1818

Compliance - Reuse Report

McQueen & Associates, Inc.

Engineers • Planners • Land Surveyors

Darrell E. McQueen, P.E.
David S. Knight, P.E.
Stephen R. Melchiori
Scott B. McGuire, P.E.
Stuart A. Houston, P.L.S.

March 13, 1990

Mr. Dwight T. Jenkins
St. Johns River Water Management District
618 East South Street
Orlando, FL 32801

RE: JOHN'S ISLAND NON-POTABLE IRRIGATION
CUP APPLICATION NO. 2-061-0540 AN

Dear Mr. Jenkins:

As requested, transmitted herewith are the results of the Aquifer Performance Test for the above captioned project.

If you have any questions or concerns, please do not hesitate to contact the writer.

Sincerely,
McQUEEN & ASSOCIATES, INC.

Darrell E. McQueen

Darrell E. McQueen, P.E.
Florida Reg. No. 21497

DEM/sj

Enclosures

CC: Robert Burnett, Lost Tree Village, Corp.
Mike Rose, John's Island Property Owners Assoc.

700 22nd Place, Suite 201, Vero Beach, Florida 32960
Telephone: 407 569-1322 • Facsimile: 407 778-5396

GEM ISLAND 12" FLORIDAN AQUIFER WELL

AQUIFER PERFORMANCE TEST

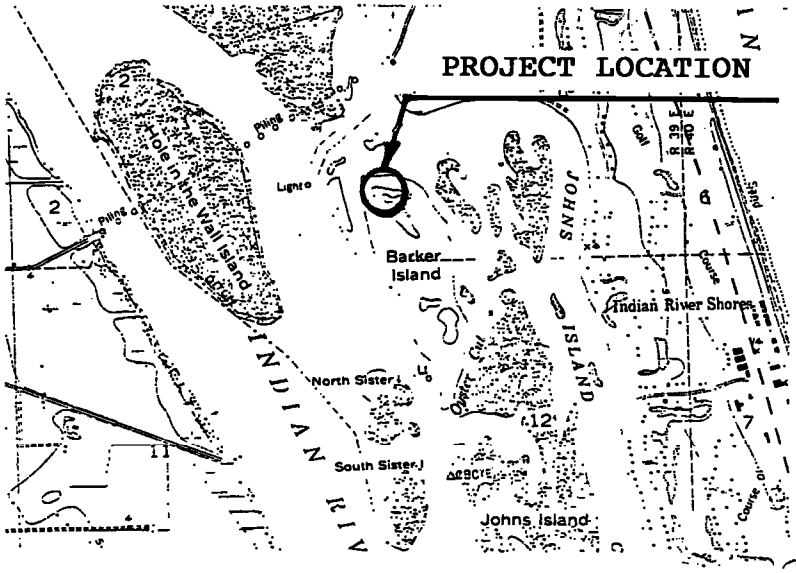
C.U.P. APPLICATION NUMBER 2-061-0540 AN

PREPARED FOR:

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

LOST TREE VILLAGE CORP.

JOHN'S ISLAND PROPERTY OWNERS ASSOCIATION



LOCATION SKETCH

2361

RECEIVED
MAR 19 1990
RECORDS
ORLANDO

PREPARED BY:

MCQUEEN AND ASSOCATIES, INC.

Gem Island 12" Well
Aquifer Performance Test
C.U.P. Application Number 2-061-0540AN

The aquifer performance test as required by the District was performed on the 12" Floridan Aquifer Well at Gem Island February 20, 1990 thru February 23, 1990. A description of testing procedures and findings are as follows:

A. Geochemical Analysis:

1.)Sample collection and geochemical analysis were performed by Envirometrics, Vero Beach, Florida - H.R.S. Identification Numbers 83214 and E83154. Sample collections were made at the following intervals:
- 30 Minutes (Based on the time to evacuate at least three volumes of water from the well)
- 24 Hours.
- 48 Hours.
- At the end of the test (72 Hours).

Samples were analyzed for Temperature, pH, and Carbonate in the field.

Results of geochemical analysis are as follows:

Parameter	02/20	02/21	02/22	02/23
Chlorides	475	490	540	460
Sulfate	222	166.3	157.9	128.5
Calcium	129	131	131	132
Magnesium	31	32	32	32
Sodium	391	364.2	313.4	305.7
Potasium	19.92	15.92	16.11	16.05
Carbonate Lab	0	0	0	0
Carbonate Field	0	0	0	0
Bicarbonate	161	168	166	156
Total Alkalinity	132	138	136	128
Total Iron	0.06	0.04	0.04	0.08
Total Hardness	412	398	402	374
TDS, 180 c	1710	1404	1446	1334
Field Temp.	24	24	24	24
Specific Conductance . (Micro/MHOS)	2000	2300	2050	2150
pH Field	7.4	7.6	7.5	7.2
pH Lab	7.4	7.2	7.4	7.3

Parameters expressed as mg/l except as noted.

Results of all analysis performed by Envirometrics are submitted as Exhibit "A-1" and "A-2".

2.)Field analysis for Chlorides, Temperature, and Specific Conductance were performed by McQueen & Associates every one-half (1/2) hour for the first twelve (12) hours of the test. At the end of the twelve (12) hour period, Chloride and Specific Conductance values had not increased more than 20% over the initial value, and this testing program was discontinued as per the district approved plan of study.
Chloride measurements were made using a Hach Digital Titrator (Mecuric Nitrate Method) which has a accuracy of +/- 1% typically. Specific Conductance and Temperature were measured using a Y.S.I. Model 33 S-C-T Meter which has an accuracy of +/- 2.5% maximum error. Flow was measured by using a 4" Oriface Plate and Manometer Tube. Temperature, Chloride, Specific Conductance and flow values are as Follows:

DATE	TIME	TEMP (C)	SPECIFIC CONDUCTANCE (UMHOS)	CHLORIDE (mg/l)	FLOW (g.p.m.)
2/20	0830	26	2000	712	250
2/20	0900	26	1990	670	246
2/20	0930	26	1910	622	243
2/20	1000	26	1850	590	240
2/20	1030	26	1875	574	236
2/20	1102	26	1950	560	234
2/20	1130	26	1990	559	232
2/20	1200	26	2020	560	231
2/20	1230	26	2075	555	231
2/20	1300	26	2100	559	230
2/20	1330	26	2125	558	229
2/20	1400	26	2180	560	228
2/20	1430	26	2190	566	227
2/20	1500	26	2200	568	227
2/20	1530	26	2210	565	227
2/20	1600	26	2225	562	226
2/20	1630	25.5	2250	566	226
2/20	1700	25.5	2240	565	226
2/20	1730	25.5	2260	565	225
2/20	1800	25.5	2275	566	225
2/20	1830	25.5	2290	570	225
2/20	1900	25.5	2290	568	225
2/20	1930	25.5	2290	571	224
2/20	2000	25.5	2280	570	224
2/20	2030	25.5	2280	572	224
2/21	0810	25.5	1900	578	222
2/21	1330	26	1890	562	222
2/22	0840	25.5	1625	572	221
2/22	1642	26	1740	568	221
2/23	0800	25.5	1605	575	222

:Note: It appears that Hydrogen Sulfide may have affected Chloride Test results conducted in the field, causing values to appear higher than the test conducted in the lab.

A copy of Field data shown above is included as Exhibit "A-3"

EXHIBIT "A-1"

M-15

ENVIROMETRICS
683 S.W. 27th Ave. Vero Beach, Fl. 32968
(407)562-1968

March 02, 1990 HRS ID 83214 & E83154

To: McQueen & Associates
700 22nd Place
Suite 201
Vero Beach, Fl. 32960

Sample Identification:	Gem Island Well #1			
Sample Location:	Indian River County			
Sample Type:	Grab			
Sample By:	Sue DeBlois			
Sample Date:	02/20, 0830	02/21, 0850	02/22, 0830	02/23/90 0750
Sample Received:	02/20, 0955	02/21, 1115	02/22, 1000	02/23/90 0900
Lab Log:	76377	76399	76458	76459

Parameters	02/20	02/21	02/22	02/23
Chlorides, Cl	475	490	540	460
Sulfate, So4	222	166.3	157.9	128.5
Calcium, Ca	129	131	131	132
Magnesium, Mg	31	32	32	32
Sodium, Na	391	364.2	313.4	305.7
Potassium, K	19.92	15.92	16.11	16.05
Carbonate Field, Co3	0	0	0	0
Carbonate Lab, Co3	0	0	0	0
Bicarbonate, HCo3	161	168	166	156
Total Alkalinity	132	138	136	128
Total Iron, Fe	0.06	0.04	0.04	0.08
Total Hardness, CaCo3	412	398	402	374
TDS, 180 c	1710	1404	1446	1334
Field Temp. c	24	24	24	24
Specific Conductance (Micro/MHOS)	2000	2300	2050	2150
pH Field	7.4	7.6	7.5	7.2
pH Lab	7.4	7.2	7.4	7.3

Parameters expressed as mg/l except as noted

Respectfully submitted,

Grace Treadway, Chemist

Ref.:"Std. Methods for the Examination of Water & Wastewater."
16th ed.

AQUIFER PERFORMANCE TEST
FIELD SHEET

EXHIBIT "A-2"

CUP NO. 2-061-0540 AN
Project: Gem Island 12" Well
Engineers Project No. 89-400
Company: Envirometrics, H.R.S. Id #83214

McQUEEN & ASSOCIATES, INC.
700 22nd. Pl., Ste. 201
Vero Beach, FL 32960

DATE	TIME	WELL NO.	TEMP. °C	PH	CARBONATE	SAMPLERS SIGNATURE
2/20/90	0830	1	24	7.4	0	Sue DeBlois
2/21/90	0830	1	24	7.6	0	Sue DeBlois
2/22/90	0830	1	24	7.5	0	Sue DeBlois
2/23/90	0756	1	24	7.2	0	Sue DeBlois

AQUIFER PERFORMANCE TEST
FIELD SHEET

EXHIBIT "A-3"

CUP NO. 2-061-0540 AN
Project: Gem Island 12" Well
Engineers Project No. 89-400
Sampler: DON HUNDLEY

McQUEEN & ASSOCIATES, INC
700 22nd Pl., Ste. 201
Vero Beach, FL 32960

DATE	TIME	WELL NO.	TEMP. (°C)	SPECIFIC CONDUCTANCE (UMHOS)	CHLORIDE (mg/L)	FLOW (g.p.m.)
2-20-90	0800	1 (12")	OPEN VALVE - START TEST			
"	0801	1				292
"	0803	1				273
"	0806	1				264
"	0811	1				257
"	0816	1				255
"	0826	1	← START SAMPLING →			252
"	0830	1	26	2000	712	250
"	0836	1				249
"	0848	1				247
"	0856	1				247
"	0900	1	26	1990	670	246
"	0916	1				245
"	0930	1	26	1910	622	243
"	0945	1				241
"	1000	1	26	1850	590	240
"	1015	1				237
"	1030	1	26	1875	574	236
"	1047	1				234
"	1102	1	26	1950	560	234
"	1115	1				233
"	1130	1	26	1990	559	232
"	1145	1				231
"	1200	1	26	2020	560	231
"	1215	1				231
"	1230	1	26	2075	555	231
"	1300	1	26	2100	559	230
"	1330	1	26	2125	558	229
"	1400	1	26	2180	560	228
"	1430	1	26	2190	566	227
"	1500	1	26	2200	565	227
"	1530	1	26	2210	565	227
"	1600	1	26	2225	562	226
"	1630	1	25.5	2250	566	226
"	1700	1	25.5	2240	565	226
"	1730	1	25.5	2260	565	225
"	1800	1	25.5	2275	566	225
"	1830	1	25.5	2290	570	225
"	1900	1	25.5	2290	568	225
"	1930	1	25.5	2290	571	224
"	2000	1	25.5	2280	570	224
"	2050	1	25.5	2280	572	224

AQUIFER PERFORMANCE TEST
FIELD SHEET

EXHIBIT "A-3"

CUP NO. 2-061-0540 AN
Project: Gem Island 12" Well
Engineers Project No. 89-400
Sampler: Don Hundley

McQUEEN & ASSOCIATES, INC
700 22nd Pl., Ste. 201
Vero Beach, FL 32960

DATE	TIME	WELL NO.	TEMP. (°C)	SPECIFIC CONDUCTANCE (UMHOS)	CHLORIDE (mg/L)	FLOW (g.p.m.)
2-21-90	0810	1 (12")	25.5	1900	578	222
2-21-90	1330	1	26	1890	562	222
2-22-90	0840	1	25.5	1625	572	221
2-22-90	1642	1	26	1740	568	221
2-23-90	0800	1	25.5	1605	575	222
2-23-90	0807	1	WELL OFF			

B. Aquifer Performance Test

1.)The Twelve (12) inch production well which was tested is located 193.45 feet from an existing four (4) inch test well as shown in Exhibit "B-3". In order to establish a zone of influence, water levels were monitored in both wells from the beginning of the test until full recovery. The discharge valve on the four (4) inch well remained closed during the entire test.

