Hydraulic Characteristics Evaluation
TO #9

Free Product Recovery System
Tow Way Fuel Facility
Naval Station Roosevelt Roads
Ceiba, Puerto Rico

Contract No. N62470-93-D-3033

August, 31 1999

SCIENCE : STRATEGY : TECHNOLOGY : SOLUTIONS

HYDRAULIC CHARACTERISTICS EVALUATION
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1.0 INTRODUCTION

McLaren\Hart, Inc. (McLaren\Hart) has prepared this Hydraulic Characteristic Evaluation at the Tow Way Fuel Facility, Naval Station Roosevelt Roads, Ceiba, Puerto Rico. McLaren\Hart performed this work as a subcontractor to J. A. Jones Environmental Services Company (J. A. Jones), under the Petroleum, Oils and Lubricants (POL) Remedial Action Contract (RAC).

Groundwater pump tests were conducted for two product recovery wells to determine aquifer yield and hydraulic characteristics of the unconsolidated strata within areas of the product plume. The pumping tests were performed to determine the hydraulic effects in the upper strata during continuous groundwater extraction. The test results allow for the qualitative assessment of the in the upper strata within the vicinity of the tests; specifically evaluation of the transmissivity, hydraulic conductivity, and zone of influence. This information in turn will be used to evaluate the effectiveness of a groundwater extraction/draw down system.

2.0 BACKGROUND

The free product recovery and storage systems were constructed and installed by McLaren\Hart for remediation of free-floating product at the Tow Way Fuel Facility in December 1996. Commissioning of the system was completed on April 30, 1997. This system consisted of seven recovery wells equipped with pneumatic discriminating product recovery pumps. The product is conveyed via underground piping network to a central 5,000 gallon capacity storage tank. A central air compressor and dryer provides air to drive the pumps.

The system has been in continuous operation since December 17, 1996. Two recovery pumps were added to the system in August 1998 in monitoring wells to recovery product from the central plume area.

3.0 GROUNDWATER PUMPING TESTS

Recovery well RW-4 and monitoring well PW-03 were selected as the pumping test wells. RW-4 was selected because this well is located in the heart of the product plume apparently following the utility corridor east along Forestal Drive. PW-03 is located in the central plume area north of the equipment compound. This area is believed to have subsurface conditions different from the area along Forestal Drive. Figure 1 shows the well locations.

Automatic pneumatic groundwater pumps were used to draw the water level down in each of the two test wells. Air was supplied from the central compressor for the product recovery system. During the test, the product recovery system was temporarily shut down. A flow rate and totalizer flow meter was placed in each discharge line from the test wells to monitor flow rates during the pumping test.

Water level changes (i.e., drawdown) in adjacent wells were monitored and recorded using an electronic data logger and pressure transducer assembly. Groundwater levels were recorded continuously in selected observation/monitoring wells surrounding both of the test wells, in addition to the two test wells. Wells UGW-12, UGW-13, and MW-2 were used as the observation wells for evaluating the area east along Forestal Drive. Wells MW-2, MW-4, PW-5, and UGW-4 were monitored for assessing the central plume area north of the equipment compound. Prior to the pumping tests, complete sets of well gauging measurements were made in the Tow Way Facility. Table 1 presents the gauging results.

A total of about 524 gallons of water was generated from the pumping test. Because the quantity of water generated did not exceed the available capacity of the product tank, the water was pumped directly to and temporarily stored in the product tank. The water generated from the pumping test will be disposed with the product/water collected by the product recovery system during a regularly scheduled pickup.

4.0 RESULTS

The pumping test was performed May 3 through May 6, 1999 using RW-4 and PW-03 as the pumping wells. The pump tests were performed concurrently for a total duration of 3,675 minutes [two and one-half (2.5) days]. The pumping rates for both wells were set at the approximate capacity of the individual well. RW-4 was pumped at an average rate of 0.13 gallons per minute (gpm) [184 gallons per day]. Pumping well PW-03 averaged a limited yield of 0.009 gpm [13.4 gpd]. The measured water level readings versus time are presented in Appendix A.

Because water levels in wells in many aquifers respond to changes in atmospheric conditions, barometric pressure data were also obtained for the days that the pump test was conducted (Appendix B). An increase in barometric pressure results in a decline in water level and a decrease in pressure causes the water level to rise. Accordingly, the changes in barometric pressure (in feet of water) versus time were evaluated in order to assess whether the observed fluctuations in water levels were in response to atmospheric pressure (rather than or in addition to pumping).

Figure 2 is a compilation of the well drawdown and barometric pressure versus time for the six monitoring wells used in the pumping test. As shown on the figure, pumping-induced drawdown was apparent in only two of the six monitoring wells (PW-5 and MW-4). The maximum amount of drawdown was 0.5 feet for PW-5 and 0.4 feet for MW-4. Of the remaining four wells (MW-2, UGW-12, UGW-13 and UGW-4), the water levels versus time are relatively flat, with the exception of the slight fluctuations in water level that are attributable to changes in barometric pressure (Figure 2). These data indicate the pumping that occurred at wells RW-4 and PW-3 did not measurably influence the water level in these four wells.

For pumping well PW-3, the information collected in the field for monitoring wells PW-5 and MW-4 was used to calculate Transmissivity (T) and Storage Coefficient (S) by plotting measured drawdown versus time and using the Cooper-Jacob Method solution. The Cooper-Jacob method used to calculate T and S assumes:

$$T = \frac{2.3Q}{4\pi\Delta z} \quad \text{and} \quad S = \frac{2.25Tt_0}{r^2}$$

where:

T is transmissivity (gpd/ft),
Q is flow rate (gpd),
Δz is drawdown per log-cycle,
S is the storage coefficient,
t_0 is the extrapolated time zero, and
r is the distance from pumping to monitoring well.

Accordingly, data used for the Cooper-Jacob Method solution follows:

For well PW-5: Q = 184 gpd, Δz = 0.5 ft, t_o = 600 minutes, and r = 6 ft.
For well MW-4: Q = 184 gpd, Δz = 0.4 ft, t_o = 600 minutes, and r = 12 ft.

Based on these calculations T_{PW-5} = 4.65 gpd/ft and S_{PW-5} = 0.016. T_{MW-4} = 5.8 gpd/ft and S_{MW-4} = 0.005.

The radius of influence of well PW-3 was calculated assuming an aquifer thickness equal to the well depth and the groundwater reached near steady state conditions during the pumping test. As shown in Figure 2, the drawdown for wells RW-5 and MW-4 were near but not quite at steady state. The resulting radius of influence for well PW-3 is approximately 24 feet defined by a drawdown of 0.02 feet.

Calculations and plots of the field measurements are presented in Appendix C.

These calculated transmissivity, and storage coefficients, and radius of influence are larger than expected, especially given the flowrate of the pump (12.7 gpd for PW-3) which was limited by the capacity of the pumping well. Considering the assumptions inherent to the Cooper-Jacobs method (e.g., a homogeneous and isotropic aquifer, and infinite boundary system, and a constant pumping rate) together with the known site conditions, the calculated transmissivities are not considered to be representative throughout the aquifer.

5.0 FINDINGS

The pumping rates for both wells were set at the approximate capacity of the individual well. RW-4 was pumped at an average rate of 0.13 gpm; PW-03 averaged a limited yield of 0.009 gpm.

Pumping-induced drawdown was apparent in only two of the six monitoring wells (PW-5 and MW-4). The maximum amount of drawdown was 0.5 feet for PW-5 and 0.4 feet for MW-4. The water levels in the remaining four wells (MW-2, UGW-12, UGW-13 and UGW-4) were not measurably influenced by the pumping.

Accordingly, pumping at wells PW-3 and RW-4 failed to develop an appreciable hydraulic gradient in the subsurface, especially in the wells located near the utility corridor along Forestal Drive (Wells UGW-12 and UGW-13). The calculated radius of influence for well PW-3 is approximately 25 feet defined by a drawdown of 0.02 feet.

In addition, the results of the pumping tests confirm that the subsurface conditions in the area north of the equipment compound are different from the area along Forestal Drive and the third plume area near RW-1. The pumping test results also indicate that the subsurface conditions change dramatically moving laterally from Forestal Drive due to the steeply sloping and undulating rock surface.

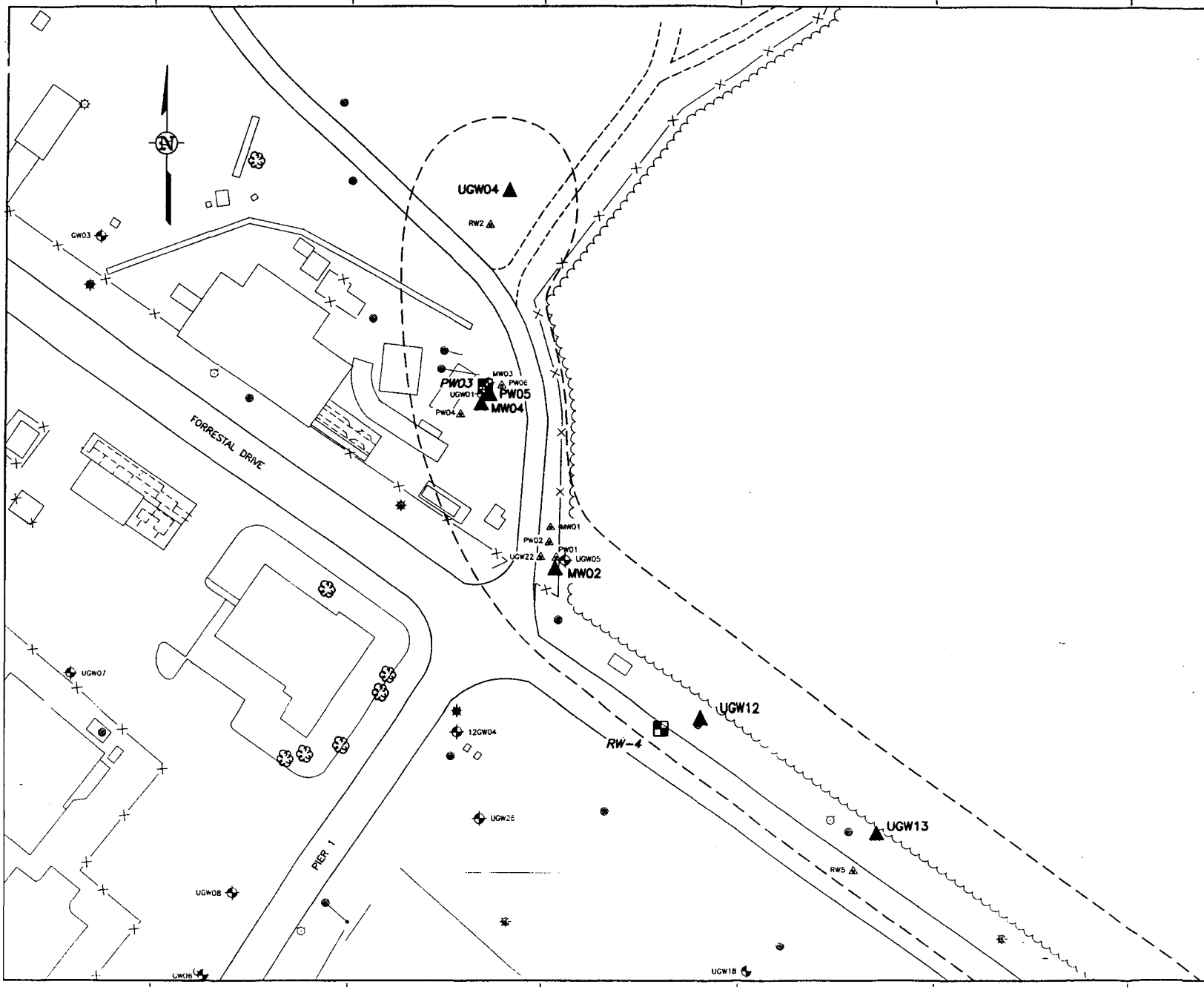
Tables

TABLE 1
WELL GAUGING DATA
HYDRAULIC CHARACTERISTIC EVALUATION

FREE PRODUCT RECOVERY
TOW WAY FUEL FACILITY
NAVAL STATION ROOSEVELT ROADS
CEIBA, PUERTO RICO
Contract No. N62470-D-3033-0009
Task Order No. 0009

Well Designation	Top of Casing Elevation (ft-msl)	27-Apr-99		
		Depth to Product (ft)	Depth to Water (ft)	Apparent Product Thickness (ft)
RW-1	20.55	blocked		
RW-2	18.01	13.50	13.54	0.04
RW-3	10.30	7.10	7.11	0.01
RW-4	11.09	Well Purged		
RW-5	10.35	8.96	9.30	0.34
RW-6	9.82	8.62	8.63	0.01
RW-7	8.59	7.40	7.55	0.15
RW-8	9.89	9.06	9.21	0.15
UGW-1	16.34	12.39	14.12	1.73
UGW-2	61.93	52.18	52.19	0.01
UGW-3	24.76			
UGW-4	20.21	16.60	16.61	0.01
UGW-5	16.04	12.88	13.08	0.20
UGW-6	11.24	10.10	10.10	SHEEN
UGW-7	9.81	8.30	8.30	SHEEN
UGW-8	10.03	8.48	8.49	0.01
UGW-9	9.45	8.06	8.06	SHEEN
UGW-10	10.50	10.11	10.11	SHEEN
UGW-11	9.45	9.16	9.16	SHEEN
UGW-12	13.97	10.10	17.88	7.78
UGW-13	13.34	10.97	17.92	6.95
UGW-14	19.23	15.73	15.73	SHEEN
UGW-15	12.33	11.81	11.81	SHEEN
UGW-16	13.63	12.65	12.65	SHEEN
UGW-17	12.28	10.33	15.50	5.17
UGW-18	14.28	12.99	12.99	SHEEN
UGW-19	12.27	10.85	11.34	0.49
UGW-20	11.92	8.78	8.78	SHEEN
UGW-21	13.28	12.07	14.30	2.23
UGW-22	15.18			
UGW-23	69.20	62.24	62.24	SHEEN
UGW-24	78.94	72.41	72.41	SHEEN
UGW-25	53.92			
UGW-26	10.79	8.53	8.53	SHEEN
PW-1	0.38	10.35	10.35	SHEEN
PW-2	15.69	11.94	11.94	SHEEN
PW-3	17.33	7.10	7.11	0.01
PW-4	15.65			
PW-5	17.42	13.83	14.13	0.30
PW-6	17.69	11.45	11.51	0.06
MW-1	15.94	11.31	12.67	1.36
MW-2	15.56	11.94	11.94	SHEEN
MW-3	17.22	10.08	10.85	0.77
MW-4	16.56	10.24	10.97	0.73
470MW-1	33.14	29.57	29.85	0.28
470MW-2				
470MW-3	23.15	20.34	20.34	SHEEN
GW-01				
GW-02	13.57	10.99	10.99	SHEEN
GW-03	13.18	10.89	10.90	0.01
GW-04	12.83			
GW-05	10.70			
GW-06	10.95			
7MW-01A	28.41	29.59	29.60	0.01
7MW-02A	48.50	43.28	43.29	0.01
7MW-03	79.31	70.06	70.06	SHEEN
7MW-04	82.56	76.46	76.47	0.01
7MW-05	14.13	12.26	12.26	SHEEN
7MW-06	8.25	7.90	7.90	SHEEN
7MW-07	11.33	14.40	14.40	SHEEN
7MW-08		10.85	10.85	SHEEN
7MW-09	61.34	56.21	56.21	SHEEN

Figures



LEGEND

RW-4	GROUNDWATER PUMP TEST LOCATION AND DESIGNATION
UGW04	GROUNDWATER OBSERVATION WELL LOCATION AND DESIGNATION
UGW-9	MONITORING WELL LOCATION AND DESIGNATION
PW-1	PRODUCT RECOVERY WELL LOCATION AND DESIGNATION
— — —	APPROXIMATE EXTENT OF PRODUCT PLUME (MEASURED JULY 1999)
	BUILDING
	WALL
—×—×—	FENCE

REFERENCES:

1. BAKER ENVIRONMENTAL DRAWING TITLED, "SITE PLAN, TOW WAY FUEL FARM, CTO-0277," CEIBA, PUERTO RICO, FIGURE 2-1, DWG. NO. 27790UWP, SCALE: 1" = 120'
2. BAKER ENVIRONMENTAL DRAWING TITLED, "PREVIOUS INVESTIGATION SITE PLAN, SWMU 7/8 – TOW WAY FUEL FARM, CTO-0277," CEIBA, PUERTO RICO, FIGURE 2-1, SCALE: 1" = 120'

GRAPHIC SCALE
IF THIS DRAWING IS A REDUCTION, USE GRAPHIC SCALE

1" = 30'-0" 0 30 60 90 120

HYDRAULIC CHARACTERISTICS EVALUATION

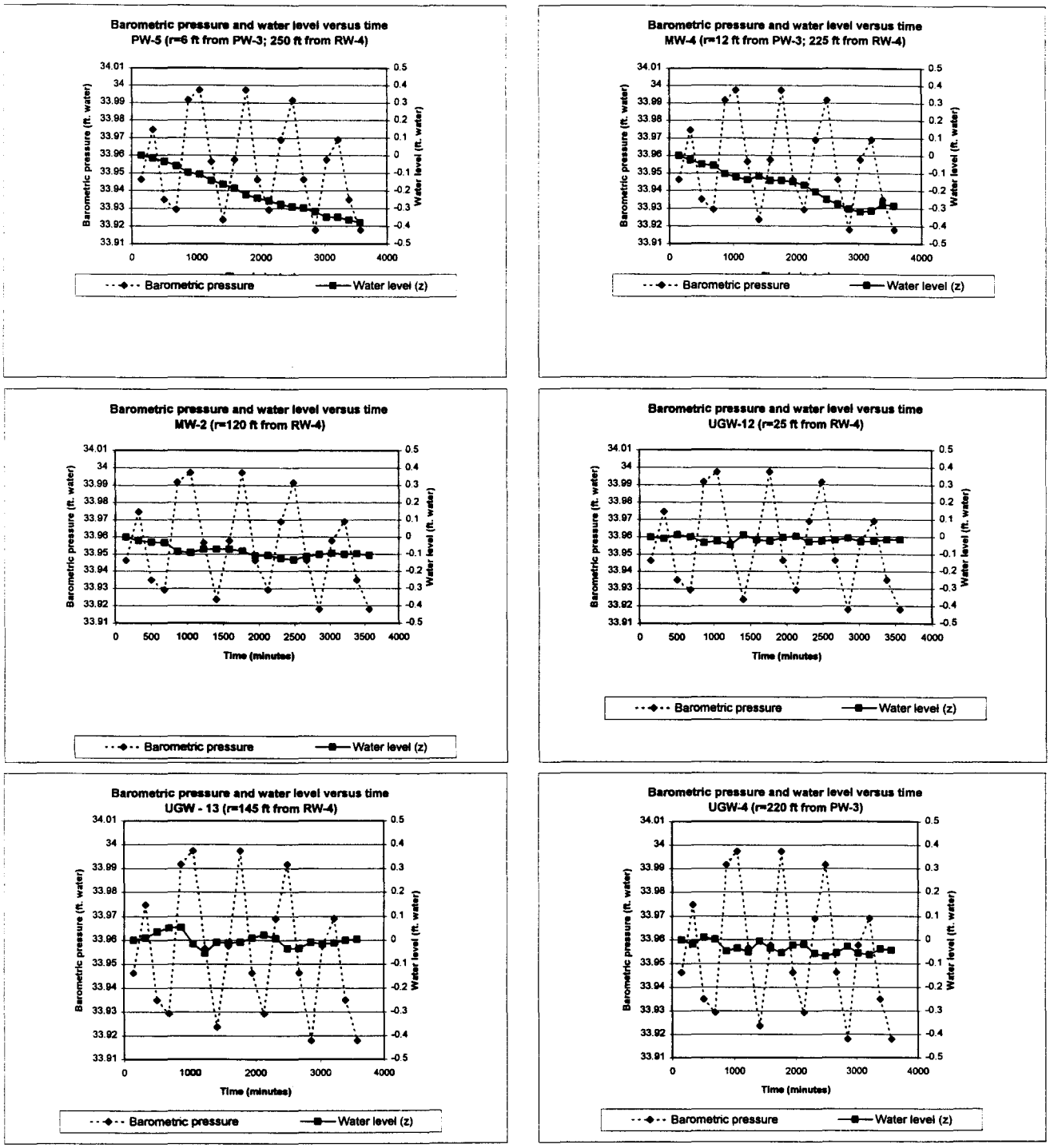
SITE PLAN

FREE PRODUCT RECOVERY SYSTEM
TOW WAY FUEL FACILITY
ROOSEVELT ROADS
CEIBA, PUERTO RICO

CHECKED BY: APPROVED BY:	DWG. NO.: 45809D31	FIGURE NO. 1

McLaren Hart

Figure 2
Well Drawdown and Barometric Pressure Versus Time



Well drawdown (in feet) and barometric pressure (in feet of water) versus time for 6 monitoring wells.
In wells MW-2, UGW-12, UGW-13 and UGW-4, the amount of drawdown was appreciably smaller than the magnitude of variablility due to fluctuations in barometric pressure.

