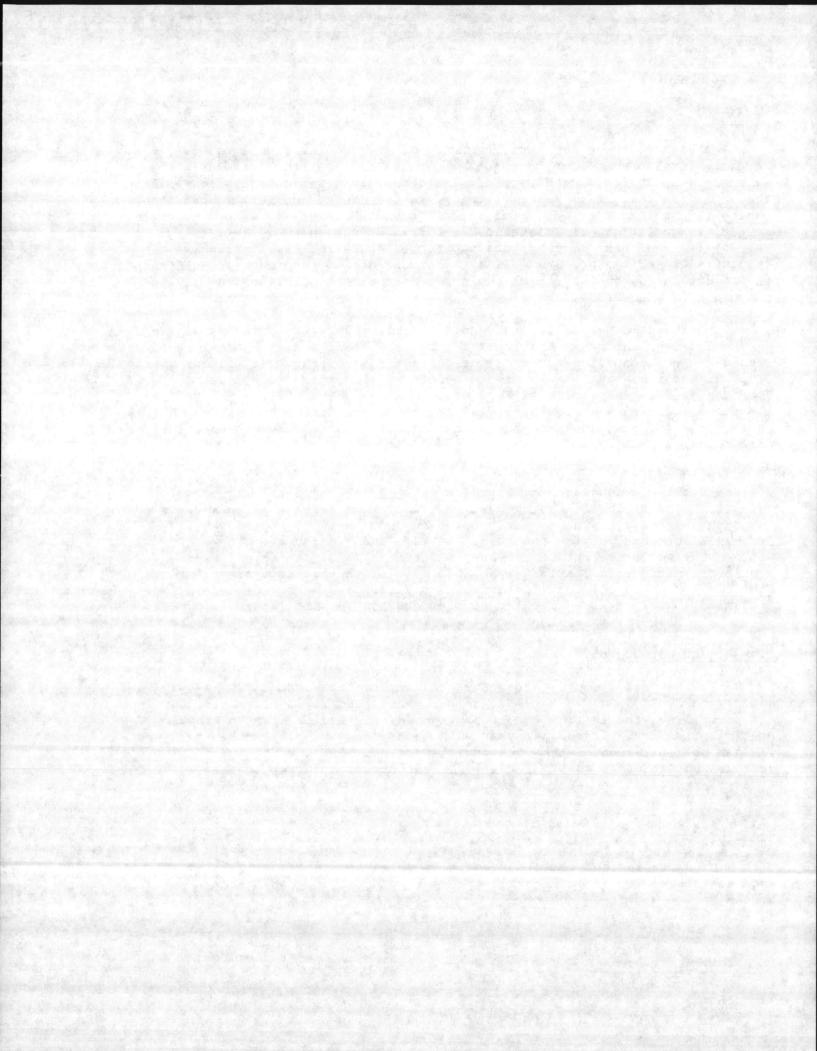
Within a three mile radius of the site there are several community well systems serving groundwater to approximately 13,452 residents (Appendix C, Ref. 21). One of the community systems, the Tarawa Terrace, which serves pproximately 6274 residents was sampled by NRCD in 1985 (Appendix C, Ref. 19). Organic solvent contamination was found in three of the eight wells. The wells are split between the surficial and Tertiary limestone aquifers, which could possibly mean that both of the aquifers are contaminated. ABC One Hour Cleaners was realized as the source of contamination after extensive groundwater studies by NRCD (Appendix C, Ref. 3).

Climate and Meteorology

In the Onslow County area, average temperatures range from 45°F in January to 79°F in July. The mean annual wind speed is 12 miles per hour and the prevailing wind is from the south (Appendix C, Ref. 9). Mean annual precipitation is 56 inches per year with mean evaporation 42 inches per year. The net precipitation of the Jacksonville area is 14 inches per year. The one year 24-hour rainfall is 3.5 inches. Thunderstorms occur approximately 40 to 60 days each year (Appendix C, Ref. 7 & 9).

Land Use

Land use in the area of the site is primarily residential. The site is located in the city of Jacksonville, a densely populated urban area (Appendix A, Map 1).



Doe, No. 1 CLEJ - 00082-3, 13-05/27/87

Population Distribution

The population living within a 1, 2, and 3 mile radius of the site is approximately 2759, 4811, and 13,452 persons, respectively (Appendix C, Ref. 10).

Water Supply

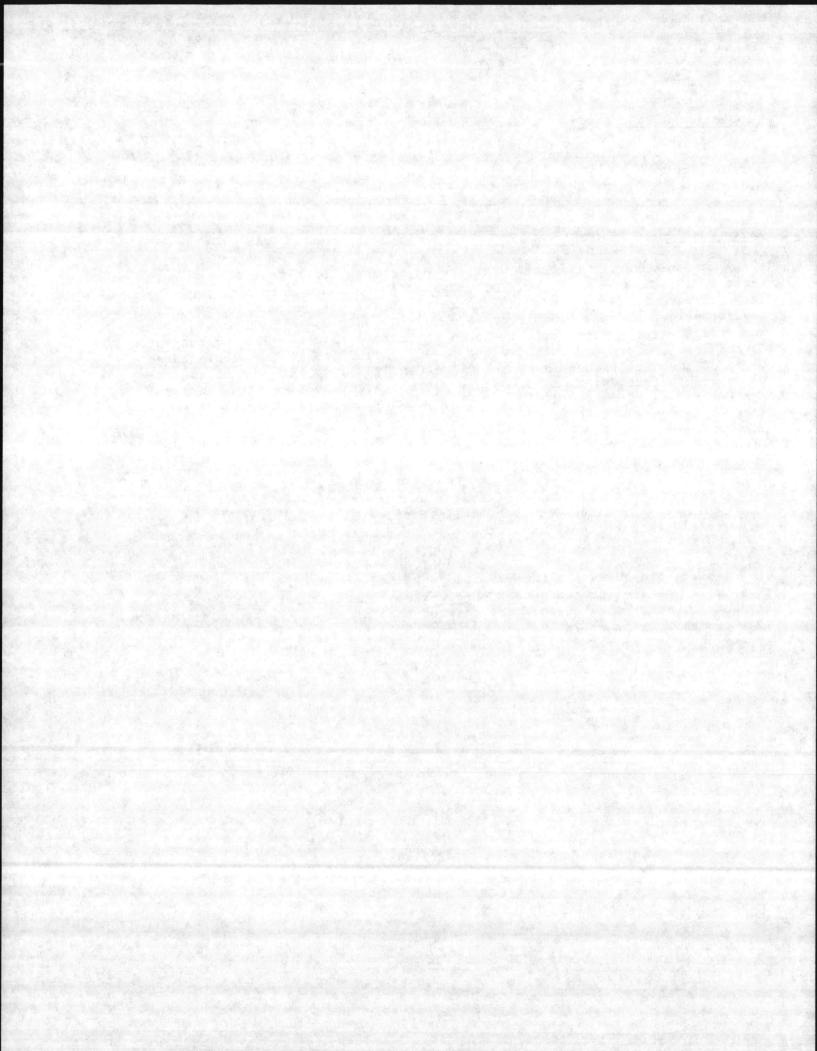
Groundwater is the only water supply source for residents within a three mile radius of the site. Groundwater is obtained from both the surficial and Tertiary limestone aquifers. There are no continuous confining layers between these two aquifers (Appendix C, Ref. 3,4,8). Since there are no surface water distribution lines in the city of Jacksonville, groundwater is the sole source of drinking water for the 13,452 residents within three miles of the site (Appendix C, Ref. 13,14,15,20,21). There are no surface water supply intakes in Onslow County. The nearest surface water reservoir is located on the Cape Fear River in Pender County, approximately 55 miles southwest of the site (Appendix C, Ref. 16).

Critical Habitats

There are no critical nabitats of endangered species within a three mile radius of the site. However, alligators, a federally listed species, yere sited within three miles of the site on Scales Creek (Appendix C, Ref. 17).

There are however estuary wetlands within three miles of the site. These wetlands are located approximately 3200 ft. southeast of the site on Northeast Creek. The wetlands are greater than three acres (Appendix A, Map 1, Appendix C, Ref. 8,19).

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Dac. No. ! ELEJ-00082- 5, 13-05/27/87

Waste Quantities

The exact quantity of tetrachloroethylene that was released into the septic tank-soil absorption system on the site is unknown. The quantity of still bottoms, deposited on the site which were generated through the spent tetrachloroethylene recycling process, is unknown also. The facility is classified as a small generator under RCRA and generates less than 1,000 kg/month of hazardous waste (Appendix C, Ref. 1,18).

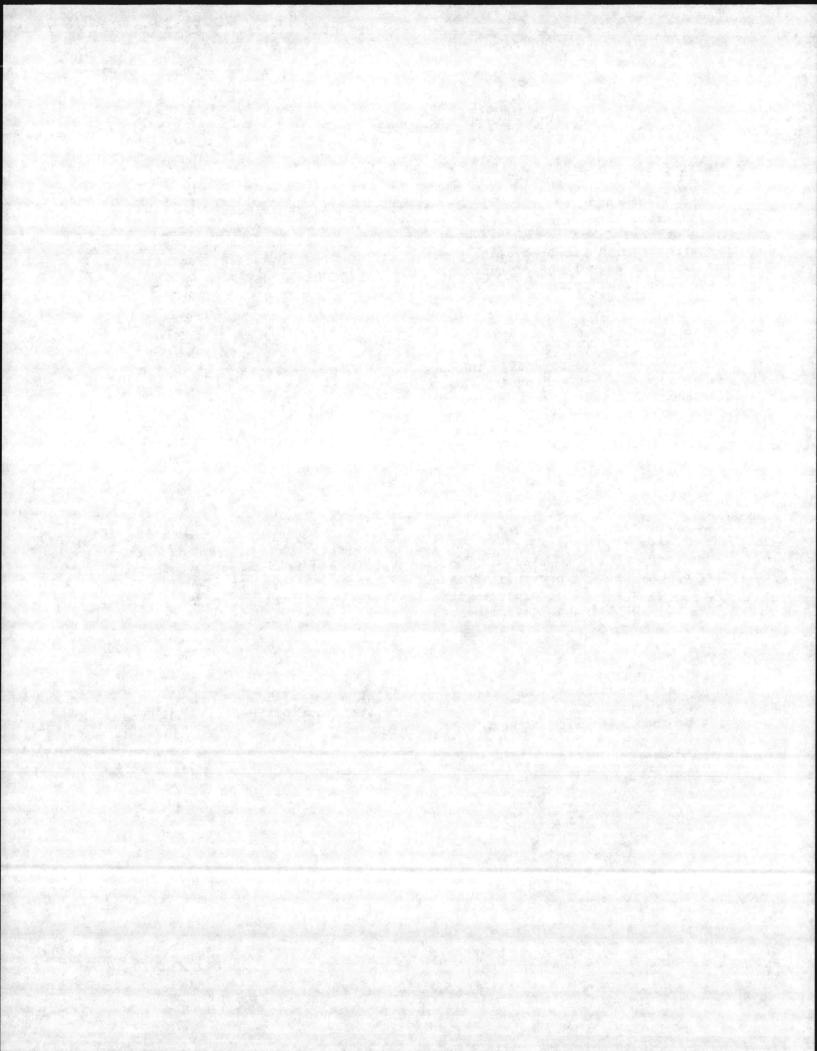
Waste Disposal Methods and Locations

ABC One Hour Cleaners uses and has always used tetrachloroethylene to dry clean clothes. Tetrachloroethylene is kept in a 250 gallon tank inside a building located directly behind the main buildings. Spent tetrachloroethylene is recycled in this building by a filtration-distillation process. The still bottoms generated through the recycling process are picked up by Safety-Kleen and disposed of off-site. From 1954 to about 1984/85 the still bottoms were disposed of on the site. Pot holes on the site were once filled with these still bottoms (Appendix C, Ref. 1).

Located in the area of the tetrachloroethylene tank is the septic ank-soil absorption system. This system has always been used for the disposal of sewage and wastewater generated at the site. The system consists of an underground concrete tank with a concrete lid and is situated within four feet of the tetrachloroethylene tank. An inspection by NRCD of the building in which the tetrachloroethylene is stored, used and recycled has shown that solvent releases enter the septic tank (Appendix C, Ref. 1,3).

Waste Type

The only known hazardous waste generated at the facility is spent tetrachloroethylene, which is recycled, and the still bottoms generated by the recycling process (Appendix C, Ref. 1,3).

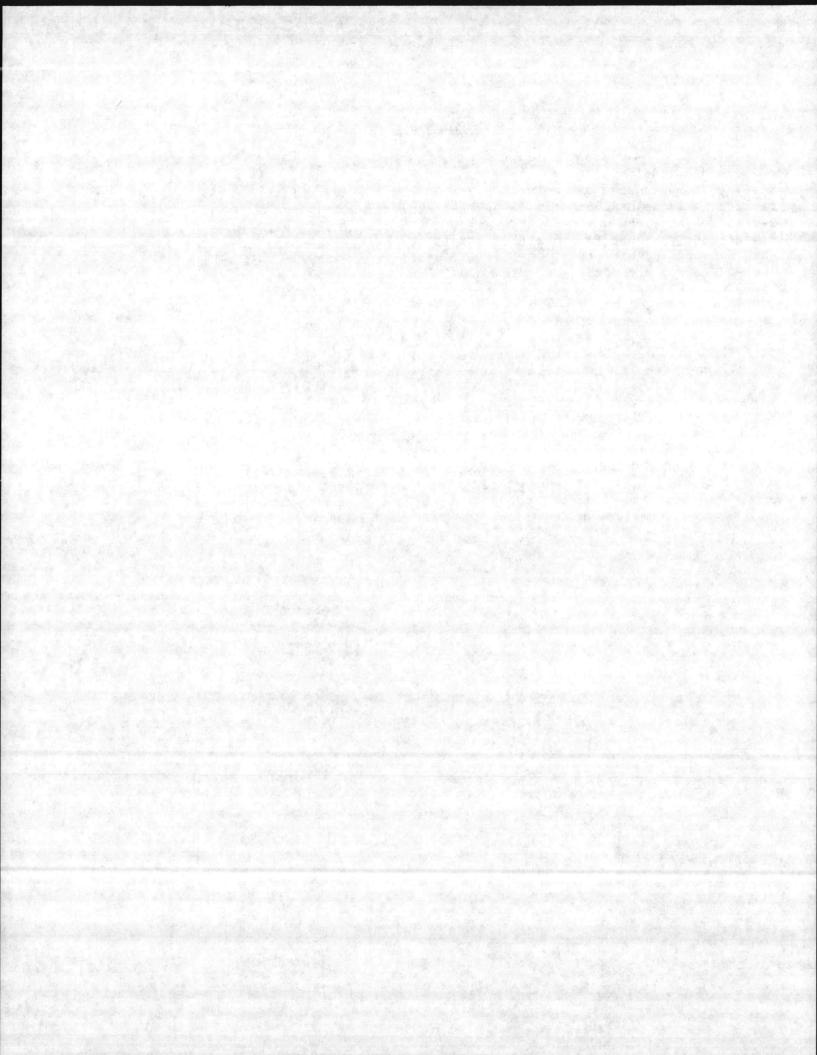


LABORATORY DATA

In April 1985, NRCD began a groundwater pollution investigation at the site, per the request of the U.S. Marine Corps. Three wells from the Tarawa Terrace well field along with three NRCD monitoring wells were sampled. Tetrachloroethylene was detected in all six wells. TCE levels were significantly higher in a monitoring well at the site and two community wells southeast of the site than TCE levels found in a monitoring well at the Glam-O-Rama site (another dry cleaners in the area) (Table 1, Appendix C, Ref. 3). Groundwater flow in the area of the site is southeast (Appendix C, Ref. 3). From the study, NRCD was able to conclude that ABC One Hour Cleaners was the source of tetrachloroethylene contamination to groundwater.

Trichloroethylene, 1,2-trans dichloroethylene, vinyl chloride, benzene, and toluene were also detected at low levels in some of the wells (Table 1, Appendix C, Ref. 3). It is not yet known if the source of these contaminants is tetrachloroethylene. There have been suggestions that the technical grade TCE used by the cleaners contains some of these contaminants, and the contaminants entered groundwater via the septic tank as did TCE (Appendix C, Ref. 27). Evidence is inconclusive concerning theories of the microbial degradation of TCE in soil to generate these compounds (Appendix C, Ref. 22,27). It has also been stated that the compounds, detected at such low levels as these were, are not uncommon to groundwater and should be addressed only because the elevated levels of TCE need to be addressed (Appendix C, f. 22).

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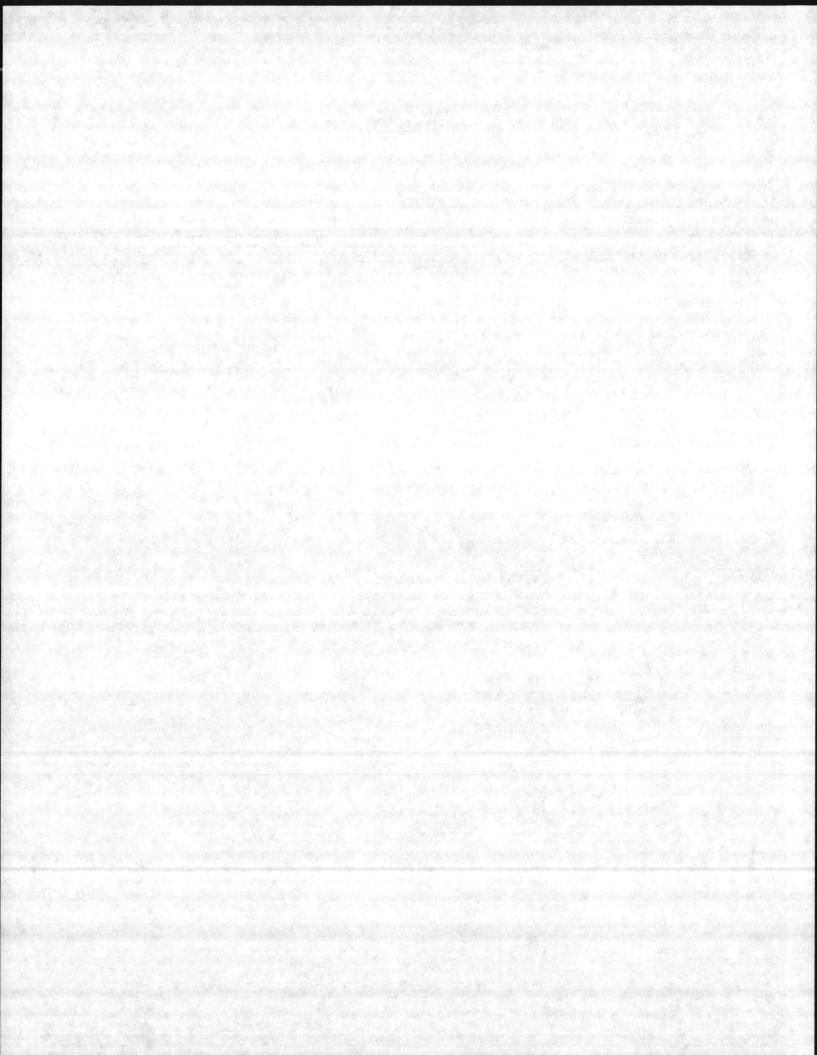
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SUMMARY OF LABORATORY ANALYSES

Wells sampled in 1985 by NRCD Table 1

						Sector Sector					Sec. Sec.	4
Well No.	.1	1.	- 1	1	2	2	2	2	3	4	5 -	6
Dates Sampled	1/16	2/19	:/9	9/25	1/16	2/19	3/11	9/25	9/25	9/25	9/25	91
Parameters (ug/1)	The Rost .		Section and		den de la com						7/23	
Tetrachloroethylene	1580	64	630	1100	132	26	41	4 ·	0.43	2.2	4.9	12
Trichloroethylene	57		18			53			·		0.98	2.
1,2-trans-Dichloroethylene	92		1.4									
Vinyl Chloride	27				'							·
Toluene										2.3		
Benzene											2.3	

Well Number	Sample Location
1	Community well approx. 975 ft. southeast of site.
2	Community well approx. 1575 ft. southeast of site.
3	Community well approx. 950 ft. southeast of site (At the Glam-O-Rama Dry Cleaning site).
4	NRCD monitoring well approx. 425 ft. southeast of site.
5	NRCD monitoring well at ABC One Hour Dry Cleaning site.
	Not detected.



TOXICOLOGICAL/CHEMICAL CHARACTERISTICS of Tetrachloroethylene

Hoc. 100 .: (125-00082-513-05/27

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perchloroethylene (tetrachloroethylene) Cl₂C: CCl₂.

Properties: Colorless liquid; ether-like odor. Extremely stable. Resists hydrolysis. Sp. gr. (20/20° C) 1.625; b.p. 121° C; f.p. -22.4° C; weight 13.46 lb/gal (26° C); refractive index 1.5029 (25° C); flash point, none. Miscible with alcohol, ether, and oils, in all proportions. Insoluble in water. Nonflammable. Derivation: (a) By chlorination of hydrocarbons, and

pyrolysis of the carbon tetrachloride also formed; (b) from acetylene and chlorine via trichloroethylene.

Method of purification: Distillation.

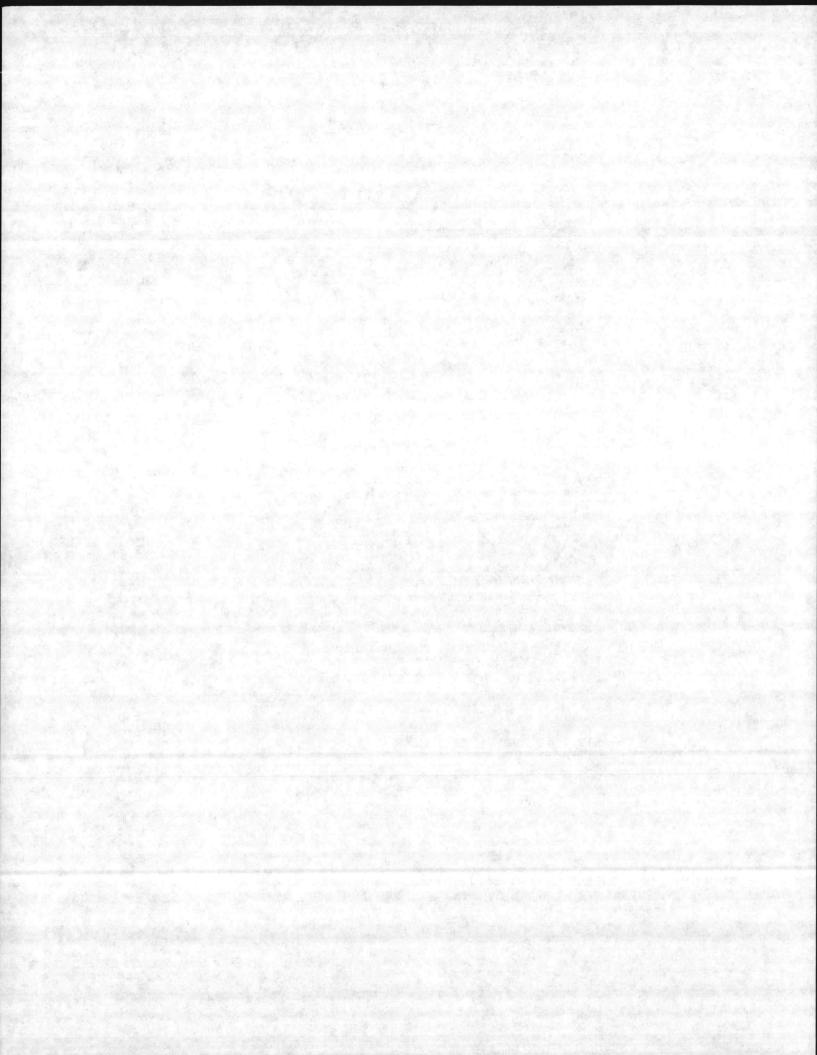
Grades: Purified; technical; U.S.P., as tetrachloroethylene; spectrophotometric.

Containers: Drums; tank cars.

Hazard: Moderately toxic. Irritant to eyes and skin. Tolerance, 100 ppm in air.

Uses: Dry-cleaning solvent; vapor-degreasing solvent; drying agent for metals and certain other solids; vermifuge; heat-transfer medium; mfg. of fluorocarbons.

From: The Condensed Chemical Dictionary, Tenth Edition, Revised by Gessner G. Hawley. Van Nostrand Reinhold Company, NY, 1981.



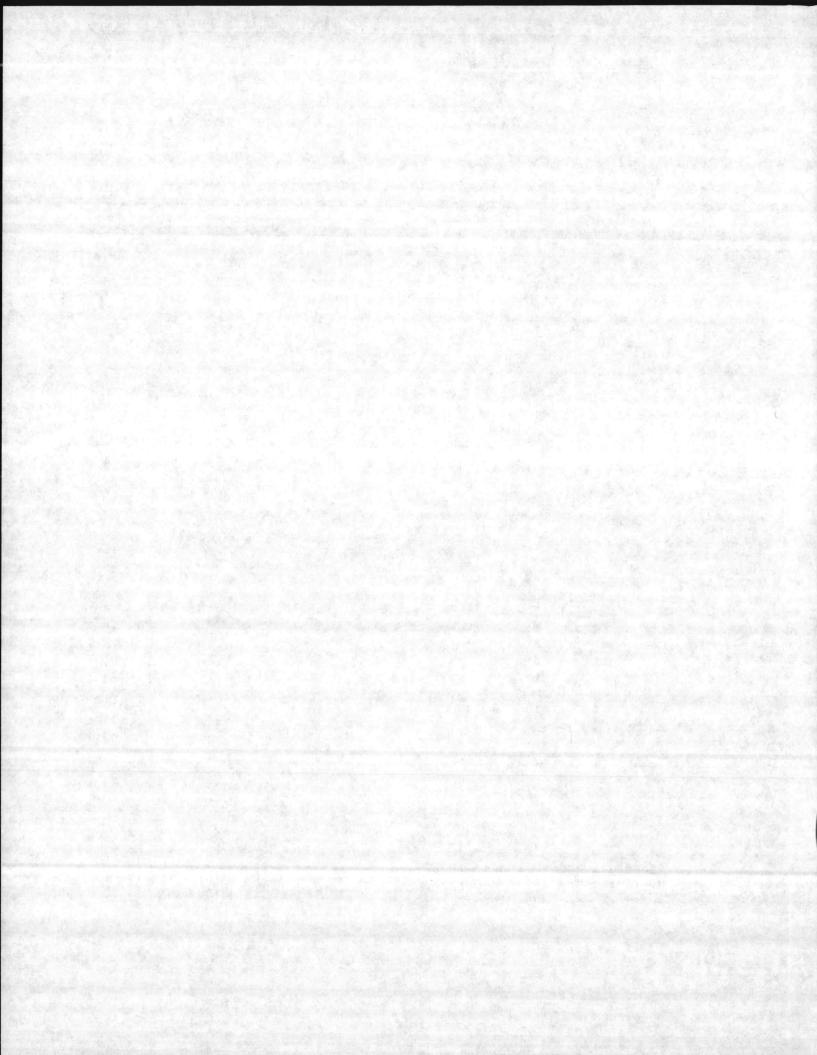
TOXICOLOGICAL/CHEMICAL CHARACTERISTICS of Tetrachloroethylene

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Noc. No. : LLEJ-00062 - 3,13 -

05/27/87

From: Dangerous Properties of Industrial Materials, Sixth Edition, N. Irving Sax. Van Nostrand Reinhold Company, NY, 1984.



00082-3.13-05/27/87 Doc. No. ! CLE

CHLOROETHYLENE

KX 3850000 NIOSH #: CAS. RN: 127184 mf C2Cl4; mw: 165.82

Colorless liquid, chloroform-like odor. mp: -23.35°, bp: 121.20°, flash p: none, d: 1.6311 @ 15°/4°, vap. press: 15 8 mm @ 22°, vap. d: 5.83.

