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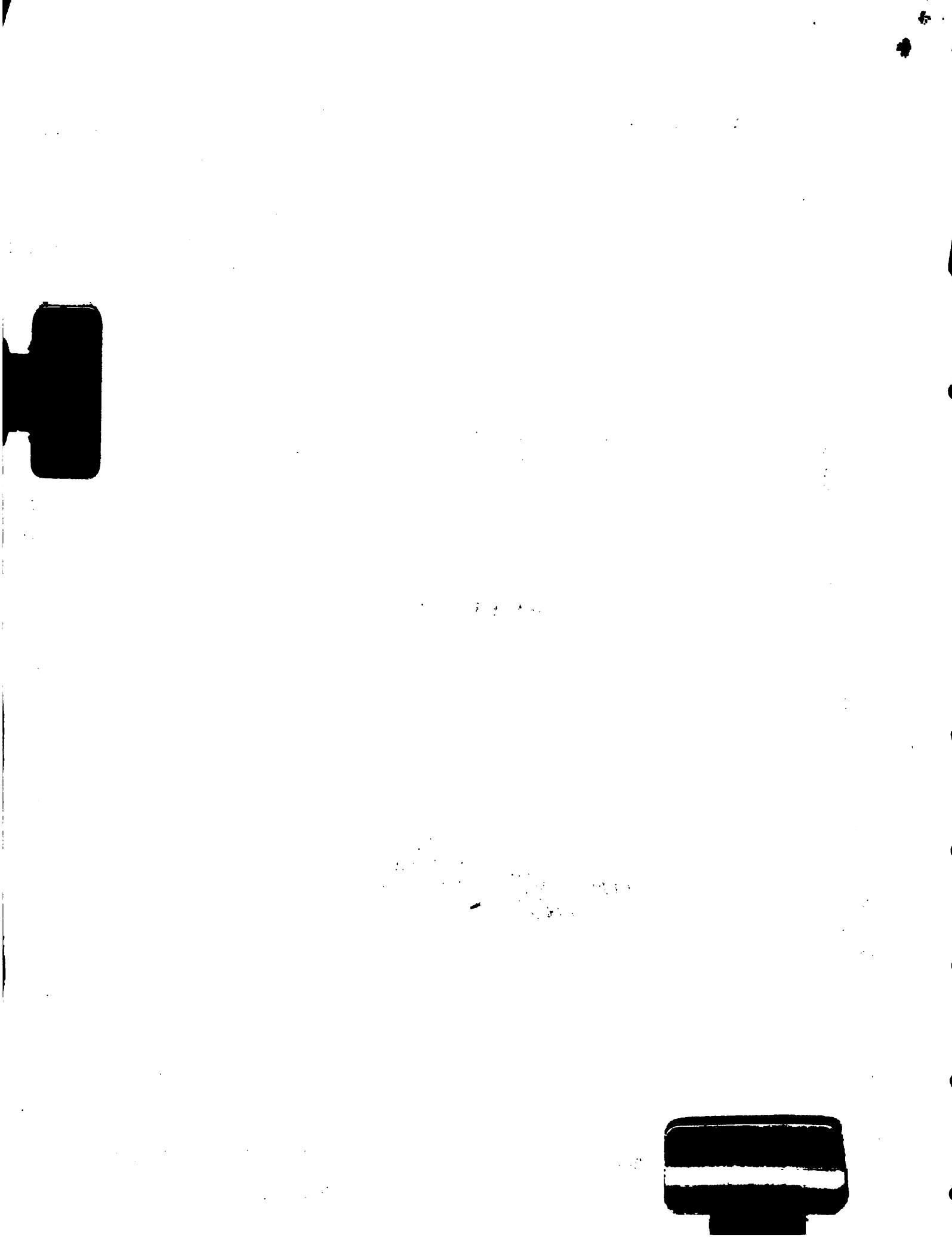
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MANAGEMENT IN THE BRUMDEC PROJECT

IICA/JAMAICA  
MISCELLANEOUS PUBLICATION NO. 309  
SERIAL # ISSN-0534-5391

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PM-309



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11/10/81

**BASIC INFORMATION FOR PLANNING WATER  
MANAGEMENT IN THE BRUMDEC PROJECT**

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by

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November 1981

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BASIC INFORMATION FOR PLANNING WATER MANAGEMENT  
IN THE  
BRUMDEC PROJECT

1. Introduction

In the BRUMDEC area, the heavy rainfall is concentrated in two periods: May-June and September-October. During these periods, the drains have to convey the run-off into the Black River. However, during the dry months, evapotranspiration is greater than precipitation, so to restore the water deficit, water should be applied by irrigation. For an optimum yield of an aerobic crop, the water table should be maintained below the root zone.

To obtain this situation, irrigation and drainage play an important part in the management of water. The observation wells for the indication of the position of the water table is a reliable tool, especially for the protection of the organic soil which forms part of the project area.

On the other hand, during the period of heavy rainfall and run-off, erosion takes place, large amounts of solids are deposited in the drains and their hydraulic capacity to convey the peak flows is decreased. This will lead to flooding if the solid materials are allowed to accumulate in the drains. The siltage monitoring in the drains will give the indication as to the amount of material to be removed and the frequency of the operation to reshape the drains' cross section.

