

NEW MEXICO OIL CONSERVATION COMMISSION  
GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA  
EXCEPT BARKER DOME STORAGE AREA)

Pool Astec Formation Pictured Cliffs County San Juan  
Purchasing Pipeline Southern Union Gas Company Date Test Filed December 20, 1955  
Operator Astec Oil & Gas Company Lease McClanahan Well No. 4  
Unit G Sec. 14 Twp. 28N Rge. 10W Pay Zone: From 1814' To 1921  
Casing: OD 5 1/2" WT. 15.5# Set At 1814' Tubing: OD 1" WT. 1.7# T. Perf. 1859  
Produced Through: Casing X Tubing \_\_\_\_\_ Gas Gravity: Measured 0.663 Estimated \_\_\_\_\_  
Date of Flow Test: From 11-23-55 To 11-30-55 \* Date S.I.P. Measured 4-26-55  
Meter Run Size 4 Orifice Size - - Type Chart Normal Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) \_\_\_\_\_ psig + 12 = \_\_\_\_\_ psia (a)  
Flowing tubing pressure (Dwt) \_\_\_\_\_ psig + 12 = \_\_\_\_\_ psia (b)  
Flowing meter pressure (Dwt) \_\_\_\_\_ psig + 12 = \_\_\_\_\_ psia (c)  
Flowing meter pressure (meter reading when Dwt. measurement taken:  
Normal chart reading \_\_\_\_\_ psig + 12 = \_\_\_\_\_ psia (d)  
Square root chart reading (\_\_\_\_\_) <sup>2</sup> x spring constant \_\_\_\_\_ = \_\_\_\_\_ psia (d)  
Meter error (c) - (d) or (d) - (c) \_\_\_\_\_ ± \_\_\_\_\_ = \_\_\_\_\_ psi (e)  
Friction loss, Flowing column to meter:  
(b) - (c) Flow through tubing: (a) - (c) Flow through casing \_\_\_\_\_ = \_\_\_\_\_ psi (f)  
Seven day average static meter pressure (from meter chart):  
Normal chart average reading 211 psig + 12 = 223 psia (g)  
Square root chart average reading (\_\_\_\_\_) <sup>2</sup> x sp. const. \_\_\_\_\_ = \_\_\_\_\_ psia (g)  
Corrected seven day avge. meter press. (p<sub>f</sub>) (g) + (e) \_\_\_\_\_ = 223 psia (h)  
P<sub>t</sub> = (h) + (f) \_\_\_\_\_ = 223 psia (i)  
Wellhead casing shut-in pressure (Dwt) 627 psig + 12 = 639 psia (j)  
Wellhead tubing shut-in pressure (Dwt) \_\_\_\_\_ psig + 12 = 639 psia (k)  
P<sub>c</sub> = (j) or (k) whichever well flowed through \_\_\_\_\_ = 639 psia (l)  
Flowing Temp. (Meter Run) 60 °F + 460 \_\_\_\_\_ = 520 °Abs (m)  
P<sub>d</sub> = 1/2 P<sub>c</sub> = 1/2 (l) \_\_\_\_\_ = 220 psia (n)

Q = \_\_\_\_\_ X  $\left( \frac{\text{FLOW RATE CALCULATION}}{\frac{V(c)}{V(d)}} \right) = \text{_____ MCF/da}$   
(integrated)

DELIVERABILITY CALCULATION

D = Q 677  $\left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n \cdot .85 \cdot .8745 = \text{_____ MCF/da.}$   
306,241  
358,592

SUMMARY

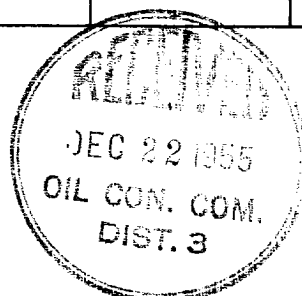
P<sub>c</sub> = 639 psia  
Q = 677 Mcf/day  
P<sub>w</sub> = 223 psia  
P<sub>d</sub> = 220 psia  
D = 592 Mcf/day