2.)Water levels and temperature were recorded by a computer driven data logger equipped with pressure transducers and a temperature probe (Temperature in 12" Well only).
Wells were prepared for testing as indicated in Exhibits "B-1" and "B-2".
The flow rate was measured by using a 4" orifice plate and manometer tube (see Exhibit "B-1"). Flow rates were recorded continuously during the first twelve (12) hours of the test. Random checks during days two and three and prior to closing of the valve indicate a steady flow of +/- 222 gallons per minute. Flow was started and stopped by a six (6) inch quick opening butterfly valve which was secured by a padlock and chain during the testing.

Data from the computer driven well logger was recorded according to the following schedule:

DATE	TIME	SCAN INTERVAL
2-20-90	0800 to 0953	10 Seconds
2-20-90	0953 to 1012	1 minute
2-20-90	1012 to 1127	5 minutes
2-20-90	1127 to 2359	30 minutes
2-21-90	0001 to 2359	30 minutes
2-22-90	0001 to2359	30 minutes
2-23-90	0001 to 0807	30 minutes
	START RECOVERY	
2-23-90	0807 to 0810	10 seconds
2-23-90	0810 to 0834	15 seconds
2-23-90	0834 to 0913	1 minute
2-23-90	0913 to 2238	15 minutes

A hard copy of data collected by the computer driven logger is included as Exhibit 'B-4'.

3.)CALULATED AQUIFER PARAMETERS:

a.)TRANSMISSIVITY:

The transmissivity of an Artesian Aquifer can be found by rearranging and solving the equation for discharge of a well in an Artesian Aquifer (Ground Water Manual,U.S. Department of Interior Water and Power Resources Service,1981).

$$Q = \frac{2\pi KM\ (he-hw)}{\ln\left(\frac{re}{rw}\right)}$$

Q=DISCHARGE OF THE WELL
K=COEFICENT OF PERMEABILITY
M=THICKNESS OF THE ARTESIAN AQUIFER
T=KM=TRANSMISSIVITY
he=PIEZOMETRIC PRESSURE AT CIRCUMFERENCE OF AREA OF INFLUENCE
hw=PIESOMETRIC PRESSURE AT WELL
re=RADIUS OF AREA OF INFLUENCE
rw=RADIUS OF WELL

Rearranging the equation, and solving for Transmissivity:

$$KM = \frac{Q \ln\left(\frac{re}{rw}\right)}{2\pi (he-hw)}$$

FROM 72 HOUR TEST IN FIELD:

Q=222 gpm=319,680 gpd
re=193.45'
rw=.5'
he=23.676'
hw=10.677'
M=300'

KM=23,319 gpd/ft.

b.)SPECIFIC CAPACITY:

$$\frac{\text{gpm flow}}{\text{feet of drawdown}}$$

$$\frac{222}{20.374} = 10.896 \text{ gpm/ft.}$$

c.)LEAKANCE COEFFICIENT:
While researching to solve for leckance coefficient it has been found that three (3) observation wells are required in order to make a viable assumption (Ground Water Manual, U.S. Department of the Interior Water and Power Resources Service, 1981, Page 122).

Inspection of cuttings taken throughout the Hawthorne (confining) layer indicate a impermeable layer and it is assumed that any leakage would be minimal.

d.)Potential Adjacent Landowner Impacts:
As indicated in Exhibit "B-5", the subject property lies in the Indian River Lagoon. Land to the west of the project supports Citrus Groves which use Floridan Aquifer water for irrigation, but due to the distance, (.9 mile) impacts are not expected.
Note: The John's Island Golf Course irrigation water is piped from a well field in Wabasso, Florida.

e.)Drawdown and Recovery:
Drawdown and Recovery information are included as Exhibits "B-6","B-7","B-8 and "B-9".

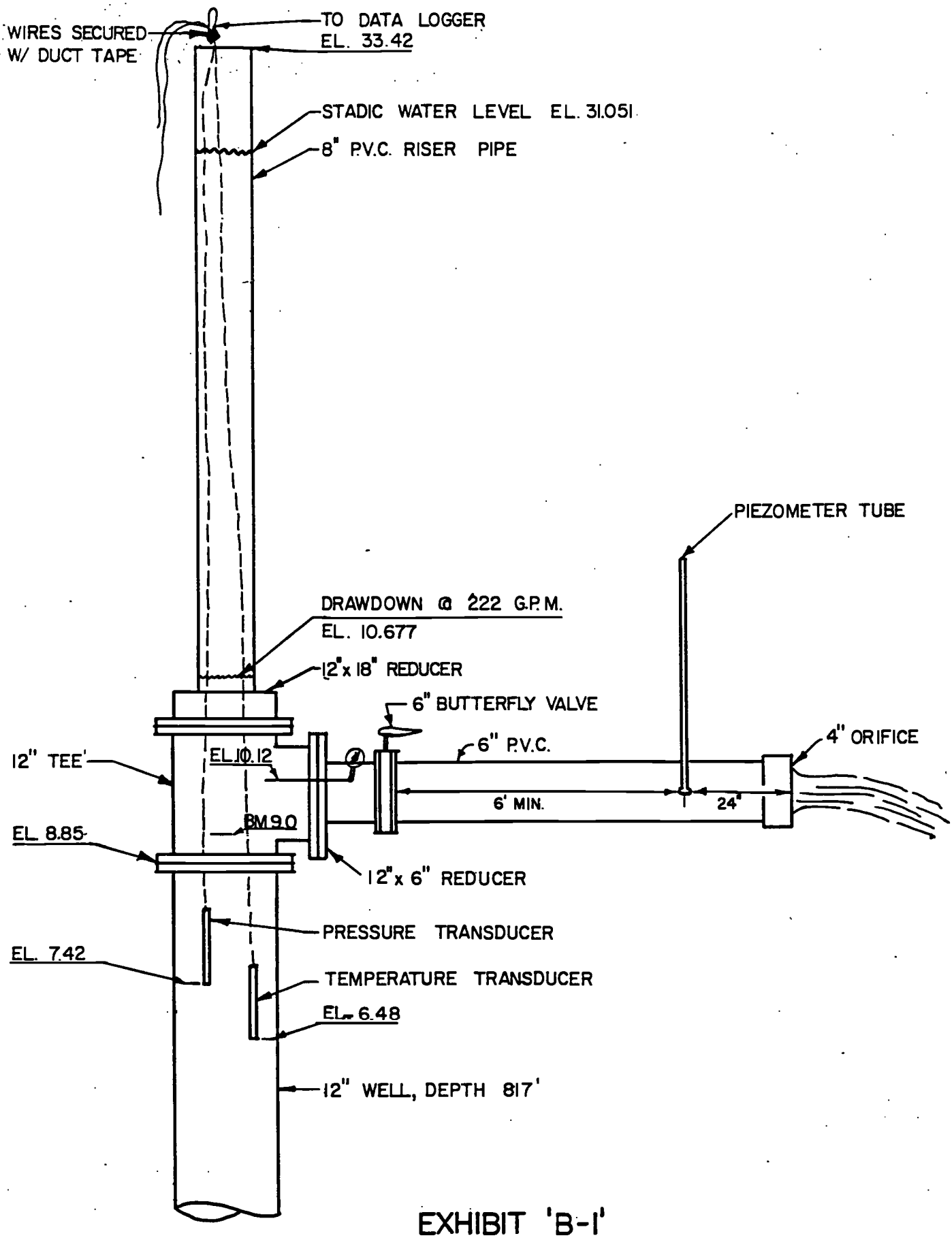


EXHIBIT 'B-1'

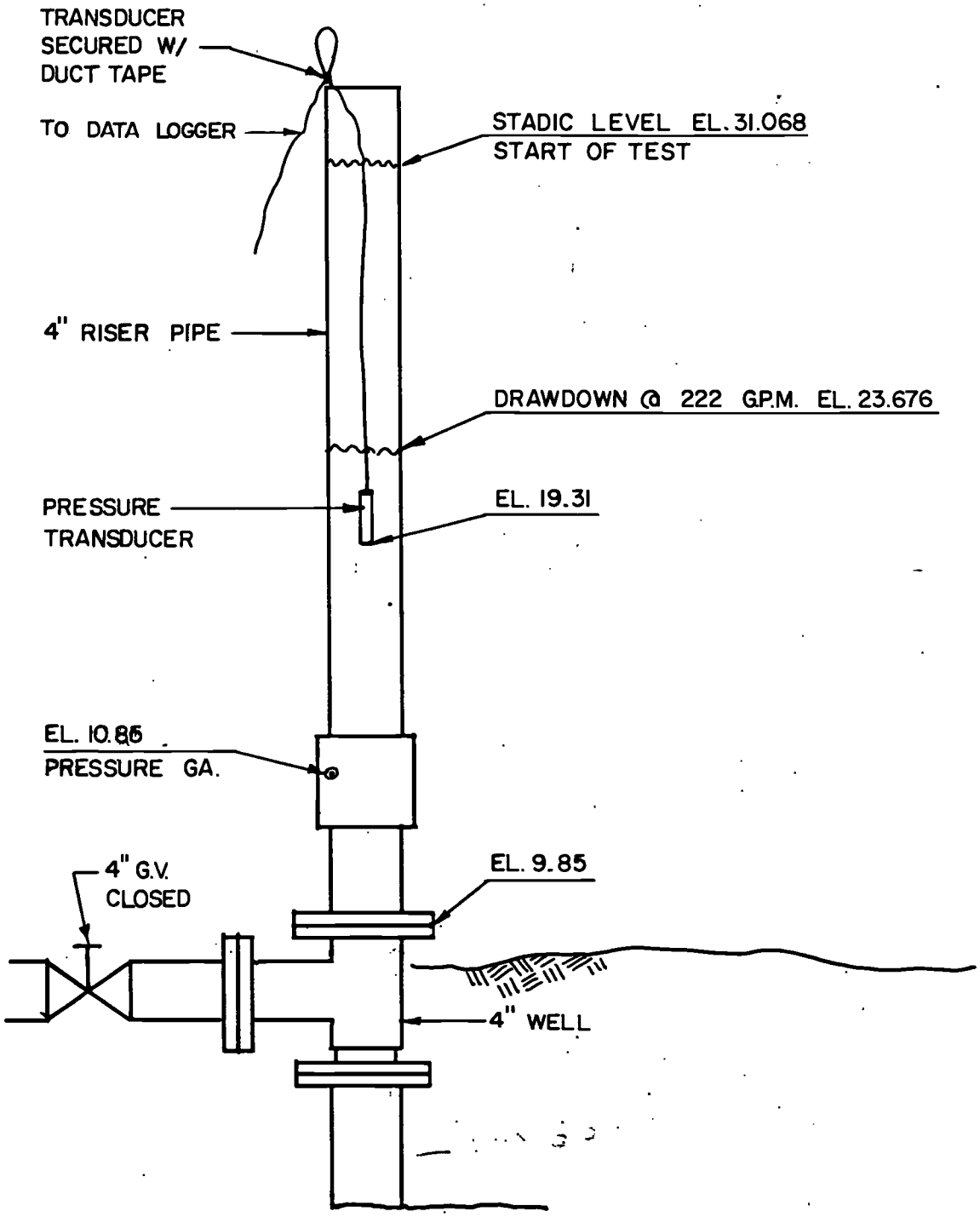
GEM ISLAND 12" FLORIDAN AQUIFER WELL N.T.S.

