

FERTILIZER



SERVICES

The Millcreek Engineering designs and delivers process and material handling facilities for many commodities. We have proprietary designs that reduce recirculating loads, increase production and enhance the final product. Our designs incorporate the latest corrosion-resistant features and dust control techniques. From mining through processing, we provide services for conceptual design through full project completion.

Services

Millcreek Engineering's experience includes:

- Flotation
- Thickening
- Filtration
- Crystallizing
- Drying
- Compaction
- Sizing
- Classification
- Screening
- Dust collection
- Stockpile and reclaim
- Loadout systems

For additional details on Millcreek Engineering's potash experience, please request a copy of the resumes of our key personnel.

PROJECTS EXECUTED

Compaction Plant

Millcreek Engineering provided an initial feasibility study and engineering services for Potash handling compaction. Millcreek then provided complete EPCM for compactor facility including air classifiers, screening, compacting, crushing, conveying, bucket elevators, kilns dust control wet scrubbers and product storage. Total installed cost approx. 80 million.



Potash Compaction Plant Upgrade

Millcreek Engineering originally provided an initial concept feasibility study and budget pricing to increase capacity at the plant. Millcreek then provided complete E.P.C.M. For compactor facility including air classifiers, screening, compacting, crushing, conveying, bucket elevators, kiln drying, dust control wet scrubbers and product storage. In addition, we also designed enclosed product storage including enclosure structure, feed conveyors, traveling feed tripper, reclaim feeders, reclaim conveyor, final screening and dust control. Total installed cost approx. 10 million.



Compaction Plant

Millcreek Engineering provided an initial feasibility study and engineering services for a potash handling system. Millcreek provided complete EPCM for compactor facility including air classifiers, screening, compacting, crushing, conveying, bucket elevators, kiln drying, dust control wet scrubbers and product storage. Total installed cost approx. 30 million.

Product Storage - Millcreek designed enclosed product storage including enclosure structure, feed conveyors, traveling feed tripper, reclaim feeders, reclaim conveyor, and dust control.

Process Design - Piping, tank storage, valves, controls foundations, etc. for hot brine handling. Rotary Kiln and burner drying and product glazing, drying and conditioning. Compaction circuit.

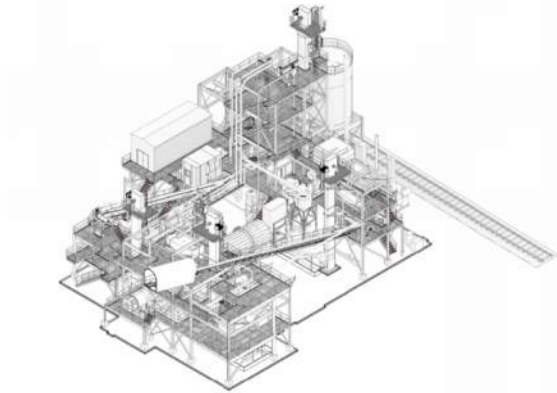
Product Loading - Truck and rail loadout facility.



PROJECTS EXECUTED

Ammonium Sulfate Compaction

Millcreek Engineering performed the detailed engineering, procurement assistance and construction management for a new ammonium sulfate compaction facility. The plant production rate was 20 tph. The plant design included railcar unloading system, belt conveyors, bucket elevators, silos, hoppers, feeders, compactor, flake breaker, screens, roller mills, curing conveyor, rotary dryer, tramp iron removal and dust collection.



Urea Plant

Project included a feasibility study, full detail design, procurement assistance and construction management.

The design detail dealt with rail, stacking, reclaim and truck and rail loadout. The facility included conveyance, automated reclaim via portal reclaimer, dust collection, screening, automated truck and rail loadout. Liquid rail and truck loadout of other products, construction management included on site manager, start up and commissioning. Total installed cost was 40 million plus.



Potash and Salt Compaction Facility

Basic engineering design for a facility that was designed to produce 680,000 TPY of food grade fine bagged salt, food grade bulk salt, water softener packaged salt, extra course packaged salt, road salt and agriculturally enriched blocks. The facility also produced 533,000 TPY of granular potash.

Millcreek Engineering performed basic engineering design that included process modeling and process flow diagrams, P&IDs, design criteria, general arrangement drawings, equipment selection and a cost estimate for the entire dry side of the process.

The dry side process included all process, mechanical, structural, electrical and instrumentation design from the product dryer through cooling, screening, crushing, product storage (silo and stockpile), conveying, reclaim, bulk-loading and bagging.

The facility was designed to protect against the highly corrosive nature of both the potash and salt products. Special coating systems and special materials of construction were used for structures and equipment.

Millcreek designed future expansion capabilities into the plant for an approximate 150% production increase for all products.



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