This report deals with the description of both the observation wells and the siltage stations as tools for the management of the water resources in the BRUMDEC Project.

2. Observation Wells

An observation well is based on the principle that flow through porous media indicates the elevation of the underground water.

2.1 Location of the observation wells on BRUMDEC land

Fig. 1 and Table 1 show the location and characteristics of the observation wells in the BRUMDEC Project. For the position of the observation wells we have taken into account the presence of a road so that they can be reached throughout the year, and some

1. The following table gives the number of hours worked by each of the 100 workers.

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It is also important to note that the results of the study were not limited to the specific context of the study, but can be applied to other contexts as well.

<sup>1</sup> See also the discussion of the relationship between the two in the section on "Theoretical Implications."

*Principles of the Law of Evidence* by Sir James Maitland Stewart, LL.D., F.R.S.

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11. The following table gives the number of hours worked by each of the 100 workers.

permanent land features to ensure their permanence. Thirty two (32) wells have been installed, eighteen (18) in organic soil (from OW P-1 to OW P-18) and fourteen (14) in mineral soil (from OW M-19 to OW M-32).

## 2.2 Installation of observation wells

Observation wells were constructed as follows:

- To dig the hole a powered drill was used, with which a .20 m (8 inches) diameter hole and 1.35 m (53 inches) depth hole could be made.
- A 3 horse power at 3,600 rpm, 127 cc pump was used to pump the water out of the hole.
- A 0.10 m (4 inches) layer of fine gravel was put at the bottom of the hole.
- A 0.05 m (2 inches) diameter perforated pipe with a cork at the bottom end was placed in the hole. The annular space around the pipe was filled with gravel up to the ground surface.
- A concrete collar was placed around the pipe.
- A perforated cork covers the upper end of the pipe; it prevents any solid material dropping into the well, and assures the atmospheric pressure on the underground water inside the well.

In mineral soils, the wells were drilled to a depth of 1.35 m (53 inches), but in peat soil, sometimes the depth was limited by the presence of limestone underlying the peat.

Wells M-19, M-22 and M-23 have been cased with a 0.0375 m (1.5 inches) diameter pipe.

Well P-10 and P-18 have been cased with a 0.1 m (4 inches) diameter pipe.

## 2.3 Monitoring the observation wells

The depth of the water table from the top of the pipe should be measured once each week. The position of the water table should

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the first time in the history of the world, the number of people living in poverty has been reduced.

The second time in the history of the world, the number of people living in poverty has been reduced.

The third time in the history of the world, the number of people living in poverty has been reduced.

The fourth time in the history of the world, the number of people living in poverty has been reduced.

The fifth time in the history of the world, the number of people living in poverty has been reduced.

The sixth time in the history of the world, the number of people living in poverty has been reduced.

The seventh time in the history of the world, the number of people living in poverty has been reduced.

The eighth time in the history of the world, the number of people living in poverty has been reduced.

The ninth time in the history of the world, the number of people living in poverty has been reduced.

The tenth time in the history of the world, the number of people living in poverty has been reduced.

The eleventh time in the history of the world, the number of people living in poverty has been reduced.

The twelfth time in the history of the world, the number of people living in poverty has been reduced.

The thirteenth time in the history of the world, the number of people living in poverty has been reduced.

The fourteenth time in the history of the world, the number of people living in poverty has been reduced.

The fifteenth time in the history of the world, the number of people living in poverty has been reduced.

The sixteenth time in the history of the world, the number of people living in poverty has been reduced.

The seventeenth time in the history of the world, the number of people living in poverty has been reduced.

The eighteenth time in the history of the world, the number of people living in poverty has been reduced.

The nineteenth time in the history of the world, the number of people living in poverty has been reduced.

The twentieth time in the history of the world, the number of people living in poverty has been reduced.

The twenty-first time in the history of the world, the number of people living in poverty has been reduced.

The twenty-second time in the history of the world, the number of people living in poverty has been reduced.

The twenty-third time in the history of the world, the number of people living in poverty has been reduced.

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be plotted to have a graphical representation of its variation with time. To get the elevation of the water table with respect to mean sea level, we subtract the tape reading from the elevation of the top of the pipe. To obtain the depth of the water table below the ground surface, subtract the height of the pipe from the tape reading.

Example Well P-10

Tape reading (Sept. 30, 1981):  $14'' = 1.167'$

Elevation of the water table:  $12.05' - 1.167' = 10.883$

Depth of the water table:  $14'' - 8'' = 6'' = 0.5'$

See Page 4 for Table 1(a)

To obtain an over-all view of the water table position in the area, contour lines could be drawn monthly. This information will help the Irrigation Superintendent in taking a decision for the management of the water resources of the project.

For monitoring the observation wells, a table with the following headings should be prepared.

Observation well	Tape reading	Conditions surrounding the well	Date	Reader	Remarks
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3. The Siltage Stations

Table 2 shows the location of the siltage stations with the elevation of the reference pins to monitor the sedimentation in the drains.