SYNS:	
ANN BICHLORIDE	PERCHLORETHYLENE, PER
CANNON DICHLORIDE	(FRENCH)
(JII BOCHLOROETYLEN (POLISH)	PERCHLOROETHYLENE
STR.PLR	PERCLENE
TINILINE TETRACHLORIDE	PERCLOROETILENE (ITALIAN)
TI404580	TETRACHLOORETHEEN (DUTCH)
TACHI CORETHYLEEN, PER	TETRACHLORAETHEN (GERMAN)
UCTCH)	TETRACHLOROETHYLENE (DOT)
TACHI ORAETHYLEN, PER (GER-	TETRACLOROETENE (ITALIAN)
MAN)	
TOXICITY DATA: 3	CODEN:
	APTOD9 19,A21.30
* ra TCLo: 1000 ppm/24H (14D *r/1-22D preg)	APTODY 13, ALLING
a rat TCLo: 1000 ppm/24H (1-22)	D APTOD9 19.421.50
×(1)	
TCLo:900 ppm/7H (7-13D	TJADAB 19,414.79
(32	
" ni TCLo: 300 ppm/7H (6-15D	TXAPA9 32,84,75
איז	
ihl-mus TCLo: 300 ppm/7H (6-15D	TXAPA9 32.84.75
prez)	JETOAS 9,171.76
skn-rbt 810 mg/24H SEV	JETOAS 9,171.76
eve-rbt 162 mg MLD	NIOSH SAUG77
mmo-sat 50 uL/plate	NIOSH SAUG77
mma-sat 200 uL/plate	NCITR NCI-CG-TR-
ori-mus TDLo: 195 gm/kg/50W-	
I:CAR	13,77 R NCITR NCI-CG-TR-
orl-mus TD:240 gm/kg/62W-I:CA	13,77
	NTIS** PB257-185
ihl-hmn TCLo:96 ppm/7H:SYS	AMIHBC 5,566,52
ihl-man TCLo:280 ppm/2H:EYE	AMIHBC 5,566.52
ihl-man TCLo: 600 ppm/10M:CNS	NPIRI* 1,96,74
orl-rat LD50:8850 mg/kg	JOCMA7 4,262,62
ihl-rat LCLo:4000 ppm/4H	NTIS** PB257-185
orl-mus LD50:8100 mg/kg	AHBAAM 116.131.36
ihl-mus LCLo:23000 mg/m3/2H	NTIS** PB257-185
ipr-mus LD50:4700 mg/kg	AJHYA2 9,430,29
orl-dog LDLo:4000 mg/kg	TXAPA9 10,119.67
ipr-dog LD50:2100 mg/kg	QJPPAL 7,205.34
ivn-dog LDLo:85 mg/kg	AJHYA2 9,430,29
orderat LDLo:4000 mg/kg	AJHYA2 9,430,29
od-thr LDLo: 5000 mg/kg	QJPPAL 7,205.34
scu-rbt LDLo: 2200 mg/kg	UFFAL 1,103,54

Aquatic Toxicity Rating: TLm96: 100-10 ppm WQCHM* 3,-,74. Carcinogenic Determination: Animal Positive IARC** 20,491,79.

TLV: Air: 50 ppm (skin) DTLVS* 4,325,80. Toxicology Review: AJMEAZ 38,409,65; 27ZTAP 3,139,69. OSHA Standard: Air: TWA 100 ppm; CL 200; Pk 300/5M/3H (SCP-J) FEREAC 39,23540,74. DOT: ORM-A, Label: None FEREAC 41,57018,76. Occupational Exposure to Tetrachloroethylene recm std: Air: TWA 50 ppm; CL 100 ppm/15M NTIS**. NCI Carcinogenesis Bioassay Completed; Results Positive: Mouse (NCITR* NCI-CG-TR-13,77). NCI Carcinogenesis Bioassay Completed; Results Negative: Rat (NCITR* NCI-CG-TR-13,77). Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980."NIOSH Manual of Analytical Methods" VOL 1 127, VOL 3 S335. NIOSH Current Intelligence Bulletin 20, 1978. Reported in EPA TSCA Inventory, TOPA TECA RE No: 05780146-Followup Sent THR: MOD via inhal, oral, scu, ipr and dermal routes. HIGH via ivn route. Not corrosive or dangerously acutely reactive, but toxic by inhal, by prolonged or repeated contact with the skin or mu mem, or when ingested by mouth. The liquid can cause injuries to the eyes; however, with proper precautions it can be handled safely. The symptoms of acute intoxication from this material are the result of its effects upon the nervous system.

Exposures to higher conc than 200 ppm cause irr, lachrymation and burning of the eyes and irr of the nose and throat. There may be vomiting, nausea, drowsiness, an attitude of irresponsibility, and even an appearance resembling alcoholic intoxication. This material also acts as an anesthetic, through the inhalation of excessive amounts within a short time. The symptoms of fatal intoxication are irritation of the eyes. nose and throat, then fullness in the head, mental confusion; there may be headache stupefaction, nausea and vomiting, personnel suffering from subacute poisoning

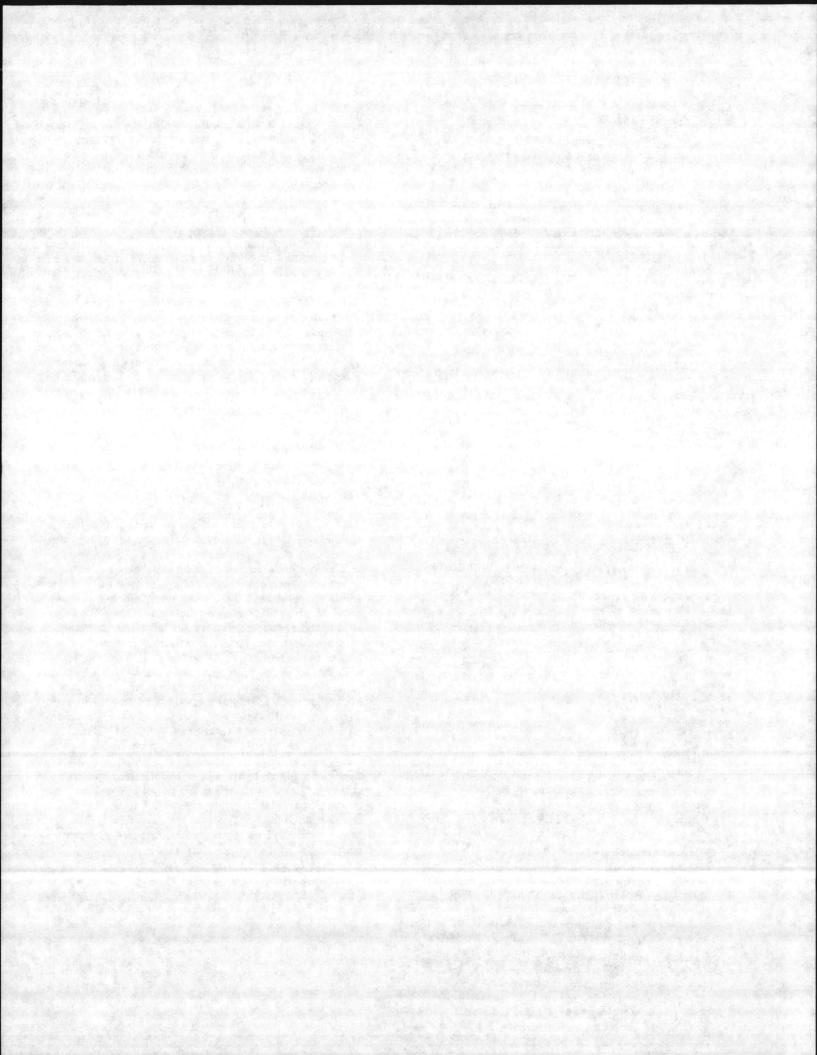
may suffer from such symptoms as headache, fatigue, nausea, vomiting, mental confusion and temporary blurring of the vision. This can occur when inadequate ventilation results in concentrations higher than 200 ppm, or where the vapor conc are intermittently high due to faulty handling of the material, or when an individual fails to take adequate precautionary measures.

This material can cause dermatitis, particularly after repeated or prolonged contact with the skin. The dermatitis is preceded by a reddening and burning and more rarely, a blistering of the skin. In any event, the skin becomes rough and dry, due largely to the removal of skin oils by material. The skin then cracks easily and is readily susceptible to infection. Upon ingestion it causes irr of the gastrointestinal tract, which, in turn, causes nausea, vomiting, diarrhea and bloody stools. However, such effects are usually less severe than the effects of swallowing similar amounts of other chlorinated hydrocarbons. An exper CARC. MUT data.

It may be handled in the presence or absence of air, water, and light with any of the common construction materials at temp. up to 140°C. This material is extremely stable and resists hydrolysis. A common air contaminant. Reacts violently with Ba, Be, Li; N2O4; metals; NaOH.

Disaster Hazard: Dangerous; when heated to decomp it emits high tox fumes of chlorides.

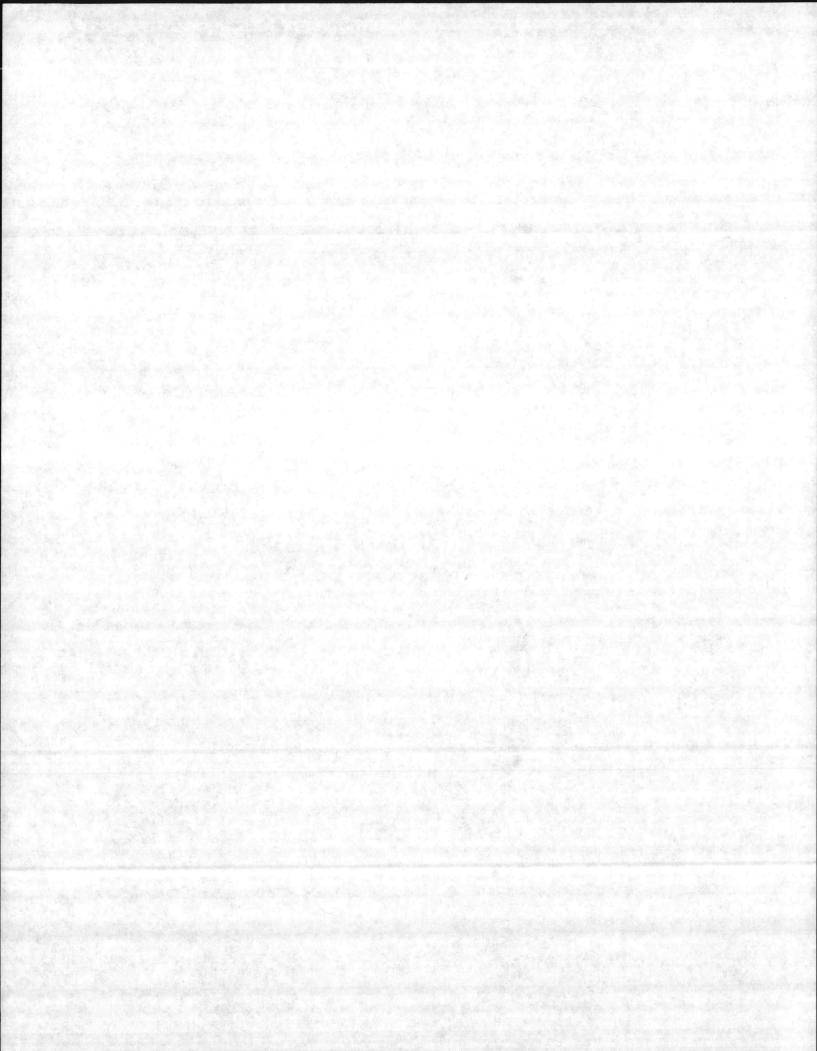
For further information see Perchloroethylene Vol. 1, No. 2 of DPIM Report.

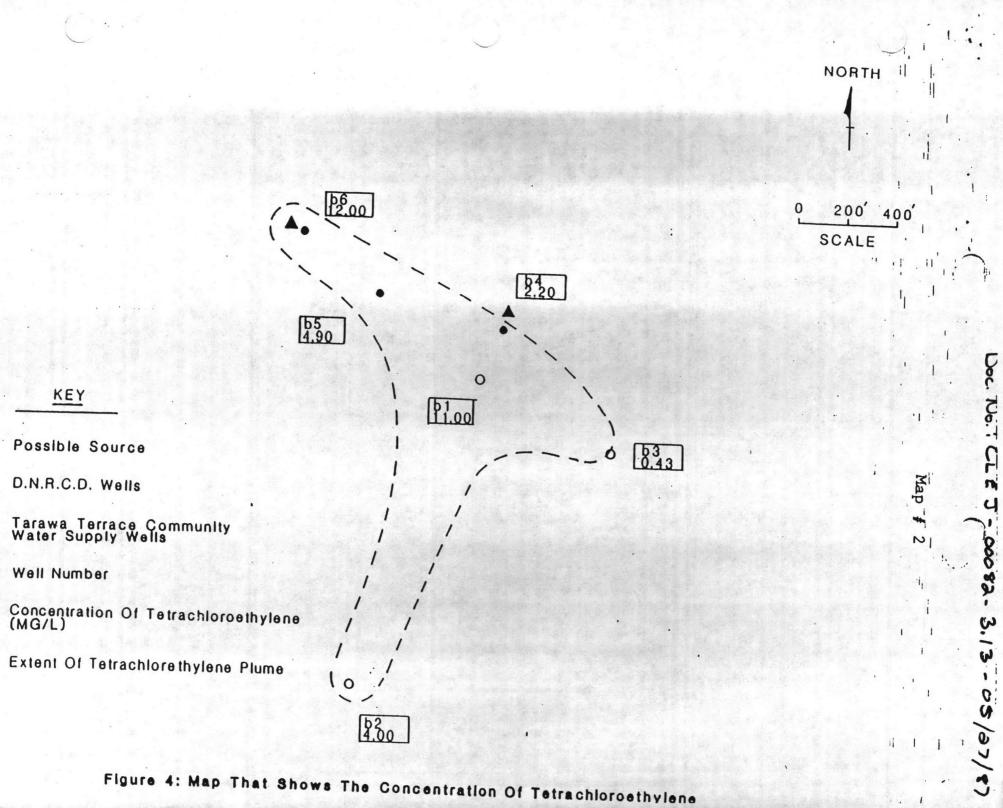


Appendix A

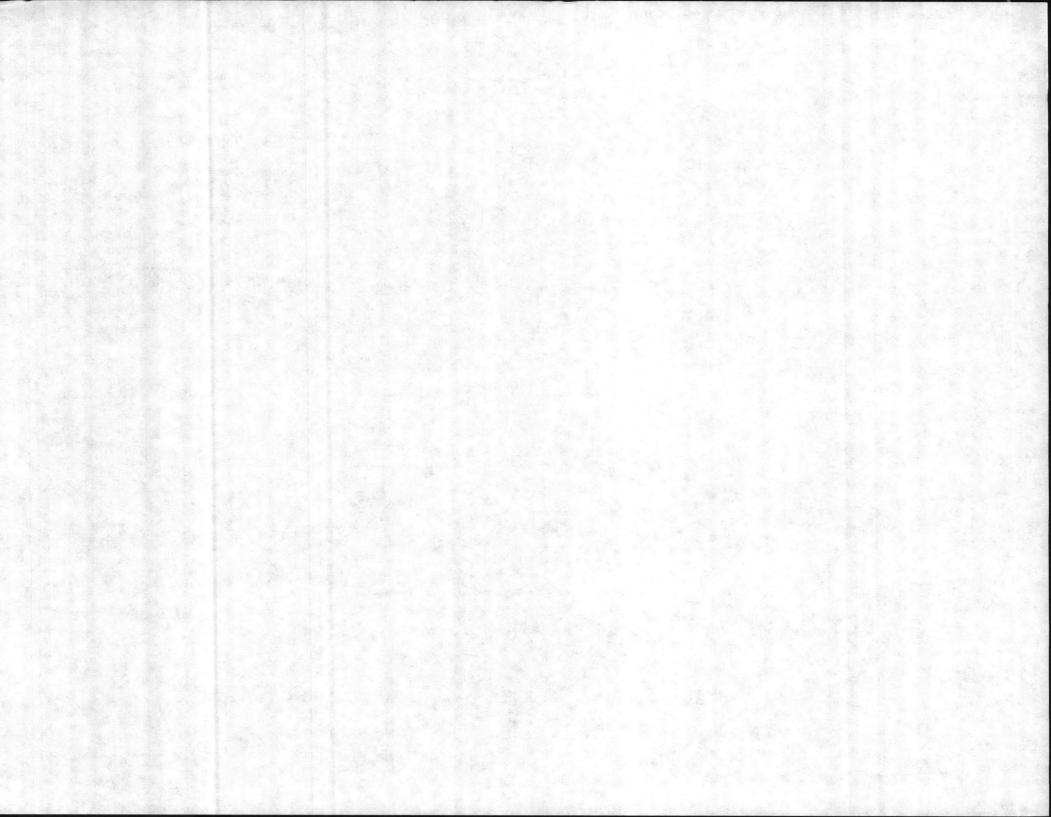
Doc. No. 16225-00082-3,13-05/27/87

Maps





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CLEJ-00414-03.13-04/01/92 E 642 - 1 Hole Size 10" (+0 100 Screen Size 6" (100-210') Mat'1 NUC Filter Materials. Coarse Sand Mat'1 PVC Grout Type Coment (Porter asing Size 6" to/co' Development Geologist David Brentling (Static Water Level 12.75-25 Finish 3/27 Date Start 3/26 Contractor ESE Top of Well Elevation Drill Type Rotary Driller James Daris (10 and 6)" tri Com 5 6-3 SPT Depth USCS (BL/FT) Lithology, Color Sketch Sample (feet) silly fine Sond (30% fines). again material abundant 0-5 Silly Bi Clayey fine Sand 5-10 Chy is L'a very doundant, loss tun color silly clas - silly in fine Sandy Clay much more clay than 5-10 Clay 15 10-15 tin (0101 very silly clay. little Ino some chan is 15-20 3/ve - Gray In lolor Same - 4 15 - 20 20-25 less clay a very silt find 25-30 Sandy clay Very Sandy Silky Clay -... Very Silky Sanay Clay 30-35 very dayly silly fine sora 35-45 les 1) 98 1011 - 50 - 1 Silly Clayer Fine Sand Coarse material 10% 40- 45 silfs very find sand with 45-50 30% Course material very silly fine Sand 30% 50-60 Shells + Comerted Clastics 7093

WELL FACT SHEET

Well No. 6421 Date 327

Start 3/24

Finish 3/27

Total Depth of Boring Prior to Well Installation 2007 Diameter of Boring 10" to 100' 6" to 210' Water Level ~13' BLS

	Total Length of Well at Installation 202.5
	Height of Well Above Ground Level
	Total Depth of Well Below Ground Level 200'
	Total Length of Screen 100' from 100' BGL to 200' BGL
	Total Length of Riser 102.5 from 100. BGL to 2.5 AGL
	Sand Heave. Total Interval from BGL to BGL
	Filter Pack Total Interval 104 from 96' BGL to 200 BGL
	Bentonite Seal Total Interval 5 from 91' BGL to 96' BGL
	Grout Total IntervalBFrom BGL to BGL
	Protective Casing Total Interval <u>5</u> from 2.3 BGL to 0.7 AGL
	Well Screen Dia. 2" Schedule 40 Slot Size 0.010
	Well Riser Dia. 2" Schedule 40
	Filter Material 20-30 Sulca
•	Sual Bentonte pellets
	Backfill nature soul to 70' Cement Bentonite Water
	Protective Casing Dia. 4 Material

1	W	ell Development	
Date 3/30	Time 0915	Start 0130	Complete 300
Water Level at	Start	Finish	Anna and a start of the
Conductivity	Start	Finish	
Water Color Bail	Startcland or	Finish s	Anish
Surge		Start	Finish
Tump	Start	Finish	Volume
	Type	Rate	were defined to the party of the

1	Hole Size	CLEJ-00414	E. GH2-2
	Screen Size	Mat'l	Filter Materials
	asing Size	Kat'1	Grout Type
	Geologist		Development
	Date Start 3/28 77	Finish 3/3	0/87 Static Water Level
e) P	Contractor	the second to be	Top of Well Elevation
	Driller		Drill Type

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT
100-125		I CARLES CONTRACT ON ANY ANY ANY	Shell's or a comprised Gasila Gree sitty sand, sand is deric gring in color, comprised cari inter, cher found a state frame		
125- 181			int, Srie and for any n		
159			Man first Sond and Sold USTA Contract, fors man with Massing Sold of the Sold of the Massing Sold of t	-	
75-22			Pros light crown in cour. Very fre wars Friday F		
			Very little Coarse moterial.	ent. fax	
			Well lefe 3/30 Complete pm 3/30		

CLEJ-00414-03.13-04/01/92 Hole Size Mite , 6 E 642 - 2 Screen Size_ 2" Filter Materials Shice Sond 100-200 Mat'1 PUC asing Size 6" to 100; 2"to 20that'1 PVC Grout Type Portland # 1 Geologist David Brentlings Development Date Start 3/28/87 Finish 3/30 Static Water Level_ Contractor ESE Top of Well Elevation 10 ' ± 2 Drill Type In Comb, Rotary Driller Davis; James Davis 10" to 100' = 7" TO 200' Depth SPT Sample Sketch (feet) Lithology, Color USCS (BL/FT) Silly Clayer Fine Sand, Sond white 0-25 In color, clay clumps, gray in cour 25-50 very Course sandy selly Clayer formation 35 to therwise Colis durk greg - greg Very find sond with site 51-75 ing throughout litters no tourse majorial ser and - at - about 73", Formations on gruy-why fine Silly Sand with snels 75-10and Cemented Clastics More shells + Clastins 105 10' (95-105)'. Coarse sons gren is throughout ing leter & comment sone stens clear - white Fres Comments : 642-2 has overail, less Clay than 642-1. the 1'100' thole closes badly especially 9t (60-70)

WELL FACT SHEET

Well No. 642-2 Date 3/31 Start 3/38 Finish 3/30

Total Depth of Boring Prior to Well Installation 204 Diameter of Boring 10 + 100' 6" = 204' Water Level ~ 15' ALS

Total Length of Well at Insta	11ation 202.5	Charles and the second	
Height of Well Above Ground I	evel 2.5		
Total Depth of Well Below Gro	und Level 200'	and the second second	
Total Length of Screen		100 BGL to	200 BGL
Total Length of Riser		100. BGL to	and the second second second second second
Sand Heave. Total Interv		_ BGL to	BGL
Filter Pack Total Interv	al 105.5 from	9.4.5 BGL to	200 BGL
Bentonite Seal Total Int			PAS BGL
Grout Total Interval		BGL to	
Protective Casing			
Total Interval	5_from	BGL to	2.7 AGL
Well Screen Dia. 2	Schedule	40 Slot	Size 0.010
Well Riser Dia. 2*	Schedule	40	
Filter Material 20-30-	1	10	
Scal Buch	Alter Some		
	He 1613	/	
	Cement		Water
Protective Casing Dia. 4"	Material	5 to 11	
,/	Well Development		
Date 4/1 Time 300	Start //4	5 Comple	te 1600
Water Level at S'art	Finish		
Conductivity Start	Finish	an Maria and Andrews	
Water Color Start in 60	ack Finish	scales	
Bail	Start	Finish	\mathcal{F}
Surge	Start	Finish	parties and the particular
(Pump) Start	Finish	Volume	
Type Canto. Sy	Rate		
		The second s	

CLEJ-00414-03.13-04/01/92 Boring No. HPGW -SHEET . OF 166 6/18/87 715 onsi 700 Am drilling lains Problem Enaly down (Ain AN 60 Pu M-E(HPGWZ4-3 0700 AM Dri On 1730 arnul 51 40 ar (1:20 0 ling 10 12 0930 Rol He per 5 c loa G wari Prolling 1030 Recume 30 breats NE down 1000 1 a rin nerr tisday 21 C 017 \$7 (HPGW ZH-3 16 0830 On Si dri GIIIU 0900 bioin work Julling 119 Rods. 1330 50' 1200 duilling < toos begin 91 pm 130 - 1500 1500 70 ' fole at Screen + Casing into closes Casing hour 11-1 stuck dri a Pulls 30 rasing SINCEN 6/17/87 begins hold 6800 Deilling 700 trus badly Duelniuh to loste duller 1200 at 1045 m Casiho Casing (temporary 104 350 lains Sullin Jas 14 150 600 to 00 Jown Dulls an OVPS 1630. Screen + Casing Finally in no 1700 d POS SIGNED DATE SOURCE: Environmental Science and Engineering, Inc., 1986

CLEJ-00414-03.13-04/01/92 Bering No. SHEET OF ATEC 6/18/87 HP6W24-3 , drillers grinde 0730 Da 0 800 . (asing 0830 (hale (4.4.5 90780) Cement Dartin Bento Cement portion 1.5 90 well complete t 1130 Drilke Breaking heading 1.83 stitup strong (hemical small at 50' Comments : Broke down consistency. ts-Jrill 6100t 851-7-41 130 R15 90-95 Bentonilo Ingtural statch Formation for sand pack (150'- 90') 1 20 Sugar NP6W 24-3 + actual depth Sneed Ferry Rod Blog Bldg # 902 # 903 Lymon Rd And A. Buttyn 7/1/81 SOURCE: Environmental Science and Engineering, Inc., 1980

Hole Size	- CLEJ-0041	4-03.13-04/01/92 E HP6W24-3
Screen Size	Mat'1	Filter Materials
asing Size	Kat'l	Grout Type
f plogist		Development
Date Start	Finish	Static Water Level
Contractor		Top of Well Elevation
Driller	the week states where here	Drill Type

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
140 - 145			silfs fine Mo. Sand with less shells + Rocks not mich course sand		
1-1-150			Sume us asour 140-145)	i ghans	
150-155			Sille fine - Med. Sand little shell + rock		

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N. A. Article

Hole Size		14-03.13-04/01/92 E HP6W24-3
Screen Size	Mat'1	Filter Materials
asing Size	Kat'1	Grout Type
Galogist		Development
Date Start	Finish	Static Water Level
Contractor	All sector on Andra Maria	Top of Well Elevation
Driller		Drill Type

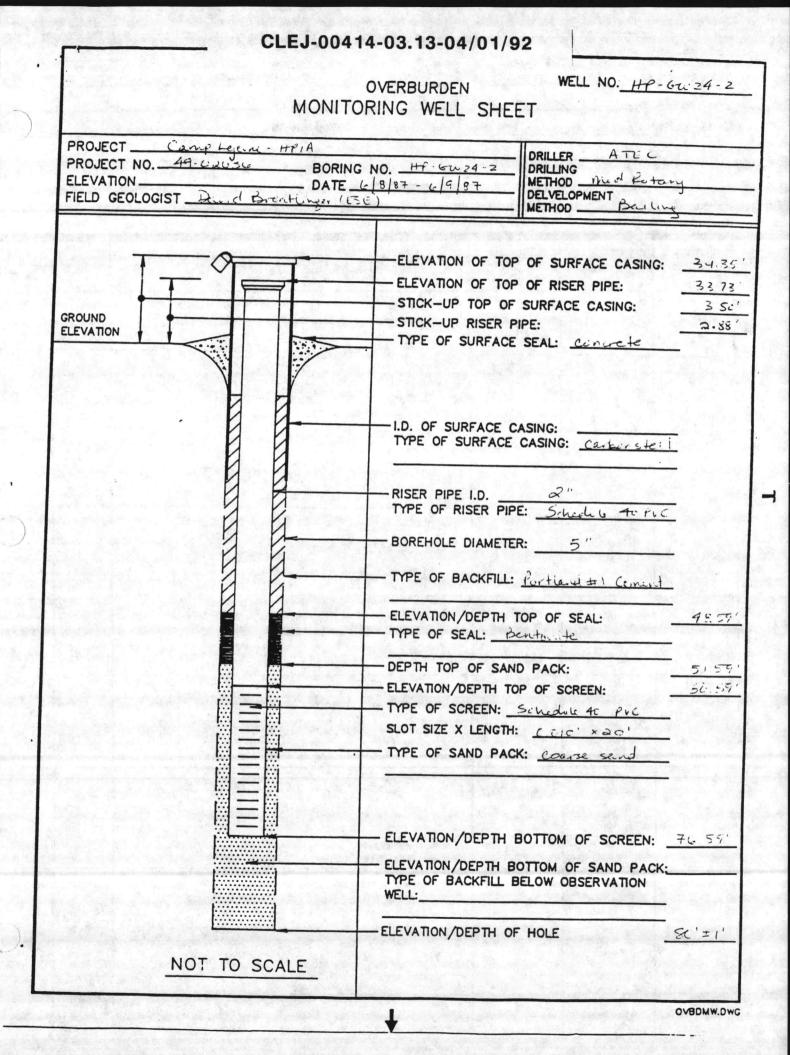
Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT
55 - 115			Sitty fine - Ve fine sand with shills + rock Flagmants		
1.115			Silly finesone and Coarse Sond with Committee Clastics Shells Course Sand angular, Clear		
115 - 120			med Sond, 50% Semi comunied (lustic (gny) and fossils, stells		
120-125			Some as above (115-120)	-	
125-130			silly fine Sand with lots & shell, + fossily, coarsi rounded sond	. 1.	
30-135			same as Abore (1:1-1)		
35-140			with cemented clastics (loosely fill of sna =		

Hole Size	CLEJ-0041	14-03.13-04/01/92 <u>E HP24-3</u>
Screen Size	Mat'1	Filter Materials
asing Size	Xat'1	Grout Type
G-plogist	and the providence	Development
Date Start	Finish	Static Water Level
Contractor		Top of Well Elevation
Driller	No. N. S. Stranderson	Drill Type

Drill Type					
Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT
60 - 70	Sur d Svit Rock		V. little clay, Course sous well Course sous well		
70 - 75		68-70'	Commented Mastics finnestone + Stells Rock (Unitmented Mostrics) she's and course son a (well rounded). Fine silling San a (74-75) with 1055 Kor. 0-3 signi-	w.7	40-2
75 - 80			First for sand with prove day productions and the second second		
	<u></u>	Port (1:2')	(23-284) Sills Fine sons		
43 			Silts very fix Sont with Small shells and rounded V. COArse Sano pebbles	С. 1993. 1993. года 1993. года	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13 - 7 ⁻ 			silt, med. Sard with mine shells and foouse sand + pebbles		
- 700			Some as a cont (90-95)		
06-105	s	100-103	Silly Find Sona		
an an	lan logi tan Logi	103.100;	solid cemented haven		
the graduation	S. Ale		sile for and	-	

Hole Size .5 "	CLEJ-00414-0	13.13-04/01/92 E HPGWZ4-3
Screen Size Z "	Mat'1 PUC	Filter Materials Natural formation
asing Size Z''	Kat'1 PVC	Grout Type Portion of # /
Gologist Dovin	Brenilinger	Development Boilor
Dace Start 6/10/87	Finish 6/18/2	87 Static Water Level 11.97' B61
Contractor ESE	- I and the second	Top of Well Elevation 1. 21'; 150' TOC
Driller Don Sweetin	IG (ATEC)	Drill Type Rotary - Mud

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	(B)
0-10			Silly time Sond with organic multer top 5', some (lay layers		
10-15			silly fine sond and organic cliq throughout.		
15-20			Silling find - Medi Sond with coarse sond ? perbles bottom 3'		
<u>()-5)</u>			Coorse sond TOP 5', Silly Clayey Enesond		
35-21			Silly Fire Sond		
357-45			Silty Med Sond with clay lugars (clay brown with coarse Sond)		
(2 - ر.)			Some as abord (35-40) 1. H'e/nd Coorse moterne		
50-60			silly med - Carse Surd Rock at 58' (cemented Clastics + shells).		



