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4-5-00	changed cation resin on U3 CPD, #32 & #33 polisher
4-6-00	changed cation resin on U2 Boiler & Econ; U1 #11 polisher
4-10-00	removed and cleaned in-line filter on U3 Boiler silica analyzer
4-12-00	changed cation resin @ LPI
4-17-00	changed cation resin on U1 Econ, CPD and #12 polisher
	new cal standard on U3 CPD silica analyzer
	changed in-line filter on U3 Boiler Na^+ analyzer
	changed cation resin on U3 Main Steam
4-19-00	checked on LPI
4-21-00	New Reagents U3 Boiler SiO_2 Analyzer
4-25-00	Calibrated U1 and U2 Sodium Analyzers U1 Boiler Slope → 90% U2 Boiler Slope → 92% U1 CPD Slope → 99% U2 CPD Slope → 105%
4-26-00	Calibrated U3 Sodium Analyzers Boiler Slope → 102% CPD Slope → 101%
	replaced in-line filter on U3 Boiler Na^+ analyzer again
	changed cation resin @ LPI & Bryan J. removed and cleaned the sample filter

5-1-00 RLM	Fresh reagents in U3 boiler SiO_2 analyzer.
5-3-00	Changed reagent + tubing, etched Na electrode on Demin. sodium analyzer.
5-4-00	New Cal Std on LPI WQP SiO_2 analyzer.
5-5-00	New Resin in C. Column, U-3 Econ Inlet.
5-5-00	Demin Na Analyzer: Etched electrode, new reagent + tubing. Slope → 57.9
5-8-00	Replaced cation resin on the various columns: - U1 Boiler Water - U2 CPD - 21 Polisher - 22 Polisher
5-9-00	Fresh reagents in - U1 CPD SiO_2 analyzer - Demin SiO_2 analyzer
5-11-00	LPI WQP - changed cation resin.
5-10+11-00	Calibration of ORP Monitor in U-3 lab.
5-15-00	- Replaced Cal Std. - U3 Boiler SiO_2 analyzer. - Replaced reagents - LPI SiO_2 analyzer.
5-16-00	Rebuilt U-2 DO_2 probe.
5-18-00	Replaced colorimeter lamp - U2 Boiler SiO_2 analyzer.
5-19-00	Cation resin changes: 11 + 12 Polishers U1 - Econ Inlet U2 - Econ Inlet

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5-23-00	Calibration of U-3 Na analyzers: CPD - 101 % slope Boiler - 102 % slope
5-24-00	Cation Resin changed at LPI.
5-25-00	Fresh Reagents in U-2 CPD Silica analyzer.
5-31-00	Fresh Reagents in U-2 Boiler Silica analyzer
6-1-00	Fresh cation resin - U-2 Boiler cation column.
6-7-00	Cation Resin changed at LPI. Silica reagent levels at 64 %.
6-13-00	New Cal Stds on U1 - CPD Silica analyzer U2 - Boiler Silica analyzer
6-13-00	DEMIN Na analyzer - New reagent + tubing - etched Na electrode - Calibration: Slope → 57.0
6-15-00	Rebuilt the U-1 DO_2 sensor. (Portable)
6-15-00	Changed cation resin in the following columns: - U-1 CPD - U-2 CPD, U-2 Econ Inlet, 21 + 22 polishers
6-21-00	Cation resin changed on LPI cation conductivity. Silica reagent levels ~ 45 %
6-21-00	Cation resin changed on - U-1 Econ Inlet cation cond. - U-1 Boiler Water cation cond.

6-22-00 RLM	Calibration of U-2 Na analyzers: CPD Slope → 105 % Boiler Slope → 92 % Calibration of U-1 Na analyzers: CPD Slope → 99 % Boiler Slope → 90 %
6-30-00	Changed cation resin on 11 + 12 Polishers C. Conductivity.
7-6-00	Replaced Std in Unit 2 CPD Silica analyzer.
	Replaced resin in Unit 3 Boiler & Pol 31 cation columns.
7-7-00	Replaced cation resin @ LPI WQP. Silica reagents tipped - level to 30%.
7-11-00	Replaced Demin Silica analyzer reagents.
7-13-00	Replaced Silica analyzer reagents at LPI.
7-14-00	WQP enunciator on Unit 1 doesn't work. Wrote MWR for electricians They replaced the fuse, but there is a transmit card that needs replacement.
	Refrigeration system comp #2 is continually tripping. Called Lloyd, he recharged both comp. on Unit 1.
7-20-00	LPI WQP in old lab: Silica analyzer placed in-service today.
7-21-00	Changed resin in LPI Cat. column.
	Replaced reagents on Unit 2 CPD SiO_2 analyzer

