



## **GLACIER SERVICES, INC. ENGINEERING AND AUTOMATION SOLUTIONS**

Glacier Services has extensive automation experience within Alaska's oil and gas industry. Our clients include British Petroleum, ConocoPhillips, Eni and Pioneer. Both our current and completed automation projects are numerous and the following represents a sample of our capabilities.

### **1. SCADA Web Reporting System for a New Oil Production Operation**

Client: Pioneer Natural Resources  
Location: Alaska (Anchorage and North Slope)  
Length: Three years

#### **Project Overview:**

GSI developed a web based SCADA level Web Reporting System (WRG) for Pioneer. Modules of this system provide Pioneer the ability to complete multiple tasks which include:

- Production and allocation reporting
- Well testing
- Well monitoring
- Well configuration
- Well event tracking
- Turbine runtime and fuel usage reporting
- AOGCC monthly reporting
- Freeze protect logging
- Diesel usage logging
- Gas venting logging
- MPFM (Multiple Flow Meter) compliance
- Annuals bleed logging
- Lab data entry
- Reporting and run ticket monitoring

This project involved a suite of web base applications that were developed using Visual Studio, Visual Basic.net, Microsoft SQL Server, Wonderware InSQL Historian and Wonderware tools.

### **2. Well Test Quality Assurance (WTQA) Subsystem**

Client: British Petroleum (BPXA)  
Location: Alaska (Anchorage and North Slope)  
Length: Two years

#### **Project Overview:**

Well test history and statistical analysis was analyzed by software that GSI developed to determine the well facility accuracy and reliability. The well facility data is used for business decisions by BP when replacing and upgrading well testing facilities.

This project involved a suite of applications that were developed using Aspentech IP.21 and Oracle platforms.

### **3. VSRD Multiphase Meter Monitoring Tools**

Client: British Petroleum (BPXA)  
Location: Alaska (Anchorage and North Slope)  
Length: Two years

#### **Project Overview:**

Replace old separator technology with inline VSRD meters. GSI developed custom software that was needed in order to monitor and evaluate the performance of the new Weatherford multiphase meters.

For this project, a suite of applications were developed using Aspentech IP.21 systems and development tools.

#### **4. Remote Transmission Unit (RTU) Replacement**

Client: British Petroleum (BPXA)  
Location: Alaska (North Slope)  
Length: One year

**Project Overview:**

Replace aging TRW control system RTU's with Siemens APACS / QUADLOG at gathering center (GC) 2 located in the western operating area (WOA) of Prudhoe Bay.

To improve performance, this project involved programming the programmable logic controller (PLC), server data base work, reconfiguring Operator displays and completing checkout support.

#### **5. Western Regional Development (WRD) Z-Pad Expansion**

Client: British Petroleum (BPXA)  
Location: Alaska (North Slope)  
Length: Two years

**Project Overview:**

Expand Z-Pad with thirty two new well slots and nine new modules in the western operating area (WOA) of Prudhoe Bay.

This project involved the installation of a new petrochemical processing facility. GSI's responsibility for the project included programming the programmable logic controller (PLC), upgrading the server data base, reconfiguring the Operator consoles and completing checkout support.