Appendix A

Pump Test Field Data

T.O. # 9
HYDRAULIC CHARACTERISTICS EVALUATION

Free Product Recovery System
Tow Way Fuel Facility
Naval Station Roosevelt Roads
Ceiba, Puerto Rico
Contract No. N62470-93-D-3033

PUMP TEST FIELD DATA
Setup on 5/1/99

PW-3	9.95	10.69	Drawdown pump line placed 4' 7" from Bottom		
RW-4	SHEEN	8.42	Drawdown pump line placed 4' 7" from Bottom		
RW-4 Monitoring wells				**Top of Casing Referance Level**	**Transducer Number**
UGW-13	11.10	17.75	25.10	17.75	204971.00
UGW-12	10.20	17.85	25.00	17.85	205226.00
MW-2	SHEEN	11.52	27.00	11.52	203622.00
PW-3 Monitoring wells					
MW-2	SHEEN	11.52	27.00	11.52	203622.00
UGW-4	NONE	16.70	36.00	16.70	205219.00
PW-5	13.95	14.25	26.90	13.95	23712.00
MW-4	10.32	11.30	26.50	10.32	203719.00
	5/3 Start 5:25P.M.	**5/3 7:52 P.M.**	**5/4 8:25 A.M.**	**5/5 7:10 A.M.**	**5/6 7:40 A.M.**
RW-4	0.00	25.97 gal	121.75 gal	306.5 gal	486.93 gal
PW-3	0.00	4.45 gal	12.74 gal	24.02 gal	36.68 gal

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SE2000
Environmental Logger
05/12 14:49

Unit# 2K-728 Test 0

Setups:	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	INPUT 6
Type	Level (F)	Level (F)	Level (F)	Level (F)	Level (F)	Level (F)
Mode	TOC	TOC	TOC	TOC	TOC	TOC
I.D.	204971	205226	203622	205219	23712	203719
Reference	11.100	10.200	11.520	16.700	13.950	10.320
PSI at Ref.	4.556	4.761	4.997	5.691	3.907	5.337
SG	1.000	1.000	1.000	1.000	1.000	1.000
Linearity	0.025	0.015	0.015	0.018	0.000	0.049
Scale factor	9.973	10.015	9.986	10.027	9.955	9.991
Offset	0.026	0.128	-0.046	-0.011	0.018	0.057
Delay mSEC	50.000	50.000	50.000	50.000	50.000	50.000

Step 0 05/03 17:25:18

Elapsed Time	INPUT 1 (UGW-13)	INPUT 2 (UGW-12)	INPUT 3 (MW-2)	INPUT 4 (UGW-4)	INPUT 5 (PW-5)	INPUT 6 (MW-4)
0.0000	11.122	10.215	11.520	16.728	13.959	10.323
0.0083	11.122	10.215	11.523	16.728	13.959	10.323
0.0166	11.122	10.218	11.520	16.728	13.956	10.326
0.0250	11.122	10.218	11.520	16.728	13.959	10.326
0.0333	11.122	10.218	11.520	16.731	13.959	10.323
0.0416	11.122	10.218	11.520	16.731	13.956	10.323
0.0500	11.122	10.218	11.520	16.731	13.956	10.323
0.0583	11.122	10.215	11.520	16.731	13.959	10.323
0.0666	11.122	10.218	11.520	16.731	13.959	10.323
0.0750	11.122	10.218	11.520	16.731	13.959	10.320
0.0833	11.122	10.218	11.523	16.731	13.956	10.326
0.0916	11.122	10.218	11.520	16.731	13.959	10.323
0.1000	11.122	10.218	11.520	16.731	13.959	10.323
0.1083	11.122	10.218	11.520	16.731	13.959	10.326
0.1166	11.125	10.218	11.520	16.731	13.959	10.323
0.1250	11.122	10.215	11.520	16.731	13.959	10.323
0.1333	11.125	10.218	11.523	16.731	13.959	10.326
0.1416	11.122	10.218	11.520	16.734	13.959	10.323
0.1500	11.125	10.218	11.520	16.734	13.956	10.320
0.1583	11.122	10.218	11.520	16.734	13.959	10.326
0.1666	11.122	10.218	11.520	16.734	13.959	10.323
0.1750	11.122	10.218	11.520	16.734	13.959	10.323
0.1833	11.125	10.218	11.520	16.734	13.956	10.323
0.1916	11.125	10.218	11.520	16.734	13.956	10.326
0.2000	11.125	10.218	11.520	16.734	13.959	10.323
0.2083	11.122	10.218	11.520	16.734	13.956	10.323
0.2166	11.125	10.218	11.520	16.734	13.956	10.323
0.2250	11.125	10.218	11.520	16.734	13.959	10.323
0.2333	11.122	10.218	11.520	16.734	13.959	10.326
0.2416	11.125	10.218	11.520	16.734	13.959	10.323
0.2500	11.125	10.218	11.523	16.734	13.959	10.323
	UGW-13	UGW-12	MW-2	UGW-4	PW-5	MW-4

WELL ID

0.2583	11.125	10.218	11.523	16.734	13.959	10.323
0.2666	11.125	10.218	11.520	16.734	13.956	10.323
0.2750	11.125	10.218	11.520	16.734	13.959	10.323
0.2833	11.125	10.218	11.523	16.734	13.959	10.323
0.2916	11.125	10.218	11.523	16.734	13.959	10.323
0.3000	11.125	10.218	11.520	16.734	13.959	10.320
0.3083	11.125	10.218	11.520	16.734	13.956	10.323
0.3166	11.125	10.218	11.520	16.734	13.959	10.326
0.3250	11.125	10.218	11.520	16.734	13.959	10.323
0.3333	11.125	10.218	11.520	16.734	13.956	10.323
0.3500	11.125	10.218	11.520	16.734	13.959	10.326
0.3666	11.125	10.218	11.520	16.734	13.959	10.323
0.3833	11.125	10.218	11.523	16.734	13.956	10.323
0.4000	11.125	10.218	11.520	16.734	13.956	10.323
0.4166	11.125	10.215	11.520	16.734	13.956	10.323
0.4333	11.125	10.218	11.523	16.734	13.959	10.323
0.4500	11.125	10.218	11.520	16.731	13.956	10.320
0.4666	11.125	10.218	11.520	16.731	13.956	10.320
0.4833	11.125	10.218	11.523	16.731	13.953	10.323
0.5000	11.125	10.218	11.520	16.731	13.956	10.323
0.5166	11.125	10.218	11.520	16.731	13.956	10.323
0.5333	11.125	10.218	11.523	16.731	13.956	10.323
0.5500	11.125	10.215	11.520	16.731	13.956	10.320
0.5666	11.128	10.218	11.520	16.731	13.959	10.323
0.5833	11.125	10.218	11.520	16.731	13.959	10.323
0.6000	11.125	10.218	11.520	16.731	13.956	10.320
0.6166	11.125	10.218	11.520	16.731	13.959	10.323
0.6333	11.125	10.218	11.520	16.731	13.956	10.323
0.6500	11.125	10.218	11.520	16.731	13.956	10.323
0.6666	11.125	10.218	11.520	16.731	13.956	10.323
0.6833	11.125	10.218	11.520	16.731	13.959	10.323
0.7000	11.125	10.218	11.520	16.731	13.956	10.320
0.7166	11.125	10.215	11.520	16.731	13.953	10.323
0.7333	11.122	10.215	11.523	16.731	13.953	10.320
0.7500	11.125	10.218	11.520	16.731	13.956	10.320
0.7666	11.125	10.218	11.520	16.731	13.956	10.320
0.7833	11.122	10.218	11.520	16.728	13.956	10.320
0.8000	11.122	10.218	11.520	16.731	13.962	10.320
0.8166	11.122	10.215	11.520	16.731	13.959	10.320
0.8333	11.122	10.215	11.523	16.731	13.956	10.323
0.8500	11.122	10.215	11.520	16.731	13.959	10.323
0.8666	11.122	10.215	11.520	16.731	13.959	10.320
0.8833	11.118	10.215	11.520	16.731	13.953	10.320
0.9000	11.118	10.215	11.520	16.728	13.953	10.320
0.9166	11.118	10.212	11.520	16.728	13.959	10.320
0.9333	11.115	10.212	11.520	16.728	13.956	10.320
0.9500	11.115	10.209	11.520	16.728	13.956	10.320
0.9666	11.115	10.209	11.520	16.728	13.953	10.320
0.9833	11.115	10.209	11.520	16.728	13.950	10.320
1.0000	11.112	10.209	11.520	16.728	13.956	10.316
1.2000	11.106	10.200	11.520	16.703	13.950	10.310
1.4000	11.100	10.193	11.520	16.687	13.950	10.313
1.6000	11.096	10.193	11.520	16.684	13.950	10.310
1.8000	11.093	10.193	11.520	16.681	13.950	10.313
2.0000	11.096	10.193	11.523	16.684	13.953	10.313
2.2000	11.096	10.193	11.523	16.687	13.956	10.313

2.4000	11.096	10.196	11.520	16.693	13.953	10.313
2.6000	11.096	10.196	11.520	16.693	13.953	10.313
2.8000	11.100	10.203	11.523	16.693	13.953	10.316
3.0000	11.106	10.206	11.523	16.706	13.956	10.316
3.2000	11.115	10.212	11.526	16.718	13.962	10.320
3.4000	11.118	10.215	11.523	16.728	13.956	10.323
3.6000	11.122	10.218	11.526	16.731	13.959	10.323
3.8000	11.125	10.218	11.523	16.734	13.962	10.323
4.0000	11.125	10.218	11.523	16.731	13.959	10.320
4.2000	11.125	10.215	11.523	16.728	13.959	10.323
4.4000	11.122	10.212	11.526	16.725	13.959	10.316
4.6000	11.118	10.209	11.523	16.722	13.956	10.320
4.8000	11.115	10.209	11.526	16.715	13.956	10.316
5.0000	11.115	10.206	11.526	16.709	13.953	10.313
5.2000	11.112	10.203	11.526	16.700	13.950	10.310
5.4000	11.109	10.200	11.523	16.690	13.946	10.310
5.6000	11.103	10.196	11.523	16.681	13.950	10.310
5.8000	11.096	10.184	11.520	16.671	13.946	10.310
6.0000	11.084	10.171	11.520	16.646	13.943	10.304
6.2000	11.077	10.168	11.523	16.630	13.940	10.300
6.4000	11.077	10.174	11.523	16.636	13.946	10.304
6.6000	11.077	10.177	11.523	16.649	13.950	10.310
6.8000	11.077	10.184	11.523	16.662	13.953	10.310
7.0000	11.081	10.187	11.523	16.674	13.956	10.313
7.2000	11.084	10.190	11.523	16.677	13.950	10.313
7.4000	11.084	10.190	11.526	16.681	13.953	10.313
7.6000	11.081	10.190	11.523	16.687	13.953	10.313
7.8000	11.084	10.187	11.523	16.690	13.956	10.313
8.0000	11.090	10.187	11.523	16.687	13.953	10.310
8.2000	11.093	10.193	11.523	16.687	13.950	10.313
8.4000	11.096	10.196	11.523	16.690	13.953	10.310
8.6000	11.093	10.193	11.523	16.693	13.953	10.313
8.8000	11.096	10.196	11.523	16.696	13.953	10.313
9.0000	11.093	10.193	11.523	16.693	13.953	10.313
9.2000	11.100	10.193	11.523	16.690	13.953	10.313
9.4000	11.100	10.193	11.523	16.690	13.953	10.310
9.6000	11.096	10.193	11.523	16.690	13.953	10.313
9.8000	11.096	10.193	11.523	16.696	13.953	10.310
10.0000	11.103	10.200	11.523	16.696	13.950	10.310
12.0000	11.115	10.215	11.523	16.722	13.953	10.316
14.0000	11.100	10.196	11.523	16.687	13.956	10.310
16.0000	11.100	10.200	11.523	16.703	13.965	10.313
18.0000	11.106	10.203	11.523	16.706	13.965	10.310
20.0000	11.100	10.196	11.523	16.693	13.962	10.307
22.0000	11.096	10.196	11.523	16.700	13.962	10.310
24.0000	11.100	10.200	11.520	16.696	13.962	10.307
26.0000	11.100	10.200	11.520	16.693	13.959	10.310
28.0000	11.103	10.206	11.523	16.709	13.968	10.313
30.0000	11.103	10.206	11.520	16.703	13.953	10.313
32.0000	11.100	10.206	11.520	16.703	13.965	10.310
34.0000	11.109	10.209	11.520	16.703	13.965	10.310
36.0000	11.106	10.212	11.520	16.706	13.965	10.310
38.0000	11.103	10.212	11.520	16.703	13.959	10.307
40.0000	11.100	10.212	11.520	16.703	13.956	10.307
42.0000	11.103	10.215	11.520	16.706	13.962	10.310
44.0000	11.106	10.218	11.520	16.706	13.959	10.310

46.0000	11.103	10.212	11.520	16.703	13.959	10.307
48.0000	11.096	10.212	11.520	16.703	13.956	10.310
50.0000	11.106	10.212	11.520	16.709	13.956	10.307
52.0000	11.100	10.212	11.516	16.709	13.956	10.310
54.0000	11.103	10.212	11.516	16.706	13.956	10.307
56.0000	11.103	10.215	11.520	16.712	13.959	10.310
58.0000	11.100	10.212	11.520	16.709	13.956	10.307
60.0000	11.103	10.215	11.520	16.709	13.959	10.307
62.0000	11.100	10.212	11.520	16.709	13.959	10.307
64.0000	11.100	10.212	11.516	16.706	13.956	10.307
66.0000	11.100	10.215	11.520	16.709	13.956	10.304
68.0000	11.100	10.212	11.516	16.706	13.956	10.307
70.0000	11.100	10.215	11.516	16.709	13.959	10.307
72.0000	11.103	10.215	11.516	16.712	13.959	10.304
74.0000	11.103	10.215	11.516	16.709	13.959	10.307
76.0000	11.100	10.215	11.516	16.712	13.959	10.307
78.0000	11.100	10.215	11.516	16.709	13.956	10.310
80.0000	11.100	10.215	11.520	16.709	13.956	10.313
82.0000	11.100	10.215	11.520	16.709	13.959	10.313
84.0000	11.100	10.212	11.516	16.709	13.959	10.313
86.0000	11.096	10.212	11.516	16.709	13.959	10.313
88.0000	11.100	10.215	11.520	16.709	13.959	10.313
90.0000	11.103	10.215	11.520	16.712	13.959	10.316
92.0000	11.103	10.218	11.523	16.712	13.959	10.316
94.0000	11.106	10.222	11.523	16.715	13.959	10.316
96.0000	11.103	10.222	11.526	16.715	13.962	10.316
98.0000	11.103	10.225	11.523	16.715	13.959	10.316
100.000	11.106	10.225	11.523	16.715	13.962	10.316
105.000	11.103	10.225	11.523	16.718	13.962	10.313
110.000	11.103	10.231	11.523	16.722	13.965	10.313
115.000	11.103	10.228	11.526	16.718	13.965	10.313
120.000	11.103	10.228	11.526	16.722	13.975	10.320
125.000	11.100	10.231	11.526	16.722	13.975	10.320
130.000	11.103	10.231	11.526	16.725	13.978	10.316
135.000	11.103	10.237	11.526	16.728	13.975	10.323
140.000	11.106	10.237	11.526	16.731	13.981	10.323
145.000	11.103	10.237	11.523	16.731	13.978	10.323
150.000	11.100	10.237	11.523	16.728	13.978	10.323
155.000	11.103	10.237	11.523	16.731	13.981	10.323
160.000	11.103	10.241	11.523	16.731	13.968	10.329
165.000	11.103	10.241	11.523	16.728	13.968	10.323
170.000	11.103	10.237	11.523	16.734	13.975	10.326
175.000	11.103	10.244	11.523	16.737	13.981	10.323
180.000	11.106	10.244	11.523	16.737	13.981	10.320
185.000	11.103	10.244	11.523	16.737	13.987	10.329
190.000	11.103	10.250	11.523	16.741	13.984	10.332
195.000	11.103	10.250	11.523	16.741	13.987	10.339
200.000	11.103	10.247	11.523	16.744	13.987	10.342
205.000	11.103	10.250	11.526	16.741	13.987	10.345
210.000	11.103	10.253	11.523	16.744	13.987	10.348
215.000	11.106	10.256	11.529	16.747	13.990	10.348
220.000	11.106	10.253	11.529	16.747	13.990	10.351
225.000	11.103	10.250	11.529	16.750	13.987	10.351
230.000	11.100	10.250	11.532	16.750	13.994	10.348
235.000	11.100	10.250	11.529	16.747	13.984	10.348
240.000	11.096	10.250	11.529	16.744	13.984	10.348

245.000	11.100	10.253	11.538	16.747	13.987	10.345
250.000	11.103	10.253	11.542	16.747	13.987	10.348
255.000	11.100	10.253	11.545	16.750	13.990	10.345
260.000	11.103	10.253	11.545	16.747	13.994	10.345
265.000	11.096	10.253	11.545	16.747	13.987	10.342
270.000	11.096	10.250	11.548	16.747	13.990	10.345
275.000	11.096	10.253	11.548	16.747	13.987	10.342
280.000	11.096	10.250	11.548	16.747	13.987	10.342
285.000	11.100	10.250	11.548	16.753	13.987	10.342
290.000	11.096	10.253	11.545	16.750	13.987	10.339
295.000	11.096	10.253	11.545	16.750	13.987	10.342
300.000	11.096	10.256	11.545	16.750	13.987	10.339
305.000	11.090	10.250	11.545	16.750	13.990	10.342
310.000	11.087	10.250	11.542	16.747	13.987	10.342
315.000	11.090	10.250	11.542	16.744	13.990	10.345
320.000	11.093	10.253	11.542	16.750	13.990	10.348
325.000	11.087	10.247	11.538	16.744	13.990	10.348
330.000	11.090	10.247	11.545	16.747	13.994	10.348
335.000	11.087	10.250	11.545	16.747	13.994	10.351
340.000	11.090	10.250	11.545	16.744	13.994	10.354
345.000	11.096	10.253	11.545	16.750	13.997	10.361
350.000	11.090	10.253	11.545	16.750	13.997	10.361
355.000	11.090	10.253	11.545	16.747	13.997	10.361
360.000	11.090	10.253	11.548	16.747	14.000	10.358
365.000	11.090	10.250	11.548	16.750	14.000	10.367
370.000	11.087	10.253	11.545	16.750	13.997	10.367
375.000	11.090	10.253	11.548	16.750	14.000	10.367
380.000	11.093	10.256	11.554	16.750	14.000	10.370
385.000	11.087	10.253	11.554	16.747	14.000	10.374
390.000	11.087	10.253	11.554	16.747	14.000	10.370
395.000	11.084	10.247	11.551	16.744	14.003	10.370
400.000	11.084	10.244	11.554	16.744	14.003	10.364
405.000	11.081	10.241	11.554	16.741	14.003	10.364
410.000	11.077	10.241	11.554	16.744	14.003	10.364
415.000	11.077	10.237	11.554	16.737	14.003	10.364
420.000	11.077	10.237	11.554	16.737	14.006	10.367
425.000	11.077	10.237	11.554	16.737	14.006	10.361
430.000	11.077	10.241	11.551	16.737	14.006	10.361
435.000	11.077	10.237	11.551	16.737	14.009	10.370
440.000	11.077	10.241	11.548	16.734	14.006	10.364
445.000	11.074	10.241	11.548	16.734	14.009	10.367
450.000	11.071	10.234	11.548	16.731	14.009	10.367
455.000	11.074	10.234	11.545	16.731	14.009	10.367
460.000	11.071	10.234	11.551	16.731	14.009	10.370
465.000	11.071	10.234	11.551	16.728	14.009	10.367
470.000	11.071	10.234	11.548	16.728	14.012	10.370
475.000	11.068	10.231	11.551	16.728	14.012	10.367
480.000	11.068	10.231	11.551	16.722	14.016	10.367
485.000	11.068	10.228	11.551	16.722	14.016	10.364
490.000	11.068	10.228	11.548	16.722	14.012	10.364
495.000	11.068	10.228	11.560	16.725	14.012	10.367
500.000	11.068	10.228	11.557	16.722	14.016	10.370
505.000	11.065	10.228	11.557	16.722	14.016	10.377
510.000	11.065	10.225	11.554	16.718	14.012	10.374
515.000	11.065	10.228	11.554	16.718	14.016	10.370
520.000	11.062	10.225	11.554	16.718	14.016	10.377