In the cross section of the drains several points are selected depending on the width of the bottom. The elevation of these points are



TABLE 1(a) - Elevation of the water table with respect to mean sea level and position of the water table below ground surface (Sept. 30, 1981)

Observation well	Tape reading		Elevation of the water table		Position of water table above ground surface	
	inches	meters	M.S.L. feet	meters	inches	meters
1	16.0	0.406	15.84	4.828	1.5	0.038
2	11.0	0.279	18.08	5.511	4.0	0.102
3	1.0	0.025	10.19	3.106	8.0	0.203
4	6.0	0.152	9.56	2.914	5.0	0.127
5	17.5	0.445	14.96	4.560	4.5	0.114
6	25.5	0.648	14.25	4.343	12.0	0.305
7	12.5	0.318	11.60	3.536	1.5	0.038
8	17.0	0.432	10.52	3.207	5.0	0.127
9	12.0	0.305	10.42	3.176	2.0	0.051
10	14.0	0.356	10.88	3.316	6.0	0.152
11	14.0	0.356	16.83	5.130	3.0	0.076
12	11.0	0.279	16.61	5.063	5.0	0.127
13	18.5	0.470	12.58	3.834	2.5	0.064
14	-	-	-	-	-	-
15	13.0	0.330	10.44	3.182	3.0	0.076
16	9.0	0.229	9.47	2.887	1.0	0.025
17	20.0	0.508	9.00	2.743	3.0	0.076
18	10.5	0.267	9.54	2.908	1.5	0.038
19	12.0	0.305	29.13	8.879	2.0	0.051
20	-	-	-	-	-	-
21	48.0	1.219	23.83	7.263	27.8	0.706
22	39.0	0.991	19.57	5.964	29.5	0.749
23	14.0	0.356	18.59	5.666	0.5	0.013
24	18.0	0.457	18.16	5.535	5.0	0.127
25	12.5	0.318	21.87	6.666	2.5	0.064
26	25.5	0.648	19.29	5.880	16.5	0.419
27	18.0	0.457	17.22	5.249	8.0	0.203
28	30.0	0.762	11.80	3.597	18.5	0.470
29	21.5	0.546	10.59	3.228	5.5	0.140
30	29.0	0.737	18.14	5.529	11.5	0.292
31	23.5	0.597	18.43	5.618	3.5	0.089
32	5.0	0.127	16.0	4.877	3.0	0.076



taken so that the shape of the cross section could be drawn. The comparison of two successive measurements will indicate the rate of sedimentation or scour that is occurring.

To carry out the work, the following equipment is needed:

- an engineer level, with its tripod
- a stadia rod
- a one hundred foot steel tape
- an equipped boat

The monitoring should be done every month; the information should be analysed to take an immediate decision when corrections in the drainage management are necessary.

#### 4. Conclusions

1. Thirty two (32) observation wells to manage the water table have been installed in BRUMDEC area.
2. The weekly information of the position of the water table will give the criteria for the proper management of the irrigation and drainage facilities in the project.
3. The monthly maps showing the water table contour lines will indicate the working conditions of drains and the needs for irrigation or drainage.
4. The drains have been provided with siltage stations to monitor the change of the cross section shape as a result of sedimentation or scour. In this way, the flow in drains could be controlled.

#### 5. Recommendations

1. Monitor the observation wells once each week, check their working conditions, the integrity of the cork, and keep the surroundings free of vegetation.
2. Monitor the siltage in drains once each month.
3. Place the irrigation control structures in the drains to manage the water and the soil moisture conditions in the project area, in conjunction with the information provided



by the observation wells.

4. More observation wells could be installed to obtain information for particular areas, where at the present time, the absence of roads has not allowed us to drill wells.