AQUIFER PERFORMANCE TEST

C.U.P. APPLICATION NO. 2-061-0540AN

EXHIBIT 'B-2'

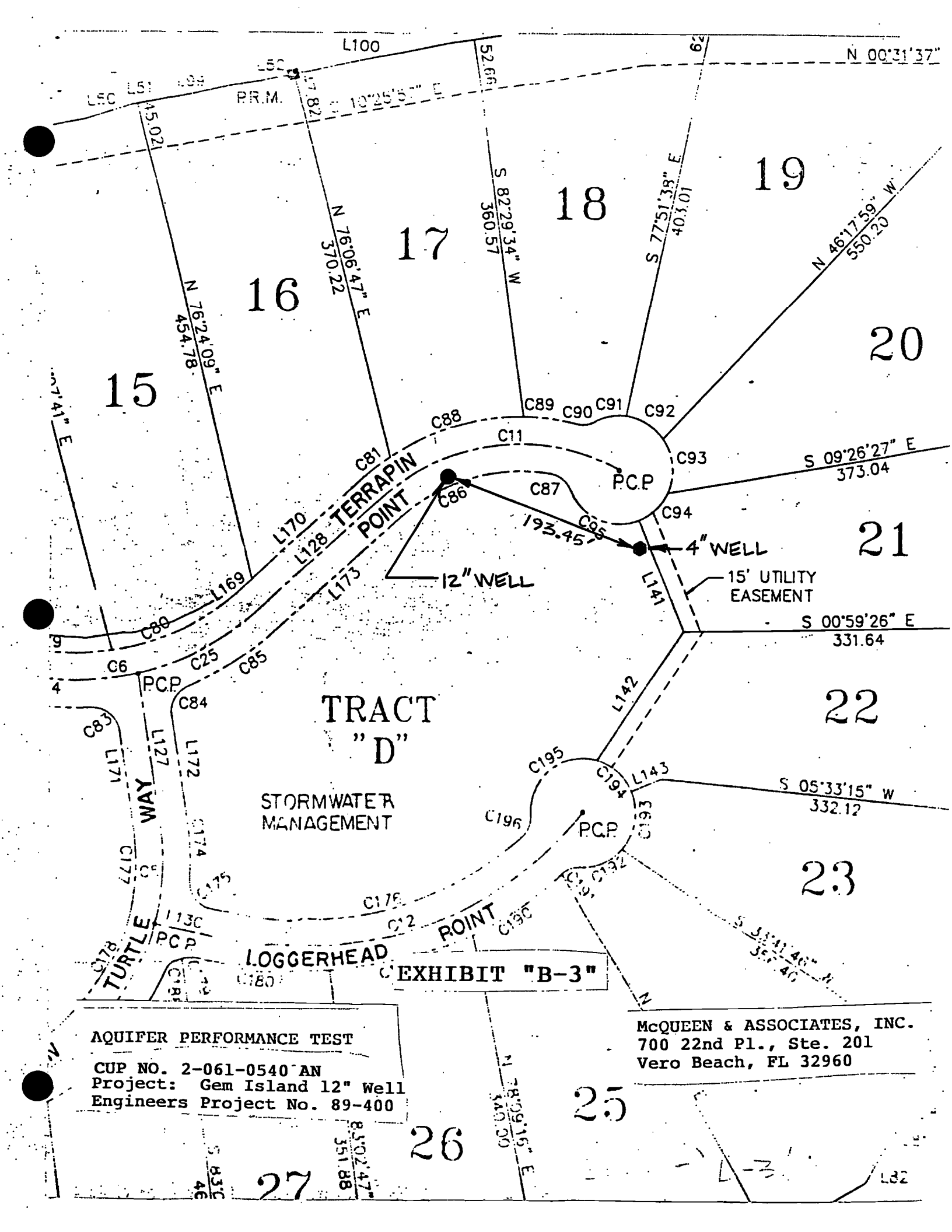
4" MONITER WELL



GEM ISLAND — FLORIDAN AQUIFER WELL N.T.S.

AQUIFER PERFORMANCE TEST

C.U.P. APPLICATION NO. 2-061-0540AN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P.R.M.
45.02
N 76°06'47" E
370.22
S 82°29'34" W
360.57
S 77°51'38" E
403.01
N 46°17'59" W
550.20
N 76°24'09" E
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C86
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193.45
P.C.P
S 09°26'27" E
373.04
TERRAPIN POINT
L170
L128
L169
L173
C80
C6
C25
C85
C84
C83
L171
L127
L172
TRACT "D"
STORMWATER MANAGEMENT
4" WELL
12" WELL
15' UTILITY EASEMENT
L141
S 00°59'26" E
331.64
L142
C195
C194
L143
S 05°33'15" W
332.12
C196
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C192
C191
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TURTLE WAY
LOGGERHEAD POINT
EXHIBIT "B-3"
AQUIFER PERFORMANCE TEST
CUP NO. 2-061-0540 AN
Project: Gem Island 12" Well
Engineers Project No. 89-400
McQUEEN & ASSOCIATES, INC.
700 22nd Pl., Ste. 201
Vero Beach, FL 32960

EXHIBIT "B-4"

GEM ISLAND 12" FLORIDIAN AQUIFER WELL, AQUIFER PERFORMANCE TEST
CUP # 2-061-0540 AN

Terra8 Data Collection Report

Firmware Version	6.1/87
Number of Bytes in Data Dump	23360
User Supplied Comment	
Time Header Block Loaded	02/15 11:20:56.00
Time Data File Dumped	02/24 17:50:21.90
Remaining Memory	42176
Number of Logs	1445
Type of Data Memory	Memory Board
Logs/Timestamp	1

Power was OK During Data Collection Period

Terra8 Channel Setup:

Number of Declared Analog Channels = 3

Ch#	Description	Units	Delay	M	B
1	TEST WELL P-1.....	FT.....	100	4.620	-0.000
2	WATER TEMP 0 - 50.	deg C...	100	10.000	-0.000
3	MONITER WELL.....	FT.....	100	4.620	-0.000

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	0	0	31.051	31.068	24.8
0	0	10	31.051	31.091	24.8
0	0	20	24.006	31.068	24.75
0	0	30	13.888	30.999	24.8
0	0	40	11.901	30.906	24.95
0	0	50	11.67	30.814	25.2
0	0	60	11.555	30.698	25.4
0	1	10	11.486	30.606	25.5
0	1	20	11.416	30.49	25.5
0	1	30	11.37	30.398	25.45
0	1	40	11.347	30.329	25.35
0	1	50	11.324	30.259	25.35
0	1	60	11.301	30.167	25.35
0	2	10	11.278	30.098	25.35
0	2	20	11.255	30.028	25.35
0	2	30	11.231	29.936	25.35
0	2	40	11.208	29.89	25.35
0	2	50	11.208	29.82	25.35
0	2	60	11.185	29.774	25.4
0	3	10	11.185	29.728	25.4
0	3	20	11.162	29.682	25.45
0	3	30	11.162	29.613	25.45
0	3	40	11.162	29.566	25.5
0	3	50	11.139	29.52	25.5
0	3	60	11.139	29.497	25.5
0	4	10	11.116	29.428	25.5
0	4	20	11.116	29.405	25.5
0	4	30	11.116	29.358	25.55
0	4	40	11.093	29.312	25.5
0	4	50	11.093	29.289	25.55
0	4	60	11.093	29.243	25.5
0	5	10	11.07	29.197	25.5
0	5	20	11.07	29.174	25.5
0	5	30	11.07	29.127	25.5
0	5	40	11.07	29.104	25.5
0	5	50	11.07	29.081	25.5
0	5	60	11.047	29.035	25.5
0	6	10	11.047	29.012	25.5
0	6	20	11.047	28.989	25.5
0	6	30	11.047	28.966	25.5
0	6	40	11.047	28.92	25.55
0	6	50	11.047	28.896	25.55
0	6	60	11.024	28.873	25.55
0	7	10	11.024	28.85	25.55
0	7	20	11.024	28.827	25.55
0	7	30	11.024	28.804	25.6
0	7	40	11	28.781	25.6
0	7	50	11	28.758	25.6
0	7	60	11	28.712	25.6
0	8	10	11	28.712	25.65
0	8	20	11	28.689	25.65
0	8	30	11	28.665	25.6
0	8	40	11	28.642	25.65
0	8	50	11	28.619	25.6
0	8	60	11	28.596	25.6

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	9	10	10.977	28.573	25.6
0	9	20	11	28.573	25.6
0	9	30	10.977	28.55	25.55
0	9	40	10.977	28.527	25.55
0	9	50	10.977	28.504	25.55
0	9	60	10.977	28.481	25.55
0	10	10	10.977	28.458	25.55
0	10	20	10.977	28.434	25.55
0	10	30	10.977	28.434	25.5
0	10	40	10.977	28.411	25.5
0	10	50	10.977	28.411	25.5
0	10	60	10.954	28.388	25.55
0	11	10	10.954	28.365	25.55
0	11	20	10.977	28.365	25.55
0	11	30	10.954	28.342	25.5
0	11	40	10.954	28.319	25.55
0	11	50	10.954	28.296	25.5
0	11	60	10.954	28.296	25.5
0	12	10	10.954	28.273	25.5
0	12	20	10.954	28.25	25.5
0	12	30	10.931	28.25	25.5
0	12	40	10.931	28.227	25.5
0	12	50	10.931	28.227	25.55
0	12	60	10.931	28.203	25.5
0	13	10	10.931	28.203	25.55
0	13	20	10.931	28.18	25.55
0	13	30	10.931	28.157	25.5
0	13	40	10.931	28.157	25.55
0	13	50	10.931	28.134	25.5
0	13	60	10.931	28.111	25.5
0	14	10	10.931	28.111	25.55
0	14	20	10.931	28.088	25.55
0	14	30	10.931	28.088	25.55
0	14	40	10.931	28.088	25.55
0	14	50	10.908	28.065	25.6
0	14	60	10.908	28.042	25.6
0	15	10	10.908	28.042	25.65
0	15	20	10.931	28.019	25.65
0	15	30	10.908	28.019	25.65
0	15	40	10.908	28.019	25.65
0	15	50	10.908	27.996	25.65
0	15	60	10.908	27.996	25.65
0	16	10	10.908	27.972	25.7
0	16	20	10.908	27.949	25.7
0	16	30	10.908	27.949	25.7
0	16	40	10.908	27.926	25.7
0	16	50	10.931	27.926	25.7
0	16	60	10.908	27.926	25.7
0	17	10	10.908	27.903	25.7
0	17	20	10.908	27.903	25.7
0	17	30	10.908	27.88	25.7
0	17	40	10.908	27.88	25.75
0	17	50	10.908	27.88	25.7
0	17	60	10.908	27.857	25.75
0	18	10	10.908	27.857	25.75