WELL FACT SHEET

Well No. HP6W24-2 Date 6/8/87	
Total Depth of Boring Prior to Well Diameter of Boring 5" Water Level 14.67 (
Total Length of Well at Installation Height of Well Above Ground Level Total Depth of Well Below Ground Lev	3.3/
Total Length of Screen 20'	76-59 from <u>76.59</u> BGL to <u>56.59</u> BGL 59,90 from <u>56.59</u> BGL to <u>3.31</u> AGL
	$\frac{from 3}{25'} BGL to BGL to BGL 3' from 5/.59' BGL to 5/.59' BGL 3' from 5/.59' BGL to 48.59' BGL 3' from 5/.59' BGL to 48.59' BGL$
Grout Total Interval 48 [°] Protective Casing Total Interval	<u>51.00'</u> from <u>48.59</u> BGL to <u>0.59</u> BGL from <u>BGL to AGL</u>
Well Screen Dia. 2" Well Riser Dia. 2"	Schedule <u>40</u> Slot Size <u>0.0/</u> Schedule <u>40</u>
Filter Material <u>Course Sand</u> Scal <u>Betonike</u> Backfill Concrete	Cement K Bentonite Water
Protective Casing Dia	Material
Well Date 6/10/87 Time 2 1315 Water Level at Start 14.67' TOC	Development 6/10/47/ Start 1330 Complete 1730 6/13/87 Finish 75.00 Tox offer bail

Conductivity Finish Start Clear Start turbid grey Finish Water Color Start 6/10/87 6/13/87 Finish Bail Finish-Start Surge 185. Ogallous Volume Start 6/10/87 Finish 6/15/87 Pump (PUC Sch. 40) Rate O.15 gpm

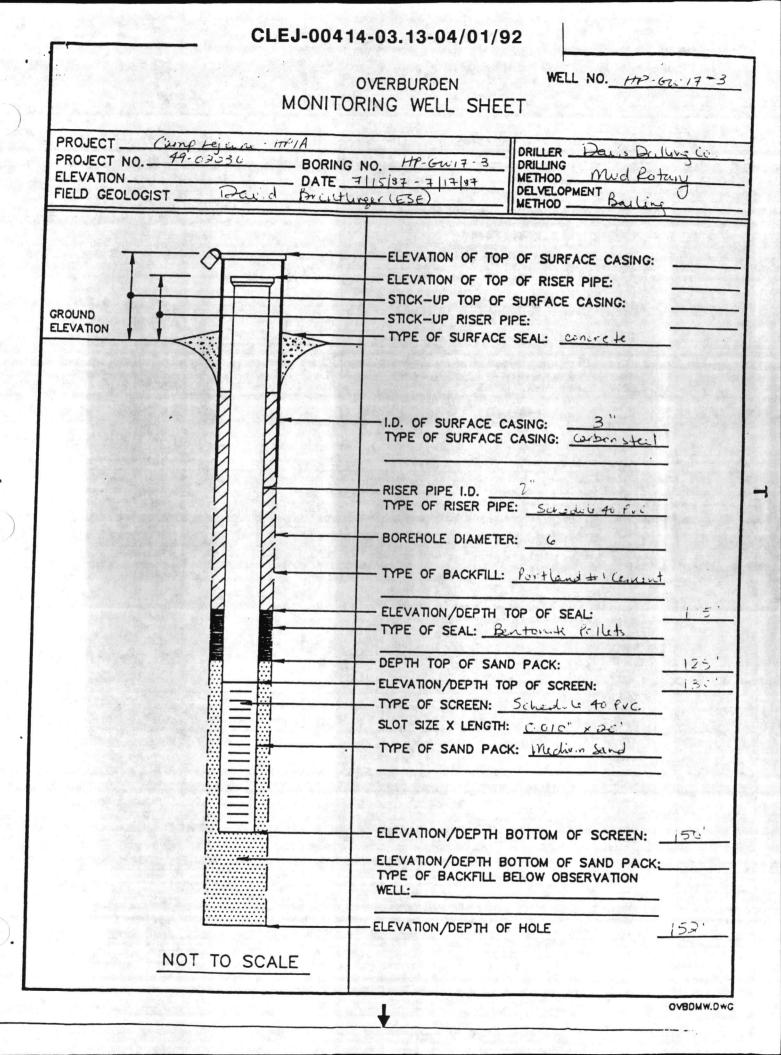
CLEJ-00414-03.13-04/01/92 Boring No. HPGW24-C ATEL SHEET OI OF 04 Start - 6/8/87 Einish - 6/9/87 on-site and Ready 1:45 PM Drilling Stops 300 PM, hole closing, Mud Pump Caturin asun - HPGWZ4-Z 6/9/87 5,11 700 Am well Drilling complete 1130 - 100 PM lunch 1030 1038 well complete 7:30 Comments ! Duillers worked very well, hole ICMGINED Soft fine during casing installiting open most SON well Profile 3.25 3.3+' stickup Sketch L.S Gest 79.90 Total Lasing 494 + Scieen 3' chay -HPZY-2 25' sond zo' screen 902 903 904 + Lynon Rd tz mi Surter 640 Sneeds Ferry Holinab Blud. 1/2 MI. Battin 6/8/97 SOURCE: Environmental Science and Engineering, Inc., 1986

Screen Size	Mat'1	Filter Materials	
asing Size	Kat'1	Grout Type	
logist		Development	
ate Start	Finish	Static Water Level	
Contractor		Top of Well Elevation	
riller		Drill Type	

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT
50 - 55			Silly Soudy - fine Sandy sil with Clay + Small shells		
55-60		•	ilagen Silly fine sund mustly fine sund some web coarse sund with small clastics (shells)		
0- t 5			Sumas about 55-60 more shells		
,;-70 70-75		semi Ithofice Inthofice Inthofice Inthofice	Coarse - Sund and Uncemented Clastics + Cemented (ots of shells) Sume as above	Rat Rat	
		<i>P</i>	75 -		
			Comments: Rock layer is not very hard, driller went through passilly.		

I

CLEJ-00414-03.13-04/01/92 5" Hole Size 2" Screen Size Mat'1 PVC Filter Materials Coarse Sand 2 " asing Size Mat'1 PVC Grout Type #/ Portland David Brentlinger Development Barled (184 gollons, Galogist 6/8/87 Date Start Finish 6/9/87 Static Water Level 4.6770C 11.42 Top of Well Elevation 3.25 4 3.25 4 ESE Contractor Driller ATEC & Associates Drill Type Rotary - Mud Stick Don Sweeting 79.90 TOC Depth SPT (feet) Sample Sketch Lithology, Color USCS (BL/FT 0-5 Silly Fine Sand 5-10 Silly Fine sand 10-15 Silly Fine Sund 15-20 Silly very fine sound 2 - 25 Very Fire sand 25-30 very fine sund, some coarse sand, while Fines, Coarse muterial well rounded wing fine sund 30-35 Samias aboy 35 - 40 very time silly - Clayor Fine Sand . 9-50 same as about 35-40 with more clay in peds



WELL FACT SHEET

Well No. NPGW 17-3 Date 7/20/87 Start 7/15/87 Finish 7/16/87 Total Depth of Boring Prior to Well Installation 152 Diameter of Boring 6" Water Level 15,50 ±(1, ") 150 (152.5 with stick op) Total Length of Well at Installation 2.50 Height of Well Above Ground Level 150 Total Depth of Well Below Ground Level 20' from 150 BGL to 130 BGL Total Length of Screen 132.5 from 130 BGL to 2.5 AGL Total Length of Riser from BGL to BGL Sand Heave. Total Interval 150 BGL to /25 BGL Filter Pack Total Interval from Bentonite Seal Total Interval 10' from 125 BGL to 115 BGL 110 from 115 BGL to 05 BGL Grout Total Interval Protective Casing 4' from 1.0BGL to 3.0 AGL Total Interval Schedule # 40 Slot Size 001" 2" Dia. Well Screen z 11 Schedule Well Riser Dia. _ Med. Sand Filter Material Bentonito Pellets Seal Cement Bentonite Water Backfill 3" Material Steel Protective Casing Dia. Start 0900 (7/19) Complete 1400 (7/20) Well Development Time 0800 Date 7/19/87 15.65 Water Level at Start Finish Conductivity Start Finish Water Color Start Finish Start 080 (7/19) Finish 1400 (7/20) Ball Finish Start Surge Volume Finish Pump Start Rate Type

Boring No. HPGW 17-3 SHEET OF DAVI-S 7/16/87 0800 dr. 16-5 site Organizing working 07 Arrive drilling mud is made 0900 drille. Complete 215 a asing 1230 dra 1-Casina 75 pulls 0 4 1300 CLSING Attempts to Du+ 0. thunderstorms 15 an TRIA Follows Unti eneral ann Morning 0 7:16 diliers on sill 1701 , C taki all molaing Grouting Un 380 CASINA 5 + 11 1 JAS Da remainder and w 10 ople 11 point. 7/17/67 bes: 0700 drilles SIM Or. 1 Dr >" 910.7 Setting FUC 2.110 CUSIAD 10 m .71 910 led 1400 ana (om We 1130. 2.5' stuk up sketci Holcomb Blid. 6.66 H-1W W 6417 clay 115 " ++ 1 top sond pack 125" HI GW MEZ Birch St Top Server 130 SIGNED DATE - . 150 Environmental Science and Engineering, Inc., 19 SOURCE:

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Boring No. SHEET OF ATEL HIGW 17-3 4 8 11,1005 21 4 Lucuss ema nex 40 15 080 DP411 1 TM. 15 Mon 11 2 4 Un Tor la! 14 an hing 1 1110 CIPI m an no n ugn 0700 6 24-10 na. 1 < 430 Marenals Used : 005 H RO de was ALVELEC USE d 11 an DUM 591 a T bo 00 1150 C MUN 01 01 0 SIGNED DATE SOURCE: Environmental Science and Engineering, Inc., 198

CLEJ-00414-03.13-04/01/92 Boring No. HPGW 11- -SHEET OF 71C Onsite HP6W17-2 6/22/87 0700 BeyINAMY well deve lopmen-4P6W 17-2 Drilles HP.6W 17-3 at: Arrive 0830 set vp 10.00 Break 100010 Back 1300 2hrs D.T. town Ikrs Return to 1330. work xon unch 90 Cont (500) tha t finish hole have drill rods an . Small 160 01 haw new rods 14 46 clean moching barling VD materials Moo ai rsta And it Fin 16.00 W HPGW. 6/23/87 17 - 3 On site 0800 drillers not arrived beginning 40 lor RIA bail Ordiers Arrive 0900 17. - 2 . Poits ino 1:30-200 NON? 11 fill 1200 Meet back at ×o (Dullen do ha bail HP6W17-3 Return HP6W17-3 61241 107 On Sile at 0800 drillers 0900 arrice Drilling Problem 1030 0930 until 1130 Nousa 211-Rost of atHMODA SCRIM Ilina a. rods 01 workins Threason nou) 20 10 NS 1 01 - d-1542. 60 111110 remains 1630 rr'/! drille OU a 141.4 nuun XU 27 152 51 6125/87 HPGW17-3 Drillers arrive 0930 have to LITING 201 Make to town, ura PIC DP Dack gone 10:10 drilles et circulating 1130 break drill 1700 apt GF 114 unl till 100 411 rillers V P Nown Cant lasian 300:PM Hole 4.5 300 20 SIGNED DATE

SOURCE: Environmental Science and Engineering, Inc., 198

	- CLEJ-0041	4-03.13-04/01/92
Hole Size		<u>E #P6w 17-3</u>
Screen Size	Mat'1	Filter Materials
asing Size	Kat'1	Grout Type
Gralogist		Development
Date Start	Finish	Static Water Level
Contractor		Top of Well Elevation
Driller	and the second of	Drill Type

Screen Siz asing Siz Gralogist_	e	A STATE OF ANY ANY ANY ANY	t'1 Filter Materials t'1 Grout Type Development			
Date Start Finish Static Water Level Contractor Top of Well Elevation Driller Drill Type						
Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPI (BL/F	
110-115.0			Same as Above 165-110			
115.0 - 120.D			cemented clastics or sund and stells; little no fines	1		
125.0			Same as Above 115-120	- 		
25.0-130.0	ی این ۱۹۰۰ - ۱۹۰۱ - ۱۹۰۱ ۱۹۰۱ - ۱۹۰۱ - ۱۹۰۱		s. It fine - med suro	-		
30.0-135.0			Some an Above (125- 130).	-		
-55 P-140,0			Same az Roux (125- 130)			
.D_144 .D	and the second second		sit's fire sono			
15.0- 1500	112 · •*		Slifs fine Sond			

Hole Size	GLEJ-004	14-03.13-04/01/92	E	HP6W17-	Ś
Screen Size	Mat'1	Filter Materials	and in		
asing Size	Mat'1	Grout Type	i de		
Fe-logist	the state of the state of the state	Development	•		
Date Start	Finish	Static Water Level_	and and a second		-poster real
Contractor		Top of Well Elevati	.01		
Driller		Drill Type			
	and the second states of the second	and the second		an dig to share	and shall be
Depth				and the last	SP

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
-15,0 80,D			silly fire sand		
30.0' 85. ^{0'}			silly fine sand		
85.10 q0.0			silly fine sound with light clay peds	2	
0.0 95.0	•		Coarse sond and stells with some well roshoen peobles and claypeds	т. .н.	
180.0		95-97	Rick loyer (Hard!) Silly med. Sana Some course surs + possa		
00 0, 105.0	State of the last		silts Med Sand and shells, some comented clastics on bottom		
0.2.0 0.2.0		-	commented clastics with shells and cruise send		

Hole Size	CLEJ-004	14-03.13-04/01/92 <u>Ε ΗΡω 17-3</u>
Screen Size	Mat'1	Filter Materials
asing Size	Xat'1	Grbut Type
Ge-logist	and the group	Development
Date Start	Finish	Static Water Level
Contractor	and the second second	Top of Well Elevation
Driller	and the	Drill Type

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
45. ^b			Silly medi Sand		
15.0- 50.0			silly med sand with clay layers little/no coarse moterial		
50.0-55.0			Silly Fine - med. sand		
55.0 - k ^{c.0}			Silly fine sand to 58' 58' coarse sand, 540 15 Somi- comer to Clustics	·	
0.D. 65T		Rock - 64'	Cemented Class-5		
5.D-10.0		70	cemented Classics less dense after 68' lots of stells, peobles	elanda) La facta	
10.0-75.2		: ::::; 	Silin Med- Carelsono litéphis stations fin- sono nourunt - Amplan		

CLEJ-00414-03.13-04/01/92 6" E HP6W 17-3 Hole Size 211 Mat'1 PVC Screen Size Filter Materials. 211 Mat'1 PV(Grout Type Portland # / asing Size Development Bailor 1" PUC David Breatlinger Cr logist ABracic Water Level (1517 250) - 12. 122/07 7/16/87Finish 7/17 Date Start -Top of Well Elevation 9 558 Contractor +2-67 15.1 Drill Type Rotary Mud ATEC & Associates Driller Davis Drilling (Clayton Davis Depth SPT Sketch Lithology, Color USCS (feet) Sample (BL/FT) silty clayer fire Sand, much. 0.0-5.0 oryanic matter Silling fine sanoy Clay 5.0- 10.0 Cier ouri prown - black some a's acort (5-13) 10.0-15.2 Sill-fine - ma sura 15.0-209 correliers . "free -Pabbles well rosace o Silly Clayer mes sono 20.0-25.0 -1. The joo coors have a organic mo -> : 4-25' some med - coorse material 25.0-300 Silifine - med Sana with Clay lugers, Course suro 20.0' 35.0 ne restardo · 140, - Cours : 3113 -35.0 40.0 1 1 FEEL SOME STITICAwell rounded prices with light prey

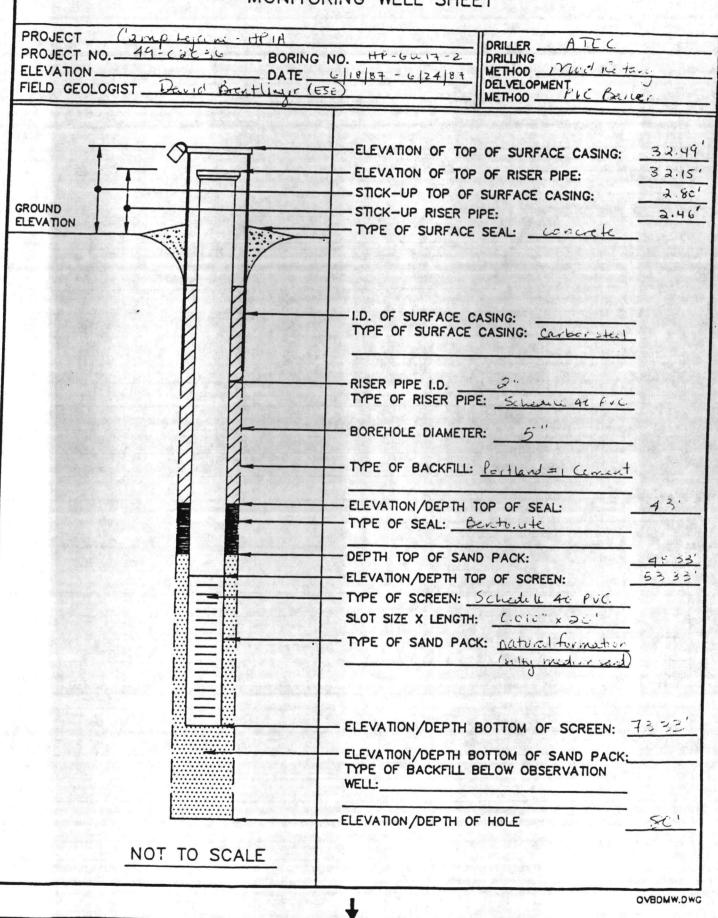
WELL FACT SHEET

Well No. HP6W17-2 Date 6/24/87 Start 6/22/87 Finish 6/24/8-Total Depth of Boring Prior to Well Installation 80.5 Diameter of Boring 5' Water Level $10'(\pm 1')$ Total Length of Well at Installation 74 (± 0.25) (73.33 B6L) Height of Well Above Ground Level 2.67 ' Total Depth of Well Below Ground Level 73.33 73.33 from 73.33' BGL to 53.33BGL Total Length of Screen 49.33 from 53.33 BGL to 2.67 AGL Total Length of Riser Sand Heave. Total Interval Network formition 73.33'BGL to 48,33 BGL Filter Pack Total Interval NONE from BGL to BGL Bentonite Seal Total Interval 5' from 48.33 BGL to 43.00BGL Grout Total Interval 42.50' from 43.00' BGL to 0.50' BGL Protective Casing from BGL to AGL Total Interval Dia. $2^{\prime\prime}$ Schedule 40 Slot Size 0.01 Schedule 40 Well Screen Dia. Well Riser Filter Material Natural formation (Silly med Sand) Bentonike Seal Postland # / Cement V Bentonite Water Backfill Protective Casing Dia. Material

Well Development Date 6/22/97 Time 0700 Start 0700(6/22) Complete 1400 (6/24 Water Level at Start 15.33' TOC Finish 37.00 TOC Finish Start Conductivity Start forbid Finish Clear Water Color Start Finish Bail Finish Start Surge Start 6/22 Finish 6/24 Volume \$ 200 gelle Pump Type PUC PIPP Rate 1/2 apm

OVERBURDEN WELL NO. HP-GUIT-2

MONITORING WELL SHEET



ATEC Boring No. SHEET ' OF 6/18/87 HP6W 17-Set up Si and drill 1430 300 1110 Rods 10. 141 20 minutes worte 1.1 For a bour Casing (Morsh a trempts (1051 = badin Xo 98+ di (0 For 6. SJUGSS doing In · /2 11.1 hrunge OFF 6: Clasi 0 36 and 1. 1 1. 1. 1. 11 . 112 105 He ð Ri-drilud. End da 6 HPG1117-7 6/19/87 280) SIA GII N 01:0 nust 01.11415 Ris d 1 611 ATLI/ lisars on aris 1: -) . 1290 Attempt 11 - - 111 XO Slurra 50 15 to Seal the 9N1 Surcess an Bintor th PARI 0 2/10 Gua 1 40 to à it Surless. En 600 th. (chich' Dei sketch HP6W17 1202 1103 East Ko 3 Fast Rd +4P6W17-Z Birch 5-DATE SIGNED Environmental Science and Engineering, Inc., 198 SOURCE:

lole Size	CLEJ-004	14-03.13-04/01/92 <u>E HPGW 17-</u>
creen Size	Mat'l	Filter Materials
asing Size	Kat'l	Grout Type
Genlogist		Development
Date Start	- Finish	Static Water Level
Contractor		Top of Well Elevation
Driller		Drill Type

1

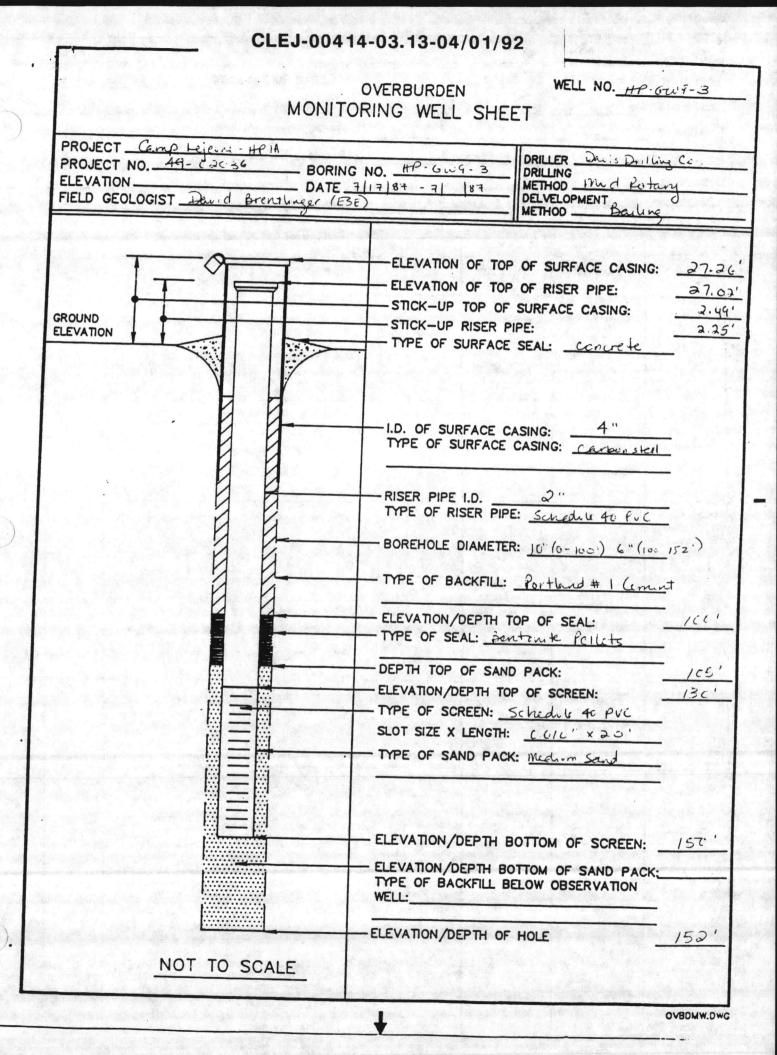
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..