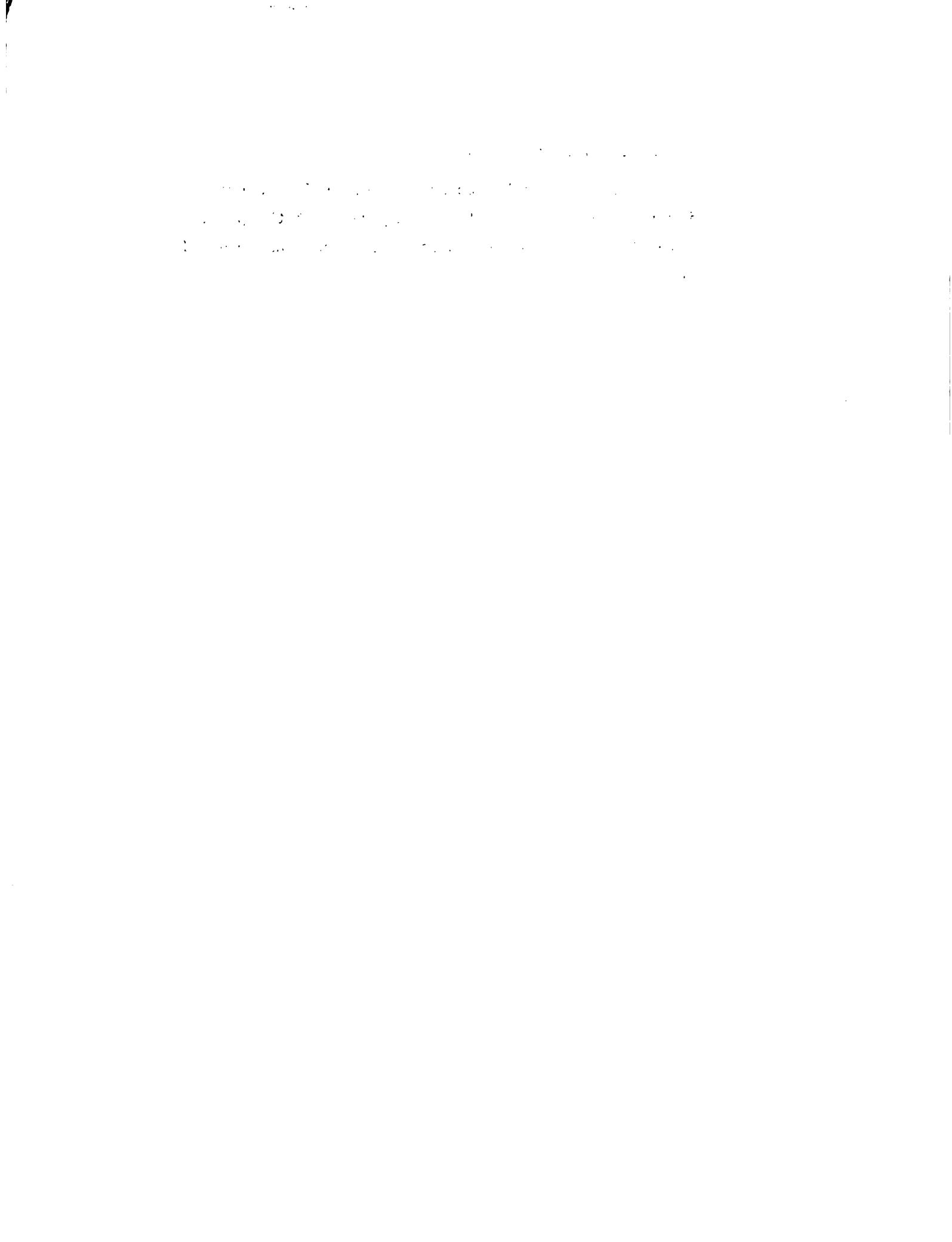


TABLE 1

CHARACTERISTICS OF THE OBSERVATION WELLS IN THE BREMDEC PROJECT

Observation Well No.	Type of soil	Depth of well		Elevation of top of pipe (msl)		Drain	Road No.	Height of pipe above ground	
		Inches	Meters	Feet	Meters			Inches	Meters
1	Peat	51	1.295	17.78	5.419	1D-3	10	14.5	0.368
2	"	30	0.762	19.00	5.791	1D-3	17	7	0.178
3	"	50	1.270	10.27	3.130	2D-1B	6	9	0.229
4	"	50	1.270	10.06	3.066	2D-1B	6	11	0.279
5	"	55	1.397	16.42	5.005	1D-2	17	13	0.390
6	"	52	1.321	16.37	4.990	1D-1	17	13.5	0.343
7	"	54	1.372	12.64	3.853	1D-1	17	14	0.356
8	"	55	1.397	11.94	3.639	1D; 1D-1	12	12	0.305
9	"	48	1.219	11.42	3.481	1D	12	14	0.356
10	"	53	1.346	12.05	3.673	2D; 2D-4	2	8	0.203
11	"	53	1.346	18.00	5.486	2D-3	3	11	0.279
12	"	54	1.372	17.53	5.343	2D-3	3	6	0.152
13	"	43	1.092	14.12	4.304	1D; AD-2A	17	16	0.406
14	"	53	1.346	8.89	2.720	AD; AD-3	1	9	0.229
15	"	36	0.914	11.52	3.511	2D-3; 2D	3	10	0.254
16	"	24	0.609	10.22	3.115	1D	11	10	0.156
17	"	57	1.448	10.67	3.252	1D-1	-	17	0.432
18	"	55	1.397	10.42	3.176	1D-1	-	12	0.305
19	Mineral	56	1.422	30.13	9.184	2D-1	9	10	0.254
20	"	45	1.143	26.85	8.184	2D-1D	8	4.5	0.114
21	"	52	1.321	27.83	8.483	-	-	21.7	0.551
22	"	51	1.295	22.82	6.852	-	10	9.5	0.241
23	"	52	1.321	19.76	6.023	2D-1B	6	13.5	0.343
24	"	53	1.346	19.66	5.992	1D	10	13	0.330
25	"	63	1.600	22.91	6.983	-	-	10	0.254
26	"	48	1.219	21.42	6.529	2D-2	2	9	0.229
27	"	46	1.168	18.72	5.706	2D-3	3	10	0.254
28	"	52	1.321	14.30	4.359	AD-2B	19	11.5	0.290
29	"	52	1.321	12.38	3.773	AD	"	17.5	0.445
30	"	46	1.168	20.56	6.267	AD	"	20	0.508
31	"	50	1.270	20.39	6.215	-	11	8.5	0.216
32	"	53	1.346	16.42	5.005	1D	-	-	-

