Meeting Minutes
NAPL Meeting
10/27/06

Attendees:
Aquiver: Gary Beckett (Shell contractor)
Newfields: Patrick Gobb, Billy Hall
URS: Erich Weaver, Jude Francis, John Dudley
EPA: Dante Rodriguez, Steve Acree (on phone)
CH2M Hill: Mike Bower, Randy Kellerman, Jeff Munic?
Shell/Dow: George Landreth, Larry Bone, Curt Stanley
DTSC: Frank Gonzales

Curt Stanley,
Dynamic (EPA contractor): Bruce Pitt

Ratings. ICs, LTE, but ICs relate to direct contact path. Lets move ICs out of napl discussion, leave it in direct contact path.

ERH, LTE – Billy, if stability of plume is goal, then ERH is worse than MNA. What is objective in long term? Persistence in environment? Plume stability? Maybe consider both. Then assign a probability that stability will be achieved. And also assess time benefit value of the persistence. Should add P&T to stabilize plume after heat application. Gary – 3 goals, those mentioned, plus flux control (to surface). SVE alone would be more stable, but less good at persistence. Add SVE alone (w/MNA) as alt. HydEx – generally improves stability, but adds a complexity in terms of effects on gw remedial actions. Issue – would HE be less stable than MNA? Billy – while pumping, it is more stable, but after stop pumping, small uncertainty about stability since you altered the system; Dudley – and you are req’d to reinject somewhere, and that adds stability uncertainty. Probably not enough adverse impact to stability to rate differently, though.

STE. Jude. He’d considered slow, phased-in approach, and used it in assumptions. Agreed that HE would rate higher than 3&4 in STE due to not mobilizing contams. Steve – yes, risk when mobilize. Alt5 doesn’t mobilize. Risk whether can capture it. Appears overblown, thinks can invest heavily in capture system, overdesign capture system. Can mitigate risks. Short term stability problem, yes, so would want to pump gw during short term. Don’t see it as long term concern, though. Bruce – for 4, can mitigate volatilization by using different oxidant. Jude – agreed, not tied to any particular oxidant. Jude – agreed can bump up ISCO to mod, if use different agent, but ERH still is most difficult, and should be P-M.

Reduction TMV. Larry – are you creating w/ISCO more toxic forms? Billy – no reduction to tox or mobility. Note about possible changes during oxidation. Mobility – some changes during remediation but by time we turn it off, it’ll be stable again.

Implementability. Best is MNA, then one step down for each as follows: HE, ERH, then ISCO. Tradeoff of ease in imp by not going under bldg, for less volume removed by not going under bldg (less LTE too). Admin & Tech Implementability. Look at air emission req’ments. SVE & ISCO should be good – m, and ERH m. Steve –
difficulties injecting liquids into subsurface. Jude – also admin issues with injection into gw.

Overall – Steve, is there sufficient iron in system, other micronutrients, to feed the bugs in perpetuity? The stability of the system, MNA, has some uncertainty.

Response to Comments
Steve – p5, MNA monitoring, says only 4 wells. Seems insufficient. Jude – those 4 would be added to the other existing wells.

P23, mass removal w/SVE, impractical. Reduction TMV. Shouldn’t say its impractical. Wells can be installed, may just cost more. Jeff – could use high vacuum extraction. Steve – rest of responses were adequate.

- Bruce, Mostly addressed satisfactorily in responses. P5 ERH. Radio Heating? Jude – had looked, but had only ever been used in pilots. OK. P11. ERH conductive interval. Why not raise the wells heating interval up a bit. Jude – could do, up 5 ft – Bruce – that’s fine. Response was satisfactory. This comment was more RD issue. P7. ISCO, other oxidants. Jude – yes, are on table. Bruce – OK. Then, Fentons, transport of agents is issue. Must get all your substances into subsurface at same time. Response and discussion today was satisfactory. Can eliminate permanganate for benzene etc. If other contams, then could be considered. Fentons, concerns w/safety can be handled w/proper dosage. NEXT STEP: Jude will revise memo, send along with area 1 and 9 write-ups, few weeks or so.