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
50-55			silly clayer Med Sand. with well hounded roarsp Sand groins + Robbles		
55-60			Same as 460-e (50-55)		
			- 7 Mad. Sono - public - Kouzse Sand & Primits are fouril rounded		
<u>68-70</u>	·	* ***	Coarse, Rounded Sond + Pebbles with some server -Let's		
75-75		£5	ingento and and a Inticino 200 - Canada Guillet - and France		
75-80			Somas above (70-75)		



WELL FACT SHEET

÷.	Total Depth of Boring Prior to Well Installation 152 Diameter of Boring (10"25 + 104', 6" 104 - 152')
	K
6	" Water Level
	Total Length of Well at Installation 152.50
	Height of Well Above Ground Level 2.50
	Total Depth of Well Below Ground Level 150.00
	Total Length of Screen ZO' from 150' BGL to 120' BGL
	Total Length of Riser <u>/32</u> from <u>/30</u> . BGL to <u>2.5</u> AGL
	Sand Heave. Total Interval 745 from 150 BGL to 105 BGL
	Filter Pack Total Interval from BGL to BGL
	Bentonite Seal Total Interval 5' from 105' BGL to 100' BGL
	Grout Total Interval 100 from 100 BGL to 0.00 BGL
	Protective Casing Total Interval from BGL to AGL
	Well Screen Dia. Z' Schedule 40 Slot Size Or 01
	Well Riser Dia. Z'' Schedule #40
	Filter Material Med Sand
	Scal Bentonite Pellets 0.25"
	Backfill Cement Bentonite Water
	Protective Casing Dia. 4" Material Steel
	Well Development
	Date 7/19/67 Time 0800 Start 0800 7/19 Complete 1700 7/20
	Water Level at Start 16.50 Toc Finish 40' TOC
	Conductivity Start Finish
	Water Color Start furbid grey Finish Clear
75 als	Bail) Start Pinish

Cent Pump will Not work 1

CLEJ-00414-03.13-04/01/92 Boring No. HP6W 9-3 HVIS SHEET OF 1150 9 1300. In 105 ' 1600 drille1 14 15 Ne II Casing bearns 40 clean -up 7/ 16/87 HPGW 9-3 on dalle/ 51 07.00 152' at 1030 Duller grouts hale Sand park + seal finish of 12:00 1100 12:00 - Stick up 2.51 6" Casing 100' Timpsia. 1001 Stotch Top of seal top of sand Pack -Holcomd Blud. -105' FICST. 110 Anno 130 Top Screen East Rd. HIGW 9 PEUT Muhaele - 150' 0- 100' 10 hole 6" hole 100 -152' SIGNED SOURCE: Environmental Science and Engineering, Inc., 198

	CLEJ-004	14-03.13-04/01/92	
Hole Size	· · · · · · · · · · · · · · · · · · ·	<u>E</u>	14P6W9-3
Screen Size	Mat'1	Filter Materials	
asing Size	Mat'1	Grout Type	
G logist		Development	a la contra de la co
Date Start	Finish	Static Water Level	and the second
Contractor	The Same Scheres	Top of Well Elevation	and in the state of the
Driller		Drill Type	
		And the second	

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
135-140			Sills Finesand and Shells, Some med-Coarse Sond		
40-145			silf clayer med. Sand with no shells		
145-150			Silly Clayey Fire- med. Sand		
•					

Hole Size	CLEJ-0041	4-03.13-04/01/92 <u>E HPGU</u>	19-3
Screen Size	Mat'1	Filter Materials	and the second
asing Size	Kat'1	Grout Type	140
G logist		Development	Sec. 31
Date Start	Finish	Static Water Level	al and a second
Contractor	and the second second second second	Top of Well Elevation	an a
Driller	an in the second second second	Drill Type	anning Bridge in 2000

Date Start Finish Contractor Driller			Top of Well Elevation Drill Type			
Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/F	
100-105			Some as 90-95 less shells, more sand			
105-110			Silty med Sand with Shells, little /no clastics			
110-120			Silly fine - Med sand			
120-125			Same as (110-120)	14	ar ya Kiri	
25-130			Same 25 (110-120)			
130-135			Sills Med Sand with some comented clasting + stells			

	CLEJ-0041	4-03.13-04/01/92	
Hole Size			<u>E HPGW9-3</u>
Screen Size	Mat'1	Filter Materials	The second s
asing Size	Kat'1	Grout Type	
ç logist	· started?	Development	
Date Start	. Finish	Static Water Level	t de certetra <u>de</u> ntrationelles . ent
Contractor		Top of Well Elevation	
Driller		Drill Type	

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
70-75			Rock + Shells little to no sand or Fines		
75-80			silty med. Sand and shells, lots of fossels (teth, Remainsin)		
2.8.			Med. Sand with stells Cemented clastics 20% Some = Clay - throughout		
85-93			Fine - Med Sono More shalls and more Cemented clastics than 80-85		
93.95			Commented Clastics little Ino Fines + Sansi lots of shells		
15-100			Some as 46000 90-95		

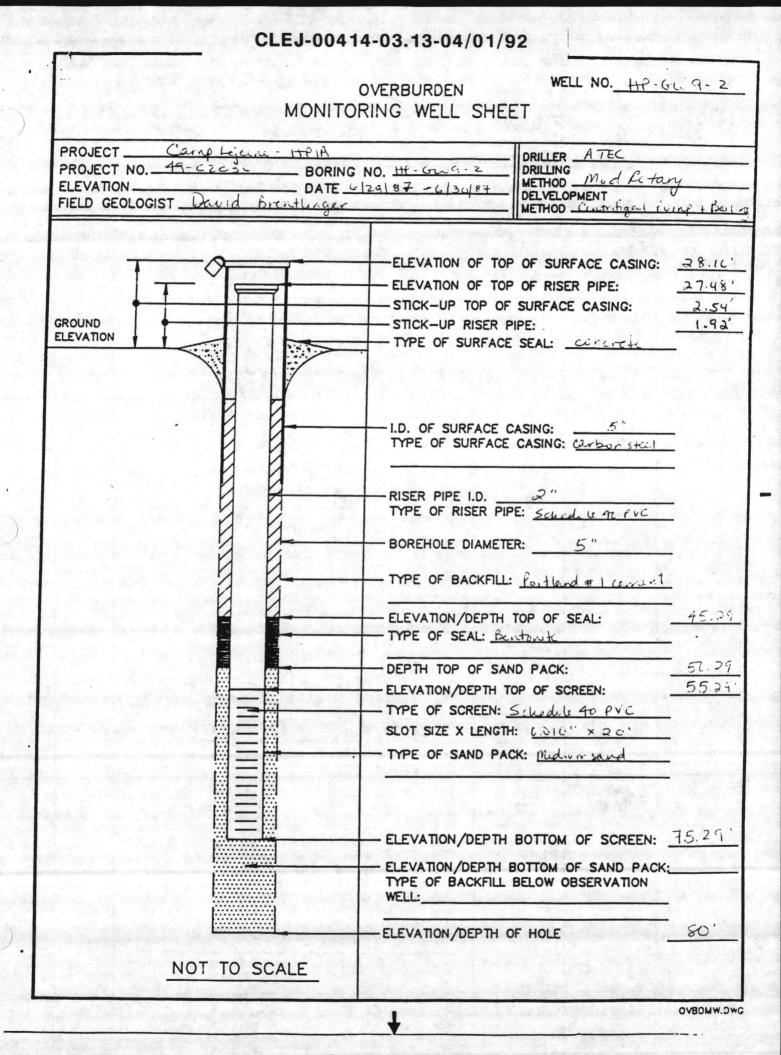
Hole Size	CLEJ-0041	14-03.13-04/01/92	HP6W9-3	
Screen Size	Mat'1	Filter Materials.		
asing Size	Mat'1	Grout Type	in the little	
G-logist	a state and the state	Development	P. M. Barris	· .
Date Start	Finish	Static Water Level	Aller the the second	i de la
Contractor	And All and a second	Top of Well Elevation_	a da ante a cara a c	
Driller	Same Same in 19	Drill Type		1.2.1

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
40-45			Same as Above 35-40		
25-50		•	sitte Fine - med sond little no Clay		
50.55			Fine - med sandy marl Commented Clastics 50% lots of shells		
55160			Cemented Clastics - weils less sand thor 50-55	.41	
60-65			Silty Medi - uno with less some little cemer		
65-70			Silts fine sand with Some Rock + Shells		
	240 H224		Si		

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CLEJ-00414-03.13-04/01/92 HPGW 9-3 Hole Size 10" (0-11. Screen Size Z" Filter Materials. Med - Coarse Sund Hat'1 PUC asing Size 211 Kat'1 RVC Grout Type #1 Por Hand Development Balo G-logist David Brentlinger 7/17/97 · Finish 7/18 Static Water Level 15-50' - 12.83 Date Start Contractor ESE Top of Well Elevation 15.50' Driller Davis Driling (O. (Clayton Davis) Drill Type . Mud-Ritary Depth SPT Sample Sketch Lithology, Color USCS (feet) (BL/FT) silly fine sond with 0-15 50% clay throughout top 4' Road fill Silty Clayer Fine-med. 15-20 sitty fine-Med Sono (more fires thou send) 20-25 Clay tayers ... Silly med. Sand 25-30 little/m Clay 3 Sond Very Angula Fine sandy Clay 30-35 silty fine sand 35-40 with clay ligges 10% med. Sond



WELL FACT SHEET

Well No. HPGW 9-2 Date 7/1/87 Start \$ 6/30 Finish 6/30 Total Depth of Boring Prior to Well Installation (79-80) 5" Diameter of Boring 10.5' Water Level Total Length of Well at Installation 75.29' 77.79 Z. 50 Height of Well Above Ground Level 770 75.29 Total Depth of Well Below Ground Level 20' from 75.29 BGL to 55.29 BGL Total Length of Screen 55.29 from 55.29 BCL to 2.50 AGL Total Length of Riser from BGL to BGL Sand Heave. Total Interval 25.00' from 75.29 BGL to 50.29 BGL Filter Pack Total Interval Bentonite Seal Total Interval 5' from 50, Z9 BGL to 45, Z9 BGL from 45,29 BGL to 2,29 BGL 43' Grout Total Interval Protective Casing AGL from BGL to Total Interval #40 Slot Size 0.01" Schedule, Dia. Well Screen 2 11 Schedule 40 Dia. Well Riser Mod Sand. Filter Material Sentanife Scal #/ Cement V Bentonite Water Backfill Material . Protective Casing Dia. Well Development Start 7/1 Complete 7/2 Time /000 Date Water Level at Start 15.90 TVC Finish Finish Conductivity Start Scare Muddy Brown Clear Finish Water Color 1500 Start 7/1 +000 130 gal 1600 Finish 7/ Finish Start Surge

Start $\frac{7/2}{47}$ (0400) Finish $\frac{7/2}{6449}$

Rate

Type Cent.

Volume 7/2

(.3-.4 gpm)

1200

Total purged

Pump

CLEJ-00414-03.13-04/01/92 Boring No. HPGW 9-2 MIC SHEET OF Drillers arrive 0815 Onsite 0800 Pana 0096 dilling wate runs auz and more ne 945 0930 a 1020 drillers goes to alt an la te and Resumes 0011 dri depth 114 Rods got clogge d / 1 41 delay 60 1400 rods 80' 1500 drilling Sand drille d cleaned 1603 Schen + Casing in 1630 an d Pac Sea 12 complete 1645 GINHA on d drillers rlean 2.1. 1730 14.58' TOC 6/30/87 0900 ~ 2.50' Static ~ 12.33' 561 FW ~ 70.00' TOC Sketch - FirstBNG#1502 B/Ja# 1601 2.50' stick . up HPEW F East St H96W9-Zgriut 55,29' Riser (7,5' Bentoni te 51 50 ! grost Chy 77.79 total in the Toc 74.00' DAW Sano . 20' of screen so diment 25 2 1.41 DATE SIGNED SOURCE: Environmental Science and Engineering, Inc., 198

CLEJ-00414-03.13-04/01/92 511 HPGW 9-2 Hole Size E 11 2 PUC Screen Size Filter Materials. Mat'1 11 Grout Type Partiana Z PUC Mat'l asing Size 1 Geologist David Brentlinger Development 6/29/87 6/29/07 Lace Start Finish Static Water Level ESE Contractor Top of Well Elevation Driller Sanford Sweeting ATE Drill Type

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
40 - 45			Silly Fine - med sound Some Coarse, angular Sand throughout		
45-50			Same as above (40-45)	•	
50-55			Coarse sand, shells and commented clastics, sard - well rounded.		
55 - 60	•	• •	Coarse well-rounded Pebbles and sond, shells and uncremented clastics.	-	
60-65			Cemented Clastics Little INO Sandorsholk		
5-70			some as (60-65)		
70-75			Same as sabore (65-70)		

CLEJ-00414-03.13-04/01/92 Hole Size 5 % " E HPGW 9-Z Mat'1 PUC 2 " Screen Size Filter Materials. Med. Sand Mat'1 PUC Partland # asing Size Grout Type David Brentlinger Development Gent. Pump G' logist 6/29/87 · Finish 6/29 Static Water Level 15.90 700 Dite Start 13.6 ATEC Contractor Top of Well Elevation 2.25 Driller Sweeting Drill Type . Rotary - Mud Depth SPT Lithology, Color (feet) Sample Sketch USCS (BL/FT Silts fine - Very Fine saud. 0-5 little Ino organic material 5-10 Same as showe (0-5) 10-15 same as abore (0-5) 15-20 Silky Fine Sand with light gran they peak Silly Fine - med. sand with light grey cloy Peds 20-25 -75-30 silly fine sand little Ind Clay or Coarse makeral 30-35 Silt, med. Sand little los (Daise sond 35 - 40 silly med sand N 1 2.0 12 17 1

Hole Size	- CLEJ-0041	4-03.13-04/01/92 E 642-1
Screen Size	Mat'1	Filter Materials
asing Size	Kat'1	Grout Type
Geologist	All and a second	Development
Date Start	Finish	Static Water Level
Contractor		Top of Well Elevation
Driller	and the second second	Drill Type

Depth (feet)	Sample	Sketch	Lithology, Color	USCS	SPT (BL/FT)
60-70		Sitt 50%	Very Silly Very fine Sor & 5095 She's + Cemented Clastics 5095 less 10 % clay		
70-80		51 H- 50%	very silt, very file Sand 60% Shells + Cemented Clustics 30% 10% Coarse rounded Sand 10%		
€0+ <i>(</i> 55	•		with more shells than clastic Cement		
	1045/ 4m		Quit Drilling, Cement 6" Casing in place	-	
100-125			With Silly With Minp shits Sona With Sona (Fines Groy n Color)	÷	
25-150 /50-175			Same as About (100-125) Shelly fine - Mud Sand With Cla: Fines Gray-to 200 2014 Solo		
75 - 205			Very Fine Sand + Shells with some Clay, fines are blue gray in chor lass shells than above (150-175)		
	Find Orillin	H.J. 945			

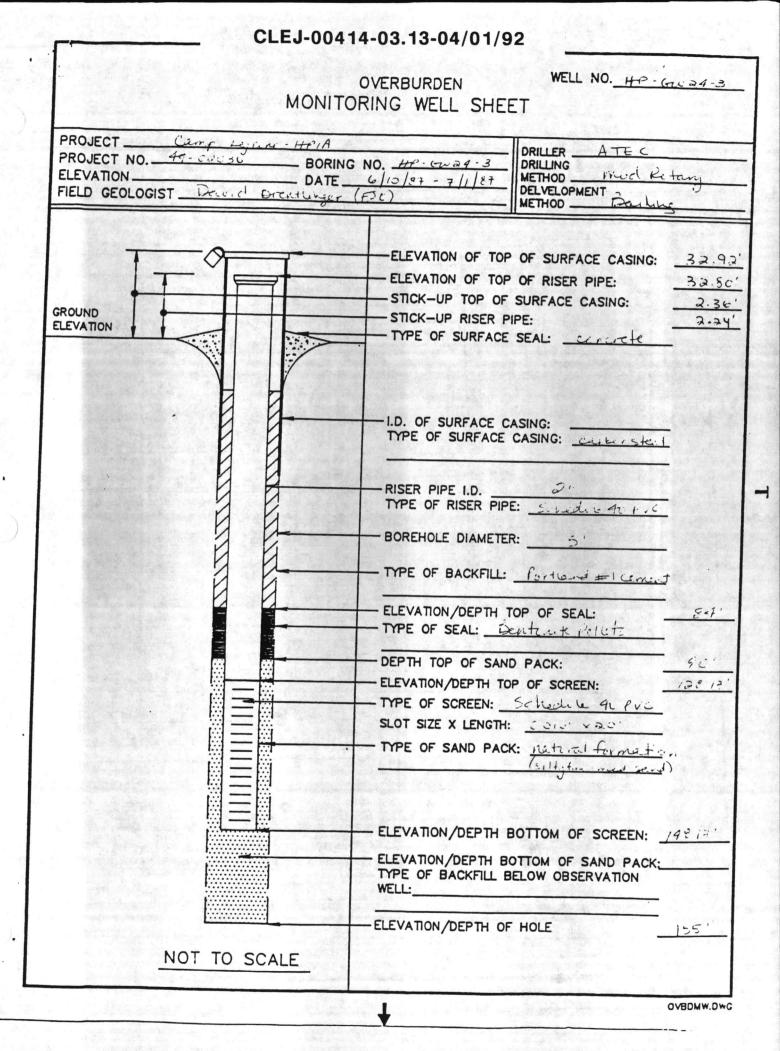
WELL FACT SHEET

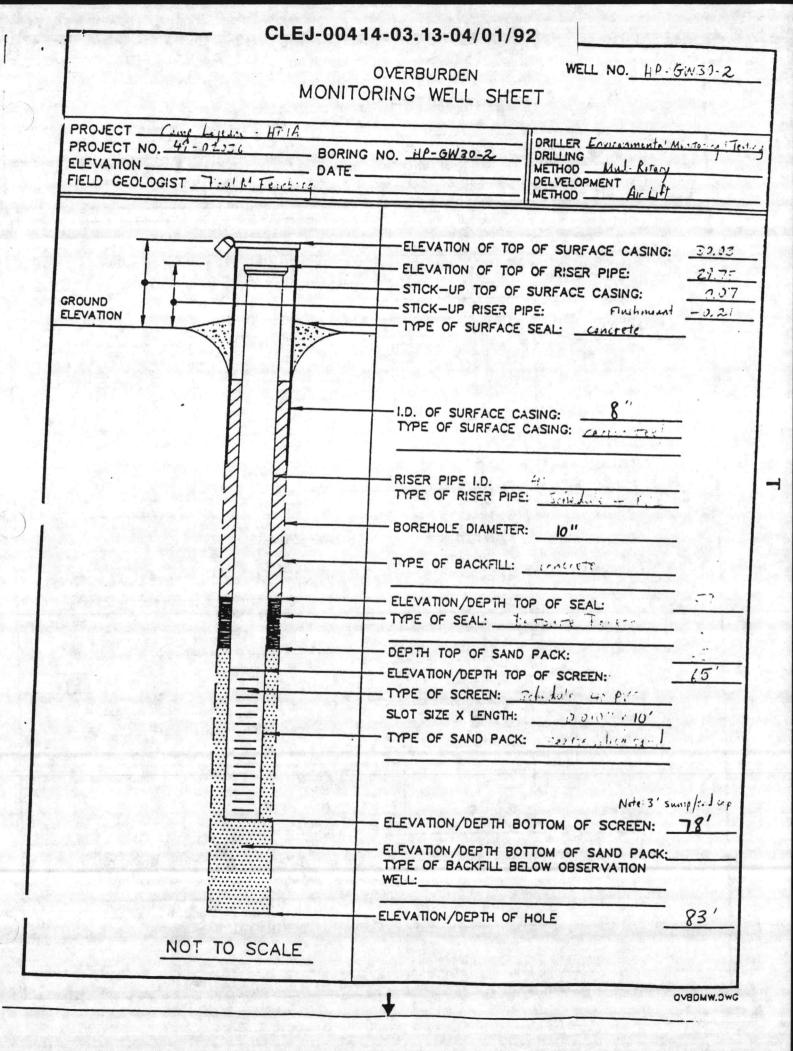
Well No. HPGW 24-3 Date 7/1/87 Start 6/19 Finish 7/1

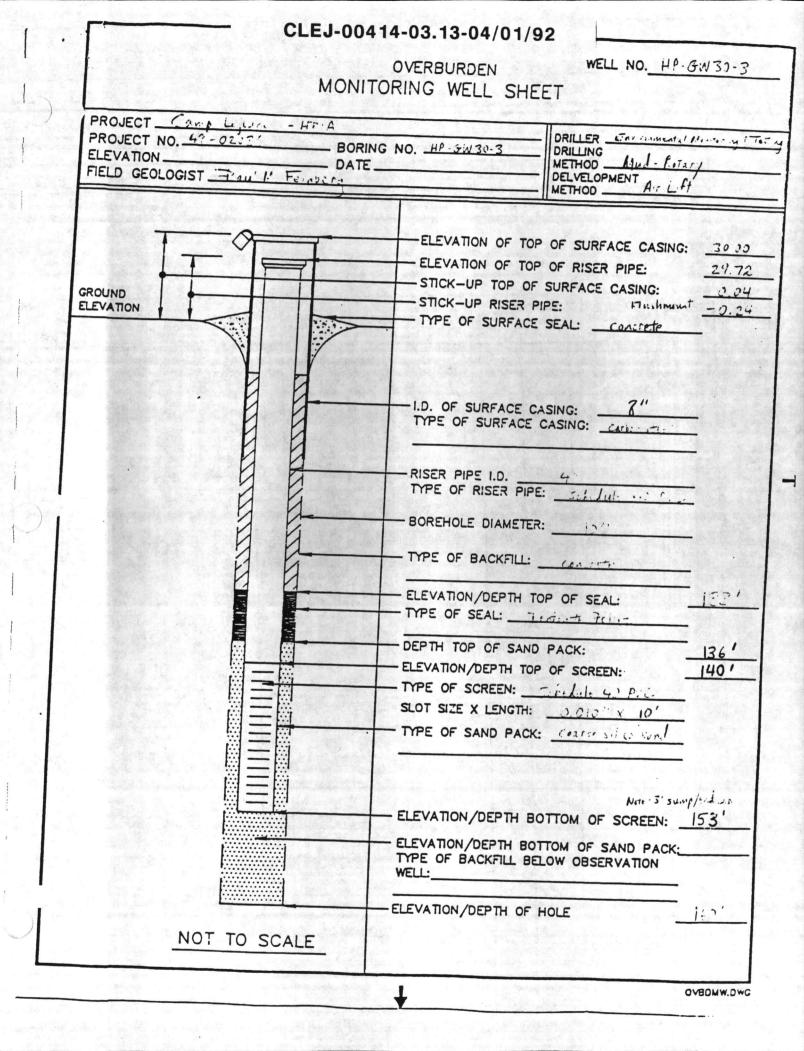
Total Depth of Boring Prior to Well Installation $\frac{155'}{55'}$ Diameter of Boring $\frac{5''}{10.5'}$ Water Level $\frac{10.5'}{5}$

옮기고 하는 것 않았는 것이 있는 것 것 같아? 관계 이 것 않는 것 같은 것 같아. 집에 가장	
Total Length of Well at Installation 150	
Height of Well Above Ground Level 1.83'	
Total Depth of Well Below Ground Level 148.17 148.17	
Total Length of Screen 20' from 450' BGL to	128.17 BGL
Total Length of Riser 130' (128.17' from 128.17' BGL to	1.83 AGL
Sand Heave. Total Interval None from BGL to	- BCL
Filter Pack Total Interval NONE from BGL to	- BGL
Bentonite Seal Total Interval 5-7 from 90 BGL to	84' BGL
Grout Total Interval 80' from 84' BGL to	Z BGL
Protective Casing Total Interval from BGL to	AGL
Well Screen Dia. 2" Schedule #40 Slot S	size 0.01 "
Well Riser Dia. Z ¹¹ Schedule ^{# 40}	
Filter Material _ Natural Formation (S.14 Fine - Med. Sa	nd)
Scal Bentonite Pellets	
Backfill Cement Bentonite	Water
Protective Casing Dia Material	

Well Development Complete 7/ Date 6/19 Time 1600 pm 6/19 Start 13.67' TOC 14.07 TOC Water Level at Start Finish Conductivity Finish Start Water Color Finish Start bail all Finish Start 6/19 7/1 Finish Surge Start 300 gal Pump Volume Start Finish Type Rate







Projec	t No. 4902	36	Pr	oject Name Camp Lej	eune Hadnut P	at - Menitor.	wells Page	1 of 4
Contra	Contractor ESE, Inc.			Driller Montoning & testing		d 12.12.90		
Metho	d Mud Ro	Hary	Ca	asing Size 4"	HNU 11.7/10	20 C	Protection Le	200
Ground	d El. 20 52	12 44'	So	bil Drilled	¥beic	ow ground	Total Depth	
Logged	by Paul M.	Feinder	ch	necked by	Date			
Sample No.	Depth in Feet	Blows per 6 *	Pen. Rec.	Description	HNU jer		ents on ce of Boring	Moni HNU
	3 - :		51/5"	formsity send, trace	Construction of the second		O/M	1.52 Feed (1.54) -324-
ł			Sec. 1	F-m sitty send, little Gray ta	a an althought and			55
1	9-24	5	5/2	f-c chayly said, trace probles (gray +1) conversive	[50]			
2	14 - Z?'	S	1/1-	cluyey f-m sitty som c. herive gray ta	2			
2	27 - 34'	s	1/20-	0"-12" f-m sitty con Gray tan 12"-16 clayey sitty sand	[SN]			84
And and a second second	-39'			some pebbles armytim 16-20 F-mosty sound some pebbles (army [SM]	sc]			
		5	6. 4	F-m sitty sand, little cl seneraliat conesive. gray Tan Is	ay im]			87

1	CLEJ-00414-03.13		DRING NO. HPGWSI-2/
Project No. 4902036	Project Name Camp Le	eune Halmar Point - Monitor	my Wells Page 2 of 4
Contractor ESE, In.	Driller An antering Fristing		
Method Mul Ratary	Casing Size 4"	HNU 11.7/10.2	Protection Level >
Ground El. 2. 52 /20 44'	Soil Drilled	L below ground	Total Depth 83 /158
Logged by Peni M Feinberg	Checked by	Date	

Sample Depth in Blows Pen. Comments on Monitorin HNU per 6 * Rec. No. Feet Description Advance of Boring jar HNU LEL F-msity sond, trace pebbles 65 5/5 4- - 49' = /3. 44: -5 + F-m sitty sand [Sn] (dart gray) 5/00 54 -59 544 lower 3 peat [Pi] upper 3 Fmsilt, sond Ce - --peat / F-mostly sund, Itt. (smills medgray 1/~ 64 - 61 TA] Fun sitty send & 'shelly" "shelly = fossiliferous 5/2 69-74 [smi] med grup Note presumably sand wasned out. ... Most of interval may consist of sand 5/2. 7- - - 79' chely imestore (2 pc.) we change shoes again on core barred in attempt to 5' for silty sound, trace she'll insterial (med.gray) [sn] 79'-84 BG assist recovery. 5'/14" 84 - 29 F-m sitty sand, trace shell insterial, ined gray BG TIMI

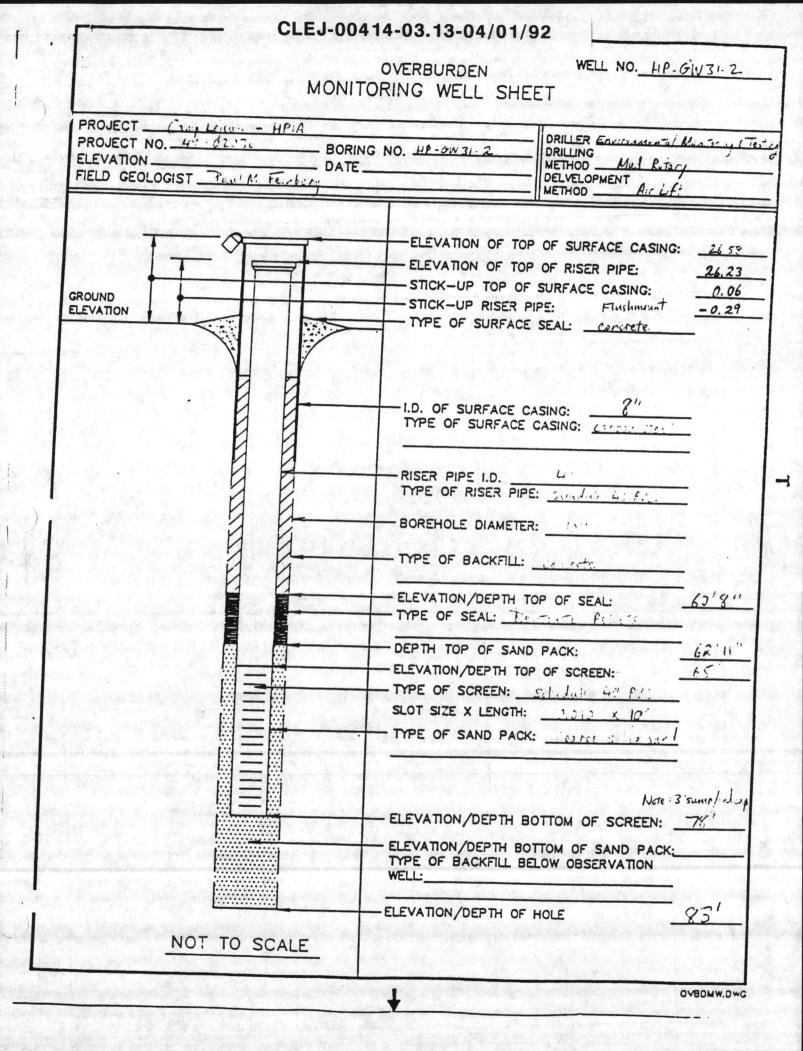
F	CLEJ-00414-03.13		ORING NO. HPGW31- 2/3	
Project No. 4702.036	Project Name Camp Ley	eune Hadnut Puint - Minit	my Weils Page 3 of 4	
Contractor ESE, Inc		Date started 12-12-9		
Method M. J. Firary	Casing Size 4"	HNU 11.7/10.2	Protection Level	
Ground El. 26 52 / 2044'	Soil Drilled	L below ground		
Logged by "Paur 1" Feinberg	Checked by	Date		

