

CREATE A **COMPETITIVE ADVANTAGE** THROUGH **PRODUCED WATER RECYCLING**



THE PRODUCED WATER DISPOSAL PROBLEM

- PRODUCED WATER IS THE BIGGEST PRODUCT OF THE OIL & GAS INDUSTRY
- HANDLING & DISPOSING PRODUCED WATER IS THE LARGEST SINGLE COST OF OPERATING A WELL
- WATER AVAILABILITY FOR FRACKING IN WATER-SCARCE REGIONS REPRESENTS A MAJOR THREAT TO E&P COMPETITIVENESS

A PRODUCED WATER OPPORTUNITY FROM H₂O

- H₂O SYSTEMS RECYCLES PRODUCED WATER TO A HIGH-PURITY FRACK-READY WATER QUALITY
- REDUCED HAULAGE COSTS & HANDLING ISSUES
 - REDUCED ENVIRONMENTAL RISKS
 - REDUCED CHEMICALS TO PURCHASE
 - LESS RELIANCE ON FRESH WATER FOR DRILLING & FRACKING

COMPELLING INCENTIVES TO RECYCLE PRODUCED WATER



REDUCE PRODUCED WATER DISPOSAL COSTS

- PRODUCED WATER HANDLING & DISPOSAL IS THE **LARGEST SINGLE COST** OF OPERATING AN OIL & GAS WELL
- CONSIDERING A HANDLING & DISPOSAL COST IN THE RANGE OF **\$4-6/BBL** AND DISPOSING **50,000 BPD** WOULD COST **\$73M - \$110M** PER YEAR
- H₂O TREATS & HANDLES YOUR PRODUCED WATER **CLOSE TO THE SOURCE** FOR CENTS/BBL
- THE HIGH COST OF **HAULAGE & DISPOSAL** IS **REDUCED** AND THE COST OF **EXPENSIVE GATHERING PIPELINES** IS **MINIMIZED**

ELIMINATE THE WATER AVAILABILITY PROBLEM

- FOR OIL AND GAS COMPANIES TO REMAIN HIGHLY **COMPETITIVE**, OPERATE **EFFICIENTLY**, AND EXPERIENCE CONTINUED **SUCCESS**, IT IS CRITICAL TO HAVE ACCESS TO A **HIGH-QUALITY WATER** SOURCE
- MORE THAN 70% OF ALL WELLS ARE IN EXTREME WATER STRESS AREAS
- H₂O SYSTEMS RECYCLES PRODUCED WATER TO A **HIGH-QUALITY FRACK-READY** WATER FOR DRILLING & FRACKING
- **ABUNDANT SOURCE** OF WATER FOR **LONG-TERM DRILLING DEMAND**
- HIGHLY-AUTOMATED, LONG-LIFE, NON-CHEMICAL SYSTEMS – **REDUCES OPEX** AND HAZARDOUS CHEMICALS



MINIMIZE ENVIRONMENTAL LIABILITIES

- EVAPORATION PONDS AND SWDs ARE **OUTMODED, INEFFICIENT**, AND CREATE **UNWANTED ENVIRONMENTAL LIABILITIES** (SPILLS, BIRD MORTALITY, LEAKS, SEISMIC ACTIVITY)
- PIPELINES ELIMINATE TRUCKING BUT INTRODUCE NEW ENVIRONMENTAL RISKS AND **PRODUCED WATER LIABILITIES** REMAIN WITH E&P OPERATOR
- RECYCLING **DIVERTS** PRODUCED WATER **AWAY FROM THE DISPOSAL PROCESS**, IMMEDIATELY **REDUCING** EVAPORATION & IMPOUNDMENT POND, TRUCKING & SEISMIC **ENVIRONMENTAL RISKS**

FRACK-READY WATER

NON-CHEMICAL SOLUTION FOR OILFIELD PRODUCED WATER

H2O SYSTEMS USES A PROPRIETARY NON-CHEMICAL PROCESS TO **CONVERT** PRODUCED WATER FROM BEING A **WASTE MATERIAL** INTO A **VALUABLE RESOURCE**, TRANSFORMING RECYCLING PRODUCED WATER TO A HIGH-PURITY FRACK-READY WATER, WITH ANY SURPLUS WATER GOING TO OTHER BENEFICIAL REUSES.

FRACK READY WATER

CUSTOMIZED SPECIFICATIONS FOR
SLICK-WATER & CROSS-LINKED GEL
APPLICATIONS

DESALINATED WATER

FOR BENEFICIAL REUSES:
IRRIGATION, MAKEUP WATER,
LIVESTOCK DRINKING WATER

H2O PROVIDES HIGHLY-AUTOMATED, NON-CHEMICAL SYSTEMS WITH INTEGRAL BUILDING & LONG-LIFE COMPONENTS ON A LOW MULTI-YEAR CENTS/BBL RATE, ELIMINATING CAPITAL COST AND LIBERATING SIGNIFICANT AMOUNTS OF OPERATING CASH THAT CAN BE USED FOR CORE E&P ACTIVITIES.

IMMEDIATE AND SIGNIFICANT COST SAVINGS - MOVING FROM \$4-6/BBL FOR WATER DISPOSAL TO CENTS/BBL FOR A WATER TREATMENT SERVICE

WATER TREATMENT IS A NON-CORE COMPETENCE FOR E&P OPERATORS DIVERTS CAPITAL DOLLARS AWAY FROM INCOME GENERATING E&P ACTIVITIES — THIS CREATES A LOGICAL OPENING FOR A PARTNERSHIP WITH A WATER HANDLING SPECIALIST

ENVIRONMENTAL LIABILITIES TRANSFERRED - ASSOCIATED PRODUCED WATER RISKS CAN BE RELOCATED FROM THE E&P OPERATOR TO H2O SYSTEMS

H2O'S SYSTEMS CREATE APPLICATION-SPECIFIC SOLUTIONS TO MINIMIZE CAPITAL EXPENDITURE AND OPERATING COSTS. TO LEARN MORE ABOUT H2O'S INDUSTRY-LEADING PRODUCED WATER RECYCLING SOLUTIONS, VISIT H2OSYSTEMSGROUP.COM

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