525.000	11.065	10.225	11.557	16.718	14.016	10.374
530.000	11.062	10.222	11.557	16.715	14.016	10.377
535.000	11.062	10.222	11.554	16.715	14.016	10.377
540.000	11.062	10.225	11.551	16.715	14.019	10.370
545.000	11.059	10.222	11.548	16.712	14.019	10.374
550.000	11.059	10.222	11.548	16.712	14.019	10.374
555.000	11.059	10.225	11.554	16.712	14.022	10.374
560.000	11.055	10.225	11.554	16.709	14.022	10.377
565.000	11.059	10.222	11.557	16.712	14.022	10.374
570.000	11.059	10.222	11.557	16.712	14.022	10.377
575.000	11.055	10.222	11.554	16.709	14.022	10.367
580.000	11.059	10.228	11.557	16.712	14.025	10.370
585.000	11.059	10.228	11.557	16.709	14.022	10.370
590.000	11.059	10.228	11.557	16.709	14.025	10.367
595.000	11.052	10.218	11.557	16.706	14.025	10.364
600.000	11.052	10.218	11.557	16.709	14.028	10.367
605.000	11.052	10.222	11.557	16.706	14.025	10.361
610.000	11.052	10.228	11.557	16.712	14.028	10.361
615.000	11.052	10.225	11.557	16.709	14.028	10.361
620.000	11.052	10.222	11.554	16.712	14.028	10.367
625.000	11.052	10.225	11.554	16.712	14.031	10.364
630.000	11.055	10.225	11.554	16.709	14.028	10.364
635.000	11.052	10.228	11.554	16.712	14.031	10.367
640.000	11.052	10.228	11.557	16.712	14.031	10.374
645.000	11.052	10.228	11.557	16.718	14.035	10.377
650.000	11.055	10.231	11.557	16.718	14.035	10.377
655.000	11.059	10.234	11.557	16.718	14.038	10.377
660.000	11.052	10.231	11.557	16.718	14.035	10.374
665.000	11.052	10.234	11.557	16.718	14.035	10.377
670.000	11.052	10.237	11.554	16.725	14.047	10.380
675.000	11.052	10.241	11.557	16.722	14.038	10.380
680.000	11.052	10.241	11.557	16.728	14.038	10.380
685.000	11.052	10.237	11.557	16.725	14.038	10.380
690.000	11.049	10.237	11.557	16.725	14.038	10.380
695.000	11.049	10.244	11.557	16.731	14.041	10.380
700.000	11.049	10.244	11.557	16.731	14.044	10.380
705.000	11.049	10.244	11.560	16.728	14.044	10.377
710.000	11.049	10.244	11.560	16.728	14.041	10.377
715.000	11.046	10.244	11.564	16.728	14.044	10.383
720.000	11.046	10.247	11.564	16.728	14.044	10.374
725.000	11.049	10.247	11.564	16.731	14.044	10.377
730.000	11.049	10.247	11.564	16.734	14.044	10.377
735.000	11.049	10.247	11.564	16.734	14.044	10.377
740.000	11.049	10.247	11.564	16.734	14.044	10.377
745.000	11.049	10.247	11.567	16.737	14.047	10.374
750.000	11.049	10.250	11.567	16.737	14.047	10.380
755.000	11.049	10.253	11.570	16.737	14.053	10.377
760.000	11.049	10.253	11.570	16.737	14.047	10.377
765.000	11.049	10.253	11.570	16.741	14.047	10.377
770.000	11.049	10.253	11.570	16.741	14.047	10.383
775.000	11.049	10.253	11.583	16.744	14.050	10.383
780.000	11.049	10.256	11.592	16.744	14.053	10.386
785.000	11.049	10.256	11.592	16.747	14.060	10.393
790.000	11.049	10.260	11.592	16.750	14.053	10.393
795.000	11.055	10.266	11.595	16.756	14.057	10.399
800.000	11.046	10.256	11.595	16.750	14.066	10.399

805.000	11.052	10.266	11.598	16.753	14.057	10.405
810.000	11.043	10.269	11.598	16.753	14.060	10.405
815.000	11.040	10.269	11.598	16.756	14.060	10.408
820.000	11.036	10.269	11.598	16.756	14.057	10.408
825.000	11.040	10.269	11.601	16.756	14.069	10.412
830.000	11.040	10.272	11.598	16.760	14.069	10.408
835.000	11.043	10.269	11.601	16.763	14.069	10.415
840.000	11.040	10.269	11.605	16.763	14.069	10.412
845.000	11.043	10.272	11.608	16.766	14.063	10.418
850.000	11.046	10.272	11.608	16.763	14.072	10.415
855.000	11.046	10.269	11.605	16.769	14.069	10.424
860.000	11.049	10.272	11.608	16.772	14.075	10.431
865.000	11.049	10.272	11.608	16.763	14.069	10.421
870.000	11.046	10.272	11.608	16.775	14.075	10.428
875.000	11.046	10.272	11.608	16.769	14.072	10.428
880.000	11.046	10.272	11.605	16.779	14.082	10.431
885.000	11.049	10.272	11.608	16.775	14.069	10.428
890.000	11.049	10.272	11.614	16.782	14.072	10.431
895.000	11.049	10.275	11.614	16.782	14.082	10.434
900.000	11.052	10.272	11.617	16.775	14.075	10.431
905.000	11.055	10.272	11.614	16.779	14.072	10.437
910.000	11.055	10.272	11.614	16.772	14.072	10.440
915.000	11.062	10.275	11.614	16.772	14.072	10.443
920.000	11.065	10.275	11.614	16.772	14.072	10.440
925.000	11.068	10.279	11.614	16.779	14.079	10.443
930.000	11.062	10.272	11.614	16.772	14.072	10.437
935.000	11.077	10.282	11.614	16.782	14.079	10.440
940.000	11.081	10.285	11.614	16.775	14.082	10.443
945.000	11.049	10.256	11.614	16.741	14.069	10.431
950.000	11.090	10.291	11.614	16.807	14.079	10.450
955.000	11.055	10.256	11.611	16.737	14.066	10.431
960.000	11.074	10.285	11.614	16.804	14.085	10.456
965.000	11.112	10.307	11.614	16.807	14.085	10.459
970.000	11.096	10.307	11.614	16.820	14.082	10.447
975.000	11.052	10.263	11.614	16.763	14.075	10.443
980.000	11.150	10.335	11.617	16.842	14.091	10.463
985.000	11.062	10.263	11.611	16.766	14.079	10.450
990.000	11.071	10.272	11.611	16.775	14.082	10.450
995.000	11.087	10.285	11.614	16.788	14.088	10.453
1000.00	11.077	10.272	11.611	16.785	14.085	10.453
1005.00	11.090	10.285	11.620	16.791	14.085	10.456
1010.00	11.071	10.263	11.617	16.772	14.085	10.456
1015.00	11.077	10.269	11.617	16.779	14.088	10.453
1020.00	11.084	10.275	11.617	16.782	14.088	10.456
1025.00	11.065	10.256	11.614	16.772	14.085	10.453
1030.00	11.068	10.256	11.614	16.769	14.091	10.450
1035.00	11.194	10.361	11.620	16.867	14.104	10.475
1040.00	11.118	10.269	11.614	16.788	14.091	10.456
1045.00	11.112	10.266	11.614	16.785	14.091	10.456
1050.00	11.115	10.263	11.614	16.763	14.085	10.447
1055.00	11.106	10.256	11.611	16.769	14.091	10.447
1060.00	11.153	10.294	11.614	16.820	14.101	10.450
1065.00	11.115	10.253	11.617	16.782	14.094	10.447
1070.00	11.118	10.253	11.614	16.760	14.088	10.443
1075.00	11.115	10.237	11.614	16.763	14.094	10.443
1080.00	11.122	10.253	11.614	16.775	14.101	10.453

1085.00	11.115	10.241	11.614	16.760	14.094	10.447
1090.00	11.131	10.263	11.617	16.763	14.101	10.456
1095.00	11.144	10.263	11.614	16.763	14.101	10.453
1100.00	11.109	10.241	11.611	16.750	14.094	10.447
1105.00	11.131	10.247	11.611	16.769	14.104	10.456
1110.00	11.134	10.250	11.608	16.766	14.101	10.450
1115.00	11.169	10.291	11.611	16.782	14.104	10.453
1120.00	11.150	10.260	11.605	16.766	14.101	10.447
1125.00	11.125	10.250	11.605	16.766	14.101	10.453
1130.00	11.125	10.241	11.601	16.763	14.101	10.450
1135.00	11.156	10.275	11.608	16.798	14.113	10.466
1140.00	11.134	10.241	11.601	16.766	14.107	10.453
1145.00	11.134	10.250	11.598	16.766	14.107	10.453
1150.00	11.125	10.237	11.601	16.760	14.104	10.447
1155.00	11.125	10.241	11.601	16.766	14.110	10.453
1160.00	11.140	10.263	11.601	16.766	14.110	10.456
1165.00	11.122	10.244	11.598	16.769	14.113	10.456
1170.00	11.131	10.256	11.598	16.772	14.116	10.459
1175.00	11.118	10.241	11.595	16.750	14.110	10.456
1180.00	11.106	10.237	11.598	16.763	14.113	10.456
1185.00	11.131	10.244	11.598	16.769	14.116	10.459
1190.00	11.100	10.231	11.598	16.693	14.113	10.456
1195.00	11.106	10.241	11.598	16.750	14.113	10.456
1200.00	11.109	10.244	11.601	16.753	14.110	10.450
1205.00	11.093	10.231	11.598	16.750	14.113	10.459
1210.00	11.115	10.253	11.605	16.766	14.116	10.459
1215.00	11.106	10.234	11.598	16.760	14.116	10.456
1220.00	11.071	10.215	11.592	16.769	14.116	10.459
1225.00	11.175	10.316	11.598	16.823	14.126	10.478
1230.00	11.153	10.285	11.595	16.779	14.120	10.463
1235.00	11.125	10.250	11.595	16.769	14.120	10.456
1240.00	11.112	10.237	11.592	16.741	14.123	10.459
1245.00	11.106	10.231	11.595	16.728	14.116	10.463
1250.00	11.115	10.237	11.598	16.750	14.123	10.456
1255.00	11.106	10.234	11.601	16.750	14.116	10.453
1260.00	11.112	10.237	11.601	16.747	14.120	10.456
1265.00	11.112	10.237	11.598	16.734	14.123	10.456
1270.00	11.122	10.247	11.598	16.769	14.126	10.463
1275.00	11.134	10.244	11.598	16.753	14.126	10.453
1280.00	11.040	10.193	11.592	16.709	14.116	10.443
1285.00	11.068	10.215	11.592	16.718	14.120	10.447
1290.00	11.122	10.247	11.598	16.760	14.126	10.453
1295.00	11.112	10.247	11.595	16.744	14.126	10.450
1300.00	11.062	10.209	11.589	16.696	14.116	10.437
1305.00	11.096	10.241	11.589	16.747	14.129	10.450
1310.00	11.137	10.266	11.592	16.775	14.132	10.456
1315.00	11.081	10.215	11.583	16.703	14.123	10.440
1320.00	11.115	10.241	11.589	16.741	14.129	10.443
1325.00	11.106	10.231	11.595	16.741	14.129	10.443
1330.00	11.081	10.209	11.592	16.709	14.126	10.440
1335.00	11.106	10.234	11.592	16.741	14.132	10.443
1340.00	11.074	10.212	11.592	16.722	14.129	10.440
1345.00	11.087	10.225	11.592	16.722	14.129	10.440
1350.00	11.084	10.218	11.589	16.722	14.132	10.440
1355.00	11.087	10.222	11.589	16.725	14.132	10.443
1360.00	11.106	10.234	11.592	16.744	14.135	10.447

1365.00	11.093	10.225	11.592	16.731	14.132	10.440
1370.00	11.096	10.225	11.595	16.741	14.135	10.443
1375.00	11.087	10.222	11.592	16.712	14.135	10.437
1380.00	11.106	10.237	11.592	16.731	14.138	10.440
1385.00	11.109	10.237	11.595	16.741	14.138	10.440
1390.00	11.103	10.231	11.592	16.741	14.138	10.443
1395.00	11.128	10.247	11.598	16.750	14.142	10.443
1400.00	11.090	10.215	11.592	16.709	14.138	10.437
1405.00	11.112	10.234	11.592	16.734	14.142	10.443
1410.00	11.109	10.228	11.595	16.734	14.142	10.440
1415.00	11.100	10.228	11.595	16.718	14.142	10.437
1420.00	11.109	10.234	11.595	16.737	14.142	10.440
1425.00	11.112	10.247	11.598	16.753	14.148	10.443
1430.00	11.100	10.231	11.598	16.731	14.142	10.443
1435.00	11.106	10.234	11.601	16.731	14.142	10.440
1440.00	11.100	10.237	11.605	16.728	14.148	10.447
1445.00	11.103	10.244	11.601	16.744	14.148	10.447
1450.00	11.093	10.234	11.598	16.734	14.145	10.447
1455.00	11.112	10.247	11.601	16.747	14.145	10.443
1460.00	11.093	10.228	11.601	16.731	14.145	10.443
1465.00	11.103	10.244	11.605	16.737	14.151	10.453
1470.00	11.106	10.241	11.605	16.747	14.145	10.450
1475.00	11.103	10.247	11.605	16.756	14.148	10.453
1480.00	11.093	10.241	11.605	16.731	14.148	10.443
1485.00	11.109	10.256	11.605	16.756	14.151	10.450
1490.00	11.106	10.247	11.605	16.747	14.151	10.450
1495.00	11.103	10.247	11.605	16.741	14.157	10.453
1500.00	11.103	10.247	11.601	16.747	14.145	10.453
1505.00	11.106	10.244	11.601	16.744	14.151	10.456
1510.00	11.106	10.247	11.601	16.747	14.151	10.450
1515.00	11.106	10.244	11.598	16.750	14.157	10.453
1520.00	11.109	10.244	11.598	16.747	14.164	10.456
1525.00	11.112	10.247	11.601	16.750	14.161	10.463
1530.00	11.109	10.247	11.598	16.753	14.164	10.466
1535.00	11.112	10.250	11.598	16.756	14.167	10.466
1540.00	11.112	10.250	11.598	16.760	14.164	10.466
1545.00	11.112	10.253	11.595	16.756	14.161	10.463
1550.00	11.112	10.253	11.595	16.756	14.161	10.463
1555.00	11.109	10.253	11.592	16.756	14.164	10.466
1560.00	11.109	10.253	11.592	16.753	14.161	10.466
1565.00	11.112	10.256	11.598	16.756	14.161	10.469
1570.00	11.112	10.253	11.598	16.756	14.161	10.466
1575.00	11.115	10.256	11.595	16.763	14.161	10.469
1580.00	11.112	10.256	11.595	16.760	14.161	10.466
1585.00	11.115	10.256	11.595	16.763	14.164	10.463
1590.00	11.112	10.256	11.595	16.763	14.164	10.466
1595.00	11.112	10.260	11.595	16.763	14.167	10.463
1600.00	11.112	10.256	11.592	16.763	14.164	10.463
1605.00	11.112	10.260	11.592	16.766	14.170	10.466
1610.00	11.109	10.256	11.592	16.766	14.167	10.463
1615.00	11.112	10.260	11.589	16.766	14.173	10.463
1620.00	11.112	10.260	11.592	16.766	14.176	10.466
1625.00	11.115	10.256	11.598	16.769	14.176	10.466
1630.00	11.112	10.256	11.598	16.766	14.176	10.466
1635.00	11.115	10.263	11.601	16.772	14.179	10.469
1640.00	11.115	10.266	11.598	16.772	14.179	10.469

1645.00	11.112	10.263	11.598	16.772	14.183	10.469
1650.00	11.115	10.263	11.601	16.772	14.183	10.469
1655.00	11.115	10.269	11.601	16.775	14.186	10.472
1660.00	11.112	10.266	11.598	16.779	14.186	10.466
1665.00	11.112	10.263	11.601	16.779	14.186	10.466
1670.00	11.112	10.260	11.598	16.775	14.186	10.463
1675.00	11.112	10.260	11.598	16.779	14.186	10.469
1680.00	11.115	10.269	11.601	16.782	14.186	10.469
1685.00	11.112	10.269	11.598	16.785	14.192	10.466
1690.00	11.112	10.266	11.598	16.782	14.192	10.466
1695.00	11.112	10.269	11.598	16.779	14.192	10.469
1700.00	11.115	10.272	11.598	16.785	14.195	10.469
1705.00	11.112	10.269	11.605	16.779	14.195	10.469
1710.00	11.112	10.269	11.605	16.785	14.192	10.466
1715.00	11.109	10.263	11.605	16.782	14.195	10.466
1720.00	11.109	10.266	11.605	16.782	14.195	10.466
1725.00	11.112	10.266	11.601	16.785	14.195	10.466
1730.00	11.109	10.266	11.605	16.785	14.192	10.463
1735.00	11.112	10.269	11.608	16.788	14.195	10.463
1740.00	11.112	10.269	11.611	16.785	14.198	10.459
1745.00	11.106	10.263	11.608	16.785	14.198	10.463
1750.00	11.109	10.266	11.608	16.782	14.192	10.463
1755.00	11.109	10.263	11.608	16.782	14.195	10.459
1760.00	11.112	10.260	11.608	16.779	14.198	10.459
1765.00	11.112	10.263	11.605	16.782	14.198	10.463
1770.00	11.109	10.263	11.605	16.782	14.201	10.466
1775.00	11.109	10.263	11.605	16.782	14.198	10.466
1780.00	11.106	10.263	11.601	16.782	14.201	10.466
1785.00	11.106	10.263	11.601	16.782	14.201	10.466
1790.00	11.109	10.260	11.601	16.779	14.201	10.466
1795.00	11.106	10.256	11.611	16.779	14.198	10.463
1800.00	11.103	10.256	11.624	16.779	14.201	10.466
1805.00	11.100	10.253	11.627	16.775	14.205	10.466
1810.00	11.100	10.253	11.630	16.772	14.205	10.466
1815.00	11.103	10.256	11.630	16.775	14.208	10.469
1820.00	11.106	10.256	11.630	16.775	14.208	10.475
1825.00	11.103	10.256	11.633	16.775	14.208	10.475
1830.00	11.103	10.256	11.633	16.772	14.208	10.475
1835.00	11.100	10.256	11.633	16.772	14.211	10.475
1840.00	11.103	10.250	11.633	16.772	14.211	10.475
1845.00	11.096	10.250	11.633	16.769	14.211	10.475
1850.00	11.100	10.250	11.633	16.769	14.208	10.478
1855.00	11.096	10.250	11.636	16.769	14.211	10.478
1860.00	11.100	10.250	11.639	16.766	14.205	10.478
1865.00	11.096	10.247	11.633	16.766	14.211	10.478
1870.00	11.096	10.244	11.633	16.766	14.208	10.478
1875.00	11.096	10.244	11.630	16.763	14.214	10.478
1880.00	11.093	10.241	11.630	16.760	14.211	10.475
1885.00	11.093	10.241	11.630	16.760	14.211	10.475
1890.00	11.093	10.241	11.627	16.756	14.211	10.475
1895.00	11.090	10.231	11.627	16.756	14.214	10.478
1900.00	11.090	10.241	11.627	16.753	14.211	10.478
1905.00	11.090	10.241	11.627	16.753	14.211	10.478
1910.00	11.093	10.241	11.627	16.753	14.214	10.475
1915.00	11.093	10.250	11.627	16.753	14.214	10.478
1920.00	11.093	10.244	11.624	16.753	14.217	10.475

1925.00	11.090	10.241	11.624	16.753	14.211	10.475
1930.00	11.090	10.241	11.630	16.756	14.217	10.475
1935.00	11.090	10.241	11.627	16.753	14.214	10.475
1940.00	11.090	10.241	11.630	16.753	14.214	10.475
1945.00	11.090	10.244	11.633	16.753	14.220	10.475
1950.00	11.090	10.241	11.633	16.750	14.220	10.472
1955.00	11.090	10.237	11.633	16.750	14.217	10.475
1960.00	11.090	10.234	11.630	16.750	14.214	10.478
1965.00	11.087	10.234	11.633	16.747	14.220	10.478
1970.00	11.090	10.234	11.633	16.750	14.224	10.482
1975.00	11.087	10.234	11.630	16.747	14.224	10.482
1980.00	11.087	10.231	11.630	16.747	14.224	10.478
1985.00	11.084	10.234	11.627	16.747	14.220	10.482
1990.00	11.084	10.237	11.627	16.744	14.224	10.482
1995.00	11.087	10.241	11.639	16.747	14.227	10.482
2000.00	11.087	10.241	11.636	16.747	14.224	10.478
2005.00	11.087	10.237	11.639	16.747	14.224	10.478
2010.00	11.090	10.241	11.636	16.750	14.224	10.482
2015.00	11.087	10.241	11.636	16.750	14.227	10.485
2020.00	11.087	10.244	11.642	16.750	14.227	10.485
2025.00	11.087	10.241	11.639	16.750	14.227	10.482
2030.00	11.087	10.237	11.642	16.750	14.227	10.482
2035.00	11.084	10.237	11.639	16.747	14.230	10.482
2040.00	11.081	10.234	11.639	16.744	14.227	10.482
2045.00	11.084	10.234	11.639	16.744	14.230	10.482
2050.00	11.084	10.234	11.639	16.747	14.230	10.482
2055.00	11.084	10.234	11.636	16.747	14.233	10.485
2060.00	11.084	10.234	11.633	16.747	14.233	10.482
2065.00	11.084	10.237	11.630	16.750	14.230	10.488
2070.00	11.081	10.234	11.630	16.744	14.227	10.488
2075.00	11.081	10.234	11.630	16.747	14.233	10.488
2080.00	11.084	10.234	11.630	16.747	14.230	10.488
2085.00	11.081	10.237	11.630	16.750	14.236	10.485
2090.00	11.081	10.247	11.630	16.747	14.233	10.488
2095.00	11.084	10.244	11.630	16.747	14.236	10.488
2100.00	11.087	10.244	11.633	16.747	14.236	10.488
2105.00	11.081	10.241	11.633	16.744	14.230	10.488
2110.00	11.081	10.237	11.630	16.744	14.233	10.491
2115.00	11.077	10.234	11.630	16.744	14.230	10.488
2120.00	11.077	10.234	11.630	16.741	14.230	10.488
2125.00	11.081	10.237	11.633	16.744	14.230	10.491
2130.00	11.077	10.234	11.630	16.747	14.236	10.491
2135.00	11.077	10.237	11.630	16.744	14.236	10.494
2140.00	11.077	10.234	11.630	16.744	14.236	10.494
2145.00	11.077	10.234	11.627	16.744	14.239	10.494
2150.00	11.077	10.234	11.630	16.744	14.239	10.494
2155.00	11.081	10.237	11.630	16.756	14.236	10.494
2160.00	11.081	10.237	11.630	16.753	14.233	10.494
2165.00	11.087	10.241	11.630	16.756	14.239	10.494
2170.00	11.081	10.241	11.646	16.750	14.242	10.494
2175.00	11.077	10.241	11.646	16.753	14.239	10.497
2180.00	11.084	10.247	11.642	16.753	14.246	10.501
2185.00	11.084	10.247	11.642	16.753	14.242	10.497
2190.00	11.081	10.247	11.642	16.753	14.239	10.501
2195.00	11.081	10.247	11.642	16.753	14.246	10.504
2200.00	11.081	10.247	11.642	16.756	14.249	10.504