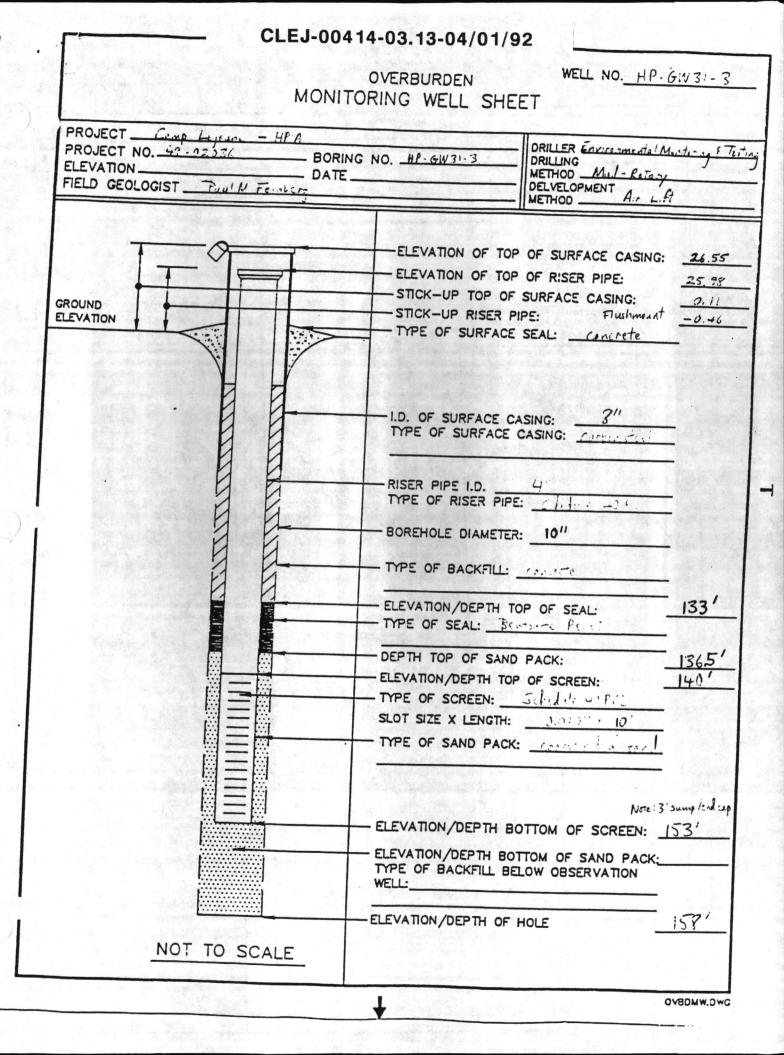
Sample No.	Depth in Feet	Blows per 6 *	Pen. Rec.	Description	HNU jar	Comments on Advance of Boring	-	LEL
	-10 37 - 94		1/35	F-m sitty sand, Trace shells [SM]			BG	
	94 -97		. 	f-m sitiy sand, little shells, some shelly linestone			Вз	
İ	- 27:-10:4			[5M] (med. gray)				
		A State		F-m sity sand, little shells [:m] med.gray				
			12.1	milter 2: shelly limestone per milter 6 finsty send wer 14" fimsity sand eshells Sm] (med grave)	nin an			
	Maria -			Lever & shelly limestone par				
	-119		Y 10	SM] insterial (midgry)				
p	8-124			pcs of shell material				
12	· - 12?' .	5	"</td <td>per it shell moterial. F-in sitty sand</td> <td></td> <td></td> <td></td> <td></td>	per it shell moterial. F-in sitty sand				
-130 fr	e- 124	1000		[Sim] (med gray) - in silty sand, little skells				
17	4 -1591	-		[SM] (med. gray) mostly sand, little shells	1			

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· I	CLEJ-00414-03.13-		ORING NO. HPGW 3 - 2/
Project No. 4902036	Project Name Camp Lejeu	ane Hadnet Point - Monitor	wells Page 4 of 4
Contractor ESE, In.	Driller Ana Bring Testing	Date started 12-12-9	o completed 12-17-90
Method Mul Ritary	Casing Size 4"	HNU 11.7/10.2	Protection Level
Ground El. 20 52 /26 44	Soil Drilled	L below ground	
Logged by Paul M. Femourg	Checked by	Date	

Sample Depth in Blows Pen. Monitorin Comments on HNU No. Rec. Feet per 6 * Description Advance of Boring jar HNU LEI 1.0 F-c sitty sand, little sheli [SAN] (med.gray) Note binch particulate mitter permite entire core. 5./35 159 - 144 1-1-1-7 -/m f sitty send, trishell 7 3 Note clay composent EMI - concerve. Samping competed Borenele reamed to 158'





··· • • • • • • • • • • • • • • • • • •		B	ORING NO. HPGW32
Project No. 4902036	Project Name Camp Lej	eune Hadnot Point - Montor	wells Page of 4
Contractor ESE, Inc.		Date started 12-18-9	
Method Mul Rotory	Casing Size 4"	HNU 11.7/10.2	Protection Level
Ground El. 27.01 /27.28	Soil Drilled	L below ground	
Logged by Faul M Feinberg	Checked by	Date	<u></u>

ł

Sample No.	Depth in Feet	Blows per 6 *	Pen. Rec.	Description	HNU	Comments on	and a star	Monitonn
140.	Laar	per o	nec.	Description	jar	Advance of Boring	011-	HNU LEI
								8
	. 9-14'		5/22	ment & sitty city the			1000	Becking
	ug =		51/29"	dense sity send this med gray				i.5
	17 - 7		5/22"	LPF F SE CLARK DENNE Upper 7" sitty sand, little clay [SM] (light gray) wer 5" dense sitty clayer sand [SC] (med arm)	Jies	rel smeil	!	2.2 11
	9 - 34 '		17	Sity, (-insandy clay [SE] and group -m silty sand & cimy and group [SC]			3.	- FF
2°	- 39 '	S	<1 ^m	wood chips (Fishin)			an a	
40	9 - 4 -		.1"	wood chips (orangey.)				
£	-43	EV.	Ni I	shelly innestone promoty	shelly	, = Fally Ferrars	5.	~11·
4	-49	24	19:	same as ab: . (ight group)		Service Manager	3-	tan-

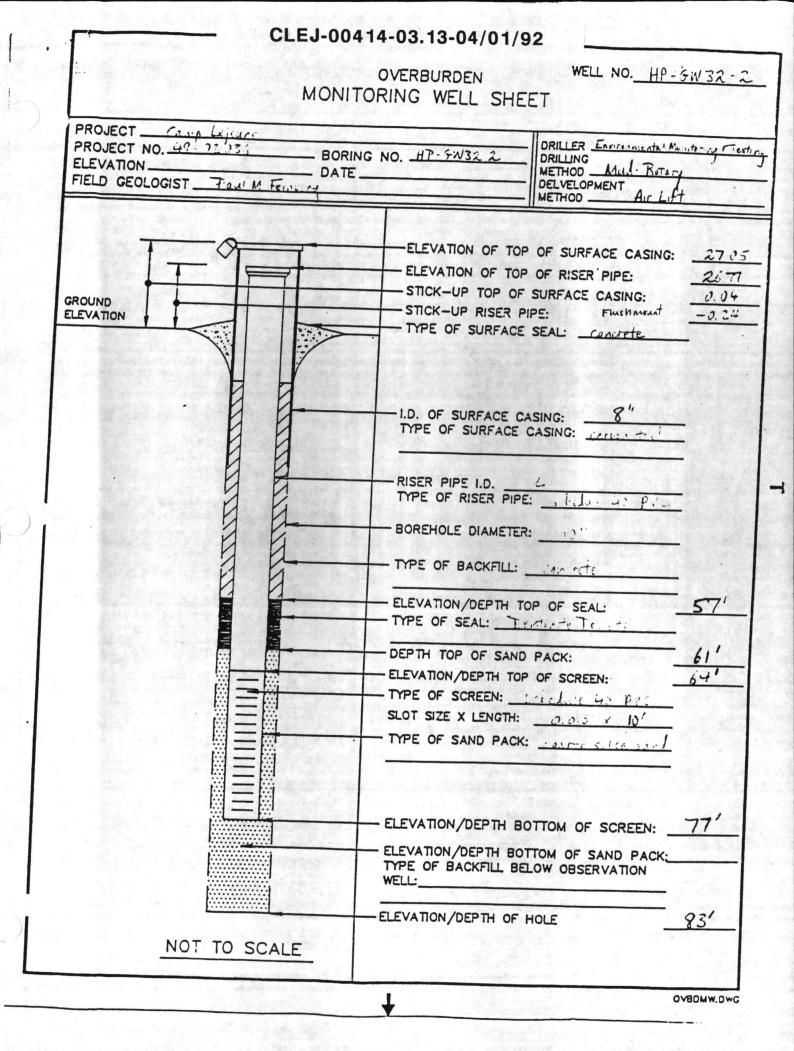
· · · · · · · · · · · · · · · · · · ·	CLEJ-00414-03.13	병을 여섯 억원한 전쟁적인공적인 동물을 통하지 못했다. 관람	ORING NO.446.132 2/3
Project No. 4902036	Project Name Camp L	ijeune Hodnor Point	Page 2_ of 4
Contractor ESE, Inc	Driller Environmental	Date started 12-18-6	11 completed 12-20-91
Method Mud Rotary	Casing Size 4"	HNU 11.7/10.2	Protection Level
Ground El. 27.0. 1/27 29	Soil Drilled	L below ground	Total Depth
Logged by Thur M. Fantery	Checked by	Date	

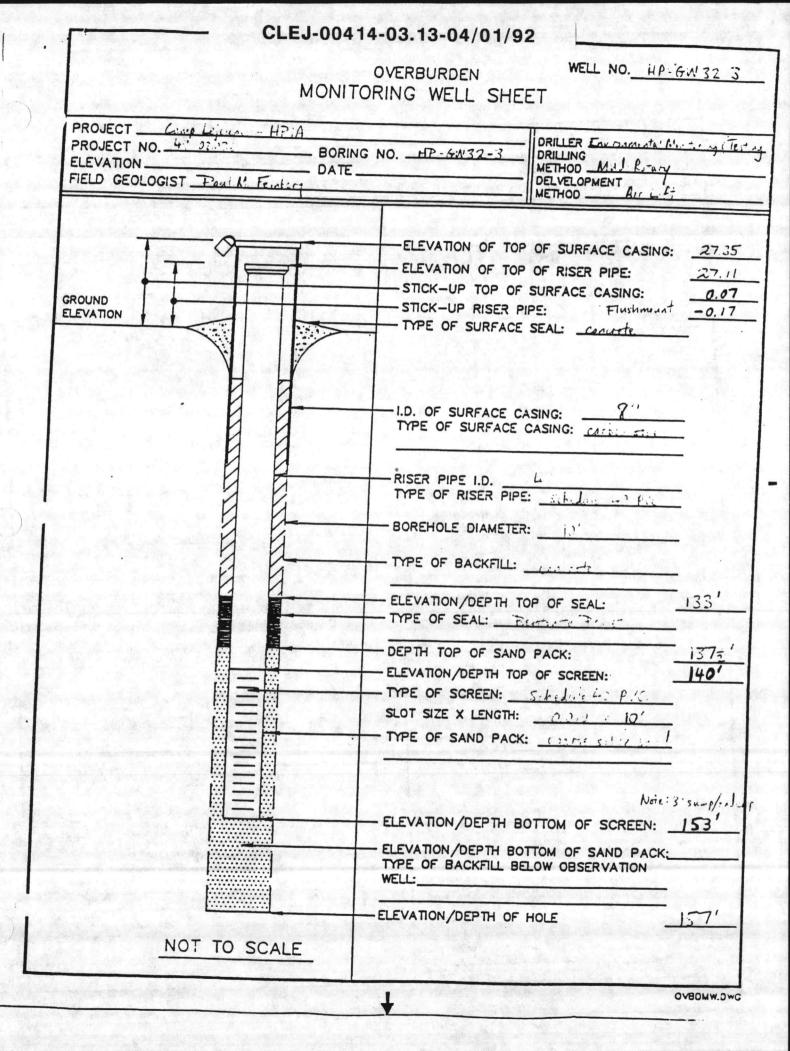
Sample Depth in Blows Pen. Comments on Monitorin HNL No. Feet per 6 * Rec. Description Advance of Boring jar HNU LEI shelly limestone pes from sity sends [EM] snelly line Proce Upper 4" 5/18" 49'- 54 Be mildle 5" 3 - pp -little inays (containe) b.ver ? BG for sitty sand , little lay, [SM] true erganic material 54'-59 (pissing from scashed) 1.1. sitty way your, [SC] 19 Some sively limestini mid grup) 59'- 64' 5% F. Wiser J. I.t. EM] Urper y [SM] Stel forga , sheir material Pelvar 3 In cases to ALAR 357_ : ? 64 continues to palf way point of core Lower half - for force, 67'-74 limising, lite 1-maity sand (med gray) 5% shelly limestore; litie m f sitty send (med. gray) 7+ - 7? 5% shelly limetone , am sitty shal . (red gray) 77 - 9+ 5/1 shelly lime Tone for sitty send, trace particle. shali m. EM] (mail group 8- - 87 5% F- ni sitty son! med grey [MC] f-m sitty sond, trace shell material 5/42 IG Some sem - consi dated [SAI] ined ging 31/25 f-m sitty sand, little shell F-7. - ?? 1.4 11 resemi -conscientated (mid gray) [SAT]

BORING NO. HE GHISZ Z'S

Project No. 4702036	Project Name Camp Lej	eune Hodnot Point	Page 3 of 4
Contractor ESE, Inc.	Driller Marine ing Testing	Date started 12-18-1	
Method Mul Ratary	Casing Size 4"	A CARL CARL CARL CARL	Protection Level >
Ground El. 27.01 / 27 23	Soil Drilled		Total Depth 83 /157
Logged by Faul M. Feinberg	Checked by	Date	

Sample No.	Depth in Feet	Blows per 6 *	Pen. Rec.	Description	HNU	Comments on	Monitoria
	100	par o	1.00	Description	jar	Advance of Boring	HNU LE
	97'-102'		5' No samp				
	104 - 109'		5/4"	shelly innetione, medgray . little formsilty dense send (blue miran			
1	110			send There ray	1-18	hand a last	
	139 - 714 *		5	F-m sitty sond, It is shell material [1] (1int gray too)			
	114'-119'		5	f-m sitty send, little shell mitter of hight groy tan			
†"	20						Ro:
	117 - 124		20	from silty send trace shell materia [SM] clight gray this			·
	124 - 127'	4	8"	F-c sitty sond, true sinell material (gray Tan) [AM]		Barris Maring Marina	
-13	•	- 5	., .	Same material as previously			
	129'- 134'	,	3"	[SM] (gray)			
1	34'-139'	5	8	f-c. sitty sond, some shell material [SM]			B∻
-14	0	a a la la cara		f - c sitty sur. 1, trace shells	/	<u>.</u>	₿.÷
1:	39 - 141 1	A.	5	lovest 6" slelly limestone [SAS] PC.S [har gray)	ALCO.		35-
14	4'- 149'	tal m	f. f	-m silly sond, trave shell material [SM]			
	Same in	Comp	etel a	ting (124) Forehole r	earled -	to 157'	a post site and





	CLEJ-00414-03.1:		DRING NO. HPGW30-2/
Project No. 4902036	Project Name Canip La	jeune Hadnet Point - Moni	tinny Well Page 1 of 4
Contractor ESE, TAC.	Contraction of the second seco	Date started 12-5-9	
Method Mud Retary	Casing Size 4"	HNU 11.7/10.2	Protection Level
Ground El. 29.96 /29.96	Soil Drilled	L below ground	
Logged by Peul M. Feinberg	Checked by	Date	······

Sample Depth in Blows Pen. Comments on Monitonne HNU No. Feet per 6 * Rec. Description Advance of Boring jar HNU LEL NVO sitty clayey m. sand [SM] 5/15 2= -15= OVM = 0. Oppun 2.2 Note OIM Function reperiationly. consiveness similar to they chiy Not very dense 5/5. 131 - 18; Some us obvie SMI 0.0 11. 4'3' Ulles 12 same moterial [sin] 20 isz -22-2 Lower 12' dense sitty clayey med. sand (Elact) [SM] Note: peat-like material at bittom tip. 5/55 222 - 23 Low density "peat" (black) Low specigrav, but deniely word chips at bitton P+ 27: -2:2 2/10" sitty-ciayey for grained [pt] "peat-like" material. Grait estems visible throughout. 292 - 342 5/37 F-m-c sand e "peat-like" materia Stem/plant-wood waterial TP+7 permentes Light grow to med group 342 - 362' 2/2 C-VC gravel-size carbinate material Gray-win. te) 562 - 412 5/ Ly. pes gravel size lastic carponate. GWT gray white

	CLEJ-00414-03.13		DRING NO. HEGW3J-2/3		
Project No. 4902036	Project Name Camp Le	jeune Hadnot Doint Monr	tony Welly Page 2 of 4		
Contractor ESE , The		Date started 12-5-90 completed 12-7-90			
Method Mud Ritary	Casing Size 4"	HNU 11.7/10.2	Protection Level L		
Ground El. 29.96 /29.96	Soil Drilled	L below ground			
Logged by Faul M. Fernberg	Checked by	Date	Contraction of the second		
and the state of the second states of the second	and a start when the second	AL MARKED BUTTER	The second s		

πple	Depth in Feet	Blows per 6 *	Pen. Rec.	Description	HNU	Comments on Advance of Boring	Moni	-
ey 3 '	₩±'-4+'		24'	clastic carbonate shells [GW]			HNU	LE
	Techte	38 ⁴ }	20'	gray white				
	4 - 4412		0.5%		ing .			
	+2' - 4:2		2/20	some material on previously [GW]	1			È.
+57	67 - 477				2.	1996 - 199 <u>7 - 1</u> 9		
	12'-51'		11/13	some material as previously				
5	1'-56'		4'/4	sity curry f-grained material				
			100	Se in to be dense , clayey sitt ,				
56	-61'	:		Here 12" w send (it viewa)	T I		4	Ç,
	S. C. A			trais shell mater J [SM]			A S.S. A	
107	1. 1. 1. 1. A. A.	en la métric	10 m		California S			
	19.23			f-Ki clayer dense sitt; Itie F-m scal [Mi]				
6	-62	!	1/5.	-grained "peat - live" material			-	
				Compart. (M. J. oray) [P.]				
i.	-67	5	1/56	dense peat - 1 the material +/	Sec. 1			
73				west P" - clattic carbo sale				
		5 N 10	L.	risk. (medonig)	an the		16.16	
67	-69'	2	1. 1	INTER CARDE ANTE IN SWEIIS	14.1			
			1	not prevalent in upper 5".				
57	- 74'	5'	1 4	- un sitty sound, trace shelis				
80 70	2'-8'7	\neg		very dense; med grey [SM]	the fact of	areas - Arthur		
1.1			L	prest inch is clastic carbonate.	1.2		No Prime State	
		1.						
				med inay med inay missing send med oray [im]				

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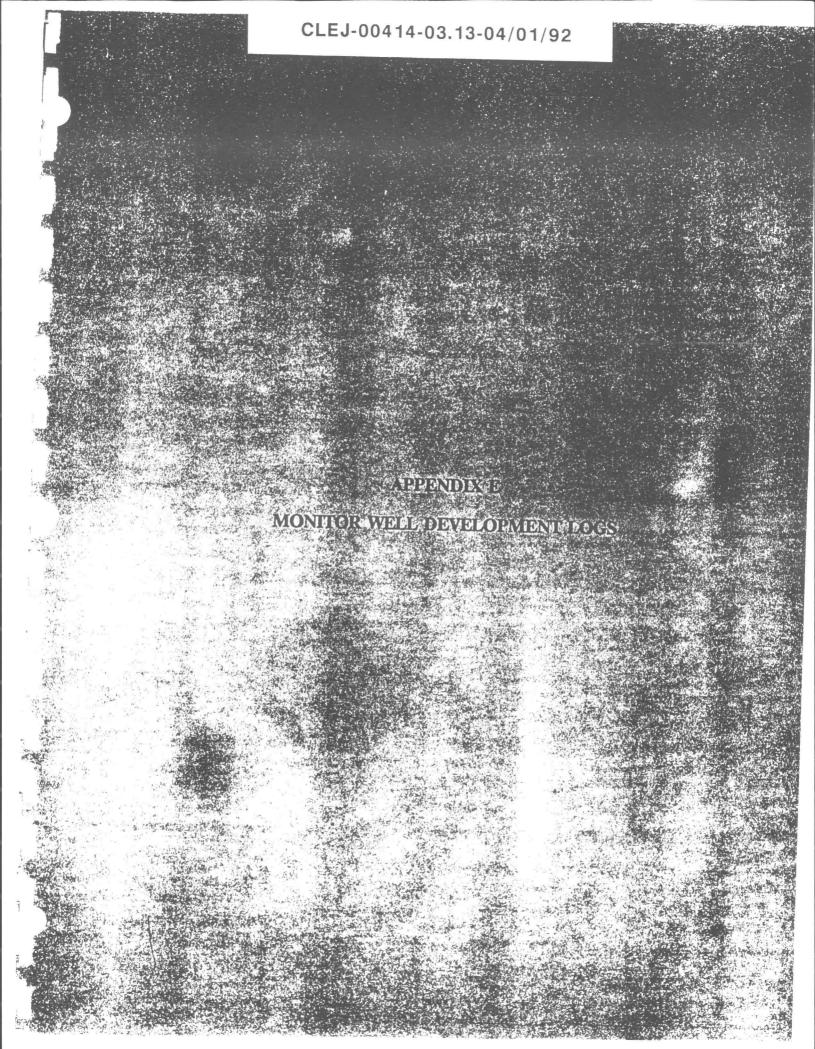
Proje	ct No. 490	2036	Pr	oject Name Camp	Lejeune H	What Pont - M	wells Page
	actor Esc	and the second second		Driller Munitoring (To	a Carlo and Party and Party of	started 12.5	
-	od Melle			asing Size 4	HNU 1	1.7/10.2	Protection Le
	d El. 29.96	and the second	ALL SALES	il Drilled	¥	_ below ground	Total Depth
Logge	d by Pau M.	Feinterg	Ch	ecked by	Dat	0	and the second second
Sample	Depth in	Blows	Pen.				
No.	Feet	per 6 *	Rec.	Description			ance of Boring
	84'-89'	1.160	5/	form sitty so ad ine trace shell material	I.gray	and the second second	4.1
				Trace shell material	6.7		
		Sec. 2					
	27 - 94		5%	for sitty sound, trace	shells	Nite: Upper 1	2" has some very de of computed sind
t I	:		40	med.	MS] (hele	nstules	st computed sind
		1.5	(Kaler)		a second a		
	?? - 1.7-	5	1.	f-misity send, little	shells		
÷.	:			(med grey)	[SM]	and the second second	
;	2+1-1291	5	11:20	F-c silty cand, trace material met.gray	shell	Note Bottom	3' very compat,
	Sales and	2.6%		moterial and grap	[2w]	in lower	. Aiso cearser grains
			-		T. Mark		
	19 - 11 - 1	-	154	f-m sitty sound i she		S and a second	
			13	estivilly conscildated	[SM]		
		1.1	-		-	·	
1.	4 - 117'	5'	32	Upper 15" f-msitty se some shell mater:	n], al.		
				some dense inster Esnal (Tight n	<u>n</u>		
100		1. 2. 1.	L	- over 16 for sitty sa	nd, 1		
-12+		1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	100 C	and the second s		and a store of the	
	3-12+1	5)		[JM] (1141+m	J. yrzy		8

F

BORING NO. HESWED 2/3

Project No. 4922036	Proj	ect Name Camp Leje	une Hadnet Point - Monito	my Weis Page 4 of 4		
Contractor ESE, Inc.			Hy Date started 12-5-90 completed !			
			HNU 11.7/10.2	Protection Level		
Ground El. 29.96 /27.96'	Soil (Drilled	L below ground	Total Depth 83//102/		
Logged by Jan N. Furting	Chec	ked by	Date			

Sample No.	Depth in Feet	Blows per 6 *	Pen. Rec.	Distantint	HNU	Comments on	Monitorin
NO.	a Transfer	iber o	nec.	Description	jar	Advance of Boring	HNU LE
	124 - 12.7'	n ₁ - 5 -	5 '/20'	f-msitty send, trace shell material (medium gray) [Sr1]			0 SW-
	122.14		51/22	f-maity sand, trace shell material med. gray			
	134 - 129	4	1/2.74	Upper 12 form sitty send [Sri] Liwer 8' for sitty send			
+.)30 -144 	Property and	1000	f-misity surd metigray			
	144 - '47'	ť	12:	f-c sity send metory Esni	7		. JN:-
-50	145 [°] - 149 ^{° °} 1		F	Esnil lit a shere			J.7/
	the second		1.0	Sampling completed at 149'.			
			7	Borehole reamed to 160'			
1							
		i. de					1



WR85.1/SAMPFORM.1 03/1-5/85 1.00

WELL DEVELOPMENT FORM

	r: _ Z
Boring Diameter: $6''$ Well Casing Diamete Annular Space Length: $24'$ Stickup:	2.5'
WATER LEVEL	his and the ship is a state of the s
Held:	
Cut:	
DTW: -23.04' Top of Casing	
COLUMN OF WATER IN WELL	
Casing Length:	
DTW Top of Casing:	
Column of Water in Well:	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart)	-
Column of Water or Length of A.S. (whichever is less)	x
Volume of Annular Space	= 3.22
Gallons per foot of Casing	
Column of Water	x
Volume of Casing	• 0.71
Total Volume (Volume of A.S. + Volume of Casing) Number of Volumes to be Evacuated	= <u>3.93</u>
	x
	- 19.6.6
Total Volume to be Evacuated $\mathcal{P} = \int_{-\infty}^{\infty} \int_{-\infty}$	= 19.66
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): Bailed	= 19.66
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): Bailed	= <u>/9.66</u>
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): BAiled APPROXIMATE FLOW RATE:	= <u>/9.66</u>
Total Volume to be Evacuated Nethod of Purging (pump, bailer, etc.): Bailed APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME:	
Total Volume to be Evacuated Nethod of Purging (pump, bailer, etc.): BAiled APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME:	Bailed
Total Volume to be Evacuated Nethod of Purging (pump, bailer, etc.): BAILED APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME: WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	Bailed 11/21 -
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): BAILED APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME: <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> :	Bailed
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): BAILED APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME: <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> : <u>CUT</u> :	Bailed 11/21 -
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): BAILED APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME: <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: HELD:	Bailed 11/21 - 11/24 11/24 Total pun
Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): BAILED APPROXIMATE FLOW RATE: TOTAL DEVELOPMENT TIME: <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: HELD: CUT :	Bailed 11/21 -

Signed/Reviewer:

Date:

WELL [DEVE	LOPN	IENT	F) RM
--------	------	------	------	---	------

	ng Diameter: 2"
Annular Space Length: 241 S	tickup: 2.5'
WATER LEVEL	
Held:	
Cut:	
DTW: Top of Cas	sing
COLUMN OF WATER IN WELL	
Casing Length:	
DTW Top of Casing:	
Column of Water in Well:	atenas an
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart)	
Column of Water or Length of A.S. (whichever	is less) X
Volume of Annular Space	- 4.66
Gallons per foot of Casing	- <u> </u>
Column of Water	X
Volume of Casing	= 1.04
Total Volume (Volume of A.S. + Volume of Cas	sing) = 5.70
Number of Volumes to be Evacuated	x _ 5
Total Volume to be Evacuated	1 [= 28.5 gAl
Method of Purging (pump, bailer, etc.): \underline{B}	Ailed
APPROXIMATE FLOW RATE : -	
TOTAL DEVELOPMENT TIME:	
	PMENT. BAILED 1/21
WATER LEVEL - 24 HRS AFTER DEVELO	GM 방법은 가격에 있는 것 것입니다. 것은 것이라는 것이 것 같은 것은 것이 것 같은 것이 많은 것을 것을 것을 것을 수 있는 것이다. 이 것을 것 같은 것이 있는 것이 있는 것이 있는 것이 있다.
	GM 방법은 가격에 있는 것 것입니다. 것은 것이라는 것이 것 같은 것은 것이 것 같은 것이 많은 것을 것을 것을 것을 수 있는 것이다. 이 것을 것 같은 것이 있는 것이 있는 것이 있는 것이 있다.
WATER LEVEL - 24 HRS AFTER DEVELO	+ "/25 f
WATER LEVEL - 24 HRS AFTER DEVELO HELD: Cut :	+ "/25 f f Casing folked of
WATER LEVEL - 24 HRS AFTER DEVELO HELD: CUT : DTW : Top o	+ "/25 f f Casing folked of
WATER LEVEL - 24 HRS AFTER DEVELO HELD: Cut :	+ "/25 f f Casing folked of
WATER LEVEL - 24 HRS AFTER DEVELO HELD: CUT : DTW : Top o	. 4 "/25 f
WATER LEVEL - 24 HRS AFTER DEVELO HELD: CUT : DTW : Top o NOTES:	f''_{25} folial of folial of ~ 29 gas
WATER LEVEL - 24 HRS AFTER DEVELO HELD: CUT : DTW : Top o	f Casing f_{25} for f_{25

WR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM	
Well Number: <u>HPGW3</u> Date: <u>11/21/86</u> Time: Boring Diameter: <u>6''</u> Well Casing Diameter: Annular Space Length: <u>24'</u> Stickup:	2"
WATER LEVEL Held:	<u>- 2+5</u>
Cut: DTW: -21.67' Top of Casing COLUMN OF WATER IN WELL	
Casing Length: DTW Top of Casing: Column of Water in Well:	
VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = Column of Water or Length of A.S. (whichever is less) X	
Volume of Annular Space = Gallons per foot of Casing =	4.52
Column of Water X Volume of Casing = Total Volume (Volume of A.S. + Volume of Casing) =	1.01
Number of Volumes to be Evacuated X_{-} Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): $Ailed$	5 7.85
APPROXIMATE FLOW RATE :	
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	Bailed 1/2, +
HELD:	11/24 fon total of ~28 gol
DTW : Top of Casing NOTES:] .
signed/DEVELOPER MA A JW JDB Date: Date: Date:	11/25/86

i

WELL DEVELOPMENT FORM	
Well Number: <u>HPGW4</u> Date: <u>1124/86</u> Time: Boring Diameter: <u>6</u> Well Casing Diameter: Annular Space Length: <u>24</u> Stickup: <u></u> WATER LEVEL	<u>- 2"</u>
Held: Cut: DTW: -20.57 Top of Casing	
COLUMN OF WATER IN WELL Casing Length:	
DTW Top of Casing: Column of Water in Well: VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water Volume of Casing Total Volume (Volume of A.S. + Volume of Casing)	<u>3.91</u> 0.87 4.78
Number of Volumes to be Evacuated X	<u>5</u> 23.90
APPROXIMATE FLOW RATE :	- BAiled 1/24
TOTAL DEVELOPMENT TIME:	- for total
WATER LEVEL - 24 HRS AFTER DEVELOPMENT: HELD: Cut :	of ZGL GAllons
DTW : Top of Casing NOTES:	
Signed/DEVELOPER MAL JW & DB Date Signed/Reviewer: Date	11/25/86

WR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM	
Well Number: HRGWS Date: 11/24/86 Time:	
Boring Diameter: <u>("</u> Well Casing Diameter:	
Annular Space Length: 24' Stickup:	7.5'
WATER LEVEL	
Held:	
Cut:	
DTW: Top of Casing	
COLUMN OF WATER IN WELL	
Casing Length:	
DTW Top of Casing:	
Column of Water in Well:	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart) =	
Column of Water or Length of A.S. (whichever is less) X	
Volume of Annular Space =	6.76
Gallons per foot of Casing =	
Column of Water X	
Volume of Casing =	1.50
Total Volume (Volume of A.S. + Volume of Casing) = _	8.26
Number of Volumes to be Evacuated X	5
Total Volume to be Evacuated	11.3 gAl
Method of Purging (pump, bailer, etc.):A, Ed	,
APPROXIMATE FLOW RATE :	- BAiled 1/244
TOTAL DEVELOPMENT TIME:	- for total
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	of 42
에 가려져 생각해 해외에 있는 것이다. 이렇게 아이들에 가려면 가려면 가려면 가려면 가려면 가려면 가려면 가지 않는 것이다. 바라는 것이다. 바라는 것이다. 바라는 것이다. 바라는 것이다. 바라는 가	
HELD:	gallon 3
Cut :	<u> </u>
DTW : Top of Casing	
NOTES:	
Signed/ DEVELOPER My Ju Ju + DB Date	: <u>11/25/86</u>

Date:

Signed/Reviewer:

WET.L.	DEVE	LOPMENT	FORM
W LLL	DEVE		FUR

1
Well Number: HPGW C Date: 11/24 86 Time: 1010.
. Boring Diameter: Well Casing Diameter:
Annular Space Length: 24' Stickup: 2.5'
WATER LEVEL
Held: - 20.00
Cut: 1.25
DTW: Top of Casing
COLUMN OF WATEB IN WELL .
Casing Length: 28.00
DTW Top of Casing: 18.75
Column of Water in Well: 9.25'
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart) = 0.39
Column of Water or Length of A.S. (whichever is less) X 9.25
Volume of Annular Space = 2.90
Gallons per foot of Casing = 0.1632
Column of Water X 9.25
Volume of Casing = <u>1.57</u>
Total Volume (Volume of A.S. + Volume of Casing) = $4.4/$
Number of Volumes to be Evacuated X
Total Volume to be Evacuated = 22 qA
Method of Purging (pump, bailer, etc.): Discontinuous pumping fontinuous
APPROXIMATE FLOW RATE: ~0.25 gal/minute 2 gal 1
TOTAL DEVELOPMENT TIME: Total punged
WATER LEVEL - 24 HRS AFTER DEVELOPMENT: Volvme = ~ 229
HELD :
Cut :
DTW : Top of Casing
NOTES: Water modely & overfj pumped continuorely & very low flow rufe; water clean upon completien of development
Signed/Developer Mart The Date: 11/24/86
Signed/Reviewer: Date:

5.

WELL DEVELOPMENT FORM	
Well Number: HPGW7 Date: 11/24/86 Time:	1028
Boring Diameter: Well Casing Diameter:	2"
Annular Space Length: <u>24</u> ' Stickup:	2.5'
WATER LEVEL	
Held: 18.00	
Cut: _ /.17'	
DTW: - 16.83' Top of Casing	
COLUMN OF WATER IN WELL	
Casing Length: 28.00	
DTW Top of Casing: 16.83'	
Column of Water in Well:	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart) =	0.39
Column of Water or Length of A.S. (whichever is less) X	11.17
Volume of Annular Space =	4.36
Gallons per foot of Casing =	0.1632
Column of Water X	11.17
Volume of Casing =	1.82
Total Volume (Volume of A.S. + Volume of Casing) =	6.18
Number of Volumes to be Evacuated X	
Total Volume to be Evacuated	31 gal.
Method of Purging (pump, bailer, etc.): Discontinuous of con	
APPROXIMATE FLOW RATE: QAI /MIN	- 3 gal 3 gal
TOTAL DEVELOPMENT TIME:	
TOTAL DEVELOPMENT TIME:	- 6 gal 25 gal
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	
HELD :	31 total
Cut :	
DTW : Top of Casing	
NOTES: Water muddy @ onset; ~ 12" se casing @ onset; water t casing clus comptition of divelopment	edinent inside
Signed/ DEVELOPER Mand Qualum Dat	e: 11/24/86
Signed/Reviewer: Dat	e:

Jenomony # 4	WR85.1/SAMPFORM.1 03/15/85
WELL DEVELOPMENT FORM	
Well Number: HPGW 8 Date: 11/9/86	Time: 143.2
Boring Diameter: Well Casing Diam	eter: <u>2"</u>
Annular Space Length: Stickup:	And a start of the second second
WATER LEVEL	
Held:	
Cut:	
DTW: -/5.83' Top of Casing	
COLUMN OF WATEB IN WELL	
Casing Length:	
DTW Top of Casing:	
Column of Water in Well:	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart)	-
Column of Water or Length of A.S. (whichever is les	s) X
Volume of Annular Space	=
Gallons per foot of Casing Column of Water	•
Volume of Casing	x
	= 1.89
Total Volume (Volume of A.S. + Volume of Casing) Number of Volumes to be Evacuated	= 10.40
Total Volume to be Evacuated	x /
Method of Purging (pump, bailer, etc.):	· <u>stab</u>
401-	
	\sim \sim
TOTAL DEVELOPMENT TIME: 29 MIN.	55 gA)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT;	
HELD :	
Cut :	
DTW: Top of CAS	eni
NOTES:	and the second sec
1/10	1,
Signed/DEVELOPER THE JW	Date: 1/19/86
Signed/Reviewer:	Date: 11 St
	<u>-</u>

1 Ta	CLEJ-00414-03.13-04/01/92
-	WELL DEVELOPMENT FORM
	Well Number: HPGW9 Date: 11/10/86 Time: 1108.
	Boring Diameter: 6" Well Casing Diameter: 2"
	Annular Space Length: Stickup:
	WATER LEVEL
	Held:
	Cut:
	DTW: - 18.13 Top of Casing
	COLUMN OF WATER IN WELL
K.	Casing Length:
	DTW Top of Casing:
	Column of Water in Well:
	VOLUME TO BE REMOVED
	Gallons per foot of A.S. (from chart) =
	Column of Water or Length of A.S. (whichever is less) X
	Volume of Annular Space = 6.79
	Gallons per foot of Casing =
	Column of Water X
) .	Volume of Casing = <u>1.57</u>
	Total Volume (Volume of A.S. + Volume of Casing) = <u>8.30</u>
	Number of Volumes to be Evacuated X
	Total Volume to be Evacuated = $41.5 qp/$
	Method of Purging (pump, bailer, etc.):
	APPROXIMATE FLOW RATE: ~ 2.0 gal/Min
	TOTAL DEVELOPMENT TIME: 29 Min. (58 gAl)
	WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
	HELD :
	Cut :
	다 같은 말을 한 것 같은 것 같아요. 정말 것 같은 것 같아요. 아이들은 것은 것 같아요. 이렇게 가지 않는 것 같아요. 나는 것 같아요. 이 것 같아요. 이 것 같아요. 이 것 않는 것 같아요. 이 있는 것 같아요. 이 것 않는 것 같아요. 이 것 않는 것 같아요. 이 것 않는 것 같아요. 이 것 않는 것 같아요. 이 것 않는 것 같아요. 이 것 이 것 같아요. 이 것 이 것 않아요. 이 집 br>이 집 않아요. 이 집 않아요.
	DTW : Top of Casing
	NOTES:
	Signed/DEVELOPER Date: 1/19/86
	Signed/Reviewer: Date: Date:

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WR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM

Well Number: $HPGUID$ bate: $II/24/8C$ Time: $IO4C$ Boring Diameter: G'' Well Casing Diameter: Z'' Annular Space Length: $25'$ Stickup: $2.5'$ WATER LEVEL Reld: $-I/6.00'$ Cut: $I.00'$ Top of Casing Column of WATER IN WELL Casing Length: $28.00'$ OTW Top of Casing: $-I5.00'$ Column of Water IN WELL Casing Length: $13.00'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X $I3.00$ Volume of Annular Space Gallons per foot of Casing -0.632 Column of Water or Length of A.S. (whichever is less) X $I3.00$ Volume of Annular Space Gallons per foot of Casing -0.7632 Column of Water X $I3.00$ Volume of Casing -0.7632 Column of Water X $I3.00$ Volume of Casing -0.719 Total Volume of A.S. + Volume of Casing) -719 Number of Volumes to be Evacuated X S Total Volume to be Evacuated -36 gal Method of Purging (pump, bailer, etc.): Continuous provide $Immother$ APPROXIMATE FLOW RATE: $-33 \text{ gal}/Minork @low$ three the flow MATER LEVEL - 24 HAS AFTER DEVELOPMENT: HELD: Cut : DTM : Top of Casing NOTES: Wather muddy Q ourset; $-12''$ of sand im Casing Q guest; Wather t casing clean You completes of durifogmeth Signed/Developer. Date: $II/24/80$	INTERNAL AND	10.10
Annular Space Length: $24'$ Stickup: $25'$ WATEB LEVEL Held: $-/(6.00'$ Cut: $1.00'$ DTW: $-/5.00'$ Top of Casing COLONN OF WATEB IN WELL Casing Length: $28.00'$ DTW Top of Casing: $-/5.00'$ Column of Water in Well: $13.00'$ VOLUME TO BE EEMOVED Gallons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X $/3.00$ Volume of Annular Space -5.07 Gallons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X $/3.00$ Volume of Annular Space -5.07 Gallons per foot of Casing $-0./632$ Column of Water X (5.00) Volume of Casing -2.12 Total Volume (Volume of A.S. + Volume of Casing) -7.19 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated -3.6 gAl Method of Purging (pump, bailer, etc.): $Continvors \text{ pray.ive}$ APPROXIMATE FLOW RATE: $-3 \text{ gAl} / Minvet Clast flow of the flow Total Development Time: /5 \text{ Minvetes} (-45 \text{ gal})WATER LEVEL - 24 HAS AFTER DEVELOPMENT:HELD:Cut :DTW : Top of CasingNOTES: Wafen muddy Q ourset; -12'' of sand in Casing Qon Completes of Casing Development; More (completes of Casing Or Consider Qon Completes Of Casing Chaster Qo$	Well Number: <u>HPGW10</u> Date: <u>11/24/86</u> Ti	and the second
WATER LEVEL Held: $-16.00'$ Cut: $1.00'$ DTW: $-15.00'$ Top of Casing COLUMN OF WATER IN WELL Casing Length: $28.00'$ DTW Top of Casing: $-15.00'$ Column of Water in Well: $13.00'$ VOLUME TO BE REMOVED Callons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X <u>13.00</u> Volume of Annular Space Gallons per foot of Casing -0.1632 Column of Water or Length of A.S. (whichever is less) X <u>13.00</u> Volume of Annular Space Gallons per foot of Casing -0.1632 Column of Water X <u>15.00</u> Volume of Casing -2.12 Total Volume (Volume of A.S. + Volume of Casing) -7.19 Number of Volume to be Evacuated X <u>5</u> Total Volume to Be Evacuated X <u>5</u> Summer <u>Casing</u> Q <u>5</u> Signed/Devaciophic A <u>5</u> Signed/Devaciopez Multipoint Casing Chean <u>12</u> DTW <u>5</u> Signed/Devaciopez Multipoint Casing Chean <u>12</u> Signed/Devaciopez Multipo		
Held: $-\frac{1}{6.00'}$ Cut: $1.00'$ DTW: $-\frac{15.00'}{100}$ Top of Casing COLUMN OF WATER IN WELL Casing Length: $28.00'$ DTW Top of Casing: $-\frac{15.00'}{100}$ Column of Water in Well: $13.00'$ VOLUME TO BE REMOVED Callons per foot of A.S. (from chart) 0.39 Column of Water or Length of A.S. (whichever is less) X <u>13.00</u> Volume of Annular Space 0.1632 Column of Water or Length of A.S. (whichever is less) X <u>13.00</u> Volume of Annular Space 0.1632 Column of Water X <u>75.00</u> Volume of Casing 0.1632 Total Volume to be Evacuated X <u>5</u> Total Volume to be Evacuated 3.6 garl Method of Purging (pump, bailer, etc.): Continevous provessed APPROXIMATE FLOW RATE: <u>3 garl minute Clout throuther</u> Total Development Time: <u>15 minutes (-45 garl</u>) WATER Level - 24 Has After Development; Held: Cut : DTW : Top of Casing NOTES: Wafen muddy 0 ourselt ; -12° of sand in Casing 0 gartf ; wafen t casing clean yon completion of duidoput Signed/Developez Multiplication Date: $\frac{1/24}{8}$		2.5
Cut: $1.00'$ DTW: $-15.00'$ Top of Casing COLUMN OF WATER IN WELL Casing Length: $28.00'$ DTW Top of Casing: $-15.00'$ Column of Water in Well: $13.00'$ VOLUME TO BE BERNOVED Gallons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X 13.00 Volume of Annular Space -5.07 Gallons per foot of Casing -0.1632 Column of Water X 13.00 Volume of Casing -2.12 Total Volume (Volume of A.S. + Volume of Casing) -7.19 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5 Number of Volumes to be Evacuated $-36.9A1$ Method of Purging (pump, bailer, etc.): Continuous province APPROXIMATE FLOW RATE: $-3.9A1/Minnyte@low thmottle$ Total Development TIME: $15 Minnytes (-45.9a1)$ WATER LEVEL - 24 HAS AFTER DEVELOPMENT: HELD: Cut : DTW : Top of Casing NOTES: Wafen myddy @ owset; $-12"$ of sand in Casing @ artef; Wafen t casing chean yon completion of ductoput Signed/Developer Multiplication of ductoput Signed/Developer Multiplication Date: $1/24/860$		
DTW: $-15.00'$ Top of Casing COLUMN OF WATER IN WELL Casing Length: $28.00'$ DTW Top of Casing: $-15.00'$ Column of Water in Well: $13.00'$ VOLUME TO BE REMOVED Callons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X (3.00) Volume of Annular Space -5.07 Callons per foot of Casing $-0./632$ Column of Water X (3.00) Volume of Casing -2.12 Total Volume to be Evacuated X 5 Total Volume to be Evacuated X 5 Number of Volumes to be Evacuated -346 gAl Method of Purging (pump, bailer, etc.): Continuous pump, into APPROXIMATE FLOW RATE: -3 gAl/Minorft@low thmotfle Total Development Time: 15 minorfts (-45 gAl) WATER LEVEL - 24 Has After Development: Herb: Cur : DTW: Top of Casing NOTES: Wafen modely @ outset; $-12"$ of sand in Casing @ gurff; Wafen t casing chean You completes of dudopment Signed/Developes Mallow Date: $\frac{1}{24/86}$		
COLUMN OF WATER IN WELL Casing Length: $28.00'$ DTW Top of Casing: $-15.00'$ Column of Water in Well: $13.00'$ VOLUME TO BE REMOVED Callons per foot of A.S. (from chart) -0.39 Column of Water or Length of A.S. (whichever is less) X 13.00 Volume of Annular Space -5.07 Gallons per foot of Casing -0.1632 Column of Water X 13.00 Volume of Annular Space -5.07 Gallons per foot of Casing -0.1632 Column of Water X 13.00 Volume of Casing -0.1632 Column of Water X 13.00 Volume of Casing -2.12 Total Volume (Volume of A.S. + Volume of Casing) -7.19 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5 Method of Purging (pump, bailer, etc.): Continuous pumping APPROXIMATE FLOW RATE: $-3 gAI/Minorft Colour three the Total Development Time: 15 minorfts (-45 gal)Water Level - 24 Has After Development:Held:Cut :DTW : Top of CasingNOTES: Wafen middy Courset; -12" of sand inCasing Cutter = 0yon completion of durlopment Signed/Development Mater Mater = 0 Mater Mater Mater Mater Mater Mater = 0Signed/Development Mater = 0 Mater = 0 Mater Mater Mater Mater Mater = 0 Mater Mater Mater Mater = 0 Mater Mater Mater = 0 Mater Mater Mater = 0 M$	The first sector and the sector and	
Casing Length: 28.00' DTW Top of Casing: -15.00' Column of Water in Well: 13.00' VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) - 0.39 Column of Water or Length of A.S. (whichever is less) X		
DTW Top of Casing: -15.00' Column of Water in Well: 13.00' VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) - 0.39 Column of Water or Length of A.S. (whichever is less) X 13.00 Volume of Annular Space - 5.07 Gallons per foot of Casing - 0.1632 Column of Water X 13.00 Volume of Casing - 0.1632 Column of Water X 13.00 Volume of Casing - 2.12 Total Volume (Volume of A.S. + Volume of Casing) - 7.19 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated - 36 gal Method of Purging (pump, bailer, etc.): Continvoors pumping APPROXIMATE FLOW RATE: - 3 gal/Minnyte Clout throughts Total Development Time: 15 Minnytes (-45 gal) WATER LEVEL - 24 HAS AFTER DEVELOPMENT: Herb: Cut : DTW : Top of Casing NOTES: Wafen muddy Courset; -12" of sand in CASING Consider of durelopment Signed/Development Mater of durelopment Date: 1/24/86		
Column of Water in Well: <u>13.00</u> VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) <u>0.39</u> Column of Water or Length of A.S. (whichever is less) X <u>13.00</u> Volume of Annular Space <u>5.07</u> Gallons per foot of Casing <u>0.1632</u> Column of Water X <u>13.00</u> Volume of Casing <u>0.1632</u> Column of Water X <u>13.00</u> Volume of Casing <u>2.12</u> Total Volume (Volume of A.S. + Volume of Casing) <u>7.19</u> Number of Volumes to be Evacuated X <u>5</u> Total Volume to be Evacuated <u>36.941</u> Method of Purging (pump, bailer, etc.): <u>Continuous pumpiner</u> APPROXIMATE FLOW RATE: <u>39.41</u> /Minute@low throutfle Total Development Time: <u>15 Minutes (245.941)</u> <u>WATER LEVEL</u> - 24 HAS AFTER DEVELOPMENT: <u>Herb</u> : <u>Cut</u> : <u>DTW</u> : <u>Top of Casing</u> <u>NOTES</u> : Water muddy @owset; -12" of sand in <u>Casing</u> @ wirf; water t casing Clean <i>Yon</i> completion of divelopment Signed/Development <u>Mater</u> <u>Material Casing</u> Dete: <u>(1/24/86</u>)		
VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = 0.39 Column of Water or Length of A.S. (whichever is less) X 13.00 Volume of Annular Space = 5.07 Gallons per foot of Casing = 0./632 Column of Water X 13.00 Volume of Annular Space = 5.07 Gallons per foot of Casing = 0./632 Column of Water X 13.00 Volume of Casing = 2.12 Total Volume (Volume of A.S. + Volume of Casing) = 7.19 Number of Volumes to be Evacuated X		
Column of Water or Length of A.S. (whichever is less) X <u>13.00</u> Volume of Annular Space <u>5.07</u> Gallons per foot of Casing <u>0./632</u> Column of Water <u>X <u>13.00</u> Volume of Casing <u>2.12</u> Total Volume of A.S. + Volume of Casing) <u>7.19</u> Number of Volumes to be Evacuated <u>X S</u> Total Volume to be Evacuated <u>3.6 gA1</u> Method of Purging (pump, bailer, etc.): <u>ONTINVOUS</u> propriore APPROXIMATE FLOW RATE: <u>~3 gA1/MINVtr @ low throutles</u> Total Development TIME: <u>15 MINVtr @ low throutles</u> Total Development TIME: <u>15 MINVtr @ low throutles</u> <u>NOTES</u>: Water worddy @ owset; ~12" of sand in CASING @ owset; water t casing clean yon completes of divelopment Signed/Developer <u>Multiples</u> Development Date: <u>1/24/86</u></u>		
Volume of Annular Space = 5.07 Gallons per foot of Casing = 0./632 Column of Water x /3.00 Volume of Casing = 2.12 Total Volume (Volume of A.S. + Volume of Casing) = 7.19 Number of Volumes to be Evacuated x 5 Total Volume to be Evacuated = 36 gA1 Method of Purging (pump, bailer, etc.): ONTINVOUS purping APPROXIMATE FLOW RATE: ~ 3 gAt/MINVte@low thmottle TOTAL DEVELOPMENT TIME: /5 MINVtes (~45 gal) WATER LEVEL - 24 HRS AFTER DEVELOPMENT: HELD: CUT : DTW : Top of Casing NOTES: Worken muddy @ ONTES; ~ 12" of sand in CASING @ ontef; waten t casing clean YON completes of durdopment Signed/Developer Multiple	Gallons per foot of A.S. (from chart)	- 0.39
Gallons per foot of Casing Gallons per foot of Casing Column of Water X (3.00) Volume of Casing Total Volume of A.S. + Volume of Casing) $= 2.12$ Total Volume (Volume of A.S. + Volume of Casing) $= 7.19$ Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated $= 36 \text{ gAl}$ Method of Purging (pump, bailer, etc.): Continvous propriore APPROXIMATE FLOW RATE: $-3 \text{ gAl}/\text{Minvte Clout thmottle}$ Total Development Time: $15 \text{ Minvtes}(-45 \text{ gal})$ $Mater Level - 24$ Has After Development: Held: Cut : DTW: Top of Casing NOTES: Water minday @ owset; -12" of sand in Casing @ gweet; water t casing clean yoon completion of duilopment Signed/Developer Multiple	Column of Water or Length of A.S. (whichever is less)	x 13.00
Column of Water Volume of Casing Total Volume (Volume of A.S. + Volume of Casing) = 7.19 Number of Volumes to be Evacuated Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): Continuous propriore APPROXIMATE FLOW RATE: <u>~3 gAt/MINV/te@lawt thmotfloe</u> Total Development TIME: <u>15 MINV/te@lawt thmotfloe</u> MATER LEVEL - 24 HAS AFTER DEVELOPMENT: HELD: <u>Cut :</u> DTW : <u>Top of Casing</u> <u>NOTES: Woffen muddy @ owset; -12" of sanud in casing Clean</u> <i>yon completes of durdoput</i> Signed/Developer Multiples of durdoput Signed/Developer Multiples	Volume of Annular Space	= 5.07
Volume of Casing = 2.12 Total Volume (Volume of A.S. + Volume of Casing) = 7.19 Number of Volumes to be Evacuated x <u>S</u> Total Volume to be Evacuated = <u>36 gA1</u> Method of Purging (pump, bailer, etc.): <u>Continvous</u> pumpine APPROXIMATE FLOW RATE: <u>~3 gA1/MINVte@low thmother</u> TOTAL DEVELOPMENT TIME: <u>IS MINUte@low thmother</u> TOTAL DEVELOPMENT TIME: <u>IS MINUte@low thmother</u> <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> : <u>CUT</u> : <u>DTW</u> : <u>Top of Casing</u> <u>NOTES</u> : Worken muddy @ ourset; ~12" of sand in <u>casing</u> @ ourset; water t casing clean yon completes of durdoput Signed/DEVELOPER <u>Multiples</u> <u>Date</u> : <u>1/24/86</u>	Gallons per foot of Casing	- 0.1632
Total Volume (Volume of A.S. + Volume of Casing) = 7.19 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated - 36 gAl Method of Purging (pump, bailer, etc.): Continuous pumping APPROXIMATE FLOW RATE: <u>~ 3 gAl/MINVte@law thmottle</u> TOTAL DEVELOPMENT TIME: <u>/5 MINUte@law thmottle</u> <u>DIW :</u> <u>CUT :</u> <u>DTW :</u> <u>DTW :</u> <u>Top of Casing</u> <u>NOTES:</u> Woffen muddy @ owset; -12" of sand in <u>casing @ gasstf;</u> waten t casing clean <u>yon completee</u> of durdoput <u>Signed/Developer</u> <u>Multiple</u> <u>Date:</u> <u>//2/86</u>	Column of Water	x 13.00
Number of Volumes to be Evacuated Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): <u>Continuous</u> propinse APPROXIMATE FLOW RATE: <u>~3 gAt/MINVte@low thmotfle</u> TOTAL DEVELOPMENT TIME: <u>IS MINUte@low thmotfle</u> TOTAL DEVELOPMENT TIME: <u>IS MINUte@low thmotfle</u> TOTAL DEVELOPMENT TIME: <u>IS MINUte@low thmotfle</u> <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> : <u>CUT</u> : <u>DTW</u> : <u>Top of Casing</u> <u>NOTES</u> : Wofen muddy @ owset; -12" of sand in <u>casing @ gazef</u> ; wafen t casing clean <u>yon</u> completes of duelopment Signed/Developer <u>Multiple</u>	Volume of Casing	= 2.12
Total Volume to be Evacuated - <u>36 gAl</u> Method of Purging (pump, bailer, etc.): <u>Continuous pumpine</u> APPROXIMATE FLOW RATE: <u>~ 3 gAl/MINUTE@low thmotfle</u> TOTAL DEVELOPMENT TIME: <u>15 MINUTE@low thmotfle</u> TOTAL DEVELOPMENT TIME: <u>15 MINUTE@low thmotfle</u> TOTAL DEVELOPMENT TIME: <u>15 MINUTE@low thmotfle</u> <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD:</u> <u>CUT</u> : <u>DTW</u> : <u></u> Top of Casing <u>NOTES</u> : Wofen muddy @ owset; ~ 12" of sand in <u>CASING</u> @ owset; wafen t casing clean <u>yon</u> completion of durelopment Signed/DEVELOPER <u>Multiple</u> Date: <u>11/24/86</u>	Total Volume (Volume of A.S. + Volume of Casing)	= 7.19
Method of Purging (pump, beiler, etc.): <u>Continuous pumpine</u> APPROXIMATE FLOW RATE: <u>~3 gAt/MINVte@low thmottle</u> TOTAL DEVELOPMENT TIME: <u>IS MINUte@low thmottle</u> <u>MATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> : <u>CUT</u> : <u>DTW</u> : <u>Top of Casing</u> <u>NOTES</u> : Wohen muddy @ ourset; ~12" of sand in <u>casing</u> @ ourset; water & casing clean <u>yon</u> completion of durelopment Signed/DEVELOPER <u>Multiple</u>	Number of Volumes to be Evacuated	x <u> </u>
APPROXIMATE FLOW RATE: <u>~3 gAt/MINUTE@low thmottle</u> TOTAL DEVELOPMENT TIME: <u>15 MINUTES (~45 gal)</u> <u>WATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> : <u>CUT</u> : <u>DTW</u> : <u>Top of Casing</u> <u>NOTES</u> : Wohen muddy @ owset; ~12" of sand in <u>casing</u> @ gavef; waten t casing clean <u>yon</u> completion of duelopment Signed/DEVELOPER <u>Mull</u>		Contraction of the second s
TOTAL DEVELOPMENT TIME: <u>15 MINUTUS (~45 gal)</u> <u>MATER LEVEL</u> - 24 HRS AFTER DEVELOPMENT: <u>HELD</u> : <u>CUT</u> : <u>DTW</u> : <u>Top of Casing</u> <u>NOTES</u> : Wohen muddy @ ourset; - 12" of sand in <u>CASING</u> @ ourset; - 12" of sand in <u>CASING</u> @ ourset; waten t casing clean <u>you completion</u> of durelopment Signed/Developer <u>Multiples</u> Date: <u>11/24/86</u>	Method of Purging (pump, bailer, etc.): (ONTINVOUS	proping
WATER LEVEL - 24 HRS AFTER DEVELOPMENT: HELD: CUT: DTW: NOTES: Wohen muddy @ ownest; - 12" of sand in casing @ givent; water & casing clean yoon completion of duelopment Signed/DEVELOPER Multipleton Date: 11/24/86	APPROXIMATE FLOW RATE: ~ 3 gat/Minute	Clau this the
HELD: CUT: DTW: Top of Casing <u>NOTES</u> : Water muddy @ owset; -12" of sand in casing @ gwest; water & casing clean you completion of dueloput Signed/Developer Mullonder Date: 11/24/86	TOTAL DEVELOPMENT TIME: 15 MINUTES (~	45 gal)
CUT: DTW: Top of Casing <u>NOTES</u> : Wafen muddy @ owset; - 12" of sand in casing @ gweet; waten & casing clean you completion of duelopment Signed/Developer Mullondon Date: 11/24/86	WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	
DTW: Top of Casing <u>NOTES</u> : Wohen muddy @ owset; - 12" of sand in casing @ owset; water & casing clean you completion of dueloput Signed/Developer Mill Chem Date: 11/24/86	HELD :	
DTW: Top of Casing <u>NOTES</u> : Wohen muddy @ owset; - 12" of sand in casing @ owset; water & casing clean you completion of dueloput Signed/Developer Mill Chem Date: 11/24/86	CNT :	
NOTES: Wohen muddy @ owset; - 12" of sand in casing @ great; water & casing clean you completion of dueloput Signed/ Developer Mull Chem Date: 11/24/86		
casing @ avert; waten & casing clean you completion of dueloput Signed/Developer Mul Chalom Date: 11/24/86		J
you completion of durcloput's Signed/ DEVELOPER Mul Chalom Date: 11/24/86	NOTES: Woten modely @ owset; ~	12" of SAND IN
Signed/ DEVELOPER Mul Change Date: 11/24/86	casing @ quest; water t ca	rsing clean
	your completions of durelop	at" / /
	Signed/Deven	man 11/24/86
Date.		
		Jace.