Table 2. Effect of Temperature on the Properties of Polymers

Polymer	Monomer	Molality	Conc.	Tg	Tm	Tf	E<sub>1</sub>	E<sub>2</sub>	E<sub>3</sub>	E<sub>4</sub>	E<sub>5</sub>	E<sub>6</sub>	E<sub>7</sub>	E<sub>8</sub>	E<sub>9</sub>	E<sub>10</sub>	E<sub>11</sub>	E<sub>12</sub>	E<sub>13</sub>	E<sub>14</sub>	E<sub>15</sub>	E<sub>16</sub>	E<sub>17</sub>	E<sub>18</sub>	E<sub>19</sub>	E<sub>20</sub>	E<sub>21</sub>	E<sub>22</sub>	E<sub>23</sub>	E<sub>24</sub>	E<sub>25</sub>	E<sub>26</sub>	E<sub>27</sub>	E<sub>28</sub>	E<sub>29</sub>	E<sub>30</sub>	E<sub>31</sub>	E<sub>32</sub>	E<sub>33</sub>	E<sub>34</sub>	E<sub>35</sub>	E<sub>36</sub>	E<sub>37</sub>	E<sub>38</sub>	E<sub>39</sub>	E<sub>40</sub>	E<sub>41</sub>	E<sub>42</sub>	E<sub>43</sub>	E<sub>44</sub>	E<sub>45</sub>	E<sub>46</sub>	E<sub>47</sub>	E<sub>48</sub>	E<sub>49</sub>	E<sub>50</sub>	E<sub>51</sub>	E<sub>52</sub>	E<sub>53</sub>	E<sub>54</sub>	E<sub>55</sub>	E<sub>56</sub>	E<sub>57</sub>	E<sub>58</sub>	E<sub>59</sub>	E<sub>60</sub>	E<sub>61</sub>	E<sub>62</sub>	E<sub>63</sub>	E<sub>64</sub>	E<sub>65</sub>	E<sub>66</sub>	E<sub>67</sub>	E<sub>68</sub>	E<sub>69</sub>	E<sub>70</sub>	E<sub>71</sub>	E<sub>72</sub>	E<sub>73</sub>	E<sub>74</sub>	E<sub>75</sub>	E<sub>76</sub>	E<sub>77</sub>	E<sub>78</sub>	E<sub>79</sub>	E<sub>80</sub>	E<sub>81</sub>	E<sub>82</sub>	E<sub>83</sub>	E<sub>84</sub>	E<sub>85</sub>	E<sub>86</sub>	E<sub>87</sub>	E<sub>88</sub>	E<sub>89</sub>	E<sub>90</sub>	E<sub>91</sub>	E<sub>92</sub>	E<sub>93</sub>	E<sub>94</sub>	E<sub>95</sub>	E<sub>96</sub>	E<sub>97</sub>	E<sub>98</sub>	E<sub>99</sub>	E<sub>100</sub>	E<sub>101</sub>	E<sub>102</sub>	E<sub>103</sub>	E<sub>104</sub>	E<sub>105</sub>	E<sub>106</sub>	E<sub>107</sub>	E<sub>108</sub>	E<sub>109</sub>	E<sub>110</sub>	E<sub>111</sub>	E<sub>112</sub>	E<sub>113</sub>	E<sub>114</sub>	E<sub>115</sub>	E<sub>116</sub>	E<sub>117</sub>	E<sub>118</sub>	E<sub>119</sub>	E<sub>120</sub>	E<sub>121</sub>	E<sub>122</sub>	E<sub>123</sub>	E<sub>124</sub>	E<sub>125</sub>	E<sub>126</sub>	E<sub>127</sub>	E<sub>128</sub>	E<sub>129</sub>	E<sub>130</sub>	E<sub>131</sub>	E<sub>132</sub>	E<sub>133</sub>	E<sub>134</sub>	E<sub>135</sub>	E<sub>136</sub>	E<sub>137</sub>	E<sub>138</sub>	E<sub>139</sub>	E<sub>140</sub>	E<sub>141</sub>	E<sub>142</sub>	E<sub>143</sub>	E<sub>144</sub>	E<sub>145</sub>	E<sub>146</sub>	E<sub>147</sub>	E<sub>148</sub>	E<sub>149</sub>	E<sub>150</sub>	E<sub>151</sub>	E<sub>152</sub>	E<sub>153</sub>	E<sub>154</sub>	E<sub>155</sub>	E<sub>156</sub>	E<sub>157</sub>	E<sub>158</sub>	E<sub>159</sub>	E<sub>160</sub>	E<sub>161</sub>	E<sub>162</sub>	E<sub>163</sub>	E<sub>164</sub>	E<sub>165</sub>	E<sub>166</sub>	E<sub>167</sub>	E<sub>168</sub>	E<sub>169</sub>	E<sub>170</sub>	E<sub>171</sub>	E<sub>172</sub>	E<sub>173</sub>	E<sub>174</sub>	E<sub>175</sub>	E<sub>176</sub>	E<sub>177</sub>	E<sub>178</sub>	E<sub>179</sub>	E<sub>180</sub>	E<sub>181</sub>	E<sub>182</sub>	E<sub>183</sub>	E<sub>184</sub>	E<sub>185</sub>	E<sub>186</sub>	E<sub>187</sub>	E<sub>188</sub>	E<sub>189</sub>	E<sub>190</sub>	E<sub>191</sub>	E<sub>192</sub>	E<sub>193</sub>	E<sub>194</sub>	E<sub>195</sub>	E<sub>196</sub>	E<sub>197</sub>	E<sub>198</sub>	E<sub>199</sub>	E<sub>200</sub>	E<sub>201</sub>	E<sub>202</sub>	E<sub>203</sub>	E<sub>204</sub>	E<sub>205</sub>	E<sub>206</sub>	E<sub>207</sub>	E<sub>208</sub>	E<sub>209</sub>	E<sub>210</sub>	E<sub>211</sub>	E<sub>212</sub>	E<sub>213</sub>	E<sub>214</sub>	E<sub>215</sub>	E<sub>216</sub>	E<sub>217</sub>	E<sub>218</sub>	E<sub>219</sub>	E<sub>220</sub>	E<sub>221</sub>	E<sub>222</sub>	E<sub>223</sub>	E<sub>224</sub>	E<sub>225</sub>	