2205.00	11.081	10.247	11.642	16.753	14.249	10.504
2210.00	11.081	10.247	11.642	16.756	14.242	10.507
2215.00	11.081	10.250	11.642	16.756	14.249	10.507
2220.00	11.081	10.253	11.642	16.756	14.252	10.507
2225.00	11.081	10.250	11.646	16.763	14.252	10.507
2230.00	11.084	10.253	11.642	16.766	14.242	10.510
2235.00	11.084	10.253	11.646	16.763	14.242	10.507
2240.00	11.090	10.266	11.649	16.772	14.246	10.513
2245.00	11.084	10.260	11.649	16.763	14.252	10.510
2250.00	11.084	10.260	11.649	16.763	14.246	10.517
2255.00	11.087	10.260	11.646	16.769	14.249	10.517
2260.00	11.093	10.266	11.649	16.779	14.252	10.520
2265.00	11.084	10.263	11.646	16.769	14.246	10.517
2270.00	11.084	10.263	11.655	16.772	14.255	10.517
2275.00	11.084	10.260	11.652	16.772	14.258	10.520
2280.00	11.087	10.263	11.649	16.775	14.252	10.520
2285.00	11.087	10.260	11.649	16.779	14.252	10.520
2290.00	11.087	10.260	11.649	16.775	14.252	10.520
2295.00	11.090	10.260	11.649	16.782	14.249	10.526
2300.00	11.090	10.263	11.646	16.779	14.258	10.526
2305.00	11.093	10.266	11.646	16.779	14.249	10.526
2310.00	11.093	10.266	11.646	16.785	14.255	10.529
2315.00	11.096	10.266	11.646	16.791	14.261	10.532
2320.00	11.096	10.269	11.646	16.788	14.249	10.526
2325.00	11.093	10.266	11.646	16.791	14.249	10.526
2330.00	11.096	10.266	11.642	16.782	14.252	10.526
2335.00	11.100	10.266	11.642	16.788	14.255	10.529
2340.00	11.100	10.266	11.646	16.788	14.255	10.529
2345.00	11.100	10.266	11.642	16.782	14.252	10.529
2350.00	11.109	10.266	11.642	16.785	14.258	10.532
2355.00	11.103	10.263	11.639	16.779	14.258	10.532
2360.00	11.112	10.266	11.642	16.788	14.258	10.532
2365.00	11.112	10.266	11.642	16.779	14.261	10.539
2370.00	11.112	10.263	11.642	16.785	14.261	10.536
2375.00	11.093	10.253	11.639	16.791	14.242	10.529
2380.00	11.084	10.241	11.642	16.744	14.255	10.526
2385.00	11.096	10.256	11.639	16.769	14.261	10.548
2390.00	11.100	10.260	11.639	16.782	14.264	10.555
2395.00	11.156	10.307	11.639	16.845	14.277	10.577
2400.00	11.131	10.269	11.633	16.791	14.264	10.555
2405.00	11.125	10.263	11.633	16.791	14.271	10.555
2410.00	11.112	10.234	11.633	16.763	14.261	10.545
2415.00	11.137	10.266	11.636	16.794	14.271	10.561
2420.00	11.137	10.269	11.636	16.794	14.268	10.561
2425.00	11.128	10.266	11.633	16.788	14.268	10.561
2430.00	11.059	10.218	11.633	16.772	14.264	10.551
2435.00	11.156	10.282	11.642	16.820	14.274	10.567
2440.00	11.137	10.263	11.646	16.791	14.268	10.558
2445.00	11.125	10.263	11.646	16.779	14.271	10.558
2450.00	11.122	10.260	11.646	16.782	14.271	10.558
2455.00	11.137	10.272	11.646	16.794	14.268	10.564
2460.00	11.128	10.269	11.652	16.788	14.274	10.571
2465.00	11.134	10.263	11.652	16.798	14.261	10.567
2470.00	11.134	10.269	11.649	16.791	14.264	10.574
2475.00	11.118	10.260	11.652	16.782	14.274	10.577
2480.00	11.140	10.266	11.655	16.801	14.268	10.574

2485.00	11.137	10.275	11.655	16.804	14.274	10.577
2490.00	11.134	10.263	11.655	16.798	14.268	10.574
2495.00	11.144	10.279	11.658	16.810	14.274	10.583
2500.00	11.153	10.282	11.655	16.804	14.261	10.567
2505.00	11.137	10.260	11.655	16.791	14.271	10.577
2510.00	11.096	10.237	11.652	16.728	14.268	10.571
2515.00	11.144	10.275	11.655	16.763	14.271	10.583
2520.00	11.137	10.266	11.649	16.807	14.268	10.580
2525.00	11.137	10.266	11.649	16.804	14.271	10.580
2530.00	11.134	10.272	11.649	16.801	14.271	10.583
2535.00	11.125	10.260	11.652	16.791	14.274	10.580
2540.00	11.128	10.260	11.655	16.791	14.271	10.580
2545.00	11.128	10.269	11.652	16.801	14.271	10.583
2550.00	11.122	10.263	11.655	16.794	14.271	10.583
2555.00	11.144	10.275	11.652	16.804	14.274	10.590
2560.00	11.131	10.266	11.649	16.788	14.271	10.580
2565.00	11.131	10.272	11.649	16.791	14.274	10.586
2570.00	11.125	10.272	11.649	16.798	14.274	10.583
2575.00	11.128	10.272	11.646	16.801	14.280	10.586
2580.00	11.128	10.260	11.646	16.791	14.280	10.590
2585.00	11.115	10.253	11.642	16.760	14.277	10.586
2590.00	11.131	10.260	11.639	16.772	14.277	10.590
2595.00	11.122	10.256	11.639	16.791	14.280	10.593
2600.00	11.125	10.263	11.636	16.788	14.274	10.590
2605.00	11.131	10.263	11.636	16.791	14.274	10.593
2610.00	11.125	10.263	11.633	16.791	14.277	10.590
2615.00	11.131	10.272	11.633	16.798	14.280	10.593
2620.00	11.109	10.244	11.642	16.775	14.277	10.590
2625.00	11.125	10.260	11.642	16.782	14.277	10.593
2630.00	11.103	10.253	11.646	16.775	14.280	10.596
2635.00	11.109	10.256	11.642	16.782	14.274	10.599
2640.00	11.118	10.260	11.646	16.788	14.280	10.602
2645.00	11.109	10.244	11.639	16.760	14.274	10.593
2650.00	11.109	10.241	11.639	16.782	14.280	10.599
2655.00	11.103	10.241	11.642	16.769	14.274	10.590
2660.00	11.106	10.241	11.639	16.769	14.280	10.596
2665.00	11.131	10.260	11.639	16.829	14.283	10.602
2670.00	11.134	10.256	11.636	16.782	14.277	10.599
2675.00	11.049	10.193	11.630	16.731	14.274	10.586
2680.00	11.103	10.231	11.627	16.763	14.280	10.593
2685.00	11.178	10.297	11.639	16.791	14.290	10.605
2690.00	11.147	10.269	11.633	16.798	14.287	10.602
2695.00	11.084	10.215	11.627	16.728	14.283	10.596
2700.00	11.115	10.241	11.627	16.763	14.290	10.596
2705.00	11.074	10.209	11.639	16.731	14.283	10.593
2710.00	11.125	10.247	11.639	16.785	14.287	10.602
2715.00	11.084	10.222	11.639	16.750	14.283	10.596
2720.00	11.100	10.237	11.642	16.766	14.287	10.605
2725.00	11.128	10.260	11.642	16.785	14.290	10.609
2730.00	11.188	10.297	11.649	16.820	14.293	10.615
2735.00	11.159	10.256	11.646	16.788	14.293	10.612
2740.00	11.112	10.247	11.639	16.731	14.290	10.609
2745.00	11.052	10.193	11.633	16.734	14.280	10.596
2750.00	11.125	10.241	11.633	16.741	14.287	10.602
2755.00	11.077	10.215	11.633	16.750	14.290	10.612
2760.00	11.103	10.237	11.636	16.766	14.287	10.609

2765.00	11.122	10.253	11.636	16.779	14.293	10.615
2770.00	11.071	10.209	11.627	16.731	14.287	10.605
2775.00	11.096	10.231	11.627	16.753	14.293	10.612
2780.00	11.096	10.225	11.627	16.750	14.290	10.615
2785.00	11.100	10.225	11.624	16.750	14.290	10.615
2790.00	11.109	10.231	11.630	16.750	14.290	10.621
2795.00	11.109	10.228	11.630	16.756	14.293	10.621
2800.00	11.125	10.253	11.630	16.782	14.299	10.628
2805.00	11.125	10.241	11.630	16.769	14.299	10.625
2810.00	11.074	10.212	11.624	16.725	14.290	10.615
2815.00	11.106	10.237	11.624	16.753	14.299	10.625
2820.00	11.115	10.241	11.624	16.756	14.299	10.621
2825.00	11.093	10.231	11.624	16.744	14.296	10.621
2830.00	11.096	10.234	11.620	16.753	14.296	10.625
2835.00	11.100	10.237	11.620	16.750	14.299	10.625
2840.00	11.109	10.241	11.620	16.760	14.299	10.628
2845.00	11.109	10.244	11.620	16.756	14.299	10.631
2850.00	11.109	10.244	11.624	16.756	14.296	10.628
2855.00	11.103	10.241	11.624	16.760	14.299	10.628
2860.00	11.109	10.247	11.624	16.760	14.309	10.631
2865.00	11.106	10.244	11.620	16.756	14.296	10.628
2870.00	11.112	10.247	11.620	16.763	14.299	10.631
2875.00	11.112	10.244	11.620	16.763	14.302	10.634
2880.00	11.112	10.247	11.620	16.763	14.299	10.634
2885.00	11.112	10.247	11.624	16.763	14.299	10.634
2890.00	11.109	10.247	11.620	16.760	14.309	10.631
2895.00	11.112	10.250	11.624	16.763	14.302	10.634
2900.00	11.115	10.250	11.620	16.766	14.305	10.637
2905.00	11.109	10.253	11.620	16.763	14.315	10.634
2910.00	11.106	10.256	11.617	16.763	14.299	10.634
2915.00	11.109	10.253	11.617	16.763	14.305	10.634
2920.00	11.112	10.256	11.617	16.766	14.305	10.637
2925.00	11.115	10.260	11.614	16.769	14.302	10.640
2930.00	11.118	10.260	11.617	16.769	14.302	10.640
2935.00	11.115	10.256	11.614	16.769	14.302	10.637
2940.00	11.112	10.253	11.614	16.766	14.302	10.637
2945.00	11.112	10.256	11.614	16.769	14.305	10.640
2950.00	11.112	10.256	11.614	16.769	14.302	10.637
2955.00	11.112	10.256	11.611	16.769	14.302	10.637
2960.00	11.115	10.263	11.614	16.772	14.305	10.644
2965.00	11.118	10.260	11.614	16.775	14.305	10.647
2970.00	11.118	10.260	11.614	16.775	14.305	10.644
2975.00	11.118	10.263	11.614	16.782	14.309	10.640
2980.00	11.122	10.266	11.614	16.779	14.315	10.644
2985.00	11.122	10.266	11.614	16.785	14.312	10.647
2990.00	11.118	10.269	11.614	16.782	14.315	10.647
2995.00	11.115	10.266	11.614	16.782	14.321	10.640
3000.00	11.118	10.269	11.614	16.785	14.318	10.647
3005.00	11.118	10.269	11.614	16.785	14.321	10.647
3010.00	11.122	10.266	11.620	16.785	14.321	10.647
3015.00	11.118	10.269	11.617	16.785	14.324	10.644
3020.00	11.115	10.266	11.617	16.785	14.327	10.644
3025.00	11.118	10.269	11.617	16.788	14.321	10.647
3030.00	11.115	10.266	11.617	16.785	14.327	10.644
3035.00	11.118	10.269	11.614	16.785	14.327	10.647
3040.00	11.122	10.272	11.617	16.791	14.321	10.650

3045.00	11.122	10.272	11.617	16.794	14.321	10.653
3050.00	11.122	10.275	11.617	16.794	14.324	10.650
3055.00	11.118	10.275	11.617	16.794	14.318	10.647
3060.00	11.118	10.275	11.617	16.794	14.321	10.647
3065.00	11.118	10.275	11.617	16.794	14.324	10.647
3070.00	11.122	10.272	11.620	16.798	14.324	10.647
3075.00	11.118	10.272	11.620	16.798	14.321	10.647
3080.00	11.122	10.275	11.624	16.801	14.327	10.647
3085.00	11.118	10.275	11.624	16.798	14.321	10.644
3090.00	11.115	10.269	11.624	16.801	14.321	10.640
3095.00	11.115	10.269	11.627	16.794	14.321	10.640
3100.00	11.115	10.269	11.627	16.794	14.324	10.640
3105.00	11.118	10.288	11.627	16.798	14.327	10.637
3110.00	11.118	10.282	11.627	16.794	14.324	10.640
3115.00	11.115	10.275	11.627	16.794	14.324	10.637
3120.00	11.115	10.272	11.627	16.794	14.327	10.637
3125.00	11.115	10.272	11.627	16.804	14.321	10.637
3130.00	11.125	10.279	11.627	16.807	14.321	10.640
3135.00	11.118	10.279	11.624	16.804	14.321	10.640
3140.00	11.118	10.279	11.624	16.801	14.324	10.640
3145.00	11.115	10.272	11.627	16.798	14.327	10.640
3150.00	11.115	10.272	11.636	16.804	14.321	10.637
3155.00	11.112	10.272	11.633	16.798	14.321	10.637
3160.00	11.115	10.275	11.633	16.801	14.327	10.637
3165.00	11.115	10.275	11.633	16.807	14.324	10.637
3170.00	11.115	10.272	11.633	16.804	14.327	10.637
3175.00	11.115	10.272	11.630	16.807	14.324	10.634
3180.00	11.112	10.269	11.630	16.801	14.327	10.634
3185.00	11.112	10.269	11.627	16.804	14.327	10.631
3190.00	11.109	10.269	11.627	16.804	14.324	10.644
3195.00	11.106	10.266	11.624	16.794	14.327	10.637
3200.00	11.112	10.266	11.624	16.788	14.331	10.634
3205.00	11.109	10.263	11.627	16.791	14.324	10.637
3210.00	11.112	10.263	11.624	16.791	14.327	10.637
3215.00	11.115	10.266	11.624	16.791	14.331	10.634
3220.00	11.115	10.263	11.620	16.791	14.331	10.634
3225.00	11.112	10.263	11.624	16.788	14.331	10.631
3230.00	11.112	10.266	11.627	16.788	14.331	10.631
3235.00	11.112	10.263	11.627	16.791	14.331	10.631
3240.00	11.112	10.263	11.630	16.791	14.331	10.631
3245.00	11.115	10.263	11.630	16.791	14.331	10.631
3250.00	11.115	10.269	11.630	16.794	14.331	10.631
3255.00	11.106	10.266	11.630	16.791	14.334	10.625
3260.00	11.115	10.272	11.630	16.791	14.334	10.621
3265.00	11.112	10.266	11.627	16.785	14.334	10.618
3270.00	11.112	10.260	11.624	16.785	14.337	10.621
3275.00	11.112	10.263	11.624	16.788	14.331	10.621
3280.00	11.109	10.263	11.624	16.788	14.334	10.621
3285.00	11.106	10.263	11.624	16.785	14.334	10.621
3290.00	11.106	10.260	11.624	16.785	14.337	10.621
3295.00	11.109	10.256	11.620	16.782	14.334	10.625
3300.00	11.106	10.260	11.627	16.782	14.334	10.621
3305.00	11.106	10.266	11.624	16.782	14.334	10.615
3310.00	11.103	10.263	11.630	16.779	14.334	10.615
3315.00	11.103	10.256	11.627	16.782	14.334	10.615
3320.00	11.106	10.256	11.627	16.782	14.334	10.615

3325.00	11.106	10.256	11.627	16.779	14.340	10.612
3330.00	11.103	10.260	11.627	16.779	14.337	10.612
3335.00	11.103	10.260	11.627	16.782	14.343	10.609
3340.00	11.106	10.260	11.636	16.779	14.337	10.612
3345.00	11.103	10.256	11.639	16.782	14.337	10.612
3350.00	11.103	10.256	11.639	16.779	14.340	10.612
3355.00	11.100	10.260	11.636	16.779	14.343	10.609
3360.00	11.100	10.256	11.633	16.779	14.350	10.609
3365.00	11.103	10.256	11.630	16.775	14.340	10.605
3370.00	11.103	10.253	11.627	16.775	14.343	10.605
3375.00	11.103	10.250	11.627	16.772	14.340	10.605
3380.00	11.096	10.253	11.624	16.772	14.337	10.602
3385.00	11.100	10.253	11.620	16.769	14.343	10.602
3390.00	11.100	10.253	11.620	16.766	14.343	10.599
3395.00	11.096	10.247	11.620	16.766	14.343	10.599
3400.00	11.100	10.244	11.630	16.760	14.340	10.596
3405.00	11.100	10.244	11.627	16.763	14.346	10.599
3410.00	11.096	10.244	11.627	16.763	14.350	10.599
3415.00	11.106	10.253	11.624	16.766	14.343	10.599
3420.00	11.100	10.247	11.624	16.763	14.353	10.599
3425.00	11.103	10.250	11.624	16.769	14.343	10.599
3430.00	11.103	10.247	11.620	16.763	14.343	10.599
3435.00	11.096	10.244	11.617	16.763	14.343	10.593
3440.00	11.093	10.244	11.617	16.766	14.346	10.593
3445.00	11.100	10.247	11.614	16.769	14.350	10.599
3450.00	11.093	10.241	11.614	16.763	14.350	10.599
3455.00	11.096	10.244	11.611	16.760	14.346	10.596
3460.00	11.096	10.244	11.611	16.760	14.350	10.596
3465.00	11.096	10.237	11.611	16.763	14.350	10.599
3470.00	11.096	10.241	11.611	16.763	14.353	10.599
3475.00	11.096	10.244	11.611	16.766	14.350	10.612
3480.00	11.096	10.241	11.608	16.766	14.350	10.612
3485.00	11.096	10.244	11.608	16.766	14.346	10.609
3490.00	11.096	10.241	11.605	16.769	14.356	10.612
3495.00	11.096	10.244	11.605	16.766	14.346	10.609
3500.00	11.096	10.247	11.605	16.766	14.346	10.609
3505.00	11.096	10.250	11.605	16.766	14.350	10.605
3510.00	11.096	10.247	11.611	16.766	14.350	10.609
3515.00	11.100	10.256	11.611	16.766	14.356	10.612
3520.00	11.093	10.253	11.611	16.769	14.353	10.609
3525.00	11.096	10.253	11.608	16.769	14.350	10.609
3530.00	11.096	10.250	11.608	16.769	14.359	10.609
3535.00	11.096	10.253	11.608	16.769	14.353	10.609
3540.00	11.096	10.250	11.620	16.769	14.353	10.612
3545.00	11.100	10.256	11.624	16.772	14.353	10.612
3550.00	11.096	10.250	11.627	16.772	14.356	10.612
3555.00	11.093	10.250	11.627	16.766	14.356	10.609
3560.00	11.096	10.250	11.627	16.769	14.356	10.609
3565.00	11.096	10.253	11.627	16.769	14.356	10.609
3570.00	11.096	10.253	11.630	16.772	14.359	10.609
3575.00	11.096	10.256	11.630	16.772	14.359	10.609
3580.00	11.100	10.253	11.630	16.775	14.356	10.609
3585.00	11.100	10.260	11.630	16.779	14.362	10.612
3590.00	11.100	10.260	11.630	16.775	14.359	10.612
3595.00	11.103	10.263	11.630	16.779	14.362	10.615
3600.00	11.106	10.263	11.636	16.779	14.365	10.615

	3	12	2	4	5	PW-4
3605.00	11.103	10.263	11.636	16.779	14.356	10.612
3610.00	11.100	10.263	11.633	16.775	14.359	10.612
3615.00	11.103	10.266	11.633	16.779	14.362	10.612
3620.00	11.100	10.266	11.633	16.782	14.365	10.615
3625.00	11.100	10.269	11.636	16.779	14.359	10.615
3630.00	11.100	10.269	11.636	16.782	14.359	10.618
3635.00	11.100	10.269	11.633	16.782	14.362	10.618
3640.00	11.100	10.266	11.633	16.782	14.359	10.618
3645.00	11.103	10.269	11.633	16.785	14.362	10.621
3650.00	11.103	10.272	11.633	16.782	14.362	10.621
3655.00	11.103	10.269	11.630	16.788	14.365	10.621
3660.00	11.103	10.272	11.633	16.785	14.368	10.625
3665.00	11.103	10.272	11.633	16.785	14.365	10.628
3670.00	11.103	10.269	11.639	16.788	14.365	10.625
3675.00	11.100	10.266	11.636	16.785	14.372	10.625
	11.125	10.218	11.523	16.734	13.959	10.323
Δ	− 0.003	+0.048	+0.113	+0.051	+0.413	+0.302

INCREASE SIGNIFIES DROP IN WATER LEVEL

Appendix B

Barometric Pressure Data

CNMOC 3140/12 (Rev. 1-98) S/N 0108-LF-019-3100

VAIC

MIL. IKESS.