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7-26-00	Replaced reagents on Boiler U-1 & U-2 SiO_2 analyzers.
	Replaced resin on Econ Unit 1 Cation Col.
	Replaced pH/ref. electrodes on Unit 1 Boiler & Econ.
8-2-00	U3 CPD, 33, 32 pol CATION columns – replaced Resin
8-3-00	Replaced Resin and SiO_2 STD LPI Buffered pH probe at LPI pH 9.3
8-7-00	Replaced Cal Std U3 BLR & Demin SiO_2 analyzers
8-10-00	Replaced Reagents U3 CPD SiO_2 analyzer
8-10-00	Replaced Resin 11pol, 12pol, Boiler CATION Columns U1
8-16-00	Replaced Resin U3 Steam CAT. Columns
8-16-00	- Installed (B.J.) New Dissolved Oxygen Analyzer U3 - Calibrated U3 Dissolved O_2 Analyzer
8-17-00	Changed Reagents U3 BLR SiO_2 Analyzer
8-28-00	Replaced SiO_2 STD U1 CPD
8-29-00	Rebuilt U1 D.O. probe
8-23-00	Rebuilt Portable D.O. probe
8-30-00	Replaced Resin LPI CAT. column
8-31-00	Replaced SiO_2 Reagents LPI
8-31-00	Replaced SiO_2 Reagents Demin Analyzer

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8-31-00	Replaced Resin U3 Econ CAT. Cond.
9-5-00	soaked new N_2H_4 cell in 2% NaOH overnight
9-6-00	gelled and installed N_2H_4 cell into U1 Analyzer new in-line filter too
	new tubing, o-rings, solution and etched electrode on 1811 EL Nat analyzer. Calibrated with a slope of 58.1 and E_o of -33.1
9-7-00	new resin U1 Econ & U2 Econ & CPD weekly LPI check
9-11-00	replaced cal standard on U2 Boiler silica analyzer
	Calibrated U1 & U2 Sodium Analyzers Unit 1 Boiler → 90% Unit 2 Boiler → 109% Unit 1 CPD → 84% Unit 2 CPD → 110%
	Calibrated U3 Nat analyzers Boiler → 106% CPD → 108%
9-13-00	changed cation resin @ LPI
	replaced reagents on U1 & U2 Boiler Silica analyzers
9-14-00	changed cation resin on U1 CPD and U2 #21 & #22 polisher
9-21-00	checked on LPI
9-25-00	new cal standard on U1 Boiler and U2 CPD silica analyzers
9-27-00	new cation resin #2 Boiler & #11/#12 polisher
	new cation resin @ LPI

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10-4-00	etched electrode and calibrated demin Nat analyzer slope → 58.4 E_o → -37.3
10-4-00	new reagents on U2 CPD analyzer (silica)
10-5-00	new reagents on U3 CPD silica analyzer
	new cation resin on U2 Econ and LPI cation column in the old lab
10-11-00	new resin @ LPI
10-12-00	new reagents on U3 Boiler silica analyzer
10-16-00	new reagents on U1 CPD silica analyzer
	new cal standard on U3 CPD silica analyzer
10-17-00	calibrated U3 Na^+ analyzers Boiler Slope → 92% CPD Slope → 82%
10-18-00	new cation resin U2 Boiler, #21 polisher and #22 polisher
10-19-00	new cation resin on U2 CPD
	calibrated U1 & U2 Na^+ analyzers U1 Boiler Slope → 97% U1 CPD slope → 89% U2 Boiler Slope → 98% U2 CPD Slope → 110%
	replaced in-line filters on U2 Boiler & CPD Na^+ analyzers
10-24-00	new reagents and cal standard on Demin silica analyzer
10-25-00	new cation resin @ LPI
—	replaced reagent valve for molybdate on Series 5000 silica analyzer @ LPI