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	18	20	10.908	27.857	25.75
0	18	30	10.908	27.834	25.75
0	18	40	10.908	27.834	25.75
0	18	50	10.908	27.811	25.75
0	18	60	10.908	27.811	25.75
0	19	10	10.908	27.811	25.75
0	19	20	10.885	27.788	25.75
0	19	30	10.885	27.765	25.75
0	19	40	10.885	27.765	25.75
0	19	50	10.885	27.765	25.75
0	19	60	10.908	27.765	25.8
0	20	10	10.885	27.741	25.8
0	20	20	10.885	27.741	25.8
0	20	30	10.908	27.741	25.8
0	20	40	10.885	27.718	25.75
0	20	50	10.885	27.718	25.8
0	20	60	10.885	27.695	25.8
0	21	10	10.885	27.695	25.8
0	21	20	10.885	27.695	25.8
0	21	30	10.885	27.695	25.75
0	21	40	10.885	27.672	25.8
0	21	50	10.885	27.672	25.8
0	21	60	10.885	27.649	25.8
0	22	10	10.885	27.649	25.8
0	22	20	10.885	27.649	25.8
0	22	30	10.885	27.649	25.8
0	22	40	10.885	27.626	25.8
0	22	50	10.885	27.626	25.8
0	22	60	10.885	27.626	25.8
0	23	10	10.885	27.603	25.8
0	23	20	10.885	27.603	25.8
0	23	30	10.885	27.603	25.8
0	23	40	10.885	27.58	25.8
0	23	50	10.885	27.58	25.8
0	23	60	10.862	27.58	25.8
0	24	10	10.862	27.557	25.8
0	24	20	10.885	27.557	25.8
0	24	30	10.862	27.557	25.8
0	24	40	10.885	27.534	25.8
0	24	50	10.862	27.534	25.8
0	24	60	10.862	27.534	25.8
0	25	10	10.862	27.534	25.8
0	25	20	10.862	27.51	25.8
0	25	30	10.862	27.51	25.8
0	25	40	10.862	27.51	25.8
0	25	50	10.862	27.51	25.8
0	25	60	10.862	27.487	25.8
0	26	10	10.862	27.487	25.8
0	26	20	10.862	27.464	25.8
0	26	30	10.862	27.464	25.8
0	26	40	10.862	27.464	25.8
0	26	50	10.862	27.464	25.8
0	26	60	10.862	27.464	25.8
0	27	10	10.862	27.441	25.8
0	27	20	10.862	27.441	25.8

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature ℃ Celsius
0	27	30	10.862	27.441	25.8
0	27	40	10.862	27.441	25.8
0	27	50	10.862	27.441	25.8
0	27	60	10.862	27.418	25.8
0	28	10	10.862	27.418	25.8
0	28	20	10.862	27.418	25.8
0	28	30	10.862	27.395	25.8
0	28	40	10.862	27.395	25.8
0	28	50	10.862	27.395	25.8
0	28	60	10.862	27.395	25.8
0	29	10	10.862	27.395	25.8
0	29	20	10.862	27.395	25.8
0	29	30	10.839	27.372	25.8
0	29	40	10.862	27.372	25.8
0	29	50	10.862	27.349	25.8
0	29	60	10.839	27.349	25.8
0	30	10	10.862	27.349	25.8
0	30	20	10.862	27.349	25.8
0	30	30	10.839	27.349	25.8
0	30	40	10.862	27.326	25.8
0	30	50	10.862	27.326	25.8
0	30	60	10.862	27.326	25.8
0	31	10	10.862	27.303	25.8
0	31	20	10.862	27.326	25.8
0	31	30	10.839	27.303	25.8
0	31	40	10.862	27.303	25.8
0	31	50	10.862	27.303	25.8
0	31	60	10.862	27.303	25.8
0	32	10	10.839	27.279	25.8
0	32	20	10.839	27.279	25.8
0	32	30	10.862	27.279	25.8
0	32	40	10.862	27.279	25.8
0	32	50	10.839	27.256	25.8
0	32	60	10.839	27.279	25.8
0	33	10	10.862	27.256	25.8
0	33	20	10.839	27.256	25.8
0	33	30	10.839	27.256	25.8
0	33	40	10.862	27.256	25.8
0	33	50	10.839	27.233	25.8
0	33	60	10.839	27.233	25.8
0	34	10	10.839	27.233	25.8
0	34	20	10.839	27.233	25.8
0	34	30	10.839	27.233	25.8
0	34	40	10.862	27.21	25.8
0	34	50	10.839	27.21	25.8
0	34	60	10.839	27.21	25.8
0	35	10	10.839	27.21	25.8
0	35	20	10.862	27.187	25.8
0	35	30	10.839	27.187	25.8
0	35	40	10.839	27.187	25.8
0	35	50	10.839	27.187	25.8
0	35	60	10.839	27.187	25.8
0	36	10	10.839	27.187	25.8
0	37	48	10.839	27.141	25.8
0	37	58	10.839	27.118	25.8

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	38	8	10.839	27.141	25.8
0	38	18	10.839	27.118	25.8
0	38	28	10.839	27.118	25.8
0	38	38	10.839	27.118	25.85
0	38	48	10.839	27.118	25.8
0	38	58	10.839	27.095	25.8
0	39	8	10.839	27.095	25.8
0	39	18	10.839	27.095	25.8
0	39	28	10.839	27.095	25.8
0	39	38	10.839	27.095	25.8
0	39	48	10.839	27.095	25.8
0	41	15	10.839	27.048	25.8
0	41	25	10.839	27.048	25.8
0	41	35	10.839	27.048	25.8
0	41	45	10.839	27.025	25.8
0	41	55	10.839	27.025	25.8
0	42	5	10.839	27.025	25.8
0	42	15	10.839	27.025	25.8
0	42	54	10.839	27.002	25.8
0	43	4	10.839	27.002	25.8
0	43	14	10.839	27.002	25.8
0	43	24	10.816	27.002	25.8
0	43	34	10.839	26.979	25.8
0	48	23	10.816	26.91	25.8
0	48	33	10.816	26.887	25.8
0	48	43	10.839	26.887	25.8
0	48	53	10.839	26.887	25.8
0	49	3	10.816	26.887	25.8
0	49	13	10.816	26.887	25.8
0	49	23	10.816	26.887	25.8
0	49	33	10.816	26.887	25.8
0	49	43	10.816	26.864	25.8
0	49	53	10.816	26.864	25.8
0	50	3	10.816	26.864	25.8
0	50	13	10.816	26.864	25.8
0	50	23	10.816	26.864	25.8
0	50	33	10.816	26.841	25.8
0	51	21	10.816	26.841	25.8
0	51	31	10.816	26.841	25.8
0	51	41	10.816	26.841	25.8
0	51	51	10.816	26.841	25.8
0	55	1	10.816	26.794	25.8
0	55	11	10.816	26.794	25.8
0	55	21	10.839	26.794	25.8
0	55	31	10.816	26.771	25.8
0	55	41	10.816	26.771	25.8
0	56	43	10.816	26.748	25.8
0	56	53	10.816	26.748	25.8
0	57	3	10.816	26.748	25.8
0	58	4	10.839	26.725	25.8
0	58	14	10.816	26.725	25.8
0	58	24	10.839	26.725	25.8
0	58	34	10.816	26.725	25.8
0	58	44	10.839	26.725	25.8
0	58	54	10.816	26.725	25.8

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	59	4	10.816	26.725	25.8
0	59	14	10.839	26.725	25.8
0	59	24	10.839	26.702	25.8
0	59	34	10.839	26.702	25.8
0	59	44	10.839	26.702	25.8
0	59	54	10.839	26.725	25.8
1	0	4	10.816	26.702	25.75
1	0	14	10.839	26.702	25.8
1	0	24	10.839	26.702	25.8
1	0	34	10.816	26.702	25.8
1	0	55	10.816	26.702	25.75
1	1	20	10.816	26.702	25.8
1	1	30	10.816	26.679	25.8
1	1	40	10.816	26.679	25.8
1	1	50	10.839	26.679	25.8
1	1	60	10.816	26.679	25.8
1	2	10	10.816	26.679	25.75
1	2	20	10.816	26.656	25.8
1	2	30	10.816	26.656	25.8
1	2	40	10.816	26.656	25.8
1	2	50	10.816	26.656	25.8
1	2	60	10.816	26.656	25.8
1	3	10	10.816	26.656	25.75
1	3	20	10.816	26.656	25.75
1	3	30	10.816	26.656	25.8
1	3	40	10.816	26.633	25.75
1	3	50	10.816	26.656	25.8
1	3	60	10.816	26.633	25.8
1	4	10	10.816	26.633	25.8
1	4	20	10.816	26.633	25.75
1	4	30	10.816	26.633	25.75
1	4	40	10.816	26.633	25.8
1	4	50	10.816	26.633	25.8
1	4	60	10.816	26.633	25.75
1	5	10	10.816	26.633	25.8
1	5	20	10.816	26.61	25.75
1	5	30	10.816	26.61	25.8
1	5	40	10.816	26.61	25.8
1	5	50	10.816	26.61	25.8
1	5	60	10.793	26.61	25.8
1	6	10	10.816	26.586	25.75
1	6	20	10.816	26.61	25.75
1	6	30	10.816	26.61	25.75
1	6	40	10.816	26.61	25.75
1	6	50	10.816	26.61	25.8
1	6	60	10.816	26.586	25.8
1	7	10	10.816	26.61	25.75
1	7	20	10.816	26.586	25.75
1	7	30	10.816	26.586	25.75
1	7	40	10.793	26.586	25.75
1	7	50	10.816	26.586	25.8
1	7	60	10.816	26.586	25.75
1	8	10	10.816	26.563	25.75
1	8	20	10.816	26.586	25.8
1	8	30	10.816	26.586	25.8

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	8	40	10.816	26.563	25.75
1	8	50	10.816	26.563	25.75
1	8	60	10.816	26.563	25.8
1	9	10	10.816	26.563	25.75
1	9	20	10.816	26.563	25.75
1	9	30	10.816	26.563	25.75
1	9	40	10.816	26.563	25.8
1	9	50	10.816	26.54	25.75
1	9	60	10.793	26.54	25.8
1	10	10	10.793	26.54	25.75
1	10	20	10.816	26.54	25.75
1	10	30	10.816	26.54	25.8
1	10	40	10.793	26.54	25.75
1	10	50	10.816	26.54	25.75
1	10	60	10.816	26.54	25.75
1	11	10	10.816	26.54	25.8
1	11	20	10.816	26.54	25.75
1	11	30	10.816	26.54	25.75
1	11	40	10.816	26.54	25.75
1	11	50	10.816	26.54	25.75
1	11	60	10.816	26.54	25.75
1	12	10	10.816	26.517	25.75
1	12	20	10.816	26.517	25.8
1	12	30	10.816	26.517	25.75
1	12	40	10.816	26.517	25.75
1	12	50	10.816	26.517	25.75
1	12	60	10.816	26.517	25.75
1	13	10	10.816	26.517	25.75
1	13	20	10.793	26.494	25.75
1	13	30	10.793	26.494	25.75
1	13	40	10.816	26.517	25.75
1	13	50	10.816	26.494	25.75
1	13	60	10.793	26.494	25.75
1	14	10	10.793	26.494	25.75
1	14	20	10.793	26.494	25.75
1	14	30	10.816	26.494	25.75
1	14	40	10.793	26.494	25.75
1	14	50	10.816	26.494	25.75
1	14	60	10.816	26.471	25.75
1	15	10	10.793	26.471	25.75
1	15	20	10.816	26.471	25.75
1	15	30	10.793	26.471	25.75
1	15	40	10.793	26.471	25.75
1	15	50	10.793	26.471	25.75
1	15	60	10.793	26.471	25.75
1	16	10	10.793	26.471	25.75
1	16	20	10.793	26.448	25.75
1	16	30	10.816	26.448	25.75
1	16	40	10.816	26.448	25.75
1	16	50	10.793	26.448	25.75
1	16	60	10.793	26.448	25.75
1	17	10	10.816	26.448	25.75
1	17	20	10.793	26.448	25.75
1	17	30	10.793	26.448	25.75
1	17	40	10.793	26.448	25.75