Company AZTEC OIL & GAS COMPANY  
By ORIGINAL SIGNED BY BILL R. HASTINGS  
Title Production Engineer  
Witnessed by \_\_\_\_\_  
Company \_\_\_\_\_

- \* This is date of completion test.
- \* Meter error correction factor

REMARKS OR FRICTION CALCULATIONS

GL	(1-e <sup>-S</sup> )	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-S</sup> ) R <sup>2</sup>	P <sub>t</sub> <sup>2</sup> (Column i)	P <sub>t</sub> <sup>2</sup> + R <sup>2</sup>	P <sub>w</sub>
	Friction loss negligible ✓					



OIL CONSERVATION COMMISSION

10-10-68

[illegible]

3

Figure 1. The effect of the concentration of the *Agaricus bisporus* spores on the growth of *Agaricus bisporus* and *Agaricus bisporus* spores. The concentration of the spores was 10<sup>4</sup>, 10<sup>5</sup>, 10<sup>6</sup>, 10<sup>7</sup>, 10<sup>8</sup>, 10<sup>9</sup>, 10<sup>10</sup>, 10<sup>11</sup>, 10<sup>12</sup>, 10<sup>13</sup>, 10<sup>14</sup>, 10<sup>15</sup>, 10<sup>16</sup>, 10<sup>17</sup>, 10<sup>18</sup>, 10<sup>19</sup>, 10<sup>20</sup>, 10<sup>21</sup>, 10<sup>22</sup>, 10<sup>23</sup>, 10<sup>24</sup>, 10<sup>25</sup>, 10<sup>26</sup>, 10<sup>27</sup>, 10<sup>28</sup>, 10<sup>29</sup>, 10<sup>30</sup>, 10<sup>31</sup>, 10<sup>32</sup>, 10<sup>33</sup>, 10<sup>34</sup>, 10<sup>35</sup>, 10<sup>36</sup>, 10<sup>37</sup>, 10<sup>38</sup>, 10<sup>39</sup>, 10<sup>40</sup>, 10<sup>41</sup>, 10<sup>42</sup>, 10<sup>43</sup>, 10<sup>44</sup>, 10<sup>45</sup>, 10<sup>46</sup>, 10<sup>47</sup>, 10<sup>48</sup>, 10<sup>49</sup>, 10<sup>50</sup>, 10<sup>51</sup>, 10<sup>52</sup>, 10<sup>53</sup>, 10<sup>54</sup>, 10<sup>55</sup>, 10<sup>56</sup>, 10<sup>57</sup>, 10<sup>58</sup>, 10<sup>59</sup>, 10<sup>60</sup>, 10<sup>61</sup>, 10<sup>62</sup>, 10<sup>63</sup>, 10<sup>64</sup>, 10<sup>65</sup>, 10<sup>66</sup>, 10<sup>67</sup>, 10<sup>68</sup>, 10<sup>69</sup>, 10<sup>70</sup>, 10<sup>71</sup>, 10<sup>72</sup>, 10<sup>73</sup>, 10<sup>74</sup>, 10<sup>75</sup>, 10<sup>76</sup>, 10<sup>77</sup>, 10<sup>78</sup>, 10<sup>79</sup>, 10<sup>80</sup>, 10<sup>81</sup>, 10<sup>82</sup>, 10<sup>83</sup>, 10<sup>84</sup>, 10<sup>85</sup>, 10<sup>86</sup>, 10<sup>87</sup>, 10<sup>88</sup>, 10<sup>89</sup>, 10<sup>90</sup>, 10<sup>91</sup>, 10<sup>92</sup>, 10<sup>93</sup>, 10<sup>94</sup>, 10<sup>95</sup>, 10<sup>96</sup>, 10<sup>97</sup>, 10<sup>98</sup>, 