E<sub>226</sub>	E<sub>227</sub>	E<sub>228</sub>	E<sub>229</sub>	E<sub>230</sub>	E<sub>231</sub>	E<sub>232</sub>	E<sub>233</sub>	E<sub>234</sub>	E<sub>235</sub>	E<sub>236</sub>	E<sub>237</sub>	E<sub>238</sub>	E<sub>239</sub>	E<sub>240</sub>	E<sub>241</sub>	E<sub>242</sub>	E<sub>243</sub>	E<sub>244</sub>	E<sub>245</sub>	E<sub>246</sub>	E<sub>247</sub>	E<sub>248</sub>	E<sub>249</sub>	E<sub>250</sub>	E<sub>251</sub>	E<sub>252</sub>	E<sub>253</sub>	E<sub>254</sub>	E<sub>255</sub>	E<sub>256</sub>	E<sub>257</sub>	E<sub>258</sub>	E<sub>259</sub>	E<sub>260</sub>	E<sub>261</sub>	E<sub>262</sub>	E<sub>263</sub>	E<sub>264</sub>	E<sub>265</sub>	E<sub>266</sub>	E<sub>267</sub>	E<sub>268</sub>	E<sub>269</sub>	E<sub>270</sub>	E<sub>271</sub>	E<sub>272</sub>	E<sub>273</sub>	E<sub>274</sub>	E<sub>275</sub>	E<sub>276</sub>	E<sub>277</sub>	E<sub>278</sub>	E<sub>279</sub>	E<sub>280</sub>	E<sub>281</sub>	E<sub>282</sub>	E<sub>283</sub>	E<sub>284</sub>	E<sub>285</sub>	E<sub>286</sub>	E<sub>287</sub>	E<sub>288</sub>	E<sub>289</sub>	E<sub>290</sub>	E<sub>291</sub>	E<sub>292</sub>	E<sub>293</sub>	E<sub>294</sub>	E<sub>295</sub>	E<sub>296</sub>	E<sub>297</sub>	E<sub>298</sub>	E<sub>299</sub>	E<sub>300</sub>	E<sub>301</sub>	E<sub>302</sub>	E<sub>303</sub>	E<sub>304</sub>	E<sub>305</sub>	E<sub>306</sub>	E<sub>307</sub>	E<sub>308</sub>	E<sub>309</sub>	E<sub>310</sub>	E<sub>311</sub>	E<sub>312</sub>	E<sub>313</sub>	E<sub>314</sub>	E<sub>315</sub>	E<sub>316</sub>	E<sub>317</sub>	E<sub>318</sub>	E<sub>319</sub>	E<sub>320</sub>	E<sub>321</sub>	E<sub>322</sub>	E<sub>323</sub>	E<sub>324</sub>	E<sub>325</sub>	E<sub>326</sub>	E<sub>327</sub>	E<sub>328</sub>	E<sub>329</sub>	E<sub>330</sub>	E<sub>331</sub>	E<sub>332</sub>	E<sub>333</sub>	E<sub>334</sub>	E<sub>335</sub>	E<sub>336</sub>	E<sub>337</sub>	E<sub>338</sub>	E<sub>339</sub>	E<sub>340</sub>	E<sub>341</sub>	E<sub>342</sub>	E<sub>343</sub>	E<sub>344</sub>	E<sub>345</sub>	E<sub>346</sub>	E<sub>347</sub>	E<sub>348</sub>	E<sub>349</sub>	E<sub>350</sub>	E<sub>351</sub>	E<sub>352</sub>	E<sub>353</sub>	E<sub>354</sub>	E<sub>355</sub>	E<sub>356</sub>	E<sub>357</sub>	E<sub>358</sub>	E<sub>359</sub>	E<sub>360</sub>	E<sub>361</sub>	E<sub>362</sub>	E<sub>363</sub>	E<sub>364</sub>	E<sub>365</sub>	E<sub>366</sub>	E<sub>367</sub>	E<sub>368</sub>	E<sub>369</sub>	E<sub>370</sub>	E<sub>371</sub>	E<sub>372</sub>	E<sub>373</sub>	E<sub>374</sub>	E<sub>375</sub>	E<sub>376</sub>	E<sub>377</sub>	E<sub>378</sub>	E<sub>379</sub>	E<sub>380</sub>	E<sub>381</sub>	E<sub>382</sub>	E<sub>383</sub>	E<sub>384</sub>	E<sub>385</sub>	E<sub>386</sub>	E<sub>387</sub>	E<sub>388</sub>	E<sub>389</sub>	E<sub>390</sub>	E<sub>391</sub>	E<sub>392</sub>	E<sub>393</sub>	E<sub>394</sub>	E<sub>395</sub>	E<sub>396</sub>	E<sub>397</sub>	E<sub>398</sub>	E<sub>399</sub>	E<sub>400</sub>	E<sub>401</sub>	E<sub>402</sub>	E<sub>403</sub>	E<sub>404</sub>	E<sub>405</sub>	E<sub>406</sub>	E<sub>407</sub>	E<sub>408</sub>	E<sub>409</sub>	E<sub>410</sub>	E<sub>411</sub>	E<sub>412</sub>	E<sub>413</sub>	E<sub>414</sub>	E<sub>415</sub>	E<sub>416</sub>	E<sub>417</sub>	E<sub>418</sub>	E<sub>419</sub>	E<sub>420</sub>	E<sub>421</sub>	E<sub>422</sub>	E<sub>423</sub>	E<sub>424</sub>	E<sub>425</sub>	E<sub>426</sub>	E<sub>427</sub>	E<sub>428</sub>	E<sub>429</sub>	E<sub>430</sub>	E<sub>431</sub>	E<sub>432</sub>	E<sub>433</sub>	E<sub>434</sub>	E<sub>435</sub>	E<sub>436</sub>	E<sub>437</sub>	E<sub>438</sub>	E<sub>439</sub>	E<sub>440</sub>	E<sub>441</sub>	E<sub>442</sub>	E<sub>443</sub>	E<sub>444</sub>	E<sub>445</sub>	E<sub>446</sub>	E<sub>447</sub>	E<sub>448</sub>	E<sub>449</sub>	E<sub>450</sub>	