



Case History

Rapid response tailgate testing prevents a multi-million-dollar capital expenditure for Senior Producer to safely manage Iron Sulfide

A senior oil and gas producer operating in the Grande Prairie region of Alberta was preparing for an impending change in the production scenario within their Valhalla field, which historically produces, gathers, and processes production from a mature (sour) Montney formation. The challenge was to identify strategies for managing iron sulfide generation when new, (sweet) production from the Charlie Lake formation was to be introduced into the existing sour gathering system and central treating facility.

Initial investigation by the producer's incumbent chemical provider concluded that the change was expected to generate an extreme iron sulfide generation issue when the fluids commingle, and thus contribute to problems such as emulsion treating, corrosion, and water filtration problems which could not be economically or safely handled by existing chemical technologies. It was communicated that the best option was to design and build a separate facility to handle the sweet production. The existing facility had excess capacity and was thus a very attractive option to attempt to mix the two production sources.

The estimated cost of the new facility and other associated costs was approximately \$3.5 Million dollars. Prior to final approval of the project, the production managers asked Platinum Chemical Solutions to review the situation and provide a second opinion on the scenario as a due diligence measure.

PCS worked closely with the client to conduct a system survey and reviewed the individual and proposed combined production characteristics, the existing plant design and capabilities, and projected production volumes from each formation. Chemical product evaluation tests were then conducted in the field, to ensure that fresh samples were used. Upon observation of highly positive impacts of certain iron sulfide mitigation chemicals, more tests were done with final testing repeated while several of the client's managers were present to observe the results. PCS was asked to conduct more rigorous testing of factors influencing the challenge and propose a total iron management strategy that would allow the client to avoid new central battery construction and make use of the existing infrastructure.

PCS was able to propose a safe and highly cost-effective treatment recommendation using our ISC-500 series Iron control technologies, at a fraction of the cost of construction of a new gathering system and central battery. The producer implemented the recommended chemical programs when the first new Charlie Lake wells were online and halted the battery construction design work. The chemical programs remain in place today and the existing infrastructure is handling the commingled formations.

The iron sulfide treatment strategy has been in place for 25 months. The total chemical cost to date to avoid the capital expense of a new facility since program inception (Sept/20 – Sept/22) is under \$400,000. The producer continues to commingle the fluids relatively trouble free and has more drilling plans for the area.