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
	18.15N	065.38W	+38	4 HRS	11 DEG	01	MAY	1999	TJNR	NAVLANTMETOC DET ROOSEVELT ROADS, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME ‖ UTC ‖ LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LOWEST (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LOWEST (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (inc) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22b)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	150	06			7	9999							FEW020 FEW250	26	22	2994	SLP139 T02560222		139	2	ADB
ME	0555	140	05			7	9999							SCT020 SCT250	25	23	2992	SLP131 8/201 T02500228	29.875	131	4	ADB
																		10261 20250 58015				
	78535	32561		41405		10250		20228		30117		40131		83201 333 013	13		10300	20250 58010				
ME	0655	140	05			7	9999							SCT020 SCT250	25	23	2990	SLP125 T02500228		125	4	ADB
ME	0755	130	04			7	9999							SCT025 SCT250	25	22	2990	SLP124 T02500222		124	4	ADB
ME	0855	140	06			7	9999							SCT025 SCT250	25	22	2991	SLP129 8/201 T02500222 58002	29.870	129	4	ADB
	785	35	42561		41406	10250		20222		30115		40129		83201 333 013	13							
ME	0955	150	08			7	9999							SCT020 SCT250	25	22	2992	SLP133 T02500217		133	4	ADB
ME	1055	140	08			10	9999							SCT020 SCT250	26	22	2995	SLP141 T02610222		141	4	CDJ
ME	1155	150	12			10	9999							SCT025 SCT050	27	22	2996	SLP146 8/101 T02720217	29.920	146	4	RT
																		10272 20250 53017				
	78535	32566		41512		10272		20217		30132		40146		83101 333 0/3	13	19	10300	20250 58012				
ME	1255	170	12			10	9999							SCT027	28	22	2998	SLP152 T02830222		152	3	CDJ
ME	1355	180	12			10	9999							SCT027	28	22	2999	SLP157 T02780222		157	3	CDJ
ME	1455	180	13			10	9999							SCT025 SCT050	29	23	2999	SLP157 8/300 T02890228 51010	29.950	157	4	AM
	78535	32566		41813		10289		20228		30143		40157		84800 333 0/3	11							
ME	1555	170	13			10	9999							SCT028 SCT050	29	23	2999	SLP155 T02890228		155	4	CDJ
ME	1655	170	13			10	9999							SCT028 BKN034	29	23	2998	SLP151 T02890228		151	5	RT
ME	1755	170	12			10	9999							SCT027 SCT250	30	23	2996	SLP144 8/101 T03000233	29.915	144	4	CDJ
																		10300 20272 53012				
	78535	32566		41712		10300		20233		30130		40144		83101 333 0/3/5	10300		20	244 58013				
ME	1855	170	12			10	9999							SCT025 BKN300	29	23	2994	SLP138 T02940233		138	5	AM
ME	1955	160	13			10	9999							FEW025 SCT300	29	23	2993	SLP135 T02940228		135	4	CDJ
ME	2055	180	12			10	9999							FEW026 BKN300	28	23	2993	SLP134 8/102 T02830228 56010	29.885	134	6	AM
	78535	42566		61812		10283		20228		30120		40134		82102 333 0/3/6								
ME	2155	160	09			10	9999							FEW025 BKN300	28	23	2994	SLP137 T02780233		137	6	CDJ
ME	2255	170	09			7	9999							SCT025 BKN270	27	23	2995	SLP140 T02670228		140	6	ADB
ME	2355	170	07			7	9999							SCT025 SCT270	27	23	2996	SLP145 8/102 T02670233	29.915	145	4	ADB
																		10300 20267 53010				
	78535	32561		41707		10267		20233		30131		40145	8	3102 333 0/3/3		10	300	20250 58009				
ME	0055	160	08			7	9999							FEW025 SCT070 BKN270	26	23	2997	SLP148 T02610233		148	5	Coe
ME	0155	150	07			7	9999							FEW025 BKN270	26	23	2998	SLP151 T02610233		151	5	Coe
ME	0255	150	07			7	9999							FEW025 BKN270	26	23	2998	SLP154 8/101 T02610228 52010	29.945	154	5	Coe
	78535	42561		51507		10261		20228		30140		40154	8	2101 333 0/3/9								
ME	0355	140	07			7	9999							FEW020 SCT070 BKN270	26	23	2998	SLP151 T02610233 403000250		151	6	Coe

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (ins) (35)	SNOW DEPTH (ins) (36)
MID TO (LST)	MID TO							0	0	
0550		(1)	CU		CI	26.1	25.0	0	0	0
1150		(2)	CU		CI	27.2	25.0	0	0	0
1750		(3)	CU		CI	30.0	27.2	0	0	0
2350		(4)	CU		CI	30.0	26.7	0	0	0
MID (LST)	MID (LST)					26.7	26.1	0	0	0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	29.935	29.907	29.905	29.955
BAROGRAPH (43)	29.910	29.925	29.915	29.930
BARO CORR (44)	.025	.015	.030	.025

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (ins) (66)	24-HR SNOW FALL (ins) (67)
30.0	25.0	0	0
		24-HR SNOW DEPTH (ins) (68)	WATER EQUIVALENT (69)
		0	0

PEAK WIND SPEED (kts) (48)	PEAK WIND DIRCTN (true) (49)	PEAK WIND TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	FASTEST 2-MINUTE WIND DIRCTN (true) (52)	FASTEST 2-MINUTE WIND TIME (UTC) (53)
18	180	1643			

ACTIVE RUNWAY

TIME (UTC)	RUNWY NO.	TIME (UTC)	RUNWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME ‖ UTC ‖ LST (18)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (ins) (22)	HOURLY PRECIP (ins) (23)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

This Form Supercedes CNOC 3141/1 (REV. 6-84)

CNMOC 3140/12 (Rev. 1-98) S/N 0108-LF-019-3100

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
	18 15N	065.39W	+38	4 HRS	-11 DEG	02	MAY	1999	TJNR	WAVLANTMETOC DET ROOSEVELT ROADS, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME UTC / LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (ins) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	140	07			7	9999							SCT020 SCT070 BKN270	26	23	2997	SLP149 T02610233		149	6	ADB
ME	0555	140	04			7	9999							FEW020 BKN270	26	23	2996	SLP146 8/101 T02560233 10267 20256	29.920	146	6	ADB
																		58008				
	78535	32561	614404		10256	20233	30132		40146	82201		333	0/3/3	10300 20256 58015								
ME	0655	150	05			7	9999							FEW025 BKN270	26	23	2995	SLP141 T02560228		141	6	ADB
ME	0755	150	07			7	9999							FEW025 SCT070 BKN270	26	23	2995	SLP142 T02560228		142	6	ADB
ME	0855	140	07			7	9999							FEW025 BKN270	26	23	2995	SLP142 8/102 T02560228 58003	29.910	142	5	ADB
	78535	42561	614407		10256	20228	30128		40142	82102		333	0/3/3									
ME	0955	150	08			7	9999							SCT025 SCT270	26	23	2996	SLP146 T02560228		142	4	ADB
ME	1055	150	09			10	9999							FEW022 SCT250	27	23	2998	SLP151 T02670233		151	3	CBJ
ME	1155	150	09			10	9999							SCT020 SCT250	28	23	2999	SLP156 8/101 T02780233 10278	29.950	156	4	CBJ
																		20256 53014				
	78535	32560	41509	10278	20233		30142		40156	83101		333	0/3/3	10300 20256 58010								
ME	1255	170	12			10	9999							SCT022 SCT250	28	23	3000	SLP159 T02830233		159	4	CBJ
ME	1355	170	12			10	9999							[illegible]	29	23	3001	SLP160 T02[illegible]0233		160	4	CBJ
SP	1408	170	12			10	9999						-SHRA	SCT025 SCT250			3001	SLP161 WR//		161	4	CBJ
SP	1420	180	08			10	9999						VCSH	SCT025 BKN250			3001	VCSH SW SLP162 WR//		162	5	CBJ
ME	1455	160	09			10	9999							SCT027 BKN050 BKN250	28	24	3001	SLP162 60002 8/101 T02830239 50005	29.965	162	5	CBJ
	78535	41556	61609	10283	20239	30146		40162	72511	83101		333	0/323									
ME	1555	180	13			10	9999							SCT039 BKN050 BKN250	30	23	3001	SLP161 T03000233		161	4	RT
ME	1655	190	15			10	9999							SCT031 BKN045 BKN250	30	24	3000	SLP152 T03000239		152	3	RT
ME	1755	190	15			7	9999							SCT025 BKN300	30	23	2998	SLP153 60002 8/101 T03000233	29.940	153	5	AD
																		10306 20272 58008				
	78535	11561	51915		10309	20233	30139		40153	69951		333	0/3/6	10306 20256 58011 70005	909	50						
ME	1855	180	13			7	9999							SCT027	30	23	2998	SLP152 T03000233		152	3	RT
ME	1955	180	14			7	9999							SCT026 BKN250	29	22	2997	SLP148 T02940222		148	5	AG
ME	2055	180	13			7	9995							SCT025	29	23	2997	SLP149 8/100 T02890228 55003	29.930	149	3	AD
	78535	42561	31813		10289	20228	30135		40149	83100		333	0/3/1									
ME	2155	200	09			7	9999							SCT024	28	23	2997	SLP149 T02780233		149	3	CBJ
ME	2255	200	06			7	9999							SCT025	27	23	2999	SLP154 T02720233		154	4	ADB
ME	2355	150	06			7	9999							SCT025	27	23	3000	SLP157 8/200 T02720233 10300	29.950	157	4	ADB
																		20272 53007				
	78535	32561	45106	10272	20228	30143		40157	84200	333		0/3/1	10306 20256 58012 70005									
ME	0055	160	08			7	9999							FEW025	27	23	3001	SLP162 T02670233		162	4	ADB
ME	0155	170	07			7	9999							SCT025	26	23	3002	SLP166 T02610228		166	4	ADB
ME	0255	210	05			7	9999							SCT025 BKN050	27	16	3004	SLP171 8/100 T02670161 53015	29.995	171	5	ADB
	78535	42561	52105	10267	20161	30157		40171	84800	333		0/5/1										
SP	0315	240	04			7	9999						-SHRA	BKN025			3004	SLP171 WR//		171	6	ADB
SP	0321	000	00			7	9999						VCSH	SCT025			3004	VCSH NW SLP172 WR//		172	4	ADB
ME	0355	120	03			7	9999							SCT025 BKN070	26	24	3004	SLP171 WR// T02610239 40306 00256		171	5	ADB

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (ins) (35)	SNOW DEPTH (ins) (36)
MID TO (LST)	MID TO	[redacted]						0	[redacted]	[redacted]
0550		(1)	CU		Ci	26.7	25.6	0	[redacted]	[redacted]
1150		(2)	CU		Ci	27.8	25.6	0	[redacted]	[redacted]
1750		(3)	CU		Ci	30.6	27.2	.02	[redacted]	[redacted]
2350		(4)	CU			30.0	27.2	0	[redacted]	[redacted]
MID (LST)	MID (LST)	[redacted]				30.2	26.1	.03	[redacted]	[redacted]

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	29.920	29.950	29.970	29.950
BAROGRAPH (43)	29.945	29.975	29.975	29.925
BARR CORR (44)	.025	.025	.005	.025

[redacted]

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (84)	24-HR MIN TEMP (0.1°C) (85)	24-HR PCPN (ins) (86)	24-HR SNOW FALL (ins) (87)
30.6	25.6	.05	0
[redacted]		24-HR SNOW DEPTH (ins) (88)	WATER EQUIVALENT (89)
		0	0

PEAK WIND SPEED (knts) (48)	PEAK WIND DIRCTN (true) (49)	PEAK WIND TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (knts) (51)	FASTEST 2-MINUTE WIND DIRCTN (true) (52)	FASTEST 2-MINUTE WIND TIME (UTC) (53)
18	180	1806	—	—	—

ACTIVE RUNWAY

TIME (UTC)	RNWY NO.	TIME (UTC)	RNWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME ( ) UTC / LST (16)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (ins) (22)	HOURLY PRECIP (ins) (25)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

RA

This Form Supercedes CNOC 3141/1 (REV. 6-84)

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI) | LATITUDE 18 15N | LONGITUDE 065 38W | SURFACE ELEVATION FT. (MSL) +38 | (LST TO UTC) 4 | HRS MINS 0711 | DEG DEG 03 | MAY | 1999 | TJNR | NAVLANT METOC DET ROOSEVELT ROADS, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME UTC LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (inc) (13)	REMARKS AND SUPPLEMENTED CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	160	03			7	9999							SCT025 SCT070	26	23	3002	SLP165 T02560233		165	4	ADB
ME	0555	000	00			7	9999							SCT025 BKN070	26	24	3000	SLP159 60003 8/260 T02560239	29960	159	5	ADB
																		10272 20256 58012				
	78535	11561	50000	10256		20239	30145	40159		69981	70308	82260	333	0144/ 10306 20256 5	8013	70008	90930					
ME	0655	140	04			7	9999							SCT025 SCT070	26	23	2999	SLP155 T02560233		155	4	ADB
ME	0755	160	06			7	9999							SCT025 SCT070	26	23	2997	SLP149 T02560233		149	4	ADB
ME	0855	140	04			7	9999							SCT025 SCT070	26	23	2999	SLP155 8/260 T02560228 58005	29.945	155	4	ADB
	78535	42561	4140	4	10256	20228	30141	40155		83260	333	0144//										
ME	0955	150	05			7	9999							SCT025 SCT070	25	23	2999	SLP154 T02500233		154	4	ADB
ME	1055	140	06			10	9999							SCT025 SCT040 BKN070	26	24	3000	SLP159 T02610239		159	4	CSC
ME	1155	150	08			10	9999							FEW025 SCT050 BKN120	27	23	3002	SLP165 70005 8/870 T02720233	29975	165	6	VRC
																		10272 20250 53010				
	785	35	22566		61508	10272	20233	30151		40165	8	3870	333	0/33/		10306		20250 58008 70013				
ME	1255	160	08			10	9999							SCT025 BKN050 BKN120	28	24	3004	SLP171 T02830239		171	6	CSC
ME	1355	140	12			10	9999							BKN025 BKN050	29	24	3003	SLP170 T02940244		170	6	CSC
ME	1455	170	13			10	9999							SCT025 BKN050	31	24	3002	SLP167 8/800 T03060239 50002	29990	167	5	CSC
	78535	42566		51113		10306		20239		30153		40167	8	5800	333	0/3//						
ME	1555	180	14			10	9999							SCT025 BKN040	30	24	3001	SLP162 T03000239		162	5	CSC
SP	1641	180	14			10	9999						-SHRA	SCT025 BKN040			3000	SLP159 WR// → WR//		158	5	CSC
ME	1655	170	16			10	9999						VCSH	SCT025 BKN040	30	24	2999	VCSHW SLP155 T03000244		155	5	CSC
ME	1755	190	14			10	9999							SCT025 SCT040	30	24	2997	SLP149 8/200 T03000239 10306	29930	149	4	CSC
																		20272 58017				
	78535	11566		4114		10300		20239		30135		40149		70182	84200	333	013//	10306 20250 51004 70013				
ME	1855	170	14			10	9999							SCT025 SCT040	29	23	2996	SLP144 T02830233		144	4	CSC
ME	1955	170	14			10	9999							SCT025 SCT040	29	23	2995	SLP141 T02940233		141	4	CSC
ME	2055	200	12			10	9999							SCT025 SCT040	29	23	2994	SLP138 8/200 T02940233 56012	29895	138	4	CSC
	78535	42566		4213		10294		20233		30124		40138		84200	333	013//						
ME	2155	190	09			10	9999						-SHRA	SCT025 SCT040	28	23	2995	SLP140 WR// T02830233		140	4	CSC
SP	2209	190	09			0	9999						VCSH	SCT025 SCT040			2995	VCSHW SLP142 WR//		142	-	--
ME	2255	200	07			7	9999							SCT025 SCT040	27	23	2996	SLP145 WR// T02670233		145	4	DMK
ME	2355	200	06			7	9999							SCT025CB	27	23	2997	LTG DSNT NW CB DSNT NW SLP151	29935	151	4	DMK
																		60000 8/900 T02670228 10306				
																		28067 53014				
	78535	11566		42006		10267		20228		30137		40159	70228	84100	333	013//		10306 20250 59006 90930				
ME	0055	150	07			7	9999							SCT025	27	23	2999	SLP167 T02670233		167	4	DMK
ME	0155	150	05			7	9999							SCT025	26	23	3000	SLP160 T02610228		160	3	DMK
ME	0255	160	04			7	9999							SCT025	26	23	3000	SLP159 [illegible] 50008	[illegible]	159	3	DMK
	78535	42561		31604		10256		20228		30145		40159	83100	333	013//							
ME	0355	000	00			7	9999							SCT025 SCT100	26	23	3000	SLP159 T02610233 40306 0250		159	4	DMK

SYNOPTIC DATA

TIME (UTC) (20)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (inc) (35)	SNOW DEPTH (inc) (36)
MID TO (LST)	MID TO							0	0	
0550		(1)	Ci	Ac		22.2	25.6	.03	0	0
1150		(2)	Ci	AC		27.2	25.0	0	0	0
1750		(3)	Ci			30.6	27.2	0	0	0
2250		(4)	Ci			30.0	27.7	0	0	0
MID (LST)	MID (LST)					30.6	25.6	0	0	0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (49)	06	12	18	00
STA PRESS (48)	29.960	29.875	29.950	29.935
BAROGRAPH (48)	29.960	29.875	29.950	29.940
BARR CORR (44)	.000	.010	.015	.005

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (inc) (66)	24-HR SNOW FALL (inc) (67)
30.6	25.0	-0.01T	0

24-HR SNOW DEPTH (inc) (68)	WATER EQUIVALENT (69)
0	0

PEAK WIND SPEED (kts) (48)	DIRCTN (true) (49)	TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	DIRCTN (true) (52)	TIME (UTC) (53)
20	170	1800	-	-	-

ACTIVE RUNWAY

TIME (UTC)	RNWY NO.	TIME (UTC)	RNWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME UTC LST (16)	DRY BULB TEMP 0.1°C (18)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (inc) (22)	HOURLY PRECIP (inc) (25)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

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This Form Supercedes CNOC 3141/1 (REV. 6-84)

CNMOC 3140/12 (Rev. 1-96) S/N 0108-LF-019-3100

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
	18 15N	066 38W	138	4 HRS	-11 DEG	04	MAY	1995	TJNR	NAVLANTMETOC DET ROOSEVELT Roads, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME UTC LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (inc) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	150	04			7	9999							SCT025	25	23	2998	SLP153 T02300228		153	4	JMM
ME	0555	000	00			7	9999							SCT025	24	23	2997	SLP148 8/100 T02440228 10267	29925	148	3	JMM
																		20244 58012				
	78535	325	61	90000		10	244	20228	30134	40148	83100			333 013// 10306	20	244	59011					
ME	0655	000	00			7	9999							SCT025	25	23	2998	SLP140 T02500228		140	3	JMM
ME	0755	130	03			7	9999							SCT025	25	23	2994	SLP139 T02500228		139	3	JMM
ME	0855	140	05			7	9999							SCT025	25	23	2996	SLP146 8/200 T02500228 35002	29920	146	3	JMM
	78535	425	61	51400		10	250	20228	30132	40146	83200			333 013//								
ME	0955	140	04			7	9999							SCT015 SCT100	25	22	2997	SLP150 T02100222		150	4	JMM
ME	1055	120	08			10	9999							SCT025 SCT100	27	23	3000	SLP158 T02670233		158	4	CSC
ME	1155	110	10			10	9999							SCT025	28	23	3002	SLP164 8/200 T02830233 10289 20289 55009	29975	164	4	CSC
	78535	325	60	41110		10	293	20233	30150	40164	84200			333 013// 10306	20	29	59001					
ME	1255	120	10			10	9999							SCT025	29	23	3002	SLP166 T02890228		166	4	CSC
ME	1355	110	12			10	9999							SCT025 BKN050	29	23	3003	SLP169 T02890233		169	6	CSC
SP	1405	110	12			7	9999					-SHRA		SCT025 BKN050			3003	SLP170 WR//		170	6	CSC
SP	1420	100	11			7	9999					VCSH		SCT025 BKN050			3003	VCSH W SLP170 WR//		170	6	CSC
ME	1455	110	13			10	9999							SCT025 BKN040	28	24	3002	SLP167 60001 8/200 T02830239 50002	29980	167	5	CSC
	78535	415	66	51115		10285	20239	30153	40167	70140	85200			333 0/3//								
ME	1555	150	10			10	9999							SCT025	31	23	3001	SLP162 T03060228		162	4	CSC
ME	1655	180	12			10	9999							SCT030	30	23	3000	SLP158 T03000233		158	4	CSC
ME	1755	180	12			10	9999							SCT030	30	23	2998	SLP153 60001 8/200 T03000233	29940	153	4	CSC
																		10311 20212 56014				
	78535	115	60	41812		10300	20233	30139	40155	69951	70050	84200		333 013// 10311	20	239	58004 70003 90410					
ME	1855	200	11			10	9999							SCT030	29	22	2997	SLP149 T02940222		149	3	CSC
ME	1955	190	11			10	9999							SCT030	29	23	2996	SLP146 T02940228		146	3	CSC
ME	2055	170	11			10	9999							SCT030 SCT250	28	23	2996	SLP144 8/101 T02780228 56008	29915	144	3	VRR
	78535	425	66	31711		10278	20228	30130	40144	83101				333 013/9								
ME	2155	190	09			7	9999							SCT025 SCT250	28	22	2997	SLP148 T02780222		148	3	VRR
ME	2255	210	06			7	9999							SCT025 SCT100	27	22	2998	SLP152 T02720222		152	4	JMM
ME	2355	170	05			7	9999							SCT025	27	23	2999	SLP155 8/100 T02670228 10300 20267	29945	155	4	JMM
																		53010				
	78535	325	61	41709		10267	20228	30141	40155	84100				333 013// 10311	20	239	58004 70003					
ME	0055	200	04			7	9999							SCT025	27	23	3001	SLP[illegible]		161	3	JMM
ME	0155	150	04			7	9999							SCT025	26	22	3001	SLP165 T02610222		165	3	JMM
ME	0255	000	00			7	9999							SCT025	26	22	3002	SLP166 T02610221 51010	29975	166	3	JMM
	78535	425	61	30000		10261	20217	30152	40166	83100				333 013//								
ME	0355	000	00			7	9999							SCT025	25	22	3001	SLP161 T02550[illegible] 3110239		161	3	JMM