E<sub>451</sub>	E<sub>452</sub>	E<sub>453</sub>	E<sub>454</sub>	E<sub>455</sub>	E<sub>456</sub>	E<sub>457</sub>	E<sub>458</sub>	E<sub>459</sub>	E<sub>460</sub>	E<sub>461</sub>	E<sub>462</sub>	E<sub>463</sub>	E<sub>464</sub>	E<sub>465</sub>	E<sub>466</sub>	E<sub>467</sub>	E<sub>468</sub>	E<sub>469</sub>	E<sub>470</sub>	E<sub>471</sub>	E<sub>472</sub>	E<sub>473</sub>	E<sub>474</sub>	E<sub>475</sub>	E<sub>476</sub>	E<sub>477</sub>	E<sub>478</sub>	E<sub>479</sub>	E<sub>480</sub>	E<sub>481</sub>	E<sub>482</sub>	E<sub>483</sub>	E<sub>484</sub>	E<sub>485</sub>	E<sub>486</sub>	E<sub>487</sub>	E<sub>488</sub>	E<sub>489</sub>	E<sub>490</sub>	E<sub>491</sub>	E<sub>492</sub>	E<sub>493</sub>	E<sub>494</sub>	E<sub>495</sub>	E<sub>496</sub>	E<sub>497</sub>	E<sub>498</sub>	E<sub>499</sub>	E<sub>500</sub>	E<sub>501</sub>	E<sub>502</sub>	E<sub>503</sub>	E<sub>504</sub>	E<sub>505</sub>	E<sub>506</sub>	E<sub>507</sub>	E<sub>508</sub>	E<sub>509</sub>	E<sub>510</sub>	E<sub>511</sub>	E<sub>512</sub>	E<sub>513</sub>	E<sub>514</sub>	E<sub>515</sub>	E<sub>516</sub>	E<sub>517</sub>	E<sub>518</sub>	E<sub>519</sub>	E<sub>520</sub>	E<sub>521</sub>	E<sub>522</sub>	E<sub>523</sub>	E<sub>524</sub>	E<sub>525</sub>	E<sub>526</sub>	E<sub>527</sub>	E<sub>528</sub>	E<sub>529</sub>	E<sub>530</sub>	E<sub>531</sub>	E<sub>532</sub>	E<sub>533</sub>	E<sub>534</sub>	E<sub>535</sub>	E<sub>536</sub>	E<sub>537</sub>	E<sub>538</sub>	E<sub>539</sub>	E<sub>540</sub>	E<sub>541</sub>	E<sub>542</sub>	E<sub>543</sub>	E<sub>544</sub>	E<sub>545</sub>	E<sub>546</sub>	E<sub>547</sub>	E<sub>548</sub>	E<sub>549</sub>	E<sub>550</sub>	E<sub>551</sub>	E<sub>552</sub>	E<sub>553</sub>	E<sub>554</sub>	E<sub>555</sub>	E<sub>556</sub>	E<sub>557</sub>	E<sub>558</sub>	E<sub>559</sub>	E<sub>560</sub>	E<sub>561</sub>	E<sub>562</sub>	E<sub>563</sub>	E<sub>564</sub>	E<sub>565</sub>	E<sub>566</sub>	E<sub>567</sub>	E<sub>568</sub>	E<sub>569</sub>	E<sub>570</sub>	E<sub>571</sub>	E<sub>572</sub>	E<sub>573</sub>	E<sub>574</sub>	E<sub>575</sub>	E<sub>576</sub>	E<sub>577</sub>	E<sub>578</sub>	E<sub>579</sub>	E<sub>580</sub>	E<sub>581</sub>	E<sub>582</sub>	E<sub>583</sub>	E<sub>584</sub>	E<sub>585</sub>	E<sub>586</sub>	E<sub>587</sub>	E<sub>588</sub>	E<sub>589</sub>	E<sub>590</sub>	E<sub>591</sub>	E<sub>592</sub>	E<sub>593</sub>	E<sub>594</sub>	E<sub>595</sub>	E<sub>596</sub>	E<sub>597</sub>	E<sub>598</sub>	E<sub>599</sub>	E<sub>600</sub>	E<sub>601</sub>	E<sub>602</sub>	E<sub>603</sub>	E<sub>604</sub>	E<sub>605</sub>	E<sub>606</sub>	E<sub>607</sub>	E<sub>608</sub>	E<sub>609</sub>	E<sub>610</sub>	E<sub>611</sub>	E<sub>612</sub>	E<sub>613</sub>	E<sub>614</sub>	E<sub>615</sub>	E<sub>616</sub>	E<sub>617</sub>	E<sub>618</sub>	E<sub>619</sub>	E<sub>620</sub>	E<sub>621</sub>	E<sub>622</sub>	E<sub>623</sub>	E<sub>624</sub>	E<sub>625</sub>	E<sub>626</sub>	E<sub>627</sub>	E<sub>628</sub>	E<sub>629</sub>	E<sub>630</sub>	E<sub>631</sub>	E<sub>632</sub>	E<sub>633</sub>	E<sub>634</sub>	E<sub>635</sub>	E<sub>636</sub>	E<sub>637</sub>	E<sub>638</sub>	E<sub>639</sub>	E<sub>640</sub>	E<sub>641</sub>	E<sub>642</sub>	E<sub>643</sub>	E<sub>644</sub>	E<sub>645</sub>	E<sub>646</sub>	E<sub>647</sub>	E<sub>648</sub>	E<sub>649</sub>	E<sub>650</sub>	E<sub>651</sub>	E<sub>652</sub>	E<sub>653</sub>	E<sub>654</sub>	E<sub>655</sub>	E<sub>656</sub>	E<sub>657</sub>	E<sub>658</sub>	E<sub>659</sub>	E<sub>660</sub>	E<sub>661</sub>	E<sub>662</sub>	E<sub>663</sub>	E<sub>664</sub>	E<sub>665</sub>	E<sub>666</sub>	E<sub>667</sub>	E<sub>668</sub>	E<sub>669</sub>	E<sub>670</sub>	E<sub>671</sub>	E<sub>672</sub>	E<sub>673</sub>	E<sub>674</sub>	E<sub>675</sub></