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	17	50	10.793	26.448	25.75
1	17	60	10.793	26.448	25.75
1	18	10	10.793	26.448	25.75
1	18	20	10.793	26.448	25.75
1	18	30	10.793	26.448	25.75
1	18	40	10.793	26.448	25.7
1	18	50	10.816	26.425	25.75
1	18	60	10.793	26.425	25.75
1	19	10	10.793	26.425	25.75
1	19	20	10.793	26.425	25.75
1	19	30	10.793	26.425	25.75
1	19	40	10.793	26.425	25.75
1	19	50	10.793	26.425	25.75
1	19	60	10.793	26.402	25.75
1	20	10	10.816	26.402	25.75
1	20	20	10.793	26.425	25.75
1	20	30	10.816	26.425	25.7
1	20	40	10.793	26.402	25.75
1	20	50	10.793	26.425	25.75
1	20	60	10.793	26.402	25.75
1	21	10	10.816	26.402	25.75
1	21	20	10.793	26.425	25.75
1	21	30	10.793	26.402	25.75
1	21	40	10.816	26.402	25.75
1	21	50	10.793	26.402	25.75
1	21	60	10.793	26.402	25.75
1	22	10	10.793	26.402	25.75
1	22	20	10.793	26.402	25.75
1	22	30	10.793	26.402	25.7
1	22	40	10.816	26.379	25.75
1	22	50	10.816	26.379	25.75
1	22	60	10.793	26.402	25.75
1	23	10	10.816	26.379	25.75
1	23	20	10.793	26.379	25.75
1	23	30	10.816	26.379	25.7
1	23	40	10.793	26.379	25.75
1	23	50	10.793	26.379	25.7
1	23	60	10.793	26.379	25.75
1	24	10	10.793	26.379	25.75
1	24	20	10.816	26.379	25.75
1	24	30	10.793	26.379	25.75
1	24	40	10.816	26.379	25.75
1	24	50	10.793	26.379	25.75
1	24	60	10.793	26.355	25.7
1	25	10	10.793	26.355	25.75
1	25	20	10.793	26.379	25.75
1	25	30	10.793	26.355	25.7
1	25	40	10.793	26.355	25.75
1	25	50	10.793	26.355	25.75
1	25	60	10.793	26.355	25.7
1	26	10	10.793	26.332	25.75
1	26	20	10.793	26.355	25.7
1	26	30	10.793	26.332	25.75
1	26	40	10.793	26.332	25.75
1	26	50	10.793	26.332	25.75

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	26	60	10.793	26.332	25.75
1	27	10	10.793	26.332	25.75
1	27	20	10.793	26.332	25.7
1	27	30	10.793	26.332	25.7
1	27	40	10.793	26.332	25.75
1	27	50	10.793	26.332	25.75
1	27	60	10.793	26.309	25.7
1	28	10	10.793	26.332	25.7
1	28	20	10.793	26.332	25.7
1	28	30	10.793	26.309	25.75
1	28	40	10.793	26.309	25.75
1	28	50	10.793	26.309	25.7
1	28	60	10.793	26.309	25.7
1	29	10	10.793	26.309	25.7
1	29	20	10.793	26.309	25.75
1	29	30	10.769	26.309	25.7
1	29	40	10.769	26.286	25.7
1	29	50	10.793	26.286	25.7
1	29	60	10.793	26.286	25.7
1	30	10	10.793	26.286	25.7
1	30	20	10.793	26.286	25.7
1	30	30	10.793	26.286	25.7
1	30	40	10.769	26.263	25.7
1	30	50	10.769	26.286	25.7
1	30	60	10.793	26.263	25.7
1	31	10	10.769	26.263	25.75
1	31	20	10.769	26.263	25.7
1	31	30	10.793	26.263	25.7
1	31	40	10.793	26.263	25.7
1	31	50	10.793	26.263	25.7
1	31	60	10.793	26.286	25.7
1	32	10	10.793	26.286	25.75
1	32	20	10.793	26.263	25.7
1	32	30	10.793	26.286	25.7
1	32	40	10.793	26.286	25.7
1	32	50	10.793	26.286	25.7
1	32	60	10.793	26.263	25.75
1	33	10	10.793	26.263	25.7
1	33	20	10.793	26.263	25.7
1	33	30	10.769	26.24	25.7
1	33	40	10.769	26.24	25.7
1	33	50	10.769	26.24	25.7
1	33	60	10.769	26.24	25.7
1	34	10	10.769	26.24	25.7
1	34	20	10.769	26.24	25.7
1	34	30	10.769	26.24	25.7
1	34	40	10.769	26.24	25.7
1	34	50	10.769	26.24	25.7
1	34	60	10.769	26.24	25.7
1	35	10	10.769	26.24	25.7
1	35	20	10.793	26.263	25.7
1	35	30	10.793	26.263	25.7
1	35	40	10.793	26.24	25.7
1	35	50	10.793	26.24	25.7
1	35	60	10.793	26.24	25.7

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	36	10	10.793	26.24	25.7
1	36	20	10.793	26.24	25.7
1	36	30	10.793	26.24	25.7
1	36	40	10.793	26.24	25.7
1	36	50	10.793	26.24	25.7
1	36	60	10.793	26.217	25.7
1	37	10	10.793	26.217	25.7
1	37	20	10.793	26.217	25.7
1	37	30	10.793	26.24	25.7
1	37	40	10.793	26.217	25.7
1	37	50	10.793	26.217	25.7
1	37	60	10.793	26.217	25.7
1	38	10	10.793	26.217	25.7
1	38	20	10.793	26.217	25.7
1	38	30	10.793	26.217	25.7
1	38	40	10.793	26.217	25.7
1	38	50	10.793	26.217	25.7
1	38	60	10.793	26.217	25.7
1	39	10	10.793	26.217	25.7
1	39	20	10.793	26.217	25.7
1	39	30	10.793	26.194	25.7
1	39	40	10.793	26.194	25.7
1	39	50	10.793	26.171	25.7
1	39	60	10.793	26.194	25.7
1	40	10	10.793	26.194	25.7
1	40	20	10.793	26.194	25.7
1	40	30	10.793	26.194	25.7
1	40	40	10.769	26.194	25.7
1	40	50	10.769	26.171	25.7
1	40	60	10.769	26.171	25.7
1	41	10	10.769	26.171	25.7
1	41	20	10.769	26.148	25.7
1	41	30	10.769	26.171	25.7
1	41	40	10.769	26.171	25.7
1	41	50	10.769	26.171	25.7
1	41	60	10.793	26.171	25.7
1	42	10	10.769	26.171	25.7
1	42	20	10.769	26.148	25.7
1	42	30	10.769	26.171	25.7
1	42	40	10.769	26.148	25.7
1	42	50	10.769	26.148	25.7
1	42	60	10.769	26.171	25.7
1	43	10	10.769	26.171	25.7
1	43	20	10.793	26.171	25.7
1	43	30	10.793	26.171	25.7
1	43	40	10.793	26.171	25.7
1	43	50	10.793	26.171	25.7
1	43	60	10.793	26.171	25.65
1	44	10	10.793	26.171	25.7
1	44	20	10.793	26.148	25.7
1	44	30	10.793	26.148	25.7
1	44	40	10.793	26.148	25.7
1	44	50	10.793	26.148	25.7
1	44	60	10.793	26.148	25.7
1	45	10	10.793	26.148	25.7

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	45	20	10.793	26.148	25.7
1	45	30	10.793	26.148	25.7
1	45	40	10.793	26.148	25.7
1	45	50	10.793	26.148	25.7
1	45	60	10.793	26.148	25.7
1	46	10	10.793	26.148	25.7
1	46	20	10.793	26.148	25.7
1	46	30	10.793	26.148	25.7
1	46	40	10.793	26.148	25.7
1	46	50	10.793	26.148	25.7
1	46	60	10.793	26.148	25.7
1	47	10	10.793	26.148	25.65
1	47	20	10.793	26.124	25.7
1	47	30	10.793	26.148	25.7
1	47	40	10.793	26.124	25.7
1	47	50	10.793	26.124	25.7
1	47	60	10.793	26.148	25.7
1	48	10	10.793	26.124	25.7
1	48	20	10.793	26.124	25.7
1	48	30	10.793	26.124	25.7
1	48	40	10.793	26.124	25.7
1	48	50	10.793	26.124	25.7
1	48	60	10.793	26.124	25.7
1	49	10	10.793	26.124	25.7
1	49	20	10.793	26.124	25.65
1	49	30	10.793	26.101	25.65
1	49	40	10.793	26.101	25.7
1	49	50	10.793	26.101	25.7
1	49	60	10.793	26.101	25.7
1	50	10	10.793	26.101	25.65
1	50	20	10.793	26.101	25.65
1	50	30	10.793	26.101	25.7
1	50	40	10.793	26.101	25.65
1	50	50	10.793	26.101	25.7
1	50	60	10.793	26.078	25.65
1	51	10	10.793	26.078	25.7
1	51	20	10.769	26.078	25.7
1	51	30	10.769	26.078	25.65
1	51	40	10.769	26.055	25.65
1	51	50	10.769	26.078	25.65
1	51	60	10.769	26.078	25.7
1	52	10	10.769	26.078	25.65
1	52	20	10.793	26.078	25.7
1	52	30	10.769	26.078	25.65
1	52	40	10.769	26.078	25.65
1	52	50	10.793	26.078	25.7
1	52	60	10.769	26.078	25.7
1	53	10	10.769	26.078	25.65
1	53	20	10.769	26.078	25.7
1	53	30	10.769	26.055	25.65
1	53	40	10.769	26.055	25.65
1	54	40	10.769	26.032	25.65
1	55	40	10.769	26.032	25.65
1	56	40	10.746	26.032	25.65
1	57	40	10.769	26.032	25.65

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	58	40	10.769	26.032	25.65
1	59	40	10.769	26.032	25.65
2	0	40	10.769	26.009	25.65
2	1	40	10.769	25.986	25.65
2	2	40	10.769	25.986	25.65
2	3	40	10.793	25.986	25.65
2	4	40	10.793	25.986	25.65
2	5	40	10.793	25.986	25.65
2	6	40	10.769	25.963	25.65
2	7	40	10.793	25.963	25.65
2	8	40	10.769	25.94	25.65
2	9	40	10.769	25.94	25.65
2	10	40	10.769	25.917	25.65
2	11	40	10.769	25.917	25.65
2	12	40	10.746	25.893	25.65
2	17	40	10.746	25.847	25.65
2	22	40	10.746	25.824	25.6
2	27	40	10.746	25.778	25.65
2	32	40	10.746	25.755	25.6
2	37	40	10.769	25.755	25.65
2	47	40	10.746	25.639	25.6
2	57	40	10.746	25.593	25.6
3	7	40	10.746	25.547	25.6
3	17	40	10.769	25.501	25.65
3	27	40	10.746	25.431	25.65
3	57	40	10.746	25.293	25.6
4	27	40	10.746	25.2	25.65
4	57	40	10.746	25.085	25.65
5	27	40	10.746	24.993	25.65
5	57	40	10.746	24.923	25.65
6	27	40	10.723	24.831	25.65
6	57	40	10.723	24.762	25.6
7	27	40	10.723	24.715	25.6
7	57	40	10.723	24.692	25.6
8	27	40	10.723	24.623	25.6
8	57	40	10.723	24.6	25.6
9	27	40	10.723	24.554	25.6
9	57	40	10.723	24.507	25.6
10	27	40	10.723	24.484	25.6
10	57	40	10.7	24.415	25.6
11	27	40	10.7	24.23	25.6
11	57	40	10.7	24.253	25.6
12	27	40	10.7	24.276	25.6
12	57	40	10.7	24.253	25.6
13	27	40	10.7	24.253	25.6
13	57	40	10.7	24.253	25.6
14	27	40	10.677	24.184	25.6
14	57	40	10.7	24.161	25.6
15	27	40	10.677	24.138	25.6
15	57	40	10.677	24.045	25.6
16	27	40	10.677	24.069	25.6
16	57	40	10.677	24.069	25.6
17	27	40	10.677	24.069	25.6
17	57	40	10.654	24.045	25.6
18	27	40	10.654	23.999	25.6