SYNOPTIC DATA

TIME (UTC) (29)	TIME (LST) (27)	NO. (29)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (inc) (35)	SNOW DEPTH (inc) (36)
MID TO (LST)	MID TO	[redacted]						0	0	[redacted]
0550		(1)	CU			26.7	24.4	0	0	0
1150		(2)	CU			28.9	23.9	0	0	0
1750		(3)	CU			31.1	27.2	.01	0	0
2350		(4)	CU			30.0	26.7	0	0	0
MID (LST)	MID (LST)	[redacted]				26.7	23.0	0	0	[redacted]

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	29.95	29.95	29.90	29.90
BAROGRAPH (43)	29.96	29.95	29.90	[illegible]
BARR CORR (44)	.00	.00	.05	.05

[redacted]

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (inc) (66)	24-HR SNOW FALL (inc) (67)
31.1	23.9	.01	0
[redacted]		24-HR SNOW DEPTH (inc) (68)	WATER EQUIVALENT (69)
		0	0

PEAK WIND SPEED (kts) (48)	PEAK WIND DIRCTN (true) (49)	PEAK WIND TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	FASTEST 2-MINUTE WIND DIRCTN (true) (52)	FASTEST 2-MINUTE WIND TIME (UTC) (53)
19	150	1559	—	—	—

ACTIVE RUNWAY

TIME (UTC)	RWY NO.	TIME (UTC)	RWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME [ ] UTC [ ] LST (18)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (inc) (22)	HOURLY PRECIP (inc) (25)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

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This Form Supercedes CNOC 3141/1 (REV. 6-84)

CNMOC 3140/12 (Rev. 1-98) S/N 0108-LF-019-3100

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY		YEAR	ICAO	STATION (TYPE, NAME, LOC
	18 15N	065 28W	138	4 HRS	11 DEG	05	MAY	1999	TJNR	NAVLANT HE-X DET Roosevelt Roads PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME UTC / LST (2)	WIND DIRECTION (true) (3)	SPEED (knots) (4)	GUST (knots) (5)	VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	SURFACE (meters) (7a)	TOWER (miles) (7b)	TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (inhg) (13)	REMARKS AND SUPPLEMENTED CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	000	00			7	9999							SCT 6 5	22	22	29901	[illegible]		154	3	[illegible]
ME	0555	000	00			7	9999							SCT025	23	22	2998	SLP151 8/200 T02330222 10207	29935	151	3	[illegible]
																		20022 58008				
	78535	32561		30000		10233	20222		30137	40151	84200		333 0	13// 10311 20238 58003								
ME	0655	000	00			7	9999							SCT025	23	22	2997	SLP150 T02330222		150	4	[illegible]
ME	0755	000	00			7	9999							9MOS	23	22	2996	SLP146 T02330222		146	4	[illegible]
ME	0855	000	00			7	9999							SCT025	23	22	2996	SLP145 8/200 T02250222 51005	29920	145	4	[illegible]
	78535	42561		40000		10228	20222		30131	40145	84200			333 0/3//								
ME	0955	000	00			7	9999							SCT015 SCT070	24	22	2997	SLP148 T02510222		148	4	[illegible]
ME	1055	000	00			10	9999							FEW028 SCT040 SCT070	26	23	2998	SLP153 T02560228		153	4	RT
ME	1155	120	08			10	9999							SCT027 SCT 070	27	23	3000	SLP158 70001 8/260 T02790228	29955	158	4	RT
																		10278 20228 53012				
	78535	32566	41208			10278	20228		30144	40158	83260			333 0/31/ 10311 20222		0006	70003					
ME	1255	170	07			10	9999							SCT025 SCT035	29	23	3001	SLP161 T02890228		161	4	AM
SP	1320	160	08			10	9999						FC	SCT025 SCT035			3001	FUNNEL CLOUD B20 NE SLP161		161	4	CBJ
SP	1335	160	09			10	9999							SCT025 SCT035			3001	FUNNEL CLOUD E35 NE SLP162		162	4	CBJ
ME	1355	170	10			10	9999							SCT025 SCT035	29	22	3001	SLP164 T02890222		164	4	CBJ
ME	1455	170	09			10	9999							SCT035	29	22	3002	SLP165 8/100 T02890217 51007	29975	165	4	CBJ
	78535	42566	41909	10289	20211	30151	40165		84100	333	0/31/											
ME	1555	160	10			10	9999							SCT026	30	22	3001	SLP163 T03000222		163	4	AM
ME	1655	180	09			10	9999							SCT028	30	22	3001	SLP160 T03000228		160	4	CBJ
ME	1755	180	11			10	9999							SCT032 SCT070	31	23	2998	SLP152 8/110 T03060228 10306	29935	152	4	CBJ
																		20278 58014				
	78535	32566	41811	10306		20228	30138		40152	84110	333	0/321	10306	20228 59001								
SP	1808	110	12	16		10	9999							SCT030 SCT070			2997	WSHFT 1808 SLP150		150	4	CBJ
ME	1855	170	07			10	9999							SCT025 SCT070	29	23	2997	SLP148 T02890228		148	4	CBJ
ME	1955	180	07			10	9999						-SHRA	SCT025 SCT070 BKN250	28	23	2995	SLP142 WR// T02890228		142	5	CBJ
SP	2000	180	07			7	9999						VCSH	SCT025 SCT070 BKN250			2995	VCSH NW SLP142 WR//		142	5	CBJ
ME	2055	150	09			10	9999							SCT025 BKN070	27	23	2995	SLP142 8/110 60001 T02720228 55008	29910	142	5	CBJ
	78535	41566	51508	10272	20228		30126	40142	70252	84110	333	0/31/										
SP	2140	140	06			7	9999						-SHRA	SCT025 BKN070			2996	SLP145 WR//		145	5	RT
ME	2155	130	04			7	9999						VCSH	SCT025 BKN070	27	22	2996	VCSH NW SLP145 WR// T02720217		145	5	RT
SP	2218	100	08			7	9999						FC	SCT025 BKN070 BKN260			2996	FUNNEL CLOUD B18 DRNT SE SLP146		146	6	CAC
SP	2225	100	07			7	9999							SCT025 SCT075 BKN260			2997	FUNNEL CLOUD E25 SE SLP147		147	5	CAC
ME	2255	100	06			7	9999						VCSH	SCT025 SCT075 BKN260	27	23	2997	VCSH SE SLP150 T02670228		150	5	ADB
ME	2355	120	06			7	9999							SCT025 BKN260	27	23	2999	SLP154 60002 8/202 T02670228	29945	154	5	ADB
																		10306 20261 53012				
	78535	11561	51206	10267	20228		30140	40154	69951	70388	83202	333	012	12 10306 20228 59001	700	05	90930					
ME	0055	110	05			7	9999							SCT025 BKN260	27	23	3000	SLP160 T02670228		160	5	ADB
ME	0155	100	05			7	9999							SCT025 SCT040 BKN260	26	22	3001	SLP162 T02610222		162	6	ADB
ME	0255	110	06			7	9999							SCT025 SCT260	26	23	3000	SLP158 8/201 T02610228 53003	29955	158	4	ADB
	78535	42561	41106	10261		20228	30144	40158	83201	333	0/212											
ME	0355	150	03			7	9999							SCT020 BKN260	26	22	2999	SLP156 T02560222 40306028		156	5	ADB

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (inc) (35)	SNOW DEPTH (inc) (36)
MID TO (LST)	MID TO	[redacted]						0	0	[redacted]
[illegible]		(1)	CU			26.7	22.3	0		0
1152		(2)	CU	AC		27.8	22.8	0	0	0
1752		(3)	CU	AS		30.6	22.8	0	0	0
2350		(4)	CU		CI	30.6	26.1	.02	[illegible]	0
MID (LST)	MID (LST)	[redacted]				26.7	26.1	0		0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	[redacted]	[redacted]	29.935	[redacted]
BAROGRAPH (43)	BAN15	29.915	29.945	[redacted]
BAR CORR (44)	030	.020	.010	.005

[redacted]

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (inc) (66)	24-HR SNOW FALL (inc) (67)
30.6	22.8	.02	0
[redacted]		24-HR SNOW DEPTH (inc) (68)	WATER EQUIVALENT (69)
		0	0

PEAK WIND SPEED (kts) (49)	DIRCTN (true) (50)	TIME (UTC) (51)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	DIRCTN (true) (52)	TIME (UTC) (53)
16	160	1817	-		

ACTIVE RUNWAY

TIME (UTC)	RWY NO.	TIME (UTC)	RWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME UTC / LST (18)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (inc) (22)	HOURLY PRECIP (inc) (25)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

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This Form Supercedes CNOC 3141/1 (REV. 8-84)

CNMOC 3140/12 (Rev. 1-96) S/N 0108-LF-019-3100

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
	18 15 N	065 38 W	+38	4 @ HRS HRS	11 DEG DEG	06	MAY	1999	TJNR	NAVLANTMETOC DET ROOSEVELT ROADS, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME (Z UTC / LST) (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (ins) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	130	05			7	9999							SCT020 BKN260	26	22	2998	SLP153 T02560222		153	5	ADB
ME	0555	140	03			7	9999							SCT020 BKN260	24	22	2997	SLP147 8/201 T02440222 10267 20239 58010	29.925	147	5	ADB
	78535	32561	51403		10244	20222	30133	40147		84201	333	0/3/3	10306	20239 59004 70005								
ME	0635	140	04			7	9999							SCT025 SCT260	25	22	2995	SLP142 T02500217		142	4	ADB
ME	0755	130	05			7	9999							FEW025 SCT260	25	22	2995	SLP142 T02500217		142	4	ADB
ME	0855	140	03			7	9999							FEW025 SCT260	24	22	2995	SLP143 8/201 T02390217 58005	29.910	143	4	ADB
	78535	42561	10239	20217	30129	40143		82201	333	0/4/4												
ME	0955	230	04			7	9999							FEW025 SCT260	24	22	2997	SLP147 T02440217		147	4	ADB
ME	1055	150	03			10	9999							FEW025 SCT260	26	22	2998	SLP151 T02610222		151	4	RT
ME	1155	150	06			10	9999							FEW026 SCT040 SCT250	28	23	2999	SLP156 70002 8/801 T02780228 10278 20233 53014	29.950	156	4	RT
	785	35	325	66	41506		10278	20228	30142	40156	83801	3	33 0/3/9	10306 20233 59002 70005								
ME	1255	160	05			10	9999							SCT026 BKN250	28	23	3000	SLP158 T02780233		158	5	RT
ME	1355	170	09			10	9999							SCT 027	29	22	3000	SLP 160 T02890222		160	3	RT
ME	1455	160	09			10	9999							SCT 025	29	23	3000	SLP 160 8/100 T02940228 53003	29.960	160	3	RT
	78535	42566	31609			10294	20228	30146	40160	83100	333	0/3//										
ME	1555	130	09			10	9999							SCT025 SCT070	30	23	3000	SLP158 T03000228		158	4	CBJ
ME	1655	180	10			10	9999							SCT025 SCT100	30	23	2999	SLP155 T03000233		155	4	CBJ
ME	1755	180	10			10	9999							SCT025 BKN300	29	22	2997	SLP147 8/106 T02890217 10306 20272 58012	29.935	147	6	CBJ
	78535	32566	61810		10289	20217	30133	40147		83106	333	0/3/9	10306 20233 59007 70006									
ME	1855	180	08			10	9999							SCT025 SCT070 BKN300	26	22	2995	SLP141 T02830217		141	7	CBJ
ME	1955	170	07			10	9999							BKN025 BKN070 BKN300	28	22	2995	SLP142 T02780222		142	7	CBJ
ME	2055	150	07			10	9999							SCT025 BKN070 BKN300	28	23	2994	SLP139 8/176 T02780228 58008	29.900	139	6	CBJ
	78535	42566	61507	10278	20228		30125	40139	54176	333	0/3/7											
ME	2155	150	07			7	9999							SCT025 BKN300	28	23	2994	SLP140 T02780228		140	5	CBJ
SP	2215	150	07			7	9999						-SHRA	SCT025 BKN300			2995	SLP141 WB//		141	6	ADB
SP	2226	130	05			7	9999						VCSH	SCT025 BKN300			2995	VCSH NW SLP143 WB//		143	6	ADB
ME	2255	120	04			7	9999							SCT025 BKN080 BKN270	26	23	2996	SLP144 WB// T02610228		144	6	ADB
ME	2355	310	03			7	9999							FEW025 SCT080 BKN270	24	23	2997	SLP150 60003 8/271 T02440233 10283 10244 53010	29.930	150	5	ADB
	78535	11561	53103	10244	20233	30136		40150	69981	70188	82271	333	0/7	77 10306 20233 59004	70008	90920						
ME	0055	340	03			7	9999							FEW025 SCT080 SCT270	24	23	2999	SLP154 T02390233		154	4	ADB
ME	0155	310	04			7	9999							SCT025 SCT270	23	23	3000	SLP158 T02330228		158	4	ADB
ME	0255	330	03			7	9999							SCT025 SCT270	24	23	3000	SLP160 8/201 T02390228 53010	29.960	160	4	ADB
	78535	42561	43303		10239	20228	30146	40160	83201	333	0/7/7											
ME	0355	000	00			7	9999							SCT025 SCT270	24	22	3000	SLP157 T02390217 40306 0233		157	4	ADB

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (ins) (35)	SNOW DEPTH (ins) (36)
MID TO (LST)	MID TO	[redacted]						0	0	[redacted]
1550		(1)	Cu		Ci	26.7	23.9	0	0	0
11550		(2)	Cu		Ci	27.8	23.3	0	0	0
1750		(3)	Cu		Ci	30.6	21.2	0	0	0
2350		(4)	Cu	AC	Ci	28.3	24.4	.03	0	0
MID (LST)	MID (LST)	[redacted]				24.4	23.3	0	0	0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	29.925	29.940	29.915	29.930
BAROGRAPH (43)	29.936	29.941	29.915	29.915
BARR CORR (44)	.010	.005	.010	.015

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (ins) (66)	24-HR SNOW FALL (ins) (67)
30.6	23.3	.03	0
[redacted]		24-HR SNOW DEPTH (ins) (68)	WATER EQUIVALENT (69)
		0	0

PEAK WIND SPEED (kts) (48)	PEAK WIND DIRCTN (true) (49)	PEAK WIND TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	FASTEST 2-MINUTE WIND DIRCTN (true) (52)	FASTEST 2-MINUTE WIND TIME (UTC) (53)
16	170	1701	-	-	-

ACTIVE RUNWAY

TIME (UTC)	RNWY NO.	TIME (UTC)	RNWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME (Z UTC / LST) (16)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (ins) (22)	HOURLY PRECIP (ins) (25)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

RA

This Form Supercedes CNOC 3141/1 (REV. 6-84)

CNMOC 3140/12 (Rev. 1-96) S/N 0108-LF-019-3100

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)

LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
18 15N	065 38W	+38	4 HRS	11 DEG	07	MAY	1999	TJNR	NAVLANTMETOC DET ROOSEVELT ROADS, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME [M] UTC [ ] LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (ins) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	310	04			7	9999							SCT025 BKN260	24	23	29.98	SLP153 T02390228		153	5	ADB
ME	0555	000	00			7	9999							BKN025 BKN260	24	22	29.96	SLP147 T2 SET 8/201 T02390222	29.920	147	7	ADB
																		10244 20233 58014				
	78535	32661	70100		10239	20222	30134	40147	86201	333		0/1/1	10306	20233 58000								
SP	0620	140	06			7	9999						-SHRA	BKN025 BKN100 BKN260			29.96	SLP146 WB// T2 SET		146	7	ADB
SP	0642	260	05			7	9999						VCSH	SCT025 BKN100 BKN260			29.95	VCSH NW SLP143 WB// T2 SET		143	6	ADB
ME	0655	260	03			7	9999							SCT025 BKN100 BKN260	24	22	29.95	SLP142 WB// T2 SET T02390217		142	6	ADB
ME	0755	220	04			7	9999							SCT025 SCT100 BKN260	23	22	29.94	SLP137 WB// T2 SET T02390222		137	5	ADB
ME	0855	000	00			7	9999							SCT025 SCT260	24	22	29.94	SLP139 T2 SET 60002 8/201	29.900	139	4	ADB
	78535	41561	40000		10239	20222	30125	40139	70188	83201	333			0/4/4				T02390222 53024				
ME	0955	000	00			7	9999							SCT025 SCT260	23	22	29.95	SLP142 T2 SET T02330217		142	4	ADB
ME	0055	000	00			10	9999							FEW025 SCT070	25	23	29.97	SLP150 T2 SET T02300228	29.920	150	3	[illegible]
ME	[illegible]	150	03			[illegible]	[illegible]							[illegible]	27	22	29.99	SLP126 60002 7[illegible] 8/[illegible]				
																		T0[illegible] 10272 20228				
																		53010				
	78535	11560	31805			10272	20228	30136	40150	69951	70181			83300 333 01211	10	306	20228	59006 70013				
ME	[illegible]	200	07			10	9999							SCT030 [illegible] 070	27	22	3000	SLP159 T02320222		159	5	[illegible]
ME	1155	160	10			10	9999							[illegible] SCT250	29	26	3000	SLP158 T02890222		158	4	[illegible]
ME	1455	180	10			10	9999							FEW030 SCT100	29	21	3000	SLP160 8/170 T02390211 51010	29.90	160	3	[illegible]
	78535	41561			31810	10294	20211	30146	40160	82170	333	01381										
ME	1555	200	13			10	9999							SCT030	29	22	3000	SLP157 T02390222		157	5	[illegible]
ME	1655	210	11			10	9999							SCT030 SCT070	29	23	3000	SLP154 T02390222		154	4	[illegible]
ME	1755	210	11	[illegible]		10	9999							SCT030 SCT100 BKN250	30	23	2997	SLP148 8/202 T03000228 10300	29.85	148	5	[illegible]
																		20228 58012				
	78535	32606	52114			10300	20228	30134	40148	83262	333	01389						70013				
ME	1855	170	12			10	9999							SCT030 SCT100 BKN250	29	23	29.96	SLP145 T02390228		145	5	[illegible]
ME	1955	180	09			10	9999							SCT030 SCT100 BKN250	28	22	29.94	SLP140 T02830222		140	6	[illegible]
ME	[illegible]	190	08			10	9999							SCT025 BKN080 BKN200	28	23	29.91	SLP128 8/262 T02780222 56010	29.85	128	7	[illegible]
	78535	32606	71908		10278	20232	30124	40138	84262	333		01389										
ME	2155	200	06			10	9999							SCT025 BKN080 OVC100	28	23	29.96	SLP146 [illegible] 0228		146	8	[illegible]
SP	2245	210	06			7	9999							SCT025CB BKN080 OVC200			29.97	FRQ LTGCC DSNT NW CB DSNT NW SLP149 T1SET		149	8	CSC
ME	2355	210	05			7	9999							SCT025CB BKN080 OVC200	27	23	29.98	FRQ LTGCC DSNT NW CB DSNT NW SLP150 T1SET		150	8	CSC
																		T02720221				
ME	2355	230	04			7	9999							BKN025CB BKN080 OVC200	27	23	30.00	FRQ LTGCC [illegible] CBS-W-NW [illegible] SLP158	29.95	158	8	[illegible]
																		T1SET 8/262 T02670233 10300 20267 53020				
	78535	31561	42504	02601		20233	30144	40158	71352	85962	333	01389						70013				
ME	0055	200	01			7	9999							BKN025CB [illegible]	24	19	[illegible]	FRQ LTGCC [illegible] CBS-W-NW [illegible]		[illegible]	[illegible]	[illegible]
																		SLP146 T1SET T02440189				
ME	0155	210	04			7	9999							SCT025CB BKN080 OVC200	25	19	[illegible]	FRQ LTGCC [illegible] CB NW MOV SW-SE SLP14[illegible]		[illegible]	6	[illegible]
																		T1SET T02[illegible]				
ME	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]							SCT025 [illegible] BKN[illegible]	[illegible]	11	[illegible]	CB1 SET [illegible] SLP141 T1SET 8/262	29.850	141	6	[illegible]
																		T02[illegible] 51010				
	78535	31561	72000	[illegible]		20144	30133	40167	70122	84262	333	01389										
ME	0255	000	00			7	9999							SCT025 SCT080 BKN200	22	19	3002	SLP1[illegible] T02[illegible] T03[illegible]		[illegible]	5	[illegible]