TABLE 2

LOCATION AND ELEVATION OF THE REFERENCE LEVELS  
FOR THE  
SILTAGE STATIONS AT BRUMDEC PROJECT

Drain	Location of station from the outlet Feet	Elevation (MSL)			
		Right Pin Feet	Pin Meters	Left Feet	Pin Meters
2D-1D	35+00	20.59	6.276	21.23	6.471
1D-3	10+00	16.38	4.993	16.91	5.154
2D-1B	5+00	11.84	3.609	9.85	3.002
2D-1	44+00	10.76	3.280	8.71	2.655
1D-2	14+00	15.61	4.758	15.93	4.856
AD-2	12+00	8.14	3.481	7.36	2.243
AD-2B	41+00	13.83	4.215	12.81	3.905
AD-2A	20+00	12.08	3.682	12.88	3.926
1D-1	11+00	12.03	3.667	12.29	3.746
1D	30+00	10.24	3.121	11.15	3.399
2D-3	5+00	11.56	3.524	12.00	3.658
DB	30+00	-	-	-	-
DB-1	5+00	-	-	-	-
2D-4	16+00	12.68	3.804	-	-
2D-4	49+00	-	-	16.63	5.069
2D-2	55+00	15.01	4.575	-	-
2D-2	15+00	-	-	11.03	3.3619

*Exhibit 10. The following table shows the number of persons employed in the various industries in the United States in 1937.*

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which of ADL to add can be done as follows:

11 - I - 13	<u>Mr. G. H. Datta, B.Sc., M.A., M.L.A., Disseminator of Mississauga Information</u>
11 - I - 12	<u>Mr. G. H. Datta, B.Sc., M.A., M.L.A., Disseminator of Mississauga Information</u>
11 - I - 11	<u>Mr. G. H. Datta, B.Sc., M.A., M.L.A., Disseminator of Mississauga Information</u>
11 - I - 10	<u>Mr. G. H. Datta, B.Sc., M.A., M.L.A., Disseminator of Mississauga Information</u>
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Fig. 1. A photograph of the same area as Fig. 1, but taken at a later date.

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It is also important to note that the  $\text{P}(\text{H}_0)$  value is not the same as the  $\text{P}(\text{H}_1)$  value.

Aboriginal people are entitled to full protection of their lands

Proposed Amendment to the Charter of the University of Michigan, Ann Arbor, Michigan

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## **FECHA DE DEVOLUCION**

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Autor

## Título

**Fecha**  
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DOCUMENTO  
MICROFILMADO  
15 NOV 1982  
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