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
18	57	40	10.654	24.045	25.6
19	27	40	10.654	24.022	25.6
19	57	40	10.677	24.045	25.6
20	27	40	10.677	24.022	25.6
20	57	40	10.677	24.022	25.6
21	27	40	10.677	24.045	25.6
21	57	40	10.677	24.022	25.6
22	27	40	10.677	24.022	25.6
22	57	40	10.677	24.022	25.6
23	27	40	10.677	24.045	25.6
23	57	40	10.677	23.999	25.6
24	27	40	10.654	23.999	25.6
24	57	40	10.677	23.976	25.6
25	27	40	10.677	23.93	25.65
25	57	40	10.677	23.907	25.6
26	27	40	10.654	23.861	25.65
26	57	40	10.677	23.838	25.6
27	27	40	10.631	23.814	25.65
27	57	40	10.654	23.791	25.65
28	27	40	10.654	23.768	25.65
28	57	40	10.654	23.745	25.65
29	27	40	10.654	23.745	25.6
29	57	40	10.677	23.745	25.65
30	27	40	10.677	23.722	25.65
30	57	40	10.677	23.722	25.65
31	27	40	10.677	23.699	25.65
31	57	40	10.677	23.722	25.6
32	27	40	10.677	23.676	25.65
32	57	40	10.677	23.699	25.65
33	27	40	10.677	23.676	25.6
33	57	40	10.677	23.676	25.6
34	27	40	10.677	23.56	25.6
34	57	40	10.677	23.676	25.6
35	27	40	10.677	23.63	25.6
35	57	40	10.677	23.468	25.6
36	27	40	10.677	23.537	25.6
36	57	40	10.677	23.56	25.6
37	27	40	10.677	23.514	25.6
37	57	40	10.677	23.607	25.6
38	27	40	10.654	23.583	25.6
38	57	40	10.654	23.514	25.6
39	27	40	10.654	23.537	25.6
39	57	40	10.654	23.491	25.6
40	27	40	10.654	23.537	25.6
40	57	40	10.654	23.537	25.6
41	27	40	10.654	23.56	25.6
41	57	40	10.654	23.537	25.6
42	27	40	10.654	23.537	25.6
42	57	40	10.654	23.514	25.6
43	27	40	10.654	23.537	25.6
43	57	40	10.654	23.514	25.6
44	27	40	10.654	23.537	25.6
44	57	40	10.654	23.56	25.6
45	27	40	10.654	23.583	25.6
45	57	40	10.654	23.583	25.6

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
46	27	40	10.654	23.583	25.6
46	57	40	10.654	23.583	25.6
47	27	40	10.654	23.583	25.6
47	57	40	10.654	23.583	25.6
48	27	40	10.654	23.583	25.6
48	57	40	10.677	23.583	25.6
49	27	40	10.654	23.583	25.6
49	57	40	10.654	23.56	25.6
50	27	40	10.654	23.537	25.65
50	57	40	10.654	23.583	25.6
51	27	40	10.654	23.583	25.6
51	57	40	10.654	23.607	25.6
52	27	40	10.654	23.56	25.6
52	57	40	10.654	23.583	25.65
53	27	40	10.654	23.583	25.6
53	57	40	10.677	23.56	25.6
54	27	40	10.677	23.583	25.6
54	57	40	10.654	23.56	25.6
55	27	40	10.654	23.56	25.6
55	57	40	10.654	23.56	25.65
56	27	40	10.654	23.537	25.6
56	57	40	10.677	23.514	25.6
57	27	40	10.654	23.514	25.65
57	57	40	10.677	23.491	25.6
58	27	40	10.654	23.468	25.6
58	57	40	10.677	23.329	25.6
59	27	40	10.654	23.329	25.65
59	57	40	10.654	23.306	25.6
60	27	40	10.677	23.376	25.6
60	57	40	10.654	23.422	25.6
61	27	40	10.654	23.445	25.6
61	57	40	10.654	23.468	25.6
62	27	40	10.654	23.422	25.6
62	57	40	10.677	23.376	25.6
63	27	40	10.677	23.422	25.6
63	57	40	10.677	23.422	25.6
64	27	40	10.654	23.468	25.6
64	57	40	10.654	23.514	25.6
65	27	40	10.677	23.514	25.6
65	57	40	10.654	23.56	25.6
66	27	40	10.654	23.56	25.6
66	57	40	10.654	23.56	25.6
67	27	40	10.654	23.56	25.6
67	57	40	10.654	23.583	25.6
68	27	40	10.654	23.583	25.6
68	57	40	10.677	23.583	25.6
69	27	40	10.677	23.583	25.6
69	57	40	10.677	23.607	25.6
70	27	40	10.677	23.63	25.6
70	57	40	10.677	23.653	25.6
71	27	40	10.654	23.653	25.6
72	0	6	10.677	23.676	25.6
72	0	15	10.677	23.676	25.6
72	6	54	10.677	23.699	25.6
72	7	4	10.677	23.699	25.6

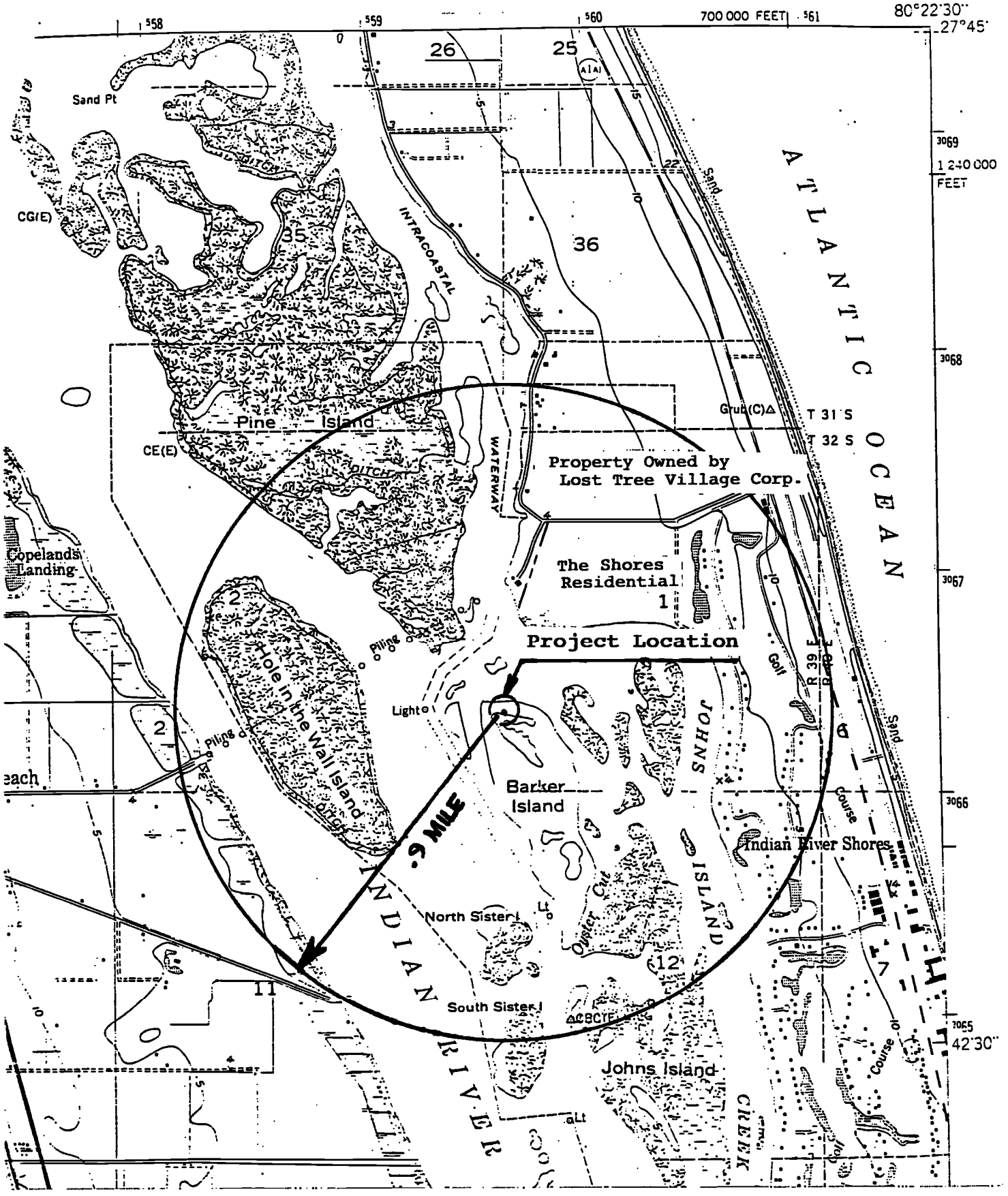
Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	0	0	10.7	23.699	25.6
0	0	10	10.7	23.699	25.65
0	0	20	18.485	23.699	25.65
0	0	30	21.65	23.745	25.6
0	0	40	23.197	23.791	25.65
0	0	50	24.098	23.884	25.65
0	1	0	24.676	23.953	25.65
0	1	10	25.115	24.022	25.65
0	1	20	25.461	24.115	25.65
0	1	30	25.715	24.184	25.65
0	1	40	25.946	24.253	25.7
0	1	50	26.131	24.323	25.65
0	2	0	26.293	24.369	25.65
0	2	10	26.431	24.438	25.65
0	2	20	26.57	24.507	25.65
0	2	30	26.685	24.554	25.65
0	2	40	26.801	24.6	25.65
0	2	50	26.893	24.669	25.65
0	3	0	26.986	24.715	25.65
0	3	10	27.078	24.762	25.65
0	3	20	27.147	24.808	25.7
0	3	30	27.217	24.854	25.65
0	3	40	27.286	24.9	25.65
0	3	50	27.355	24.946	25.65
0	4	16	27.517	25.039	25.7
0	4	26	27.563	25.085	25.65
0	4	36	27.609	25.131	25.7
0	4	46	27.656	25.154	25.65
0	4	56	27.725	25.2	25.7
0	5	11	27.771	25.247	25.65
0	5	26	27.84	25.293	25.7
0	5	41	27.91	25.339	25.65
0	5	56	27.956	25.408	25.65
0	6	11	28.002	25.431	25.65
0	6	26	28.071	25.478	25.65
0	6	41	28.118	25.501	25.65
0	6	56	28.141	25.547	25.65
0	7	11	28.21	25.593	25.65
0	7	26	28.233	25.616	25.65
0	7	41	28.279	25.662	25.7
0	7	56	28.325	25.686	25.65
0	8	11	28.372	25.732	25.65
0	8	26	28.395	25.755	25.65
0	8	41	28.418	25.801	25.65
0	8	56	28.464	25.824	25.65
0	9	11	28.487	25.847	25.65
0	9	26	28.51	25.87	25.65
0	9	41	28.556	25.893	25.7
0	9	56	28.58	25.94	25.65
0	10	11	28.626	25.963	25.65
0	10	26	28.626	26.009	25.65
0	10	41	28.649	26.032	25.65
0	10	56	28.672	26.055	25.65
0	11	11	28.695	26.055	25.7
0	11	26	28.718	26.078	25.7