10-26-00	new reagents & standard for LPI silica analyzer (@LPI)
11-1-00	new reagents on U1 Boiler silica analyzer
	new reagent, tubing, o-rings and etched electrode on 1811 EL/Nat analyzer. A/50 calibrated Slope → 58.8 E_o → -35.3
11-2-00	new cation resin for #12 polisher
11-6-00	BLJ + RLM replaced measuring pH at LPI and buffered.
11-13-00	- New cation resin for LPI WQP. - New Cal Std for U-1 CPD Silica analyzer.
11-14-00	New reagents - LPI WQP Silica in backroom - Old Chem Lab
11-15-00	New cation resin for 11 polisher, U-1 CPD, U-2 Econ Inlet } Cation Cond.
11-28-00	New cation resin for 21 Polisher, 22 Polisher, U-2 CPD } Cation Cond. New Cal Std. for U-2 Boiler SiO_2 analyzer. Calibration of U-3 Boiler + CPD sodium analyzers.
11-29-00	New cation resin at LPI WQP.
12-1-00	New reagents - U-2 CPD Silica analyzer.
12-7-00	New cation column resin for U-3 Main Steam. New reagents for U-3 CPD Silica analyzer. New reagents for U-1 CPD Silica analyzer.

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12-11-00 New pH + ref. electrodes on Unit 2 Econ. Inlet.

12-14-00 New resin for U-1 Boilet Cation Cond. column.

12-18-00 -New resin for LPI WQP cation cond.
* (At LPI and here at Sherco)
-New resin for U-2 Boilet Cation + Econ Inlet.
-New reagents for Demin. Silica analyzer.

12-19-00 New reagents for LPI WQP SiO_2 analyzer.

12-28-00 New reagents U1 Boiler SiO_2 analyzer.

* 2001 *

1-2-01 new tubing, solution, o-rings, reference solution and etching of electrode on the demin Na^+ analyzer (1811 EL)
also calibrated * slope → 56.7 E_0 → -37.3

replaced cation resin on #32 & #33 cation columns

removed & cleaned in-line filter on dissolved oxygen sample line

1-4-01 new cation resin @ LPI

new cation resin U1 Econ & 11 polisher
new cation resin U2 #21 & #22 polisher

1-9-01 calibrated U2 Boiler Na^+ analyzer; slope → 97%
calibrated U2 CPD Na^+ analyzer; slope → 105%

installed new in-line filters on U1 Boiler & CPD Na^+ analyzers

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1-10-01	replaced cal standard @ LPI on silica analyzer buffered LPI pH electrodes with 7 & 10 & collected sample lab → 8.8 monitor @ LPI → 9.0
1-11-01	new resin U2 CPD & Econ cation columns replaced reagents on U2 Boiler silica analyzer
	new resin U1 CPD cation column calibrated U1 Na^+ analyzers; Boiler slope → 88% CPD slope → 87%
1-16-01	calibrated U3 CPD Na^+ analyzer; slope of 82%
	replaced fitting under the molybdate reagent valve on U3 Boiler silica analyzer, it was leaking badly
	calibrated U3 Boiler Na^+ analyzer; slope of 86%
1-17-01	new cal standard on Demin silica analyzer new cal standard on U3 CPD silica analyzer
1-18-01	new cation resin for U1 Boiler column
1-24-01	new reagents for U3 CPD silica analyzer
	new resin in LPI cation column @ LPI
1-29-01	new cal standard U1 CPD silica analyzer
1-25-01	new reagents for LPI silica analyzer in 1/2 chem lab new reagents for U2 CPD silica analyzer
1-30-01	calibrated Demin Na^+ analyzer slope → 56.1 E_o → -38.8
1-31-01	new resin in #12 polisher cation column

