**Chevron Data Science Challenge**

**Data Dictionary**

**base\_training.csv, base\_test.csv**

Features

WellID well identifier (unrelated to standard well identifiers)

Subarea assigned geographic region

Direction Well drilled vertically or deviates from vertical (directional)

Operator company operating well

County county in which well is located

Completion Date days since Jan 1st, 1900 to well completion

Completion Year year well completed

Surface Latitude latitude of well

Surface Longitude longitude of well

Depth Total Driller depth drilled

WB Spacing Proxy estimate of well spacing (acres/well)

SPBY Spacing Proxy estimate of well spacing (acres/well) for Spraberry producing wells

Deepest\_Zone deepest perforated zone

Between\_Zone well perforated for formations between these (inclusive)

FracStage number of fracturing stages

Treatment number of treatments

Fluid/Water (Gals) total fluid/water pumped (gal)

Acid(Gals) total acid pumped (gal)

Gel/x-link (Gals) total gel pumped (gal)

Other (Gals) total other liquids pumped (gal)

Proppant – Total (lbs) total proppant pumped (lbs)

Fluid – Total (Gals) total fluid volume pumped (gals)

EUR\_o (Mstb) estimated ultimate recovery of oil (Mstb=1000’s standard barrels)

*no values entered for base\_test*

**geology\_training.csv, geology\_test.csv**

Features

WellID well identifier (unrelated to standard well identifiers)

CLFK Clearfork formation (picked)

U\_SPBR Upper Spraberry formation (picked)

L\_SPBR Lower Spraberry formation (picked)

WFMP Wolfcamp formation (picked)

WFMP\_L Lower Wolfcamp formation (picked)

WFMP\_ATB Amacker Tippet Base formation (picked)

CLINE Cline formation (picked)

STRN Strawn formation (picked)

ATOK Atoka formation (picked)

BEND Bend formation (picked)

ATOLA\_L Lower Atoka formation (picked)

MPLM Mississippian formation (picked)

WDFD Woodford formation (picked)

DVNN Devonian formation (picked)

CLFK [MAP] Clearfork formation (interpolated)

U\_SPBR [MAP] Upper Spraberry formation (interpolated)

L\_SPBR [MAP] Lower Spraberry formation (interpolated)

WFMP [MAP] Wolfcamp formation (interpolated)

WFMP\_L [MAP] Lower Wolfcamp formation (interpolated)

WFMP\_ATB [MAP] Amacker Tippet Base formation (interpolated)

CLINE [MAP] Cline formation (interpolated)

STRN [MAP] Strawn formation (interpolated)

ATOK [MAP] Atoka formation (interpolated)

BEND [MAP] Bend formation (interpolated)

ATOLA\_L [MAP] Lower Atoka formation (interpolated)

MPLM [MAP] Mississippian formation (interpolated)

WDFD [MAP] Woodford formation (interpolated)

DVNN [MAP] Devonian formation (interpolated)

**completions\_training.csv, completions\_test.csv**

Features

Number well treatment number

Type type of treatment

Depth Top perforated region top

Depth Base perforated region base

Fluid Amount amount of fluid pumped

Fluid Units volume unit

Fluid Type type of fluid

ProppingAgentAmount proppant pumped in this region

Propping Agent Units weight unit

Propping Agent Type type of proppant

Pressure Breakdown pressure at which rock fractures

Injection Rate barrels per minute pump rate

Additive additive

Mesh Size proppant grain size