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	11	41	28.741	26.101	25.65
0	11	56	28.764	26.124	25.65
0	12	11	28.787	26.171	25.65
0	12	26	28.811	26.194	25.65
0	12	41	28.834	26.217	25.7
0	12	56	28.857	26.217	25.65
0	13	11	28.88	26.24	25.65
0	13	26	28.903	26.263	25.65
0	13	41	28.926	26.286	25.65
0	13	56	28.926	26.309	25.65
0	14	11	28.949	26.309	25.65
0	14	26	28.972	26.332	25.65
0	14	41	28.995	26.355	25.65
0	14	56	28.995	26.402	25.65
0	15	11	29.018	26.402	25.65
0	15	26	29.042	26.402	25.65
0	15	41	29.065	26.448	25.65
0	15	56	29.065	26.448	25.65
0	16	11	29.088	26.471	25.65
0	16	26	29.111	26.494	25.65
0	16	41	29.111	26.494	25.65
0	16	56	29.134	26.517	25.65
0	17	11	29.134	26.54	25.65
0	17	26	29.157	26.54	25.65
0	17	41	29.18	26.563	25.65
0	17	56	29.18	26.563	25.65
0	18	11	29.203	26.586	25.65
0	18	26	29.226	26.61	25.65
0	18	41	29.226	26.61	25.65
0	18	56	29.226	26.633	25.65
0	19	11	29.226	26.633	25.65
0	19	26	29.273	26.679	25.65
0	19	41	29.273	26.656	25.65
0	19	56	29.273	26.679	25.65
0	20	11	29.296	26.702	25.65
0	20	26	29.319	26.725	25.65
0	20	41	29.319	26.725	25.65
0	20	56	29.319	26.748	25.65
0	21	11	29.342	26.771	25.65
0	21	26	29.342	26.771	25.65
0	21	41	29.365	26.817	25.65
0	21	56	29.342	26.794	25.65
0	22	11	29.388	26.794	25.65
0	22	26	29.388	26.841	25.65
0	22	41	29.411	26.841	25.65
0	22	56	29.411	26.841	25.65
0	23	11	29.411	26.864	25.65
0	23	26	29.434	26.864	25.65
0	23	41	29.434	26.887	25.65
0	23	56	29.457	26.91	25.65
0	24	11	29.457	26.887	25.65
0	24	26	29.48	26.933	25.65
0	24	41	29.504	26.933	25.65
0	24	56	29.504	26.91	25.65
0	25	11	29.504	26.956	25.65

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
0	25	26	29.504	26.956	25.65
0	25	41	29.527	26.979	25.65
0	25	56	29.527	26.979	25.65
0	26	11	29.527	26.979	25.65
0	26	26	29.527	27.002	25.65
0	26	41	29.55	27.025	25.65
0	26	56	29.55	27.025	25.65
0	27	11	29.55	27.025	25.65
0	28	11	29.596	27.072	25.65
0	29	11	29.619	27.118	25.65
0	30	11	29.665	27.141	25.65
0	31	11	29.688	27.164	25.65
0	32	11	29.711	27.21	25.65
0	33	11	29.735	27.256	25.6
0	34	11	29.758	27.256	25.6
0	35	11	29.781	27.303	25.6
0	36	11	29.804	27.349	25.65
0	37	11	29.827	27.372	25.6
0	38	11	29.85	27.418	25.6
0	39	11	29.873	27.418	25.65
0	40	11	29.873	27.441	25.65
0	41	11	29.896	27.487	25.6
0	42	11	29.919	27.487	25.6
0	43	11	29.942	27.534	25.6
0	44	11	29.966	27.557	25.6
0	45	11	29.966	27.58	25.6
0	46	11	29.989	27.603	25.6
0	47	11	30.012	27.649	25.6
0	48	11	30.035	27.649	25.6
0	49	11	30.058	27.672	25.6
0	50	11	30.058	27.695	25.6
0	51	11	30.081	27.718	25.6
0	52	11	30.081	27.741	25.6
0	53	11	30.104	27.765	25.6
0	54	11	30.104	27.788	25.55
0	55	11	30.127	27.811	25.55
0	56	11	30.15	27.834	25.55
0	57	11	30.15	27.857	25.55
0	58	11	30.15	27.857	25.55
0	59	11	30.173	27.903	25.55
1	0	11	30.197	27.903	25.5
1	1	11	30.197	27.926	25.55
1	2	11	30.22	27.949	25.55
1	3	11	30.22	27.972	25.5
1	4	11	30.243	27.972	25.55
1	5	11	30.243	28.019	25.5
1	6	11	30.266	28.019	25.55
1	11	11	30.312	28.088	25.5
1	16	11	30.335	28.18	25.5
1	21	11	30.381	28.25	25.4
1	26	11	30.428	28.319	25.4
1	31	11	30.451	28.388	25.4
1	36	11	30.497	28.458	25.3
1	41	11	30.52	28.504	25.35
1	46	11	30.543	28.573	25.35

Hours	Min	Sec	Main (12") M.S.L.	Observ. (4") M.S.L.	Temperature Celsius
1	51	11	30.589	28.619	25.2
1	56	11	30.589	28.665	25.3
2	1	11	30.635	28.712	25.3
2	16	11	30.705	28.85	25.2
2	31	11	30.774	28.966	25.1
2	46	11	30.797	29.081	25.15
3	1	11	30.843	29.197	25.05
3	16	11	30.89	29.289	25.1
3	31	11	30.913	29.382	25.05
3	46	11	30.959	29.497	25
4	1	11	31.005	29.589	24.9
4	16	11	31.051	29.682	24.85
4	31	11	31.051	29.751	24.9
4	46	11	31.051	29.844	24.6
5	1	11	31.051	29.913	24.55
5	16	11	31.051	29.959	24.55
5	31	11	31.051	30.005	24.45
5	46	11	31.051	30.051	24.45
6	1	11	31.051	30.098	24.35
6	16	11	31.051	30.144	24.5
6	31	11	31.051	30.213	24.35
6	46	11	31.051	30.236	24.4
7	1	11	31.051	30.282	24.35
7	16	11	31.051	30.329	24.3
7	31	11	31.051	30.375	24.4
7	46	11	31.051	30.398	24.25
8	1	11	31.051	30.444	24.35
8	16	11	31.051	30.49	24.3
8	31	11	31.051	30.537	24.45
8	46	11	31.051	30.56	24.3
9	1	11	31.051	30.56	24.3
9	16	11	31.051	30.629	24.15
9	31	11	31.051	30.606	24.15
9	46	11	31.051	30.629	24.2
10	1	11	31.051	30.698	24.15
10	16	11	31.051	30.698	24.1
10	31	11	31.051	30.744	24.25
10	46	11	31.051	30.744	24.1
11	1	11	31.051	30.768	24
11	16	11	31.051	30.814	23.95
11	31	11	31.051	30.837	23.95
11	46	11	31.051	30.86	23.95
12	1	11	31.051	30.906	24.1
12	16	11	31.051	30.975	23.9
12	31	11	31.051	30.975	24
12	46	11	31.051	30.975	23.9
13	1	11	31.051	31.068	23.95
13	16	11	31.051	30.952	24
13	31	11	31.051	31.068	23.85

EXHIBIT "B-5"