10<sup>99</sup>, 10<sup>100</sup>, 10<sup>101</sup>, 10<sup>102</sup>, 10<sup>103</sup>, 10<sup>104</sup>, 10<sup>105</sup>, 10<sup>106</sup>, 10<sup>107</sup>, 10<sup>108</sup>, 10<sup>109</sup>, 10<sup>110</sup>, 10<sup>111</sup>, 10<sup>112</sup>, 10<sup>113</sup>, 10<sup>114</sup>, 10<sup>115</sup>, 10<sup>116</sup>, 10<sup>117</sup>, 10<sup>118</sup>, 10<sup>119</sup>, 10<sup>120</sup>, 10<sup>121</sup>, 10<sup>122</sup>, 10<sup>123</sup>, 10<sup>124</sup>, 10<sup>125</sup>, 10<sup>126</sup>, 10<sup>127</sup>, 10<sup>128</sup>, 10<sup>129</sup>, 10<sup>130</sup>, 10<sup>131</sup>, 10<sup>132</sup>, 10<sup>133</sup>, 10<sup>134</sup>, 10<sup>135</sup>, 10<sup>136</sup>, 10<sup>137</sup>, 10<sup>138</sup>, 10<sup>139</sup>, 10<sup>140</sup>, 10<sup>141</sup>, 10<sup>142</sup>, 10<sup>143</sup>, 10<sup>144</sup>, 10<sup>145</sup>, 10<sup>146</sup>, 10<sup>147</sup>, 10<sup>148</sup>, 10<sup>149</sup>, 10<sup>150</sup>, 10<sup>151</sup>, 10<sup>152</sup>, 10<sup>153</sup>, 10<sup>154</sup>, 10<sup>155</sup>, 10<sup>156</sup>, 10<sup>157</sup>, 10<sup>158</sup>, 10<sup>159</sup>, 10<sup>160</sup>, 10<sup>161</sup>, 10<sup>162</sup>, 10<sup>163</sup>, 10<sup>164</sup>, 10<sup>165</sup>, 10<sup>166</sup>, 10<sup>167</sup>, 10<sup>168</sup>, 10<sup>169</sup>, 10<sup>170</sup>, 10<sup>171</sup>, 10<sup>172</sup>, 10<sup>173</sup>, 10<sup>174</sup>, 10<sup>175</sup>, 10<sup>176</sup>, 10<sup>177</sup>, 10<sup>178</sup>, 10<sup>179</sup>, 10<sup>180</sup>, 10<sup>181</sup>, 10<sup>182</sup>, 10<sup>183</sup>, 10<sup>184</sup>, 10<sup>185</sup>, 10<sup>186</sup>, 10<sup>187</sup>, 10<sup>188</sup>, 10<sup>189</sup>, 10<sup>190</sup>, 10<sup>191</sup>, 10<sup>192</sup>, 10<sup>193</sup>, 10<sup>194</sup>, 10<sup>195</sup>, 10<sup>196</sup>, 10<sup>197</sup>, 10<sup>198</sup>, 10<sup>199</sup>, 10<sup>200</sup>, 10<sup>201</sup>, 10<sup>202</sup>, 10<sup>203</sup>, 10<sup>204</sup>, 10<sup>205</sup>, 10<sup>206</sup>, 10<sup>207</sup>, 10<sup>208</sup>, 10<sup>209</sup>, 10<sup>210</sup>, 10<sup>211</sup>, 10<sup>212</sup>, 10<sup>213</sup>, 10<sup>214</sup>, 10<sup>215</sup>, 10<sup>216</sup>, 10<sup>217</sup>, 10<sup>218</sup>, 10<sup>219</sup>, 10<sup>220</sup>, 10<sup>221</sup>, 10<sup>222</sup>, 10<sup>223</sup>, 10<sup>224</sup>, 10<sup>225</sup>, 10<sup>226</sup>, 10<sup>227</sup>, 