## Project Scope & Key Deliverables

* Rig Forecast Data Entry
  + Simple user interface that allows the Sales and Operations Manager to enter Rig forecast information digitally which will replace the Rig Forecast Excel File
    - As a sales manager (or sales rep), I can Add, Update, and remove Rig Forecast entries so that we can plan for upcoming jobs/work/wells
    - As a sales manager (or sales rep), I can add the following info related to a forecast entry:
      * Client
      * Rig
      * Location / District
      * Area
      * Well Count
      * Start Date
      * End Date
      * Sales Rep
      * Complexity rating
      * Comments
    - As a sales manager (or sales rep), I can add 1 or more Program #’s to a forcast entry
      * Should be based on the Rig Activity Excel file
    - As an ops manager, I can add Program #’s to a forcast entry
      * If a program is not available, I can add Job Type(s) to a forecast entry
    - As an ops manager, I can add time between jobs types to a forecast entry
      * Time between jobs by rig – trended by current data, can be modified by ops manager
      * This will determine timing for multiwell projects
    - As an ops manager, I can specify specific job dates within forecast
* Rig Forecast View
  + View all active rigs and upcoming work by using the Rig forecast data - Replace the Rig Activity Forecast Excel file
  + Require visualization of rig location
    - Require rig notes (directions to location) on hover
    - Require rig connection on hover
  + Require visualization of district locations
  + Require visualization of truck locations
    - Require crew names display on hover
    - Require crew hours available by individual on hover
  + Require map layers
    - Require show rigs
    - Require show equipment
    - Require show district
  + Require show combinations of above
  + Forecasting of upcoming jobs based on bids won and average job length and time between jobs
    - Need program flag
      * Sanjel work
      * Bid
      * Bid won, lost etc
  + Should be able to filter by district or region and other parameters
  + Require rigs working
  + Require client(s)
  + Require program #’s
  + Require rig start date
  + Require rig end date
  + Require # of wells
  + Require job types (from program #’s)
  + Require time between jobs (calculated, but can be modified)
  + Require time for rig to move locations (when multiwell)
  + Require bid, won work flag
  + Require district/location rig is working
  + Require visualization of work in month view by rig/client/district/job type/equipment
  + Require ability to “slide” job times/dates
  + Require Sales Rep (from program #’s)
  + Require Complexity rating (from program #’s)
  + Entries must be linked to Program number(s) to facilitate Forecasting of People, Assets and Product
    - As an ops manager, I can add a forcast entry
    - As an ops manager, I can add Program #’s to a forcast entry
      * Program # will provide product and job type details
    - As an ops manager, I can add job types to a forcast entry
    - As an ops manager, I can add time between jobs types to a forecast entry
    - As an ops manager, I can specify specific job dates within forecast
    - As an ops manager, I can modify job dates within forecast
      * This will change the remainder of the wells for the specific rig
    - As a manager, I can view the Gant style Rig Forcast:
      * Should replace the Rig Activity Forecast Excel file
    - As a manager, I can filter the Rig Forcast by:
      * District or region
      * Client
      * Rig
      * Area
      * Sales Representative
      * Job Type
    - As a manager, I can view all active Rigs
    - As a manager, I can view all bids
    - As a manager, I can view all won work
    - As a manager, I can view Rigs by upcoming work
    - As a manager, I can view monthly rig count with 5 yr historical data
    - As a manager, I can view monthly rig count by Sales Rep
    - As a manager, I can view monthly WCSB Rig Activity with 5 yr historical data
    - As a manager, I can view daily jobs
    - As a manager, I can view SCMT available per day
    - As a manager, I can view SCMS available per day
    - As a manager, I can view Crew utilization
    - As amanager, I can view rig count
* Real-time Map View
  + Map the location of Drilling Rigs, Assets, District Locations, satellite locations, Workers, Support Equipment, and Product
  + Map overlay showing details based on the selected resource
    - As a user of the map, I can zoom, pan, and perform other basic map functions
    - As a user, I can view Rig locations on a map
    - As a user, I can view Pumping Unit locations on a map
    - As a user, I can view Bulker locations on a map
    - As a user, I can view District locations on a map
    - As a user, I can view workers with an Active or recently completed JMP on a map
    - As a user, I can view preferred hotels on a map
    - As a user, I can select or deselect resource types from a map legend
    - As a user, I can select a resource on the map to see an overlay with information related to that specific resource and resource type
    - As a user, I can see the following on the Pumper Overlay:
      * Unit Number
      * Assigned District
      * Unit specifications (HP, Rate, Pressure)
      * Crew assigned to this unit
      * Scheduled activity for this unit (Jobs, Maintenance, etc)
      * Link to open work orders against an asset
    - As a user, I can see the following on the Drilling Rig Overlay:
      * Basic Rig and customer information from the Rig Board
      * Color rank of the current job (Complexity matrix)
      * Crew assigned to the current job
      * Pre job testing status
      * Blending and Product Haul status
      * Link to the upcoming activity forecast for the Rig
      * Link to availability of the crew assigned to this job
    - As a user, I can see the following on the District Overlay
      * Bulkplant Blending status
        + Bulkplant blend sheet
        + Approved blend sheet
      * Blended products stored at the district
      * Blended product submitted to lab for testing (based on pre job testing status)
        + Sent, received, testing status (New, In-Progress, Complete)
      * Testing complete
        + Meets requirements

