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MEMORANDUM

To:	Ken MacLeod kmacleod@geopower.ca	***Date:***	31 May 2005 (rev. 6 June 2005)
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From: Jim Lovekin

Subject: Preliminary Summary of MC-8 Rig Testing

The rig testing of MC-8 has consisted of:

- 2 temperature-pressure surveys of the well in static condition on 28 May 2005
- Air-lifting with drill pipe from 28 May (7 pm) to 30 May (6:30 am) at successively greater depths (down to 2,361 meters)
- 1 temperature-pressure survey after air-lifting on 30 May
- An injectivity test from 30 May (5pm) to 31 May (5 am) at 2 step rates (200 and 400 gpm), with down-hole pressure monitoring adjacent to the largest drilling break (2,345 meters)

The second static temperature-pressure survey on 28 May (36 hours after circulation) showed the same "shoulder" in temperature at 800 meters as MC-6 and MC-7. The maximum temperature from this survey was 202 C at 2,377 meters (the deepest reading). Temperatures in MC-8 were comparable to MC-6 at the same time since circulation and the same measured depth. For instance, at 2,345 meters in MC-8 (adjacent to the big drilling break and above the typical "hot foot" on bottom), the temperature was 184 C, versus 187 C at 2,350 meters in MC-6.

The air-lifting did not succeed in getting the well to flow in a sustained way. In fact, when air injection at the deepest point was shut off, MC-8 died within 20 minutes. This compares unfavorably to MC-6, which continued to produce liquid from the weir for up to 6 hours after air-lifting ceased. Also, there was only one unloading surge of water from MC-8 during air-lifting at the deepest point. In MC-6, there were 4 unloading surges (of diminishing size) with drill pipe at the deepest point, suggesting that more liquid was coming into the MC-6 wellbore than into the MC-8 wellbore. This seems counter-intuitive, because the mud losses during drilling were much greater in MC-8 than in MC-6. It is possible that the relatively poor response of MC-8 on air lift

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reflects some degree of damage by drilling mud and cuttings, though this would seem unlikely given the large apparent aperture of the fracture at 2,345 meters.

The injectivity test of MC-8 was more encouraging. At both flow rates (200 and 400 gpm), the peak wellhead pressures were substantially lower for MC-8 than for MC-6.

Comparison of Injectivity Test Results: MC-6 vs MC-8

Well	Peak Wellhead Pressure (psig)		Ending Wellhead Pressure (psig)	
	at 200 gpm	at 400 gpm	at 200 gpm	at 400 gpm
MC-6	75	198	25	169 (out of water)
MC-8	no peak	130	5	vacuum

These results suggest that the permeability of MC-8 is higher than that of MC-6. It is possible that the water injection flushed fines from the drilling mud out of near-wellbore fractures in both wells. This may account for the peak in wellhead pressures at a given rate in both wells, though why MC-8 did not exhibit a peak at 200 gpm (just a steady, gradual rise over 5 hours) is unclear. If flushing of fines is responsible for the peaking phenomenon, this provides grounds for hope that upcoming production testing of MC-6 (in its post-flush, heated up condition) will be successful.

Note that the data from the temperature-pressure survey on 30 May and from the down-hole pressure monitoring during the injectivity test have not yet been recovered due to a computer malfunction. In fact, as this memo is written, the temperature-pressure memory tool is still down-hole in MC-8, presumably still recording the pressure fall-off from the injection test. We plan to pull this tool out of the hole at noon today. Welaco technical support believes there is a good chance the data can be recovered. To do so, the memory element of the tool will be shipped to Texas for downloading.