10<sup>228</sup>, 10<sup>229</sup>, 10<sup>230</sup>, 10<sup>231</sup>, 10<sup>232</sup>, 10<sup>233</sup>, 10<sup>234</sup>, 10<sup>235</sup>, 10<sup>236</sup>, 10<sup>237</sup>, 10<sup>238</sup>, 10<sup>239</sup>, 10<sup>240</sup>, 10<sup>241</sup>, 10<sup>242</sup>, 10<sup>243</sup>, 10<sup>244</sup>, 10<sup>245</sup>, 10<sup>246</sup>, 10<sup>247</sup>, 10<sup>248</sup>, 10<sup>249</sup>, 10<sup>250</sup>, 10<sup>251</sup>, 10<sup>252</sup>, 10<sup>253</sup>, 10<sup>254</sup>, 10<sup>255</sup>, 10<sup>256</sup>, 10<sup>257</sup>, 10<sup>258</sup>, 10<sup>259</sup>, 10<sup>260</sup>, 10<sup>261</sup>, 10<sup>262</sup>, 10<sup>263</sup>, 10<sup>264</sup>, 10<sup>265</sup>, 10<sup>266</sup>, 10<sup>267</sup>, 10<sup>268</sup>, 10<sup>269</sup>, 10<sup>270</sup>, 10<sup>271</sup>, 10<sup>272</sup>, 10<sup>273</sup>, 10<sup>274</sup>, 10<sup>275</sup>, 10<sup>276</sup>, 10<sup>277</sup>, 10<sup>278</sup>, 10<sup>279</sup>, 10<sup>280</sup>, 10<sup>281</sup>, 10<sup>282</sup>, 10<sup>283</sup>, 10<sup>284</sup>, 10<sup>285</sup>, 10<sup>286</sup>, 10<sup>287</sup>, 10<sup>288</sup>, 10<sup>289</sup>, 10<sup>290</sup>, 10<sup>291</sup>, 10<sup>292</sup>, 10<sup>293</sup>, 10<sup>294</sup>, 10<sup>295</sup>, 10<sup>296</sup>, 10<sup>297</sup>, 10<sup>298</sup>, 10<sup>299</sup>, 10<sup>300</sup>, 10<sup>301</sup>, 10<sup>302</sup>, 10<sup>303</sup>, 10<sup>304</sup>, 10<sup>305</sup>, 10<sup>306</sup>, 10<sup>307</sup>, 10<sup>308</sup>, 10<sup>309</sup>, 10<sup>310</sup>, 10<sup>311</sup>, 10<sup>312</sup>, 10<sup>313</sup>, 10<sup>314</sup>, 10<sup>315</sup>, 10<sup>316</sup>, 10<sup>317</sup>, 10<sup>318</sup>, 10<sup>319</sup>, 10<sup>320</sup>, 10<sup>321</sup>, 10<sup>322</sup>, 10<sup>323</sup>, 10<sup>324</sup>, 10<sup>325</sup>, 10<sup>326</sup>, 10<sup>327</sup>, 10<sup>328</sup>, 10<sup>329</sup>, 10<sup>330</sup>, 10<sup>331</sup>, 10<sup>332</sup>, 10<sup>333</sup>, 10<sup>334</sup>, 10<sup>335</sup>, 10<sup>336</sup>, 10<sup>337</sup>, 10<sup>338</sup>, 10<sup>339</sup>, 10<sup>340</sup>, 10<sup>341</sup>, 10<sup>342</sup>, 10<sup>343</sup>, 10<sup>344</sup>, 10<sup>345</sup>, 10<sup>346</sup>, 10<sup>347</sup>, 10<

7

$\frac{d}{dt} \left( \frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

10

$\frac{1}{2} \left( \frac{1}{2} \right) = \frac{1}{4}$

1. **Background**

[illegible]