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2-6-01	replaced reagents and cal standard in U3 Boiler silica analyzer
	replaced reagents in the Demin silica analyzer
2-8-01	new reagents in silica analyzer @ LPI new cation resin in column @ LPI
2-14-01	new cation resin for: Unit 1 Economizer Unit 2 Boiler, #21 & #22 polisher LPI cation in old chem lab
2-15-01	new reagents for U1 CPD silica analyzer
2-20-01	new cal standard for U2 Boiler silica analyzer
	replaced ph electrodes @ LPI and buffered with 7 & 10
2-21-01	calibrated U1 Na^+ analyzers U1 Boiler → 86% U1 CPD → 87%
	calibrated U2 Na^+ analyzers U2 Boiler → 97% U2 CPD → 108%
2-22-01	calibrated U3 Na^+ analyzers U3 Boiler → 85% U3 CPD → 82%
	new resin in U1 #11 polisher cation column new resin in U2 Econ & CPD cation columns
2-27-01	calibrated Demin Na^+ analyzer: slope → 58.7, E_o → -35.7 also replaced reagent, tubing and etched electrode
2-28-01	new resin @ LPI
3-7-01	cleaned up U1 silica analyzers and flushed all lines with DI water overnight

3-20-01	replaced rented U3 DO sensor and calibrated sent old probe back through stockroom
3-21-01	calibrated U3 Na^+ analyzers: CPD slope → 90% Boiler slope → 91%
	replaced reagents on U3 CPD silica analyzer
	replaced cation resin on WQP @ LPI
3-27-01	new resin for U3 Main Steam and U3 CPD cation columns
	calibrated U2 Na^+ analyzers: Boiler slope → 99% CPD slope → 109%
	new reagents for U2 CPD SiO_2 analyzer
	new reagents & cal standard for demin SiO_2 analyzer
3-28-01	calibrated Demin Na^+ analyzer: slope → 57.1 E_o → -29.6 also etched electrode
3-29-01	new reagents for U3 Boiler SiO_2 analyzer
3-31-01	Replaced CATION RESIN LPI WQP (SHERCO)
4-5-01	Replaced All CATION RESINS U1
4-6-01	Replaced 21 & 22 polisher CATION RESIN
4-6-01	Replaced SiO_2 reagents & Std @ LPI
4-6-01	- Calibrated U1 Na^+ Analyzers - New Reagents & Std U1 CPD analyzer

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4-11-01	- Replaced cal std U2 BLR SiO_2 Analyzer - Replaced reagent shutoff valve U2 Boiler SiO_2 analyzer
4-12-01	- Replaced Cation Resin U3 Econ + 31 polisher
4-18-01	- Replaced U1 CPD + 11 polisher cation Resin
4-18-01	Replaced Resin LPI c.c. cond @ LPI
4-19-01	Replaced Lamp U3 CPD SiO_2 analyzer
4-20-01	Replaced in-line filters U3 CPD + Boiler Na^+ Analyzers
4-20-01	Calibrated U3 Na^+ Analyzers Boiler - 90% CPD - ~~10~~ 103%
4-20-01	Replaced U3 SiO_2 analyzer LAMP
4-25-01	Calibrated U2 Na Analyzers Boiler Slope ⇒ 92% CPD Slope ⇒ 104%
4-25-01	Calibrated Demin Na Analyzers Slope 61.5 E_0 -23.8
4-27-01	Changed Resin U2 BLR Cation Column
5-2-01	- Replaced U3 SiO_2 standard on Boiler Analyzer - Replaced U2 Economizer cation Resin
5-4-01	- Replaced U1 BLR Cation Resin - Replaced in-line filter U1 Boiler Nat Analyzer

5-8-01	Replaced Resin in 32 pol, U3 Boiler, U2 CPD
5-10-01	Calibrated U1 Na Analyzers CPD 82% Boiler 86%
5-11-01	Changed Resin Column @ LPI
5-15-01	- Replaced SiO_2 stds & Reagents U3 CPD - Replaced Lamp in LPI SiO_2 analyzer in old Chem LAB
5-16-9	- Changed SiO_2 Reagents Demin SiO_2 analyzer - Changed Resin in LPI C.C. in old Chem LAB
5-18-01	Changed Reagents U2 CPD SiO_2 analyzer Changed Reagents U3 BLR SiO_2 analyzer
5-22-01	- Calibrated U3 CPD Nat Analyzer 102% slope - Calibrated U3 Boiler Na^+ Analyzer 109% slope - Replaced SiO_2 std U2 CPD SiO_2 analyzer - Replaced line filter U2 CPD SiO_2 analyzer - Replaced reagent valve U2 CPD SiO_2 analyzer #4 line
5-23-01	- Calibrated U2 BLR Na^+ Analyzer Slope → 97% 401 mV - Calibrated U2 CPD Na^+ Analyzer Slope → 103% 434 mV - Calibrated 1811 EL Demin Nat Analyzer Slope → 60.6 -28.5 mV
5-25-01	Replaced Resin U3 survey Cation Cond analyzer Replaced SiO_2 Reagents U1 CPD SiO_2 analyzer
6-7-01	Replaced Reagents @ LPI SiO_2 analyzer
6-8-01	Changed Resin U1 CPD & U2 economizer C.C. Columns
6-14-01 RLM	Rebuilt boiler throttle valve. - Unit 1