Send to CS for approval

* + - * + Does not meet requirements

Send to CS for approval/next steps

* + - * Testing approved by CS
      * Testing approved by Ops
      * Testing approved by Client (may be required)
      * Testing Not approved – reblend and resubmit samples for testing
      * Approved to haul to location
      * Bulkers waiting to be shipped to location
      * Camp Iron
      * 3rd party contact info and approved supplier, restrictions
      * Pickups
    - As a user, I can see the following on the Worker Overlay
      * Worker Name
      * Other information from JMP
      * Is worker on location
    - As a user, I can see the following on the Support Equipment Overlay
      * A list of support equipment to be determined
* Field Worker Availability Entry
  + Replace any existing Excel files to manage availability of workers
    - As a manager, I can update my employee’s rotation schedule - ADP
    - As a manager, I can modify a part of a rotation if they are working through days off - ADP
    - As a manager, I can indicate days my employee is scheduled for training - ADP
    - As a manager, see days my employee is scheduled for vacation - ADP
    - As a manager, I can see/indicate if my employee is qualified to supervise HP jobs
      * Training certificates
  + Worker availability (Gant style)
    - As a user, I can see hourly worker availability over the next week so I can find the best crew for the job. I will be looking for:
      * Have appropriate hours available
      * Have appropriate experience
        + # of similar jobs complete
      * Have appropriate training qualifications for the job
        + Includes COVID testing requirements (Confirm with HR)
        + Client specific training (not currently in LMS)
      * Proximity to location to minimize travel time
      * Available for work
    - As a user, I can see a worker’s availability and when activities the user has scheduled. This includes:
      * Existing jobs scheduled for work
      * Driving time
      * Scheduled rotation
      * Scheduled training
      * Scheduled vacation
      * Certifications
        + List of certifications
        + URL to download cert(s)
      * Home district/Region
    - As a user, I can quickly view a worker’s certifications
      * Review existing availability sheet to see how it is currently used
    - As a user, I can filter workers by home region, Position, competent in position, and HP
  + Require integration to ADP to look at availability – days on, days off, vacation, shift/rotation, training
  + Require work shift/rotation - ADP
  + Require integration to training schedule - ADP
  + Require rules on allowable work time – require reset etc (10 hrs off in a 24 hr period)
  + Require time when people are available to work again – after reset
  + Require length of job
  + Require travel time
  + Require previous work history
  + Require integration to training achievement (LMS)
  + Ability to assign to a job
  + Require visualization of assigned of work
    - Daily/monthly view
    - Gant view
  + Display work assignments out 31 days
  + Require arrive on location/job start/wait on rig notifications
  + Require ability to create “crew” (group of people)
  + Require daily crew count
  + Require total crew count
  + Require crew utilization
* Resource Availability View
  + Near real time data view of information to assist in finding available crew for an upcoming job
  + Field worker availability, using data from key sources to put together a Gant style availability of field workers based on their district and position
  + Asset Availability (Pumper, Bulker, etc.), using data from key sources to put together a Gant style availability of assets
  + Replace the Utilization Sheet and Truck Board Excel files for managing crews
  + Equipment Availability
    - As a user, I can see hourly equipment availability over the next week so I can find the best crew for the job. I will be looking for:
    - As a user, I can filter equipment by District, region, Equipment Type, and Sub-Type
    - As a user, I can see equipment availability over the next week so I can find the best equipment for the job. I will be looking for:
      * Maintenance and inspection schedule (eMaintain)
      * Location of unit
      * Scheduled Jobs
      * Equipment type and sub-type
      * Equipment specs (HP, Rate, Pressure, etc.)
    - As a user, I can see the list of open work orders against an asset
  + Require integration to eMaintain to get equipment maintenance schedule & history
  + Require integration to AX for active & parked units
  + Require equipment specifications and limitations – type of truck, HP, Pressure limits, location, etc
  + Require available equipment – by home district
  + Ability to assign to a job
  + Require visualization of assigned of work