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (ins) (35)	SNOW DEPTH (ins) (36)
MID TO (LST)	MID TO	[redacted]						0	0	
1550		(1)	Cu		Ci	24.4	23.3	0	0	0
1150		(2)	Cu			27.2	22.8	.02	0	0
1750		(3)	Cu	AC	Ci	30.0	22.8	0	0	0
2350		(4)	Cb	AC	Ci	30.0	24.4	0	0	0
MID (LST)	MID (LST)	[redacted]				24.4	21.1	0	0	0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	29.90	29.80	29.85	29.95
BAROGRAPH (43)	29.95	29.80	29.90	29.95
BARR CORR (44)	.005	.000	.00	.000

[redacted]

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (66)	24-HR MIN TEMP (0.1°C) (68)	24-HR PCPN (ins) (69)	24-HR SNOW FALL (ins) (67)
30.6	21.1	.02	0

24-HR SNOW DEPTH (ins) (68)	WATER EQUIVALENT (69)
0	0

PEAK WIND

SPEED (kts) (48)	DIRCTN (true) (49)	TIME (UTC) (50)
21	050	0025

FASTEST 2-MINUTE WIND

SPEED (kts) (51)	DIRCTN (true) (52)	TIME (UTC) (53)
-	-	-

ACTIVE RUNWAY

TIME (UTC)	RWY NO.	TIME (UTC)	RWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME [ ] UTC [ ] LST (18)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (ins) (22)	HOURLY PRECIP (ins) (23)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

[illegible] Emergency
[illegible] Aircraft + Selected

RA

This Form Supercedes CNOC 3141/1 (REV. 6-84)

CNMOC 3140/12 (Rev. 1-98) S/N 0108-LF-019-3100

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
	18 15N	065 32W	138	4 HRS	11 DEG	08	MAY	1999	TJNR	NAVLANTNETOC DET ROOSEVELT ROADS, PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME M UTC L LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (inc) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	000	00			7	9999							FEW025 SCT270	23	21	3000	SLP157 T02280206		157	3	VRE
ME	0555	000	00			7	9999							FEW025 SCT210	22	21	2998	SLP150 8/1201 T02220211 2267	29.930	150	3	CSC
																		20211 58017				
	78535	31561	30000			10228	20211	30136	40150	70122	82201	333	013/9	10306	20217		58003					
ME	0655	000	00			7	9999							FEW025 SCT210	22	21	2996	SLP145 T02170211		145	3	CSC
ME	0755	000	00			7	9999							FEW025 SCT270	22	22	2997	SLP147 T02170217		147	3	CSC
ME	0855	330	04			7	9999							FEW025 SCT270	23	22	2998	SLP151 8/1101 T02280222 55002	29.935	151	3	VRE
	78535	42561	33204			10228	20222	30137	40151	8	2101	333	015/9									
ME	0955	000	00			7	9999							FEW025 SCT270	23	22	2999	SLP155 T02280222		155	3	CSC
ME	1055	[illegible]	[illegible]			10	9999							[illegible]	24	23	3000	[illegible]		[illegible]	3	[illegible]
ME	1155	360	05			10	9999							FEW025 SCT150	28	23	3001	SLP163 8/1101 T02780233 10278	29.910	163	3	[illegible]
																		20211 58012				
	78535	32561	33605			10278	20233	30149	40163	82	101	333	011/9	10300	20217		58007					
ME	1155	040	07			10	9999							SCT025	28	23	3002	SLP166 [illegible]		166	3	[illegible]
ME	1255	040	07			10	9999							SCT025	29	23	3002	SLP166 T02890233		166	4	[illegible]
ME	1355	040	10			10	9999							SCT025	29	23	3002	SLP166 8/250 [illegible] 50003	29.910	166	4	[illegible]
	78535	42561	40406			10	10289	20233	30162	40166	84200	[illegible]	011//									
ME	1555	040	09			10	[illegible]							SCT025 BKN040	29	23	3001	SLP163 [illegible]		163	5	[illegible]
SP	1646	040	08			7	[illegible]						-SHRA	SCT025 SCT040 OVC070			3000	SLP160 [illegible]		160	6	[illegible]
ME	1655	040	07			7	9999						-SHRA	SCT025 SCT040 BKN070	27	24	3000	[illegible] T02[illegible]239		158	6	[illegible]
SP	1700	040	07			10	[illegible]						VCSH	SCT025 SCT040 BKN070			3000	VCSH NE [illegible]		159	6	[illegible]
SP	1726	050	05			7	[illegible]						-SHRA	SCT025 [illegible] BKN070			[illegible]	[illegible]		158	6	[illegible]
SP	1742	050	10			10	[illegible]						VCSH	SCT025 [illegible]			[illegible]	[illegible] VCSH NE		156	6	[illegible]
ME	1755	060	08			10	[illegible]							SCT025 BKN070 BKN200	27	23	2998	SLP151 WR// 60005 8/262 T02670233	29.936	151	7	[illegible]
																		10289 20267 58015				
	78535	11561	70209			10267	20233	30137	40151	69011	70382	84262	333	2/179	10289			20217 58003 70013 90524				
SP	1835	020	10			6	9000						-SHRA	BKN020 BKN070 BKN200			2997	SLP150 WR//		150	7	[illegible]
ME	1855	020	06			7	9999						-SHRA	BKN020 BKN070 BKN200	26	23	2997	SLP150 WR// T02610237		150	7	[illegible]
SP	1926	360	14	M		1½	2400						TSRA	BKN018CB OVC025			2997	TS OVH MOV SE SLP149 TSE[illegible]		149	8	[illegible]
																		WR//				
ME	1955	030	07			1½	2400						TSRA	BKN018CB BKN025 [illegible]	24	23	2997	TS [illegible]		152	—	[illegible]
																		T0[illegible]				
SP	2032	020	08			2	5000						-SHRA	BKN020 OVC070			2997	CBDSPT [illegible]			8	[illegible]
ME	2055	020	09			7	9999						TSRA	[illegible] OVC070	25	23	[illegible]	TSE MOV S SLP153 TSE[illegible] WR//	29.940	152	8	[illegible]
																		60066 8/1961 T02500233 55006				
	78535	41561	80209			10257	20233	30138	40152	79598	8/696	333	0/44									
SP	2115	020	10			10	9999						VCSH	BKN020 OVC070			2998	CBDSPT VCSH [illegible] TSE[illegible] WR//		151	8	[illegible]
ME	2155	020	11			7	9999							BKN025 OVC070	25	23	2997	SLP149 [illegible] T02[illegible]28		149	8	[illegible]
ME	2255	020	11			7	9999							BKN025 OVC070	26	22	2997	SLP149 TSE[illegible] WR// T02560222		149	8	CSC
ME	2355	030	11			7	9999							BKN025 BKN070 BKN230	25	22	2999	SLP154 WR// 60060008/262 T02500222	29.945	154	7	[illegible]
																		10272 [illegible]244 53002				
	78535	11561	70809			10250	20222	30140	40154	60171	70198	85262	333	2/157	10289	20217		51004 70190 90931				
ME	0055	020	09			7	9999							SCT025 BKN040 BKN250	25	22	3000	SLP159 WR// T02[illegible]		159	6	CSC
ME	0155	020	05			7	9999							SCT025 SCT040 BKN250	24	22	3001	SLP160 T02440211		160	[illegible]	[illegible]
ME	0255	350	M			7	9999							SCT025 SCT040 BKN250	24	22	3001	SLP161 [illegible] T02440211 [illegible]	29.965	161	5	[illegible]
	78535	42561	53504			10244	20217	30137	40161	84201	350	0/8/9										
ME	0355	340	05			7	9999							SCT025 SCT040 BKN250	24	21	3000	SLP157 T02390211 40300211		157	5	[illegible]

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (inc) (35)	SNOW DEPTH (inc) (36)
MID TO (LST)	MID TO	[redacted]						0	0	[redacted]
[illegible]		(1)	[illegible]			[illegible]	[illegible]		[illegible]	[illegible]
1120		(2)	[illegible]		[illegible]	27.8	21.1	0	0	0
1120		(3)	[illegible]	[illegible]	[illegible]	28.9	16.7	.03	0	0
[illegible]		(4)	[illegible]	[illegible]	[illegible]	27.2	24.4	.66	[illegible]	[illegible]
MID (LST)	MID (LST)	[redacted]				25.0	23.9	0	0	0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	0100	1200	1800	0000
STA PRESS (42)	29.950	29.970	29.935	29.945
BAROGRAPH (43)	29.940	29.945	29.935	29.935
BARR CORR (44)	.010	.025	.000	.010

[redacted]

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (inc) (66)	24-HR SNOW FALL (inc) (67)
30.0	21.1	.71	0
[redacted]		24-HR SNOW DEPTH (inc) (68)	WATER EQUIVALENT (68)
		0	0

PEAK WIND SPEED (kts) (48)	PEAK WIND DIRCTN (true) (49)	PEAK WIND TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	FASTEST 2-MINUTE WIND DIRCTN (true) (52)	FASTEST 2-MINUTE WIND TIME (UTC) (53)
17	310	1940	-	--	-

ACTIVE RUNWAY

TIME (UTC)	RNWY NO.	TIME (UTC)	RNWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME [ ] UTC [ ] LST (18)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (inc) (22)	HOURLY PRECIP (inc) (25)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, NOTES, AND MISCELLANEOUS PHENOMENA (72)

TSRA

This Form Supercedes CNOC 3141/1 (REV. 6-84)

SURFACE WEATHER OBSERVATIONS (ABRIDGED FOR MILITARY USE) (METAR/SPECI)	LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION (LST TO UTC)	MAG TO TRUE	DAY	MONTH	YEAR	ICAO	STATION (TYPE, NAME, LOCATION)
	18 15N	065 39W	139	4 - HRS	-11 DEG	09	MAY	1999	TJNR	NAVLANTMETOC DET ROOSEVELT ROADS PUERTO RICO

TYPE METAR SPECI (1)	DATE & TIME ☑ UTC ☐ LST (2)	WIND DIRECTION (true) (3)	WIND SPEED (knots) (4)	WIND GUST (knots) (5)	WIND VARIABILITY (true) (6)	VISIBILITY SURFACE (miles) (7)	VISIBILITY SURFACE (meters) (7a)	VISIBILITY TOWER (miles) (7b)	VISIBILITY TOWER (meters) (7c)	RUNWAY VISUAL RANGE LOCAL (feet or meters) (8)	RUNWAY VISUAL RANGE LONGLINE (meters) (8a)	PRESENT WEATHER LOCAL (9)	PRESENT WEATHER LONGLINE (9a)	SKY CONDITION (10)	TEMP (°C) (11)	DEW POINT (°C) (12)	ALTIMETER SETTING (ins) (13)	REMARKS AND SUPPLEMENTAL CODED DATA (14)	STATION PRESSURE (inches) (22)	SEA LEVEL PRESSURE (hPa) (22a)	TOTAL SKY COVER (17)	OBSERVER'S INITIALS (15)
ME	0455	340	06			7	9999							FEW025 SCT040 SCT250	23	21	2997	SLP147 T02330211		147	4	CSC
ME	0555	330	06			[illegible]	9999							FEW025 [illegible]	23	21	2995	SLP142 8/201 T02330211 10256 20233 50017	29.910	[illegible]	4	CSC
	78535	32561	43306			10233	20211	30128		40142	83201			333 01719	10300	20211	49008					
ME	0655	330	06			7	9999							FEW025 SCT250	23	21	2994	SLP138 T02330211		138	4	CSC
ME	0755	320	06			7	9999							FEW025 SCT250	23	21	2994	SLP139 T02280206		139	4	CSC
ME	0855	320	05			7	9999							FEW025 SCT025 SCT250	23	21	2995	SLP142 8/801 T02280206 55000	29.910	142	4	VRR
	78535	42561	43205			10228	20206	30128		40142	83801			333 01719								
ME	0955	330	06			7	9999							FEW025 SCT250	23	21	2996	SLP145 T02280206		145	4	VRR
ME	1055	340	04			10	9999							FEW030 BKN250	24	21	2997	SLP150 T02390211		150	5	GD
ME	1155	350	08			10	9999							FEW030 SCT250	27	21	2998	SLP153 70072 8/101 T02670211 10267 20228 53010	29.940	153	4	GD
	78535	32561	43508			10267	20211	30139	40153		81101	333 01719		10289 20228 59010 70188								
ME	1255	030	10			10	9999							FEW030 SCT250	28	22	2999	SLP155 T02780217		155	[illegible]	GD
ME	1355	010	10			10	9999							SCT030 BKN250	28	20	3000	SLP158 T02780206		158	5	GD
ME	1455	040	10			10	9999							FEW035 SCT070 BKN250	28	21	3000	SLP157 8/171 T02830206 55003	29.950	157	5	GD
	78535	42561	50410			10283	20206	30143	40157		82171	333 01169										
ME	1555	040	13			10	9999							SCT035 BKN250	29	21	2998	SLP152 [illegible]		152	5	[illegible]
ME	1655	050	12			10	9999							SCT035 BKN250	28	21	2997	SLP149 T02830211		149	5	GD
ME	1755	050	10			10	9999							SCT035 BKN250	29	20	2994	SLP143 8/201 T02890200 10289 20267 58014	29.910	143	5	[illegible]
	78535	32561	50510			10289	20200	30139	40148		84201	333 01119		10289 20228 59005 70168								
ME	1855	040	11			10	9999							SCT035 SCT080 BKN250	28	20	2994	SLP137 T02830200		137	5	[illegible]
ME	1955	030	09			10	9999							SCT035 OVC050	27	19	2993	SLP135 T02770194		135	8	GD
ME	2055	030	08			10	9999							SCT035 OVC070	27	20	2993	SLP133 8/17/ T02670200 56010	29.880	133	8	[illegible]
	78535	42561	80308			10267	20200	30119	40133		83171	333 0/15/										
ME	2155	030	08			10	9999							SCT035 OVC070	27	20	2993	SLP136 T02670200		136	8	GD
ME	2255	020	07			7	9999							SCT035 OVC080	26	20	2995	SLP141 T02610200		141	8	CSC
ME	2355	010	06			7	9999							SCT035 OVC080	26	20	2996	SLP146 8/17/ T02560200 10289 20256 53014	29.920	146	7	[illegible]
	79535	32561	80406			10256	20200	30132	40146		83171	333 0/16/		10289 20233 49008								
ME	0055	020	05			7	9999							SCT035 BKN055 OVC080	26	19	2997	SLP150 T02560194		150	8	CSC
ME	0155	350	07			7	9999					SHRA		BKN080 BKN055 OVC080	26	20	2999	SLP154 [illegible]		[illegible]	8	CSC
SP	0230	350	04			7	9999					VCSH		BKN080 BKN055 OVC080			2998	VCSH W SLP153 [illegible]		153	7	CSC
ME	0255	360	05			7	9999							SCT030 BKN055 OVC080	24	21	2999	SLP153 [illegible] T02390211 50007	29.940	153	8	CSC
	78535	41561	43605			10239	20211	30139		T02882	80871	333 0/16/										
ME	0355	350	04			7	9999							SCT030 BKN055 OVC080	24	21	2997	[illegible]		[illegible]	8	CSC

SYNOPTIC DATA

TIME (UTC) (26)	TIME (LST) (27)	NO. (28)	LOW CLOUD TYPE (29)	MID CLOUD TYPE (30)	HIGH CLOUD TYPE (31)	MAX TEMP (0.1°C) (32)	MIN TEMP (0.1°C) (33)	PRECIP (water equiv.) (34)	SNOW FALL (ins) (35)	SNOW DEPTH (ins) (36)
MID TO (LST)	MID TO	[redacted]						0	0	[redacted]
0550		(1)	Cu		Ci	25.0	22.2	0	0	0
1150		(2)	Cu		Ci	26.7	22.8	0	0	0
1750		(3)	Cu		Ci	28.9	26.7	0	0	0
2350		(4)	Cu	Ac		28.9	25.6	0	0	0
MID (LST)	MID (LST)	[redacted]				28.6	23.9	.02	0	0

STATION PRESSURE COMPUTATIONS

TIME (UTC) (41)	06	12	18	00
STA PRESS (42)	29.90	29.90	29.90	29.90
BAROGRAPH (43)	29.90	29.920	29.90	29.910
BARR CORR (44)	.000	.020	.000	.010

[redacted]

SUMMARY OF THE DAY (midnight to midnight)

24-HR MAX TEMP (0.1°C) (64)	24-HR MIN TEMP (0.1°C) (65)	24-HR PCPN (ins) (66)	24-HR SNOW FALL (ins) (67)
28.9	22.8	.02	0

24-HR SNOW DEPTH (ins) (68)	WATER EQUIVALENT (69)
0	0

PEAK WIND SPEED (kts) (48)	PEAK WIND DIRCTN (true) (49)	PEAK WIND TIME (UTC) (50)	FASTEST 2-MINUTE WIND SPEED (kts) (51)	FASTEST 2-MINUTE WIND DIRCTN (true) (52)	FASTEST 2-MINUTE WIND TIME (UTC) (53)
16	050	1735	—	—	—

[redacted]

ACTIVE RUNWAY

TIME (UTC)	RWY NO.	TIME (UTC)	RWY NO.

HOURLY CLIMATOLOGICAL DATA

TIME ☐ UTC ☐ LST (18)	DRY BULB TEMP 0.1°C (19)	WET BULB TEMP 0.1°C (20)	RH (%) (21)	STATION PRESSURE (ins) (22)	HOURLY PRECIP (ins) (23)	PRESSURE ALTITUDE (ft) (73)	DENSITY ALTITUDE (ft) (74)

REMARKS, ERRS, AND MISCELLANEOUS PHENOMENA (72)

RA

This Form Supercedes CNOC 3141/1 (REV. 6-84)

Appendix C

Calculation

McLaren Hart, Inc.

By K.U. Date 8-31 Subject PW-3 Pump Test Sheet No. 1 of 5

Chkd. By WWR Date 8-31-99 Project No. 945809

Calculation of T and S

Drawdown in wells PW-5 and MW-4 results from pumping at PW-3.

Pumping $t = 3675$ minutes $= 2.6$ days

PW-5

$\Delta z = 0.5$ ft

$T = 2.3(12.7 \text{ gpd})/(4\pi \times 0.5 \text{ ft})$

$T = 4.65$ gpd/ft

$$S = \frac{2.25\left(4.65 \frac{\text{gpd}}{\text{ft}}\right)(600 \text{ min})}{(6 \text{ ft})^2} \times \frac{1 \text{ ft}^3}{7.48 \text{ gal}} \times \frac{1 \text{ day}}{1440 \text{ min}}$$

$S = 0.016$

Check: $$\frac{r^2 S}{4Tt} = \frac{(6 \text{ ft})^2 (0.016)}{4\left(4.65 \frac{\text{gpd}}{\text{ft}}\right) \times 0.1337 \frac{\text{ft}^3}{\text{gal}} \times 2.6 \text{ day}} = 0.089$$

usually $r^2S/4Tt < 0.01$

McLaren Hart, Inc.

By Yu Date 8-31 Subject PW-3 Pump Test Sheet No. 2 of 5

Chkd. By WAS Date 8.31.99 Project No. 945809

MW-4)

$\Delta z = 0.4\ ft,\ r = 12\ ft$

$T = 2.3\,(12.7\ gpd)/(4\pi \times 0.4\ ft) \Rightarrow$

$T = 5.8\ gpd/ft$

$$S = \frac{2.25\,(5.8\ gpd/ft)(600\ min)}{(12\ ft)^2} \times \frac{ft^3}{7.48\ gal} \times \frac{1\ day}{1440\ min}$$

$S = 0.005$

$$\text{check} = \frac{r^2 S}{4Tt} = \frac{(12\ ft)^2(0.005)}{4(5.8\ gpd/ft) \times 0.1337\ \frac{ft^3}{gal} \times 2.6\ day}$$

$= 0.089$

usually $r^2S/4\pi Tt < 0.01$

McLaren Hart, Inc.