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6-15-01	- Replaced SiO_2 std on U1 CPD - Replaced SiO_2 std at LPI SiO_2 analyzer - Replaced SiO_2 Reagents LPI SiO_2 analyzer @ OLD LAB - Replaced SiO_2 Reagents U1 B/R SiO_2 analyzer
6-21-01	Replaced Resin @ LPI C.C. monitor
6-27-01	Calibrated U3 BLR Na^+ Analyzer 96% slope Calibrated U3 CPD Na Analyzer 113% slope Calibrated U2 BLR Nat Analyzer 94% slope Calibrated U2 CPD Na^+ Analyzer 102% slope Calibrated U1 CPD Nat Analyzer 83% slope Calibrated U1 BLR Na^+ Analyzer 90% slope Rebuilt U1 Diss. O_2 probe Rebuilt U2 Dissolved O_2 probe
6-28-01	Rebuilt Demin Nat analyzer 1811EL $\frac{Spec}{61.5}$
6-29-01	Changed resin in 12 pol, U1 BLR, C.C. column
7-5-01	Changed resin in all Columns U2
7-5-01	- New Reagents Demin SiO_2 analyzer - New Electrodes OLD LAB pH analyzer
7-11-01	New SiO_2 std LPI Analyzer @ SHERCO New SiO_2 std U1 BLR analyzer New Resin U3 MAIN Steam C.C. analyzer New Resin U3 31 pol C.C. analyzer
7-13-01	New Reagents U3 BLR & CPD SiO_2 analyzers New Resin U1 ECON C.C. analyzer New Reagents U1 CPD SiO_2 analyzer New Reagents U2 CPD SiO_2 analyzer
7-17-01	New Resin @ LPI C.C. analyzer

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7-19-01	CHANGED RESIN 11 gal. Cat. Cond. analyzer
7-26-01	- Changed Reagents @ LPI SiO_2 Analyzer - Changed Reagents U2 CPD SiO_2 analyzer - Changed LAMP Demin SiO_2 analyzer
7-31-01	- Changed Resin Column U3 CPD C.C. analyzer - Calibrated U3 CPD Na^+ Analyzer Slope 86 % - Calibrated U3 BLR Na^+ Analyzer Slope 101 %
8-1-01	- Calibrated U1 BLR Na^+ Analyzer Slope 83 % - Calibrated U1 CPD Na^+ Analyzer Slope 90 % - Calibrated U2 BLR Na^+ Analyzer Slope 105 % - Calibrated U2 CPD Na^+ Analyzer Slope 102 % - Calibrated 1811EL Na^+ Analyzer and etched electrode slope 60.9 E_0 -28.8 - Replaced Resin Unit 1 CPD Cat. Cond. analyzer - Replaced Leaky fittings U2 CPD SiO_2 analyzer. (molybdate)
8-3-01	Replaced SiO_2 stds U1 & U2 BLR SiO_2 analyzers
8-7-01	Changed Reagents LPI SiO_2 Analyzer @ SHERCO
8-9-01	new resin @ LPI for cation column
8-15-01	new resin for U1 Econ and #12 polisher cation columns
	new resin for U2 Econ and #21 & #22 polisher cation columns
	new resin for U3 Econ cation column
8-20-01	new cal standard for U3 Boiler silica analyzer
	new cal standard for Demin silica analyzer

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8-23-01 Replaced resin 32 polisher CAT. COND. Analyzer
Replaced resin 33 polisher CAT. COND. Analyzer