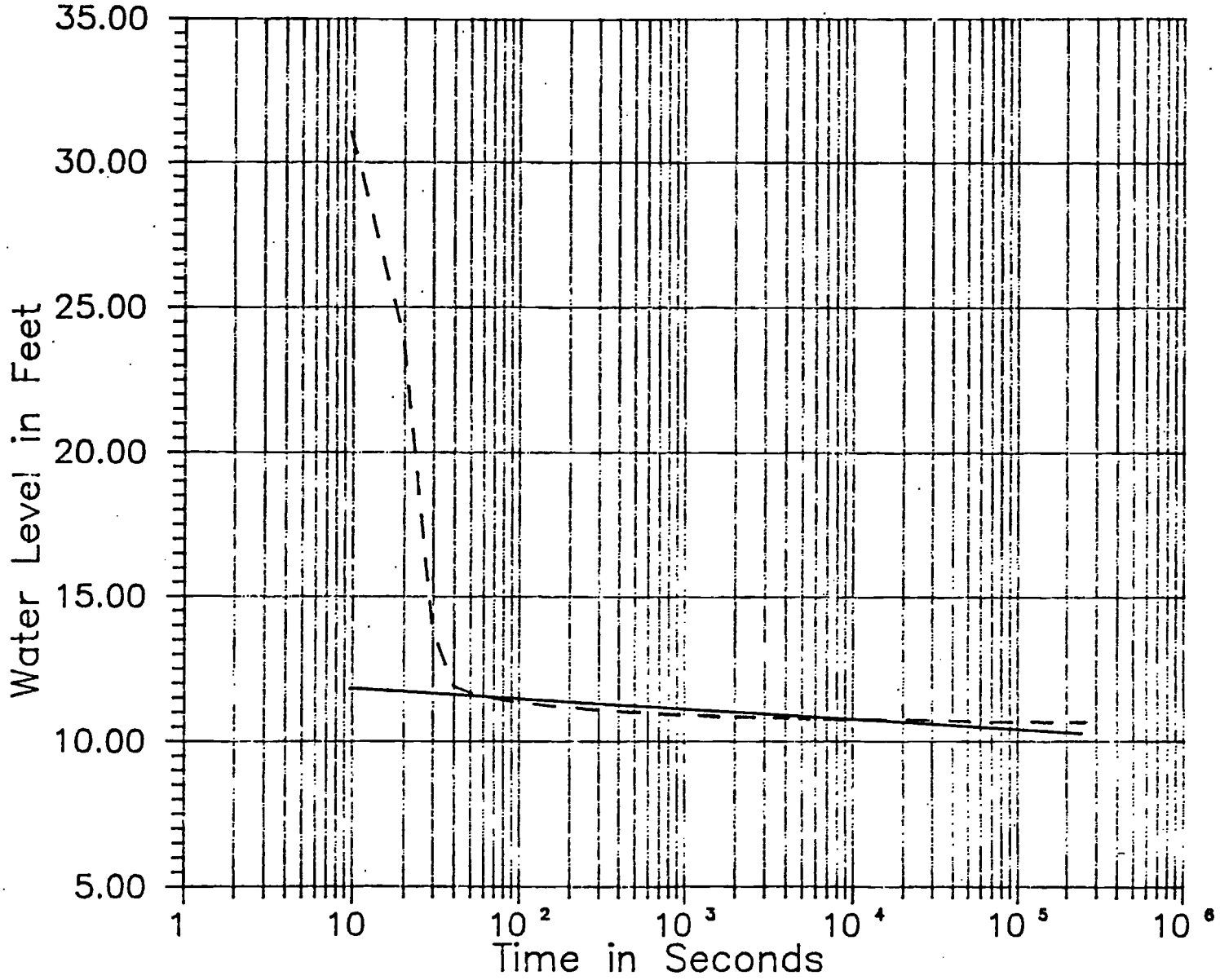
GEM ISLAND 12" FLORIDAN AQUIFER WELL

AQUIFER PERFORMANCE TEST

C.U.P. APPLICATION NO. 2-061-0540AN

GEM ISLAND 12" FLORIDIAN AQUIFER WELL, AQUIFER PERFORMANCE TEST
CUP # 2-061-0540 AN

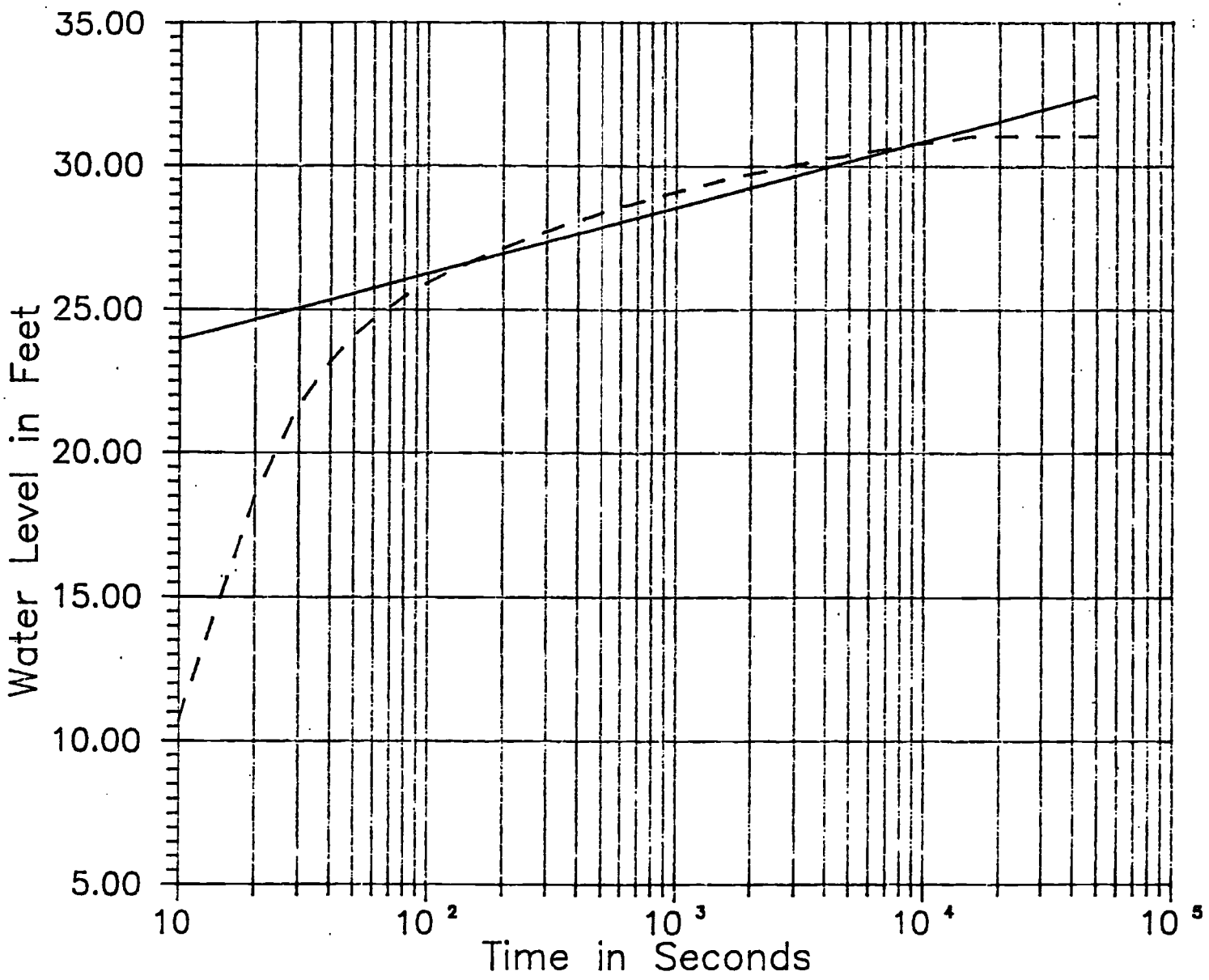
EXHIBIT "B-6" 12" Well Drawdown



LEGEND: ----- Indicates Actual Data
——— Indicates Best Fit Line

GEM ISLAND 12" FLORIDIAN AQUIFER WELL, AQUIFER PERFORMANCE TEST
CUP # 2-061-0540 AN

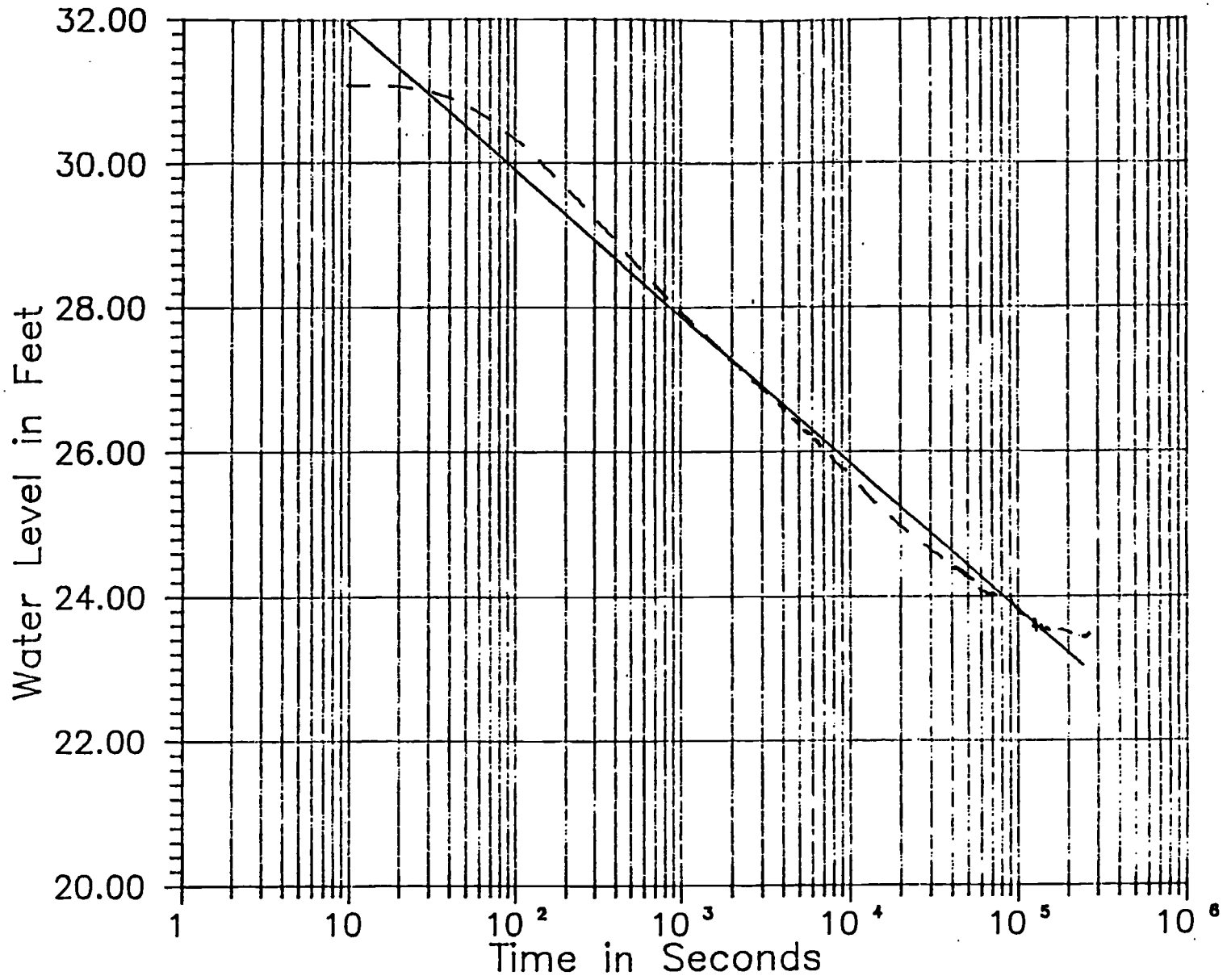
EXHIBIT "B-7" 12"Well Recovery



LEGEND: ----- Indicates Actual Data
——— Indicates Best Fit Line

GEM ISLAND 12" FLORIDIAN AQUIFER WELL, AQUIFER PERFORMANCE TEST
CUP # 2-061-0540 AN

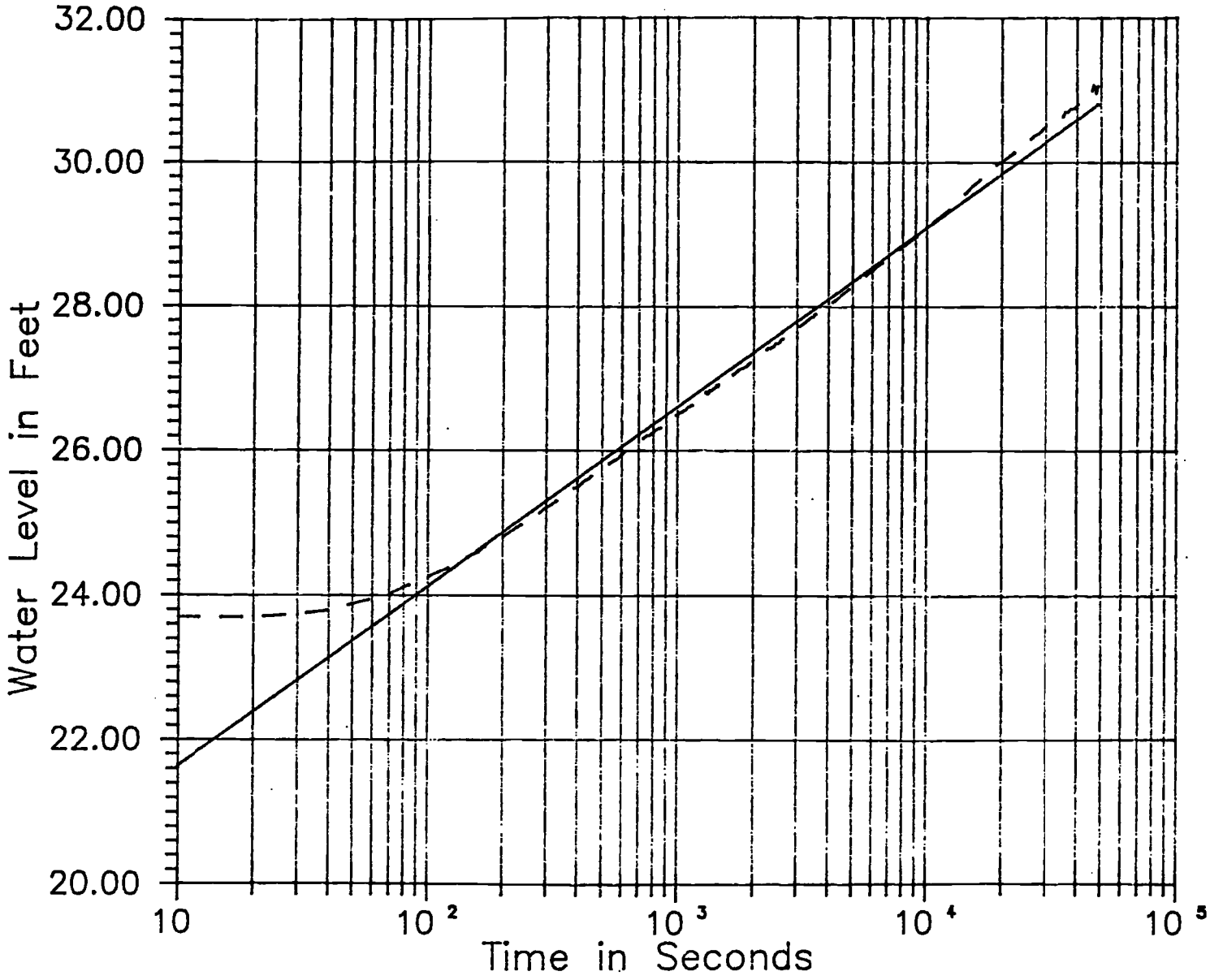
Exhibit "B-8" 4" Well Drawdown



LEGEND: ----- Indicates Actual Data
——— Indicates Best Fit Line

GEM ISLAND 12" FLORIDIAN AQUIFER WELL, AQUIFER PERFORMANCE TEST
CUP # 2-061-0540 AN

Exhibit "B-9" 4" Well Recovery



LEGEND: ----- Indicates Actual Data
——— Indicates Best Fit Line