By KU Date 8-31 Subject PW-3 Pump Test Sheet No. 3 of 5

Chkd. By WMS Date 8-31-99 Project No. 945809

PW-3: Top of Casing = 17.33 feet -msl

Depth of well = 23.2 feet

Bottom of well = 17.33 - 23.2 feet

= -5.87 feet-msl

MW-4: Top of Casing = 16.56 feet -msl

Depth to water = 10.323 feet

Bottom of well = -5.87 feet msl

$b = [16.56 \text{ ft} - (-5.87 \text{ feet})] - 10.323 \text{ feet}$

$b = 12.1$ feet

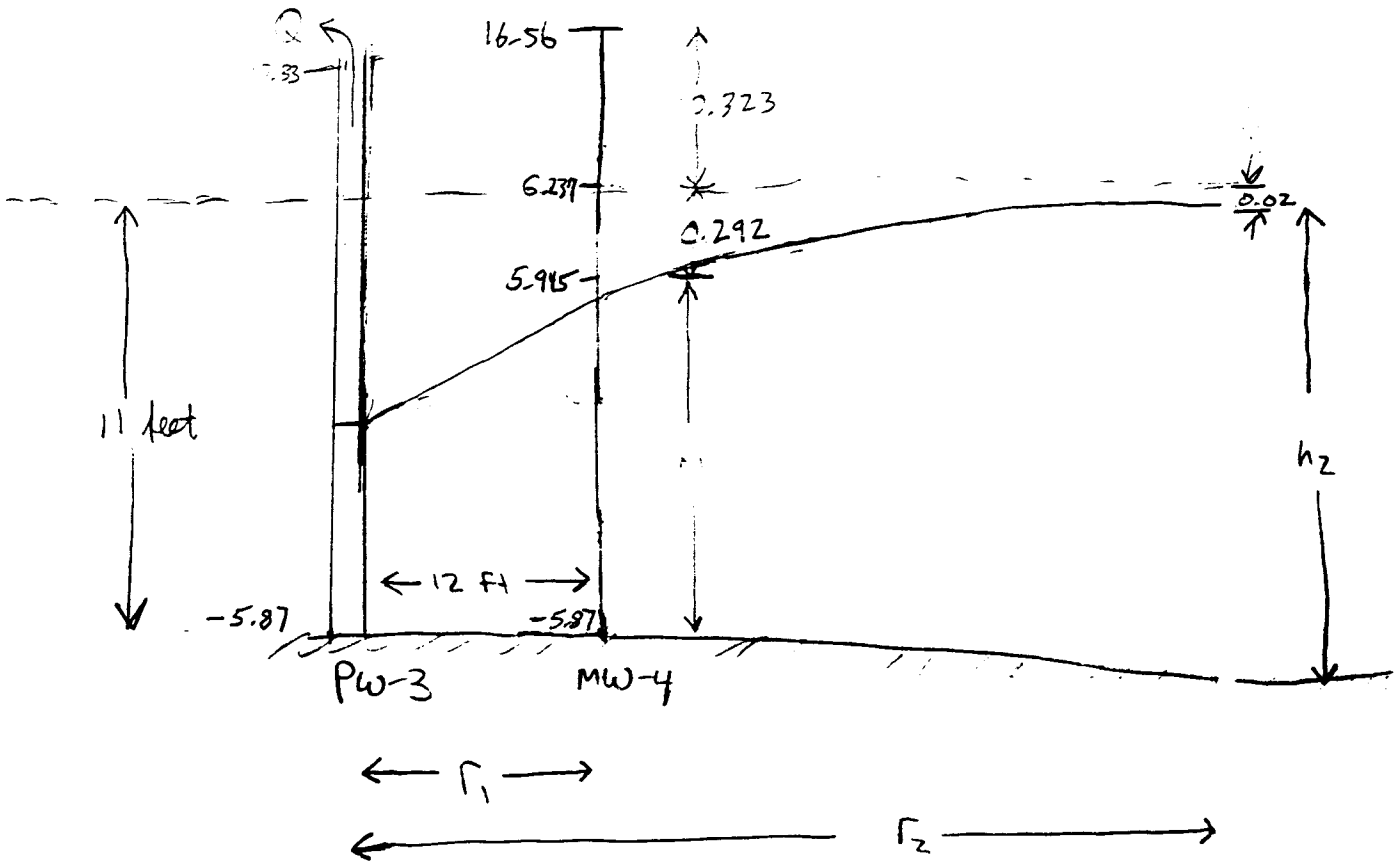
h_1: 12.1 feet - 0.292 feet = 11.808 feet

h_2: 12.1 feet - 0.02 feet = 12.08 feet

McLaren Hart, Inc.

By KLL Date 8-31 Subject Pumping & Recovery Sheet No. 4 of 5

Chkd. By WAB Date 8.31.99 Project No. 945009



MW-4 Drawdown @ Steady State = 10.615 − 10.323

= 0.292

$$Q = \pi K (h_2^2 - h_1^2) / \ln(r_2/r_1)$$

$T = Kb$ or $K = T/b$

$r_1 = 12$ feet

$Q = 12.7$ gpd

McLaren Hart, Inc.

By K.U. Date 8-31 Subject Radius of Influence Sheet No. 5 of 5

Chkd. By WB Date 8-31-99 Project No. 945807

At steady state:

$$Q = \pi K (h_2^2 - h_1^2) / \ln(r_2/r_1) \Rightarrow$$

$$r_2 = r_1 \times \exp\left(\frac{\pi K (h_2^2 - h_1^2)}{Q}\right)$$

$h_1 = 11.808$ feet

$h_2 = 12.08$ feet

$$T = Kb = \frac{4.65 + 5.8}{2} \text{ gpd} = 5.2 \text{ gpd/ft}$$

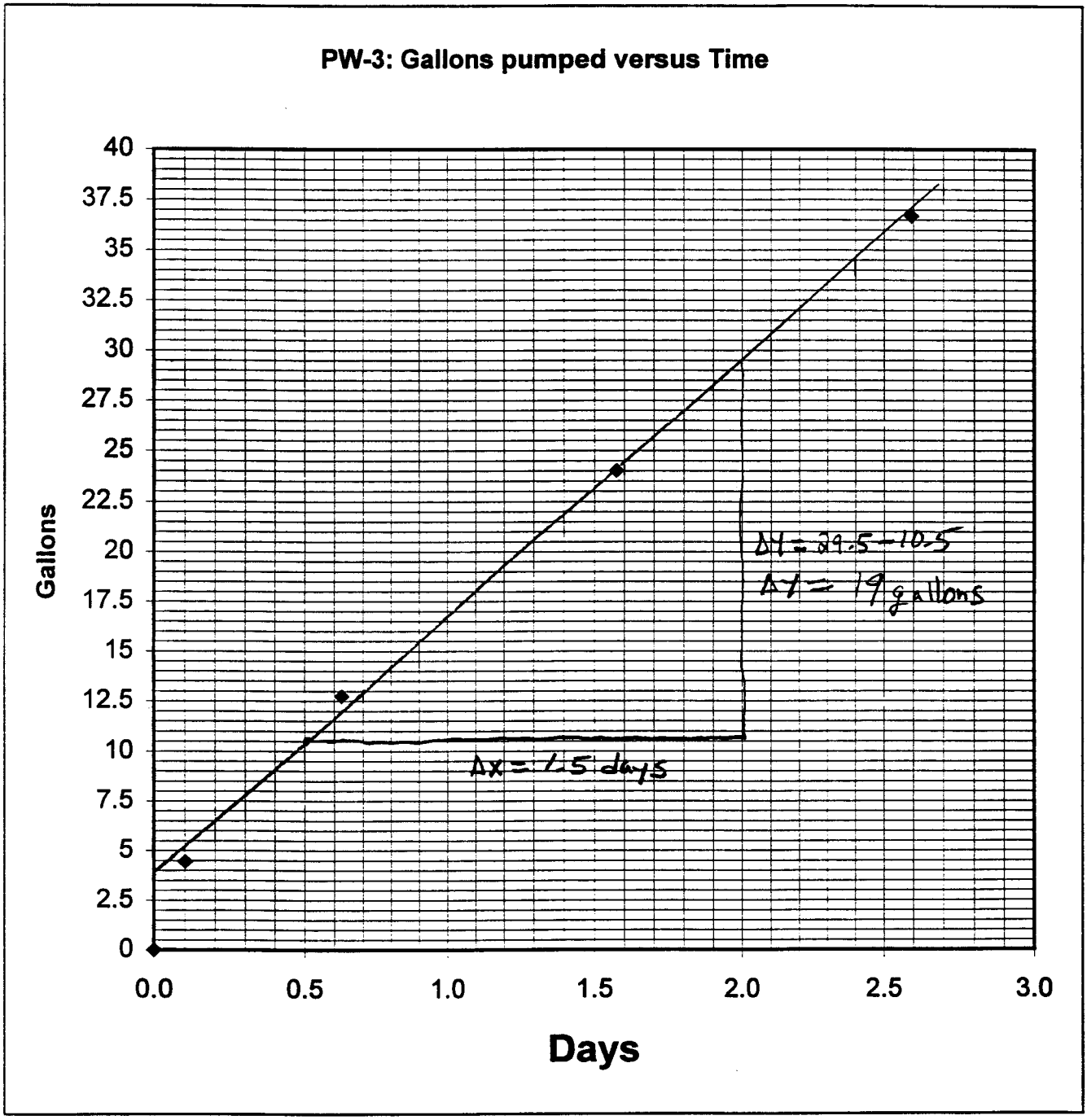
$$K = T/b = \frac{5.2 \text{ gpd/ft}}{12.1 \text{ ft}} = 0.43 \frac{\text{gpd}}{\text{ft}^2} \frac{\text{ft}^3}{7.48 \text{ gal}} = 0.057 \frac{\text{ft}}{\text{day}}$$

$r_1 = 12.1$ feet

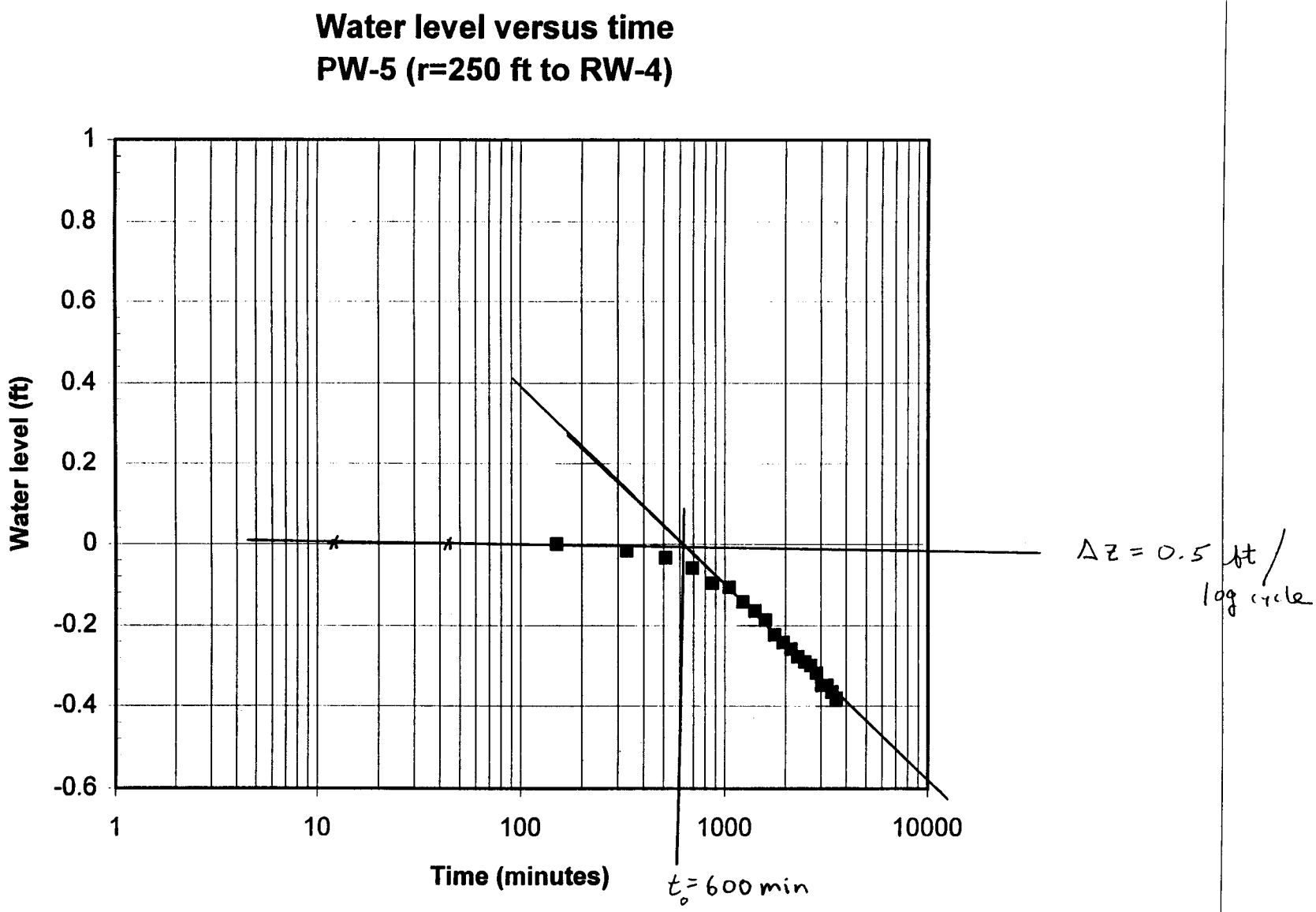
$$r_2 = 12.1 \text{ ft} \times \exp\left(\frac{\pi (0.43 \frac{\text{gpd}}{\text{ft}^2})(12.08^2_{\text{ft}^2} - 11.808^2_{\text{ft}^2})}{12.7 \text{ gpd}}\right)$$

$$\boxed{r_2 = 24 \text{ feet}}$$

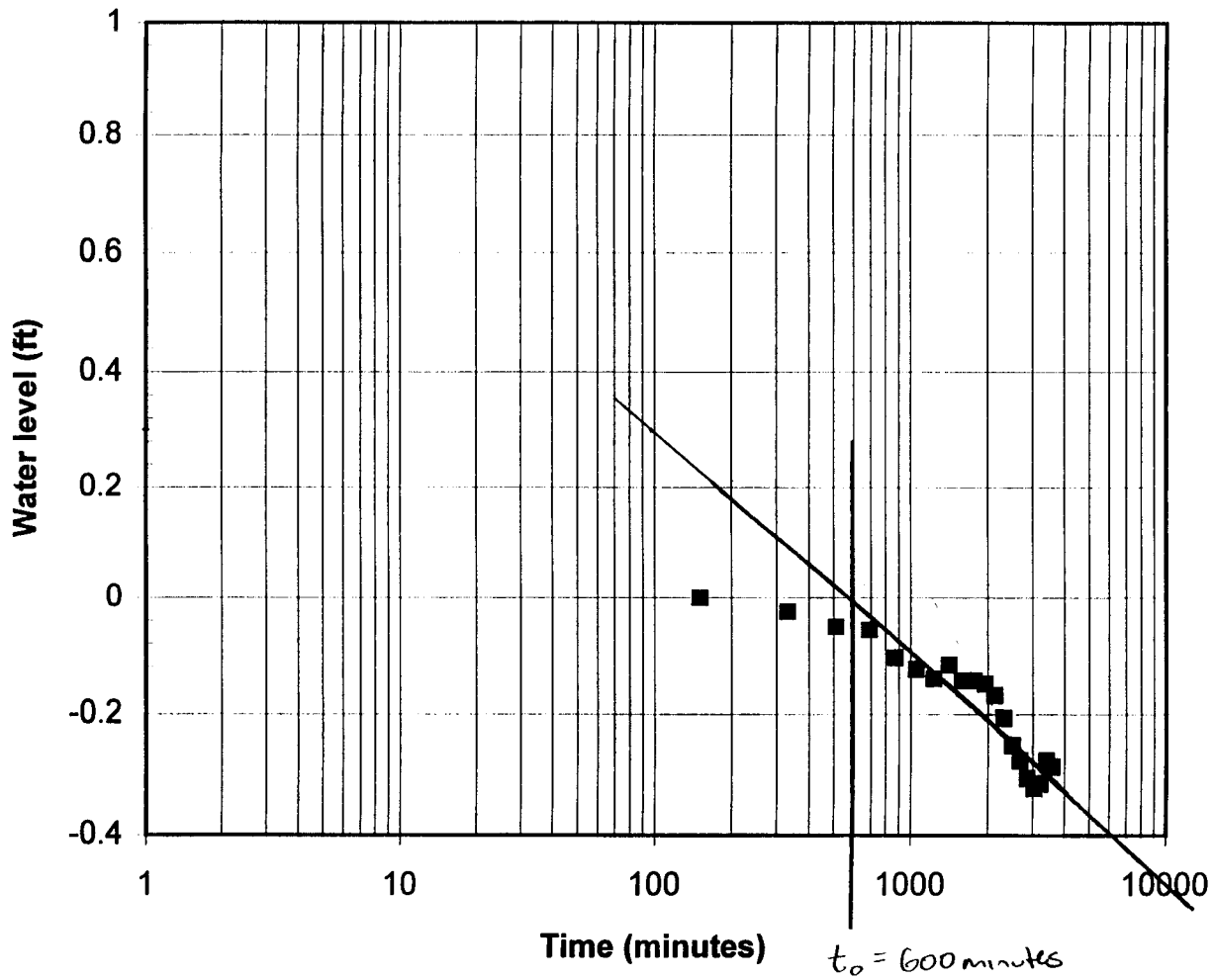
Step Hours	Minutes	Cumulative Hours	Cumulative Days	Gallons
0	0	0	0.0	0
2	27	2.45	0.1	4.45
12	33	15	0.6	12.74
22	45	37.75	1.6	24.02
24	30	62.25	2.6	36.68



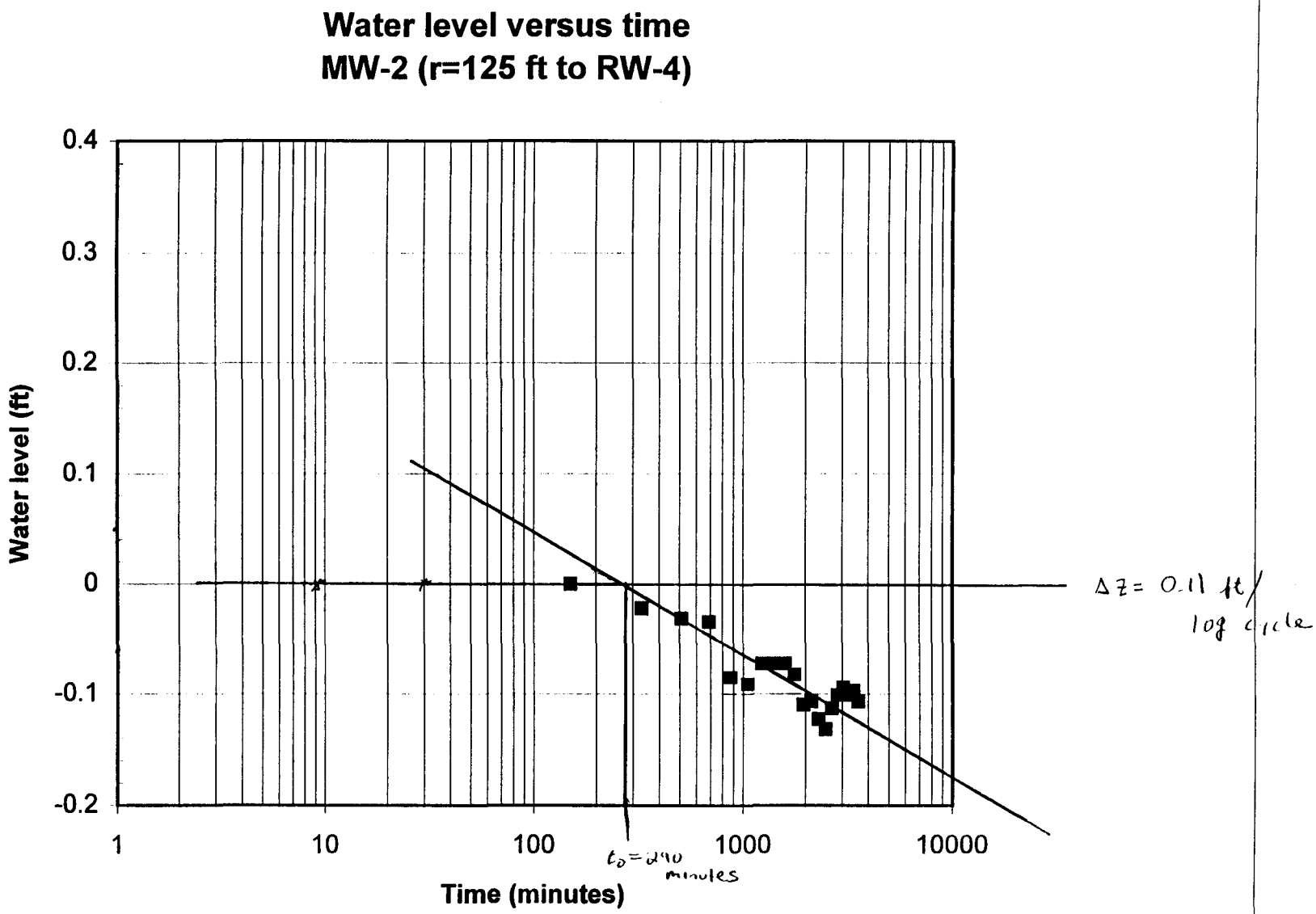
Flow = 19 gallons / 1.5 days = 12.7 gpd


Water level versus time
PW-5 (r=250 ft to RW-4)
Water level (ft)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
1
10
100
1000
10000
Time (minutes)
t_o = 600 min
Δz = 0.5 ft / log cycle

Water level versus time
MW-4 (r=225 ft to RW-4)



$\Delta z = 0.3 - (-0.1) = 0.4$ ft/ log cycle


Water level versus time
MW-2 (r=125 ft to RW-4)
Water level (ft)
0.4
0.3
0.2
0.1
0
-0.1
-0.2
1
10
100
1000
10000
Time (minutes)
t_0=290 minutes
Δz= 0.11 ft/log cycle