8-24-01 Changed resin U1 Boiler CAT. COND analyzer

8-28-01 Replaced Cal Std U2 BLR SiO_2 analyzer
Replaced Cal Std U2 CPD SiO_2 analyzer
Replaced Cal Std U1 CPD SiO_2 analyzer

8-29-01 -Replaced IN-Line filters U1 CPD & BLR Nat Analyzers
-Changed resin @ LPI IN Cat. Cond. Analyzer
-Replaced resin 31 polisher cat. Cond Analyzer
-Changed Cal Std U3 CPD SiO_2 analyzer

8-30-01 -Changed Reagents U1 SiO_2 analyzer (CPD)
-Changed Reagents U3 CPD SiO_2 analyzer

9-4-01 -Replaced resin U3 DIS O_2 treatment Cat Columns

9-6-01 -Calibrated U1 Nat Analyzers CPD - 90% slope
Boiler 87% slope
-Calibrated 1811 EL Demin Nat Analyzer 59.2 slope
E_0 -25.1

9-11-01 -Calibrated U2 Nat Analyzers
CPD - 84% slope
Boiler - 100% slope

9-12-01 Changed Resin in U1 BLR CAT. COND Analyzer

9-13-01 Changed Reagents Demin SiO_2 analyzer.
Calibrated U3 CPD Nat Analyzers Slope 120%
U3 BLR Nat Analyzers Slope 101%

9-20-01 CHANGED Resin U1 ECON, CPD, 12pol C.C. Analyzers
Changed Resin U2 Boiler Cat Cond. Analyzers
Changed Reagents U2 CPD & BLR SiO_2 analyzers

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9-21-01	Replaced Electrodes U3 CPD Nat Analyzer
9-25-01	- Calibrated U3 CPD Nat Analyzer Slope → 94 % - Changed SiO_2 Std U2 CPD SiO_2 analyzer
9-27-01	Replaced Reagents LPI (SHERCO LAB) SiO_2 analyzer Replaced Resin U2 Econ Cat Cond analyzer Replaced Resin 21, 22 polisher Cat Cond analyzer
10-3-01	etched electrode & calibrated Demin Nat analyzer slope → 58.3 E_o → -31.0
10-4-01	calibrated and installed new DO probes for OT system Boiler Downcomer Serial # 43524 Econ Inlet Serial # 45136
	reinstalled DO probe #33826 in U3 WQP & calibrated
10-9-01	new cation resin for 7th Floor OT WQP
	new cation resin for LPI WQP at LPI
10-10-01	new cation resin for LPI WQP in old lab
	new reagents for U1 Boiler silica analyzer
10-16-01	calibrated U1 Boiler Nat analyzer ; slope → 80% U1 CPD ; slope → 90% U2 Boiler ; slope → 90% U2 CPD ; slope → 82%
	replaced cation resin on U1 Boiler, #11 & #12 polisher columns
	replaced cation resin on U3 Main Steam cation column
10-18-01	new reagents in U1 CPD silica analyzer

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10-18-01	calibrated U3 Nat+ analyzers Boiler slope → 97% CPD slope → 97%
10-19-01	INSTALLED NEW LAMP U3 CPD SiO_2 analyzer
10-23-01	new reagents for U3 CPD silica analyzer
10-24-01	new resin for U1 Econ cation column new resin for U2 CPD cation column
10-31-01	new solution, tubing and etched electrode on Demin Nat analyzer. Also calibrated; slope → 54.8 E_o → -37.7
	new cation resin @ LPI
11-6-01	new ~~standards~~ reagents for U3 Boiler silica analyzer
11-7-01	replaced in-line filter on U3 Nat analyzer
	new reagents for U2 Boiler SiO_2 analyzer new reagents for Demin SiO_2 analyzer
	new cation resin for U1 CPD; new cation resin U2 Econ and #21 polisher
	new reagents and standard for LPI SiO_2 analyzer @ LPI
	new cation resin for OT Panel East & West Downcomer on 2½ new cation resin for OT Panel Econ Inlet. 7th Floor
11-12-01	replaced cal standard in U1 Boiler & CPD silica analyzers replaced cal standard in U2 Boiler & CPD silica analyzers
11-17-01	new cation resin for U2 Boiler and #22 polisher new cation resin for U3 Boiler