WELL DEVELOPMENT FORM	
Well Number: HPGW 11 Date: 1/24/86 Time:	1050
. Boring Diameter: 6" Well Casing Diameter:	2"
Annular Space Length: 24' Stickup:	2.5'
WATER LEVEL	an a
Held: - 17.00	
Cut: 0,93'	
DTW: - 16.07' Top of Casing	
COLUMN OF WATER IN WELL	
Casing Length: 28.00	
DTW Top of Casing: /6.07	
Column of Water in Well: 11,93'	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart) =	0.39
Column of Water or Length of A.S. (whichever is less) X	11.93
Volume of Annular Space =	4.65
Gallons per foot of Casing =	0.1632
Column of Water X	11.93
Volume of Casing =	1.95
Total Volume (Volume of A.S. + Volume of Casing) =	6.60
Number of Volumes to be Evacuated X	5
Total Volume to be Evacuated -	33 gAl
Method of Purging (pump, bailer, etc.): Disconfinitions p	mping & continuers.
APPROXIMATE FLOW RATE: -0.9 gal/Min	5 gal
	- 2 0
TOTAL DEVELOPMENT TIME:	+ 25
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	35 921 11
HELD :	total "/.
Cut :	
· · · ·	
NOTES: Water muddy @ mest, chaned of Will prop continuers by @ low throttle at	grickly -
Will pump continuers by @ low throther at	low How nots (see
Above)	
M/1/2/i	1.1
Signed/ DEVELOPER Minh Carton Dat	e: 11/24/86
Signed/Reviewer: Dat	e:

WR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM

Well Number: HPGWIZ Date: 1	11/21/86 Tim	e: 0930
1.11	the second s	ing the statement of the s
Annular Space Length: 2.4'	11 Casing Diameter Stickup:	7.5'
WATER LEVEL	SELEKUP	
Held: - 1500		
Cut: 0.80'		ALL ALL ALL ALL
DTW: - 14.20' Tor	of Casing	
COLUMN OF WATER IN WELL	e na sa m	
Casing Length: 28.4	00	
DTW Top of Casing: -14.	20'	
Column of Water in Well: 13.8	301	
VOLUME TO BE REMOVED	En Cart	
Gallons per foot of A.S. (from chart)		. 0.39
Column of Water or Length of A.S. (wh	ichever is less)	x 13.80
Volume of Annular Space		 5.38
Gallons per foot of Casing		- 0.1632
Column of Water		x 13.80
Volume of Casing		2.25
Total Volume (Volume of A.S. + Volume	of Casing)	- 7.63
Number of Volumes to be Evacuated		x_ <u>5</u>
Total Volume to be Evacuated	CI	= 38.2 gA
Method of Purging (pump, bailer, etc.):	La NTINUOUS	pumping
APPROXIMATE FLOW RATE : ~	2 gAl/Min @	low thre the
TOTAL DEVELOPMENT TIME: 20) returin C	~ 40 9~1)
WATER LEVEL - 24 HRS AFTER I)EVELOPMENT :	
HELD :		
Cut :		
and the second	Top of Casin	٩
NOTES: Waten modely @ or @ base of casing; wa completion of dividepments	nset of devi	
Signed/ DEVELOPER Man Que	utan D	ate: 11/21/86
Signed/Reviewer:	D	ate:

WELL DEVELOPMENT FORM
Well Number: $\frac{\mu PGWB}{6''}$ Date: $\frac{1/2486}{86}$ Time: $\frac{0950}{2''}$ Boring Diameter: $6'''$ Well Casing Diameter: $2'''$
Annular Space Length: 24' Stickup: 2.5'
WATER LEVEL
Held: $-1600'$
Cut: 1.50'
DTW: -14.50' Top of Casing
COLUMN OF WATER IN WELL
Casing Length: 28.00
DTW Top of Casing: 14.50'
Column of Water in Well: 13.50'
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart) = 0.39
Column of Water or Length of A.S. (whichever is less) X 13.50
Volume of Annular Space = 5.27
Gallons per foot of Casing = 0.1632
Column of Water X 13.50 Volume of Casing = 2.20
Total Volume (Volume of A.S. + Volume of Casing) = 7.47
Number of Volumes to be Evacuated $X = \frac{2}{\sqrt{7 + c_0}}$
Total Volume to be Evacuated = <u>51.4 grd</u> Method of Purging (pump, bailer, etc.): Continuous purpose
APPROXIMATE FLOW RATE: ~15 gAl/Min J.
TOTAL DEVELOPMENT TIME: 30 MINUTES (- 45ga)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
HELD:
Cut :
DTW : Top of Casing
NOTES: Water modely @ onest of durch print, ~6" or setiment in caring @ onest; water & caring clean upon completies of durch print
Signed/ DEVELOPER Man Date: 11/24/86
Signed/Reviewer: Date:

TR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM
Well Number: HPGW14 Date: 119 86 Time: 120.7
Boring Diameter: Well Casing Diameter:
Annular Space Length: Stickup:
WATEB LEVEL
Held:
Cut:
DTW: -13.3] Top of Casing
COLUMN OF WATER IN WELL
Casing Length:
DTW Top of Casing:
Column of Water in Well:
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart)
Column of Water or Length of A.S. (whichever is less) X
Volume of Annular Space = 10.60
Gallons per foot of Casing
Column of Water X
Volume of Casing = 2.36
Total Volume (Volume of A.S. + Volume of Casing) = 12.96
Number of Volumes to be Evacuated X S
Total Volume to be Evacuated = 67.80 gA
Method of Purging (pump, bailer, etc.):
APPROXIMATE FLOW RATE : 1.2 gpm
TOTAL DEVELOPMENT TIME: 55 MIN (66 got)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
HELD:
Cut :
DTW : Top of Casing
NOTE S:
MADITU DE 1/19/80
Signed/DEVELOPER Date: 1/19/86
Signed/Reviewer: Date:

1

Well Number: HPGW15 Da Boring Diameter:	te: <u>1/10/86</u> Time: <u>100</u> Well Casing Diameter: <u>Z'</u>
Annular Space Length:	Stickup:
WATER LEVEL	
Held:	-, a castra contra data a contra da
Cut:	🗕 🖉 Martin Martin States States and States
DTW:	_ Top of Casing
COLUMN OF WATEB IN WELL	
Casing Length:	and the second
DTW Top of Casing:	
Column of Water in Well:	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from	chart) =
Column of Water or Length of A	
Volume of Annular Space	2
Gallons per foot of Casing	, 같은 것이 같은 것은 것을 하는 것이다.
Column of Water	X
Volume of Casing	- 2.0
Total Volume (Volume of A.S. +	Volume of Casing) = //.3
Number of Volumes to be Evacua	
Total Volume to be Evacuated	= 56.6
Method of Purging (pump, bailer,	etc.):
APPROXIMATE FLOW RATE :	1.2 gpm
TOTAL DEVELOPMENT TIME:	
Mana Java 24 Mag Av	- DEVERSMENT:
WATER LEVEL - 24 HRS AN	Tel Ottelophilan /
HELD :	the second s
Cut :	
DTW :	Top of Casing
	<u> </u>
NOTES:	
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	Λ
MIA	1

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WELL DEVELOPMENT FORM

Well Number: HPGW16 Date:	11/21/86 Tim	ne: 0940
and the second of the second	11 Casing Diameter	
Annular Space Length: 24'	Stickup:	2.5'
WATER LEVEL		
Held: - 16.00'	an a	
Cut: 1.46		
.1-1/	p of Casing	
COLUMN OF WATER IN WELL		
Casing Length: 28.	00'	a the second
DTW Top of Casing: - 14.	54'	
Column of Water in Well: /3.	46'	
VOLUME TO BE REMOVED		
Gallons per foot of A.S. (from chart)	- 0.39
Column of Water or Length of A.S. (w	hichever is less)	x 13.46
Volume of Annular Space		· 5.25
Gallons per foot of Casing		- 0.1632
Column of Water		x 13.46
Volume of Casing		= 2.20
Total Volume (Volume of A.S. + Volume	e of Casing)	- 7.45
Number of Volumes to be Evacuated		x <u>5</u>
Total Volume to be Evacuated	- 1	= 37.3 gAl
Method of Purging (pump, bailer, etc.):	Continuous p.	mping
APPROXIMATE FLOW RATE : ~	1 gal/min.	
TOTAL DEVELOPMENT TIME: 40	D minutes (~	40gal)
WATER LEVEL - 24 HAS AFTER	DEVELOPMENT ;	
HELD :		
Cut :	•	
the second se	Top of CASIN	٩
		_
NOTES: Water modely @ completions of de	velopment	J 1
MI	~ 0	1 1
igned/ DEVELOPER	gham t	ate: 11/21/86
igned/Reviewer: /	·	ate:

1 Tem	CLEJ-00414-03.13-04/01/92 WR85.1/SAMPFORM.1 03/15/85
6	WELL DEVELOPMENT FORM Well Number: HPGW17 Date: 11/10/86 Time: 0920
	Boring Diameter: Well Casing Diameter:
	Annular Space Length: Stickup:
	WATER LEVEL
	Keld:
	Cut:
	DTW: -13.58' Top of Casing
	COLUMN OF WATER IN WELL
	Casing Length:
	DTW Top of Casing:
· · ·	Column of Water in Well:
	Gallons per foot of A.S. (from chart) =
	Column of Water or Length of A.S. (whichever is less) X
	Volume of Annular Space = 10.47
	Gallons per foot of Casing =
	Column of Water X
	Volume of Casing = 2.33
	Total Volume (Volume of A.S. + Volume of Casing) = 12.79
	Number of Volumes to be Evacuated X S
	Total Volume to be Evacuated = 63.9 9A
	Method of Purging (pump, bailer, etc.):
	APPROXIMATE FLOW RATE: 1.85 gpm
	TOTAL DEVELOPMENT TIME: 36 min. (67 gal)
	WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
-	HELD:
and the second second	Cut :
	DTW : Top of Casing
	NOTE S:
1	Signed/ DEVELOPER M/19/80
	Signed/Reviewer: Date:

WR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM

	F: HFGW18		Lalar .		01-
Well Numbe		Date: //	1211280	Time: _	0950
. Boring Dia		./	l Casing Diame		2"
A SALES AND A SALES	ace Length:	24'	Stickup:	. 	2.5'
WATER LEVE	and the second second second second second				
Held:	-15.00				
Cut:	-13.50'	The second second			
DTW:		Тор	of Casing		
COLUMN OF	WATER IN WELL	28.0			
DT	Casing Length:	- 13.			
	W Top of Casing: _ f Water in Well:	14.5			
	BE REMOVED		Section and the section of the		
	per foot of A.S. (1	from chart)			0.39
the set of the set of the set of	f Water or Length of		chaver is les	s) X	14.50
	f Annular Space	51 A.5. (Wul	CHEVEL 13 165	· ^ _	5.66
	per foot of Casing				0.1632
Column of	· · · · · · · · · · · · · · · · · · ·				14.50
Volume of	한 양렬한 관계는 것이 많이 많이 없다.				2.37
	lume (Volume of A.S	. + Volume	of Casing)	-	8.03
	f Volumes to be Eva			x —	5
	lume to be Evacuate			= 40	0.2 and
	Purging (pump, bail		Continuous .	Drudu	<u> </u>
	TE FLOW RATE :		1	@ his	h Annottle
TOTAL D	EVELOPMENT TIN	e:20	Minutes	(7 81	o gallows)
WATER L	EVEL - 24 HRS	AFTER D	EVELOPMENT	:	
	HELD :				
	Cut :				
	DTW :	1	top of Can	phie	
NOTES .	·	6	ODDrov	12" 1	int an. sand
100123.	very maay	E ense	Je Trille	n ca	ing on water
IN	Very nurddy s.det. easing MF CLEAN dwning cheen by pump	@ one	F-SANN	bEING	pulled three
5	ineen by prop-	-		- 7	/ /
Signed/ Deve		10	Ham.	Date:	11/21/86
Signed/Revi	///	$-\alpha$	Indam.	Date:	
San Star		11			

	WELL	DEVELOPMENT	FORM
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Well Number: $\frac{HPGW24}{HPGW24}$ Date: $\frac{H/24/86}{Well Casing Diameter: 2''}$ Boring Diameter: $6''$ Well Casing Diameter: 2'' Annular Space Length: 24' Stickup: 2.5' WATEP LEVEL Held: $-\frac{H/.00'}{Cut}$ Cut: $\frac{H.67'}{DW}$ Top of Casing COLUMN OF WATEP IN WELL Casing Length: $2\%.00'$ DTW Top of Casing: $9.33'$ Column of Water in Well: $\frac{1\%.67'}{VOLUME TO BE EEMOVED}$ Gallons per foot of A.S. (from chart) $= 0.39$ Column of Water or Length of A.S. (whichever is less) X $\frac{1\%.67}{1\%.67}$ Volume of Annular Space $= 7.2\%$ Gallons per foot of Casing $= 0.1632$ Column of Water $X = \frac{1\%.67}{1\%.67}$ Volume of Casing $= 0.1632$ Column of Water $X = \frac{1\%.67}{1\%.67}$ Volume of Casing $= 0.1632$ Column of Water $X = \frac{1\%.67}{1\%.67}$ Volume of Casing $= 0.1632$ Column of Water $X = \frac{1\%.67}{1\%.67}$ Volume of Casing $= 3.05$ Total Volume to be Evacuated $X = 51.7$ gad Method of Purging (pump, bailer, etc.): Cathwards public.
Annular Space Length: $24'$ Stickup: $2.5'$ WATEP LEVEL Held: $-1/.00'$ Cut: $1.67'$ DTW: $-9.33'$ Top of Casing COLUMN OF WATEP IN WELL Casing Length: $28.00'$ DTW Top of Casing: $9.33'$ Column of Water in Well: $18.67'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) $-0.39'$ Column of Water or Length of A.S. (whichever is less) X 18.67 Volume of Annular Space -7.28 Gallons per foot of Casing -0.1632 Column of Water X 18.67 Volume of Casing -3.05 Total Volume (Volume of A.S. + Volume of Casing) -10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
Annular Space Length: 24^{\prime} Stickup: 2.5^{\prime} WATEB LEVEL Held: $-1/.00^{\prime}$ Cut: 1.67^{\prime} DTW: -9.33^{\prime} Top of Casing COLUMN OF WATEB IN WELL Casing Length: 28.00^{\prime} DTW Top of Casing: 9.33^{\prime} Column of Water in Well: $1/8.67^{\prime}$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) -0.39^{\prime} Column of Water or Length of A.S. (whichever is less) X $\frac{18.67}{18.67}$ Volume of Annular Space -7.28 Gallons per foot of Casing -0.1632 Column of Water X $\frac{18.67}{18.67}$ Volume of Casing -3.05 Total Volume (Volume of A.S. + Volume of Casing) -10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
Held: $-\frac{1}{0.00}'$ Cut: $1.67'$ DTW: $-9.33'$ Top of Casing COLUMN OF WATEP IN WELL Casing Length: $2\%.00'$ DTW Top of Casing: $9.33'$ Column of Water in Well: $1\%.67'$ VOLUME TO BE MEMOVED Gallons per foot of A.S. (from chart) $-\frac{0.39}{1\%.67}$ Volume of Annular Space -7.2% Gallons per foot of Casing -0.1632 Column of Water $x -\frac{1\%.67}{1.2\%}$ Volume of Casing -3.05 Total Volume (Volume of A.S. + Volume of Casing) $-\frac{10.33}{1.33}$ Number of Volumes to be Evacuated $x -\frac{5}{1.7}$ and
Cut: $1.67'$ DTW: $-9.33'$ Top of Casing COLUMN OF WATEP IN WELL Casing Length: $28.00'$ DTW Top of Casing: $9.33'$ Column of Water in Well: $18.67'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = 0.39 Column of Water or Length of A.S. (whichever is less) X 18.67 Volume of Annular Space = 7.28 Gallons per foot of Casing = 0.1632 Column of Water X 18.67 Volume of Casing = 3.05 Total Volume (Volume of A.S. + Volume of Casing) = 10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
DTW: $-9.33'$ Top of Casing COLUMN OF WATER IN WELL Casing Length: $28.00'$ DTW Top of Casing: $9.33'$ Column of Water in Well: $18.67'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) $0.39'$ Column of Water or Length of A.S. (whichever is less) X 18.67 Volume of Annular Space 0.1632 Gallons per foot of Casing 0.1632 Column of Water X 18.67 Volume of Casing 3.05 Total Volume (Volume of A.S. + Volume of Casing) 10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
COLUMN OF WATER IN WELL Casing Length: $2\%.00'$ DTW Top of Casing: $9.33'$ Column of Water in Well: $1\%.67'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = 0.39 Column of Water or Length of A.S. (whichever is less) X $1\%.67$ Volume of Annular Space = 7.2% Gallons per foot of Casing = 0.1632 Column of Water X $1\%.67$ Volume of Casing = 3.05 Total Volume (Volume of A.S. + Volume of Casing) = 10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
Casing Length: 28.00° DTW Top of Casing: 9.33° Column of Water in Well: 18.67° VOLUME TO BE REMOVEDGallons per foot of A.S. (from chart) $= 0.39^{\circ}$ Column of Water or Length of A.S. (whichever is less) $X - 18.67^{\circ}$ Volume of Annular Space $= 7.28^{\circ}$ Gallons per foot of Casing $= 0.1632^{\circ}$ Column of Water $X - 18.67^{\circ}$ Volume of Casing $= 3.05^{\circ}$ Total Volume (Volume of A.S. + Volume of Casing) $= 10.33^{\circ}$ Number of Volumes to be Evacuated $X - 5^{\circ}$ Total Volume to be Evacuated $X - 5^{\circ}$
DTW Top of Casing: $9.33'$ Column of Water in Well: $1 \otimes .67'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = 0.39 Column of Water or Length of A.S. (whichever is less) X 18.67 Volume of Annular Space = 7.28 Gallons per foot of Casing = 0.1632 Column of Water X 18.67 Volume of Casing = 3.05 Total Volume (Volume of A.S. + Volume of Casing) = 10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
Column of Water in Well: $18.67'$ VOLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = $0.39'$ Column of Water or Length of A.S. (whichever is less) X 18.67 Volume of Annular Space = $7.28'$ Gallons per foot of Casing = 0.1632 Column of Water X 18.67 Volume of Casing = 3.05 Total Volume (Volume of A.S. + Volume of Casing) = 10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated X 5
VOLUME TO BE REMOVEDGallons per foot of A.S. (from chart)= 0.39 Column of Water or Length of A.S. (whichever is less)XVolume of Annular Space= 7.28 Gallons per foot of Casing= 0.1632 Column of WaterXVolume of Casing= 3.05 Total Volume (Volume of A.S. + Volume of Casing)= 10.33 Number of Volumes to be EvacuatedXTotal Volume to be EvacuatedX
Gallons per foot of A.S. (from chart) $= 0.39$ Column of Water or Length of A.S. (whichever is less)XVolume of Annular Space $= 7.28$ Gallons per foot of Casing $= 0.1632$ Column of WaterXVolume of Casing $= 3.05$ Total Volume (Volume of A.S. + Volume of Casing) $= 10.33$ Number of Volumes to be EvacuatedXTotal Volume to be Evacuated $= 57.7$ gAd
Column of Water or Length of A.S. (whichever is less)X 18.67 Volume of Annular Space 7.28 Gallons per foot of Casing 0.1632 Column of WaterX 18.67 Volume of Casing 3.05 Total Volume (Volume of A.S. + Volume of Casing) 10.33 Number of Volumes to be EvacuatedX 5 Total Volume to be Evacuated 10.33
Volume of Annular Space $=$ 7.2% Gallons per foot of Casing $=$ 0.1632 Column of WaterX 18.67 Volume of Casing $=$ 3.05 Total Volume (Volume of A.S. + Volume of Casing) $=$ 10.33 Number of Volumes to be EvacuatedX 5 Total Volume to be Evacuated $=$ 57.7 and
Gallons per foot of Casing $=$ $\bigcirc .1632$ Column of WaterX 18.67 Volume of Casing $=$ 3.05 Total Volume (Volume of A.S. + Volume of Casing) $=$ 10.33 Number of Volumes to be EvacuatedX 5 Total Volume to be Evacuated $=$ 57.7 and
Column of WaterX 18.67 Volume of Casing= 3.05 Total Volume (Volume of A.S. + Volume of Casing)= 10.33 Number of Volumes to be EvacuatedX 5 Total Volume to be Evacuated= 57.7 gAd
Volume of Casing = 3.05 Total Volume (Volume of A.S. + Volume of Casing) = 10.33 Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated = 57.7 qAd
Total Volume (Volume of A.S. + Volume of Casing)= 10.33 Number of Volumes to be EvacuatedXTotal Volume to be Evacuated= 57.7 and
Number of Volumes to be Evacuated X 5 Total Volume to be Evacuated 57.7 grd
Total Volume to be Evacuated = 57.7 gad
<u> 44</u>
Method of Purging (num hailer arc). (ONTINUOSS - 1015
APPROXIMATE FLOW RATE: ~1 GA1/MIN
TOTAL DEVELOPMENT TIME: 55 MINUTES (~55 gul)
TOTAL DEVELOPMENT TIME: <u>SSMINULES</u> (~55 gul)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
HELD:
Cut :
DTW : Top of Casing
NOTES: Wafer quite muddy @ onset of development clean upon completion
CLEAR upon completion
Signed/DEVELOPER Mul Dock Date: 11/21/86 Signed/Reviewer: Date:
ilgned/ DEVELOPER 111/100 Date: 11/21/86
Signed/Reviewer: Date:

TEN	CLEJ-00414-03.13-04/01/92
	WELL DEVELOPMENT FORM Well Number: <u>HPGW19</u> Date: <u>11/9/86</u> Time: <u>1/3/</u> Boring Diameter: <u>6"</u> Well Casing Diameter: <u>2"</u> Annular Space Length: <u>Stickup</u> :
	WATER LEVEL Held: Cut: DTW: -//.587/ Top of Casing COLUMN OF WATER IN WELL
	Casing Length: DTW Top of Casing: Column of Water in Well: VOLUME TO BE REMOVED
	Gallons per foot of A.S. (from chart) = Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space = 7.10 Gallons per foot of Casing =
	Volume of Casing= 1.5% Total Volume (Volume of A.S. + Volume of Casing)= 8.6% Number of Volumes to be EvacuatedX 5 Total Volume to be Evacuated= 43.4 gal
	Method of Purging (pump, bailer, etc.): APPROXIMATE FLOW RATE: 2.6 gpm TOTAL DEVELOPMENT TIME: 28 Min. (73 gpl)
	WATER LEVEL - 24 HRS AFTER DEVELOPMENT: HELD:
	CUT : Top of Casing NOTES:
	Signed/ DEVELOPER MADE TW Date: 11/19/86
1	Signed/Reviewer: Date:

CLEJ-00414-03.13-04/01/92	-WR85.1/SAMPFORM.1 03/15/85
WELL DEVELOPMENT FORM	
Well Number: <u>HPGW2D</u> Date: <u>11/9/86</u> Boring Diameter: <u>6"</u> Well Casing Diam	Time: 0838
. Boring Diameter: Well Casing Diam	eter: 2"
Annular Space Length: Stickup:	A LINE STORY
WATER LEVEL Held:	

Top of Casing

COLUMN OF WATER IN WELL

Cut:

Casing Length: DTW Top of Casing:

Column of Water in Well:

DTW: -10.67

VOLUME TO BE REMOVED

Gallons per foot of A.S. (from chart)

Column of Water or Length of A.S. (whichever is less) X

Volume of Annular Space

Gallons per foot of Casing

Column of Water

Volume of Casing

Total Volume (Volume of A.S. + Volume of Casing)

Number of Volumes to be Evacuated Total Volume to be Evacuated

Method of Purging (pump, bailer, etc.):

APPROXIMATE FLOW RATE: 2.6 gpm TOTAL DEVELOPMENT TIME: 40 min (104 gr

WATER LEVEL - 24 HRS AFTER DEVELOPMENT:

HELD : CUT :

DTW :

____ Top of Casing

JW

NOTES:

Signed / DEVELOPER Signed/Reviewer:

Date: 11

12.54

2.79

= 16.6 GA

15.33

TR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM

HPGW 21 1625 Date: 11/20/86 Time: Well Number: Well Casing Diameter: . Boring Diameter: 24 2.5' Stickup: Annular Space Length: WATER LEVEL -1500 Held: 25 Cut: Top of Casing DTW: COLUMN OF WATER IN WELL 28.00 Casing Length: 13.75 DTW Top of Casing: Column of Water in Well: 14.75 VOLUME TO BE REMOVED 0.39 Gallons per foot of A.S. (from chart) x 14.25 Column of Water or Length of A.S. (whichever is less) 5.56 Volume of Annular Space D. 1637 Gallons per foot of Casing Column of Water Volume of Casing Total Volume (Volume of A.S. + Volume of Casing) Number of Volumes to be Evacuated 39.5 9A Total Volume to be Evacuated Method of Purging (pump, bailer, etc.): (on havous Dumping (slow nut (2 0.5 gal discont APPROXIMATE FLOW RATE : (sunge) pumpin TOTAL DEVELOPMENT TIME: 14 gal total @ WATER LEVEL - 24 HRS AFTER DEVELOPMENT: 1715 11/20 HELD : 11/21: 4 941 CUT : Top of Casing 14 gal tot muddy @ onset ; slighty NOTES: Water cloudy @ completion due to prolonged SGA Date: Signed/ DEVELOPER Date: Signed/Reviewer: @ 1500 TOTAL = 40 gal

-WR85.1/SAMPFORM.1 03/15/85

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ell Number: HPGW2Z Date: 11786 Diameter: 6" Well Casing Diameter: Innular Space Length: Stickup: Iter LEVEL Held: Cut: DTW: -10.67 Top of Casing DLUMN OF WATER IN WELL Casing Length: DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water X Volume of Annular Space Column of Water X Top of Casing X	<u>/500</u> <u>z</u> "
Immular Space Length: Stickup: INTER LEVEL Held:	2.
Implies Space Length: Stickup: ITER LEVEL Held:	
ATEB LEVEL Held: Cut: DTW: -10.67 DTW: -10.67 Top of Casing DTW Top of Casing: DTW Top of Casing: DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water	
Cut: DTW: <u>-10.67</u> Top of Casing DLUMN OF WATEB IN WELL Casing Length: DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water X	
DTW: <u>-10.67</u> Top of Casing DLUMN OF WATEB IN WELL Casing Length: DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water X	
DLUMN OF WATEB IN WELL Casing Length: DTW Top of Casing: DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water	
Casing Length: DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water X	
DTW Top of Casing: Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water X	
Column of Water in Well: DLUME TO BE REMOVED Gallons per foot of A.S. (from chart) = Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space = Gallons per foot of Casing = Column of Water X	
OLUME TO BE REMOVED Gallons per foot of A.S. (from chart) Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space Gallons per foot of Casing Column of Water	
Gallons per foot of A.S. (from chart) = . Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space = . Gallons per foot of Casing = . Column of Water X	
Column of Water or Length of A.S. (whichever is less) X Volume of Annular Space = . Gallons per foot of Casing = . Column of Water X	
Volume of Annular Space=Gallons per foot of Casing=Column of WaterX	
Gallons per foot of Casing . Column of Water X	10.44
Column of Water X	10.41
column of water	
The set france	2.37
Volume of Casing	1776
Total Volume (Volume of A.S. + Volume of Casing) =	5
Number of Volumes to be Evacuated X	63.8 0
ethod of Purging (pump, bailer, etc.):	
PPROXIMATE FLOW RATE: ~ Igal/Min	- 34 `
TOTAL DEVELOPMENT TIME: (63	iad
	-7
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	
HELD :	
Cut :	
DTW : Top of Casing	
NOTES:	
al 11	
V//1 1/ TW	11
igned/DEVELOPER Dat	

-	CLEJ-00414-03.13-04/01/92 WR85.1/SAMPFORM.1 03/15/85
] _	WELL DEVELOPMENT FORM
)	Well Number: HPGWZJ Date: 11886 Time: 1032
	Boring Diameter: 6" Well Casing Diameter: 2"
	Annular Space Length: Stickup:
	WATER LEVEL
	Held:
	Cut:
	DTW: -13.58 Top of Casing
	COLUMN OF WATER IN WELL
	Casing Length:
	DTW Top of Casing:
	Column of Water in Well:
	VOLUME TO BE REMOVED
	Gallons per foot of A.S. (from chart) =
	Column of Water or Length of A.S. (whichever is less) X
	Volume of Annular Space = <u>$\mathbf{T}_{1} \leq 7$</u>
	Gallons per foot of Casing
) and the second second	
	Number of Volumes to be Evacuated X
	Total Volume to be Evacuated = 57.10
	Method of Purging (pump, bailer, etc.):
	APPROXIMATE FLOW RATE: ~/gpm
	TOTAL DEVELOPMENT TIME: - (629AL)
	WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
	HELD :
	Cut :
	DTW : Top of Casing
W. S. W. S.	
 A statistic statistical statistic statistical statistical statistepseudost statistical statistical statistical statistical st	NOTES:
	al a A
	Signed/ Developes //// hu JW Date: 11/19/86
) ***	
	Signed/Reviewer: Date:
	and the second

WR85.1/SAMPFORM.1 03/15/85

-	Well Number: HPGWZS Date: 11/8/86 Time: 1000
	Boring Diameter: 6" Well Casing Diameter: 2"
	Annular Space Length: Stickup:
	WATER LEVEL
	Held:
	Cut:
	DTW: Top of Casing
	COLUMN OF WATER IN WELL
	Casing Length:
	DTW Top of Casing:
	Column of Water in Well:
	VOLUME TO BE REMOVED
	Gallons per foot of A.S. (from chart) =
	Column of Water or Length of A.S. (whichever is less) X
	Volume of Annular Space = 11.88
	Gallons per foot of Casing
	Column of Water X
	Volume of Casing = $\frac{2.64}{11-7}$
	Total Volume (Volume of A.S. + Volume of Casing) = 14.52
	Number of Volumes to be Evacuated X 2
	Total Volume to be Evacuated = $\frac{12.60}{12.60}$
	Method of Purging (pump, bailer, etc.):
	APPROXIMATE FLOW RATE: _~/.2 gpm
	TOTAL DEVELOPMENT TIME: - (73 gal)
	TOTAL DEVELOPMENT TIME (73 gAL)
	WATER LEVEL - 24 HRS AFTER DEVELOPMENT;
	HELD :
	Cut :
	DTW : Top of Casing
	NOTES:
	$1 \wedge 1$
	Signed/DEVELOPER //// Date: ////7
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[CLEJ-00414-03.13-04/01/92 WR85.1/SAMPFORM.1 03/15/85
	EMPORANY # 200 8 WELL DEVELOPMENT FORM
\mathcal{O}	Well Number: HPGWZ6 Date: 11986 Time: 1028 Boring Diameter: 6" Well Casing Diameter: 2"
ing a straight	Annular Space Length: Stickup:
	WATER LEVEL
Caller Strategy	Held:
	Cut:
	DTW: Top of Casing
4 	COLUMN OF WATEB IN WELL
	Casing Length:
	DTW Top of Casing:
	Column of Water in Well:
	Gallons per foot of A.S. (from chart)
	Column of Water or Length of A.S. (whichever is less) X
le internet es	Volume of Annular Space = $\frac{4.13}{13}$
	Gallons per foot of Casing
1 - Contraction	Column of Water X
	Volume of Casing $= 0.92$
$\left(\begin{array}{c} \\ \end{array} \right)$	Total Volume (Volume of A.S. + Volume of Casing) = 5.04
	Number of Volumes to be Evacuated X
	Total Volume to be Evacuated = 25 QA
No. 25 Percent of the	Method of Purging (pump, bailer, etc.):
	APPROXIMATE FLOW RATE : 1.2 gpm
	TOTAL DEVELOPMENT TIME: 28 Min. (34 gAl)
and a second second	WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
	HELD:
	Cut :
: ·	DTW : Top of Casing
	NOTES:
	Signed/DEVELOPER AND JW Date: 11/19/52 Signed/Reviewer: Date: 11/19/52

WELL DEVELOPMENT FORM
Well Number: HPGW27 Date: 11/20/86 Time: 0930
Boring Diameter: 6 Well Casing Diameter: 2"
Annular Space Length: 24' Stickup: 2.5'
WATER LEVEL
Held:
Cut: 1.10'
DTW: Top of Casing
COLUMN OF WATER IN WELL
Casing Length: 28.00
DTW Top of Casing:
Column of Water in Well: 19.10
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart) = 0.39
Column of Water or Length of A.S. (whichever is less) X 19.10
Volume of Annular Space = 7.45
Gallons per foot of Casing = 0.1632
Column of Water X <u>19.10</u>
Volume of Casing = <u>3.12</u>
Total Volume (Volume of A.S. + Volume of Casing) = $\frac{12.57}{5}$
Number of Volumes to be Evacuated X
Total Volume to be Evacuated = 52.9 gAl
Method of Purging (pump, bailer, etc.):
APPROXIMATE FLOW RATE: Add Aline (@ low think HE)
TOTAL DEVELOPMENT TIME: 10 Min. (~ 80 gal)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
HELD:
Cut :
DTW : Top of Casing
NOTES: Water muddy & encet in 12" sedment i casing @ onet, water & casing closer ipon completion of directopment
Signed/ DEVELOPER Man Date: 11/20/86
Signed/Reviewer: Date:

WELL DEVELOPMENT FORM
Well Number: $\frac{HPGW28}{GW28}$ Date: $\frac{11/20/86}{Well Casing Diameter: \frac{1010}{Z''}Annular Space Length: \frac{24'}{Z4'} Stickup: \frac{2.5'}{Z.5'}$
WATER LEVEL Held: $-8.00'$ Cut: $-1.52'$ DTW: $-6.48'$ Top of Casing
COLUMN OF WATER IN WELL Casing Length: 28.00 DTW Top of Casing: - 6.48 Column of Water in Well: 21.52
VOLUME TO BE REMOVEDGallons per foot of A.S. (from chart)Column of Water or Length of A.S. (whichever is less)Volume of Annular SpaceGallons per foot of CasingColumn of WaterColumn of WaterVolume of CasingColumn of WaterVolume of CasingTotal Volume (Volume of A.S. + Volume of Casing)Number of Volumes to be EvacuatedTotal Volume to be EvacuatedMethod of Purging (pump, bailer, etc.):APPROXIMATE FLOW RATE :MORATE :Mind (~75 QAI)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT: HELD: CUT :
DTW: Top of Casing <u>NOTES</u> : Waten very modely @ owset, odonous (sulfern?) ~12" sediment introle daging @ 'owset', casing cleaned but waten st. cloudy + st. odonous @ completion of ductopue." Signed/Developer Man Date: 11/20/86 Signed/Reviewer: Date: 11/20/86

WELL DEVELOPMENT FORM	
Well Number: HPGW29 Date: 11/20/86 Time: 154	0
Boring Diameter: 6" Well Casing Diameter: 2"	
Annular Space Length: 24' Stickup: 2.5	·
WATEB LEVEL	A State of the second second
Held: - 23.00'	
Cut: - 0.70'	
DTW: - 22.30' Top of Casing	
COLUMN OF WATER IN WELL ,	
Casing Length: 28.00	
DTW Top of Casing: 22.30	
Column of Water in Well: <u>5.70</u>	
VOLUME TO BE REMOVED	
Gallons per foot of A.S. (from chart) = 0.3	39
Column of Water or Length of A.S. (whichever is less) X 5.	70
Volume of Annular Space = 2.2	2
Gallons per foot of Casing = 0.16	32
Column of Water X 5.7	0
Volume of Casing = <u>C.9</u>	3
Total Volume (Volume of A.S. + Volume of Casing) = 3.1	15
Number of Volumes to be Evacuated X	
Total Volume to be Evacuated = 15.	75gel
Method of Purging (pump, bailer, etc.): Discontinvous Dumpin	192
APPROXIMATE FLOW RATE: ~ SgR1/10 MINUTES,	2
TOTAL DEVELOPMENT TIME: 35 MINUTUS (>15 GAN	
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:	RELATIVELY
HELD:	QUICK 1 RECHAMES
Cut :	
DTW : Top of Casing	
NOTES: Whiters modely @ arret; clean.	spen complete
Signed/ DEVELOPER Man Date: 11	20/8%
Signed/Reviewer: Date:	

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WELL DEVELOPMENT FORM
Wall Number: HPG4 30 Date: H/20/86 Time: 1100
well Number: 11 Groupe Later
Boring Diameter.
Annorat opace bengent
Held: - 12.00
. 15'
10.85'
DTW: TOP OF Casing COLUMN OF WATER IN WELL
Casing Length: 28.00
DTW Top of Casing: /0.85'
Column of Water in Well: 17.15
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart) = 0.39
Column of Water or Length of A.S. (whichever is less) X 17.15
Volume of Annular Space = 6.69
Gallons per foot of Casing = 0.1632
Column of Water X 17.15
Volume of Casing = 2.80
Total Volume (Volume of A.S. + Volume of Casing) = <u>9.49</u>
Number of Volumes to be Evacuated X 5
Total Volume to be Evacuated = <u>41.5</u>
Method of Purging (pump, bailer, etc.): Continuous pumping
APPROXIMATE FLOW RATE: SLOW ~ 0.5 gr / MIN
TOTAL DEVELOPMENT TIME: [hr. 45 min (- 48 gast)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
HELD:
Cut :
DTW : Top of Casing
NOTES: Very slow pumping; writen middy @ onset; relativity dem your completion of
reaching dem und completion of
developments 1 5
Signed/ DEVELOPER Mand Quela Date: 11/20/46
Signed/Reviewer: Date:

WELL DEVELOPMENT FORM
Wall Number: HPCdd 31 Date: 1/20/86 Time: 1330
0/11
WATER LEVEL
Held: $-2 .00$ Cut: 1.10
10.001
DTW: - 19.90 Top of Casing COLUMN OF WATER IN WELL
Casing Length: 28.00
DTW Top of Casing: $-19.90'$
Column of Water in Well: 8. 10'
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart) = 0.39
Column of Water or Length of A.S. (whichever is less) X 8.10
Volume of Annular Space = 3.16
Gallons per foot of Casing = 0.1632
Column of Water X 8.10 -
Volume of Casing = [.3L.
Total Volume (Volume of A.S. + Volume of Casing) = 4.43
Number of Volumes to be Evacuated X
Total Volume to be Evacuated = 22.4 GM
Method of Purging (pump, bailer, etc.): Discontinuous Dumping
APPROXIMATE FLOW RATE: ~ 0.3 gal/Min J
11 15 . (~72)
TOTAL DEVELOPMENT TIME: 1 hour 15 min (~23 gal)
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
이 같은 것은 것은 것은 것은 것은 것은 것은 것은 것을 받았다. 것은 것을 것을 것을 것 같아요. 것은 것은 것은 것은 것은 것은 것을 것 같아요. 것은 것을 것
HELD:
Cut :
DTW : Top of Casing
: [편집 :
NOTES: Muddy @ onset; water clear @ completion
of development - SLOW WELL,
Signed/ DEVELOPER Africal Date: 11/20/86
Signed/Reviewer: Date:

WR85.1/SAMPFORM.1 03/15/85

WELL DEVELOPMENT FORM

Well Number: HPGW32 Date: 11/20/86 Time: 1445
Boring Diameter: 6 Well Casing Diameter: 2
Annular Space Length: 24' Stickup: 2.5'
WATER LEVEL
Held:
Cut: 0.67
DTW: - 9.33 Top of Casing
COLUMN OF WATER IN WELL
Casing Length: 28.00
DTW Top of Casing: -9.33
Column of Water in Well: 18.67
VOLUME TO BE REMOVED
Gallons per foot of A.S. (from chart) = 0.39
Column of Water or Length of A.S. (whichever is less) X 18.67
Volume of Annular Space = 7.28
Gallons per foot of Casing = $\underbrace{C:1632}_{iiii}$
Column of Water X 18.67
Volume of Casing $= 3.05$
Total Volume (Volume of A.S. + Volume of Casing) = $\frac{10.33}{10.33}$
Number of Volumes to be Evacuated X
Total Volume to be Evacuated
Method of Purging (pump, bailer, etc.): Dump:~~~
APPROXIMATE FLOW RATE: ~ 3 gal/min
TOTAL DEVELOPMENT TIME: 20 Min (~60 gal)
3
WATER LEVEL - 24 HRS AFTER DEVELOPMENT:
HELD :
Cut :
DTW : Top of Casing
NOTES: Water V. muddy @ onset; chsing had w24" of sedment (predominantly and)@ onset; water t casing clare upon completion of development
Signed/ DEVELOPER Mar Date: 11/20/84
Signed/Reviewer: Date:

WELL DEVELOPMENT RECORD

CLIENT LANTDIV - Camp Lejerne

JOB # 49-02036 - 0140

FIELD PERSONNEL

Paul Feinberg

WELL #HPGW4-2

DATE		TIME STOPPED	-TIME SAMPLED	UNLOR TURBIDITY (NU)	CLARITY DEPTH TO WATER	рH	CONE
12-13-90	20800		Prior to development (20810)	mully brown	OPAQUE	8.0	402
n			in into development	cloudy. white	transparent	8.5	286
1		≈ 1000	Zhr into development	cloudy, white	transparent	8.5	275
						1993 a	
							1.18
							1 93
						i A	
							1.44
		and the second		-			100
							1. 19 1. 19
						19	1
			Seal 2 State			i senti S	1.10
		11					
						1 - 1 - ²	1
	4			1. 1920 - 1920 - 1920 1920 - 1920 - 1920			
							-

PAGE OF

WELL DEVELOPMENT RECORD

FIELD PERSONNEL

Paul Feinberg

CLIENT LANTDIV - Camp Lejeune

JOB # 49-02036 0140

WELL # HP GW 4-3

TIME SAMPLED COLOR CLARITY TURBIDITY (NU) DEPTH TO WATER CLARITY TIME STARTED TIME STOPPED GALS.REMOVED pH COND. DATE Pre-development (=0945) Light brown, cloudy opaque 7.0 378 12.19.90 20935 m. d. development (~ 1045) Notiont, slightly cloudy 8.1 11 transparent 300 No tint, americat of particulate matter post development (\$ 1145) transporent 1 294 8.2 21145 .

Date7/1/87	Time	0900	HPGW9-
Well Installation Date	6/29/87	Screen len	gth _ 70
Depth of Well 77	75.54	ft	
Diameter of Well	5 "	inches	
Method of Evacuation			
Depth from which well was			ρ
Distance from top of pipe	to ground Z.	50'	n strating for
	Before	After	24 hours A
Held length	17.00	27.00	And I will be considered
Wet length	1.10'	5.20'	
Distance to water		Z1.80	
Depth to sediment	70.00'	74.00'	
Appearance of water	Muddy brown	all and a state of the state of	
Approx. pumping rate Characteristics of sudiment_	Extrumba FI	the second se	gpm
eld Analyses Befor	0		2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
рн 7.0	e bucket no.	Bucket No	• After 7.0
Conductivity			
Temperature			The Contract
	a state and the		
of 2-1/2 gal buckets pumped	1 2 3 4 5 (5 7 8 9 10	and the second
Total well volume before pur	nping16,	60	gal
Total volume pumped	185 ZI	0	gal
ple collected - 1 cubitainer a	fter pumping la	beled	
cription of surge technique			Say in the second

Davil A. Britty Signed

<u>7/2/5</u> Date

Signed

Well Development	Well No
Date87	Time 0500
	18/87 Screen length _ <0 ' ft
Depth of Well /50'	ft
Diameter of Well Z"	inches fiches
Method of Evacuation Barter	2 30°
Depth from which well was pumped	build 75% from top It - 12° from
Distance from top of pipe to grow	it i
B	efore After Shi> 24 hours After
Held length	18,00' 18.00' 18:00' ft
(18'66' Wet length (12'6' Distance to water for)	3.00' 2.50' 2.67' ft
Distance to water for)	15,00' -35.00 15,33 - Tet
Depth to sediment	147' 152.5 ft
Appearance of water	muddy brown _ Cltar
Approx. pumping rate Characteristics of sudiment <u>Dr. 11</u>	1gpm 1.0 gpm mud. Ex Fine silt + Sand
a second and an end of the second	Bucket No Bucket No After
· pH	
Conductivity	
Temperature	
No. of 2-1/2 gal buckets pumped 1 2	3 4 5 6 7 8 9 10
T-1-1 11 1- 6	27.26
Total well volume before pumping	
Total volume pumped	gal
Sample collected - 1 cubitainer after	pumping labeled
Description of surge technique Was	hed well with water
from Fire hydrent through	1" water pipe (ABS)
1	-
	Read and Understood By:
n n n 1L	
Land F. Burtlyry	and the second
Signed	Signed Date

Well Development Date 6/24/27	Time	Well No	HPGW 17
Well Installation Date Depth of Well 75		Screen leng ft	th _ 20
Diameter of Well 2	.0	inches	
Method of Evacuation _ Baller	~ 1" PVC	6	
Depth from which well was pump	ped Fre	im Top of (olumn
Distance from top of pipe to g	round	2.67	and particular
2. DY Held length Wet length	Before	After	48 Hours Afte
of Held length	16.00	65.00	/7.00
Wet length	1.29	5,00	1.67
Distance to water	14.08	60.00	15.33
Depth to sediment	73.50	73.00	73.00 f
Appearance of water	turbid	Clear	Clear
Approx. pumping rate Characteristics of sudiment a	1/2 gpm	Yzgim 8	the second s
Field Analyses Before		Bucket No.	After
PH 6.5-7.			6.5-7
Conductivity			and the state of the
Temperature		1200	Las Repairs
No. of 2-1/2 gal buckets pumped 1	2 3 4 5 6	5 7 8 9 10	
Total well volume before pumpin	ng/	6.88	gal
Total volume pumped	Z60	and the second	gal
Sample collected - 1 cubitainer after Description of surge technique			gal

Quil A. Bruth

Read and Understood By:

7/1/87

Signed

Γ

Signed

Date

Well Installation Da	te	7/16/87	_ Screen length	_ <u>ZO</u>
Depth of Well	150	1	_ ft	
Diameter of Well	6		inches	
Method of Evacuation	Contraction of the	· · · · ·		
Depth from which well				olumn
Distance from top of	pipe to g	ground	2.50'	
well was a fine pipekly			30 min	
Hydran Sedim Romove Al	3	Before	After 2	4 hours
V Held length	Register (Canony) Generalis	18.00	18.00	18.00
Wet length		2.63	2.57	2.75
Distance to water		15.17	_15.43 _	15.2
Depth to sediment		75.00'		75.0
Appearance of water		Clear	_Clea/	Clea.
Approx. pumping rate Characteristics of sedi-	ment	<u> </u>	<u> </u>	<u>n</u>
ield Analyses	Before	Bucket No	Bucket No	After
рĦ	6.5-7.	00	78	6.5-
Conductivity		And the second		<u> 17 (200)</u>
Temperature		energy and an and a second s		<u>-</u> <u>- 28 - 1</u>
0. of 2-1/2 gal buckets pu	mped 1	23456	7 8 9 10 _	
Total well volume befo	ore pumpin	ng 31	.75	gal
Total volume pumped		360	and the second s	gal
ample collected - 1 cubita	iner afte	er pumping lab	eled	n y kalennoperat Talan
escription of surge techni	que	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		the second

Signed

Date

Signed

Wel	1 Development			HACMS	4-2
	Date6/10/87	Time	1130 Am		
	Well Installation Date(Constant and a second se	Screen le	ngth _ 20.	0 ft
	Depth of Well 79.90		ft		
	Diameter of Well		inches		
	Method of Evacuation	and all the second s	-	i	
	Depth from which well was pu			better	_ ft
	Distance from top of pipe to	ground	3.25'		_ ft
			ZHARS	TZARS	
		Before	After	24 hours A	fter
	Held length (ToC)	16.00	18.00	18.00	_ ft
1.64	Wet length (roc)	1.40	2.67	3.25	_ ft
-	Distance to water (Foc)	14.60	15.33	14.75	_ ft
	Depth to sediment (roc)	78.15	78.00'	78.00	_ ft
	Appearance of water	turbed gry			
	Approx. pumping rate Characteristics of sediment	0.15 gpm	0.15 gpm		1
		instial (grey),	100 A 100 A 100 A 100 A	Fine Sand	CHE PERSON AND
	i Analyses Before			o After	
	рН <u>6.0-6</u>	5 (Through	out	$\Longrightarrow \downarrow$	_
	Conductivity $\frac{N/4}{2}$	_(= -	_
	Temperature <u>N/4</u>	_(/	- 11
ło. o	f 2-1/2 gal buckets pumped 1	2 3 4 5 6	7 8 9 10		
				- volume	10.43,
	Total well volume before pump	ing _16.93 (volume + 45	1 45	6 50 9
	Total volume pumped/			gal	
amplo	e collected - 1 cubitainer af	ter pumping lat	oeled		
escri	iption of surge technique				
		- 351 - 351			6
					2M
	\bigcap Λ i i i	Read and Un	derstood By:		5/1
/					
1) VA R-H			11.	_ / _
) igned	all A. Buttyn	Signed		6/17	1/81

We	11 Development	Well No. <u>HPGW 24-3</u>
	Date Time Time	0830
	Well Installation Date $\frac{6/17/87}{17^2}$	Screen length ft
	Depth of Well 148.17 'BGL	ft
	Diameter of Well5"	inches
		PVCT 50% Duiled arifton
	Depth from which well was pumped	N/A J 50 % bailed of the
200	Distance from top of pipe to ground	+5 1.83' ft
	Before	ZYLIS after 72 Lis
11.97	Held length _/6.00	L' LOGIS ALLEI
5=BGL	Wet length /.13	
¥	Distance to water (B61) 14.87	7' 12 17 13 27
	Depth to sediment 140.00	
	Appearance of water Muddy b	brown Cleur-slightgrey & Cleur
	Approx. pumping rate 0.15	
		ery very fine silty sand lary black
Fiel	d Analyses 10 gul FBefore Bucket N	
	pH6.5-7.0	<u> </u>
	Conductivity	
	Temperature	
No. c	of 2-1/2 gal buckets pumped 1 2 3 4 5	
		37.13
	Total well volume before pumping	TOFF
	Total volume pumped 300 gal	<u>gal</u>
	gue	gal
Sampl	e collected - 1 cubitainer after pumping	Ishelad
Descr	iption of surge technique	Tabelen

DA. Brittin

Read and Understood By:

7/1/87 Date

Signed

Signed