    - Daily/monthly view
    - Gant view
  + Require Daily asset count by type (Pumper, Bulker, Chem Van, BTrain)
  + Require total asset count by type
  + Require pumper utilization
  + Visualize equipment availability
  + Visualize work assignments out 31 days
  + Require hauling to location
  + Require arrived at location
  + Require bin/location product was put in (if applicable)
* Complexity Matrix – workflow management
  + Ability to manage the complexity matrix workflow digitally, and remove the current email process
    - The system, can handle 4 categories of the complexity matrix (green, yellow, red, black) within 3 different service lines
    - Each category has different steps and approvals
      * Green (Primary) – job can proceed as designed
      * Yellow (Primary) – CWOP and Field Blend testing once per pad
      * Red (Primary) – CWOP and Field Blend testing and approval required
      * Black (Primary) – CWOP and Field Blend testing and approval required
      * Green (Remedial) - job can proceed as designed
      * Yellow (Remedial / Infrastructure) – ??
      * Red (Remedial / Infrastructure) – CWOP and Field Blend testing and approval required
      * Black (Remedial / Infrastructure) – CWOP and Field Blend testing and approval required
    - Approvals
      * When field blend testing:
      * Require “Client Approval” flagging
        + Require lab next steps if not approved
        + Require pass to “Sanjel CS” for approval
      * Require “Sanjel CS” Approval flagging
        + Require lab next steps if not approved
        + Require pass to “Sanjel Ops” for approval
      * Require “Sanjel Ops” Approval flagging
        + Require lab next steps if not approved
        + Require haul to location flag
      * May require Client approval (indicated by job design)
    - Workflow – blending testing & approval
      * Job is flagged as requiring Field blend testing – either by complexity matrix score or manual flag
      * Required Blending is scheduled
      * Require Bulk Plant Blending beginning at time
      * Require Bulk Plant Blended complete
      * Require Bulk Plant sample Complete
      * Require sample sent to lab
      * Require Time sample arrived at lab
      * Require test has started
      * Require test results and pass/fail criteria
      * Require Testing Complete – results for review
      * Require Approvals
        + CS Approval
        + Ops Approval
        + Client Approval
      * If not approved, reblend and repeat process
      * Once approved - Send to location
* Product Forecasting
  + Provide material forecast using Rig Forecast, Rig Activity and program data
    - As a supply chain user, I can see a material forecast out 21 days
    - As a supply chain user, I can filter the material forecast by
      * Product
      * District
  + Require “component” totals per timeframe/district
  + Require plugs required per timeframe/district
* Key Reports and KPIs
  + Daily Crews count - # of units we have staffed
  + Total crew count - # of units that we have active
  + Crew utilization percentage (Daily and Total)
  + Daily asset count by type (Pumper, Bulker, Chem Van, BTrain)
  + Total asset count by type
  + Pumper utilization (Daily and Total)
  + Rig count per day and district and Region
* Security
  + Ability to control user access to the software with read only and edit capability
  + Each component should be managed with independent access
* Other availability features
  + Ability to filter assets, workers, and crew by Region & District
  + Easy search filter for workers or assets
  + Grouped Availability view of Crews, showing the pumper and workers on that crew
* Other High-level information and KPIs that should be available or impacted by this tool
  + On time ratio (OTR)
  + On Location Performance (OLP)
  + Non-productive Time (NPT)
  + How much spare equipment do we need to ensure every crew has a unit
  + Oncall list – area manager, dispatch, area bulk plant, mechanics, sales/TS with phone numbers and email

## Technical Requirements

* The product should be hosted in a way to promote efficient and responsive user experience.
  + Ideally hosted on Sanjel’s infrastructure within our Azure tenant.
* The product should be web based with a very responsive and intuitive user experience
* Power BI is Sanjel’s standard reporting tool
* Master Data
  + Master data should be managed within our current master data source for all existing and newly required entities
* Sanjel Data
  + The Product should use APIs to query real-time data from Sanjel’s core business model
  + Sanjel core business model should be enhanced for any new business model requirements
* 3rd party Data
  + 3rd party API’s can be used directly
  + If data needs to be posted back to Sanjel’s existing systems, then an API will be created/used