11-15-01	replaced cation resin @ LPI
11-26-01	new reagents for U2 CPD silica analyzer
	new reagents for LPI silica analyzer in lab
	calibrated U1 Nat analyzers
	Boiler slope → 80% CPD slope → 90%
	calibrated U2 Nat analyzers
	Boiler slope → 90% CPD slope → 82%
	replaced cal standards on U3 Boiler & CPD silica analyzers
11-27-01	new cation resin for U1 Econ, #11 & #12 polisher
	new cation resin for LPI column in old lab
11-28-01	replaced reagents on U1 Boiler silica analyzer
	calibrated and etched electrode on Demin Nat analyzer
	slope → 56.2 E_o → -33.2
12-6-01	new resin for LPI cation column @ LPI
12-11-01	new reagent valves, tubing and lamp (total tubing replaced)
	on LPI SiO_2 analyzer @ LPI
	new cation resin for U3 CPD & Econ columns
12-12-01	Calibrated U3 Nat Analyzers
	Boiler → 88%
	CPD → 106%
	new reagents for U3 CPD silica analyzer
	new reagents for U2 CPD silica analyzer

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12-12-01	calibrated U1 Nat Analyzers Boiler slope → 83% CPD slope → 90%
	calibrated U2 Na+ Analyzers Boiler slope → 90% CPD slope → 82%
	replaced cation resin on 2½ & 7th floor "OT" panels
12-13-01	replaced cation resin on U1 Boiler & CPD replaced cation resin on U2 Econ, CPD & #21 polisher
	replaced cation resin on U3 #31, #32, #33 polishers
12-17-01	new standard LPI SiO_2 analyzer in lab
	new reagents Demin SiO_2 analyzer
	new tubing, o-rings, solution, reference solution, etched electrode and calibrated Demin Nat analyzer slope → 55.3 E_o → -35.7
	buffered U1 and U2 pH electrodes on boiler & economizer
12-18-01	successful calibration of DO sensors for the "OT" system (both 2½ & 7) *RLM/JPW *
	new cation resin @ LPI
	replaced broken cap on Demin SiO_2 analyzer molybdate reagent bottle

(2002)

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1-4-02 New reagents - LPI Series 5000 (@ LPI)

New cation resin - 22 Polisher C.C.

1-9-02 New cation resin - @ LPI WQP
" " " - U-3 survey cation cond.

1-11-02 New Cation resin - LPI WQP (back room)
" - U-1 Econ Inlet
" - 11 Polisher
" - 12 Polisher

New Silica Reagents : U-3 Boiler SiO_2 analyzer

1-14-02 DEMIN Na Analyzer :- Fresh reagent and tubing, orings
- etched measuring electrode
- calibration slope → 57.0
E_o → -30.4

1-18-02 New cation resin - U-2 Boiler
- U-2 Econ Inlet
New Silica reagents - U-2 Boiler SiO_2
- U-2 CPD SiO_2

1-21-02 Replaced Cal Std - DEMIN SiO_2 analyzer.
Submitted MWR for cal problem on 22 SiO_2 analyzer.

1-25-02 - New Cal Standard at LPI analyzer (SiO_2)

- Installed Fresh O_2 Sensor on U-3. 31 WQP.
S/N 37962 (From Orbisphere Service Program)
(Performed Air Cal)

- Fresh cation resin - 22 polisher C.C.

- New reagents - LPI SiO_2 (backroom U)+2 lab)

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1-28-02	Fresh cation resin - 7th floor, U-3 WQP
1-29-02	New Cal Std. - U-2 Boiler Silica analyzer
1-31-02	U-2 Sodium Analyzer calibrations. CPD : Slope 82 % Boiler: Slope 90 %.
2-1-02	Fresh Reagents on U-1 CPD Silica analyzer.
2-6-02	Re-built O_2 sensor for portable analyzer.
2-7-02	Fresh cation resin - U-2 CPD cation cond.
	Calibrated U-1 sodium analyzers: Boiler, Slope - 83 % CPD , Slope - 90 %
2-8-02	- Fresh cation resin - 7th floor (U-3) Both boiler cation cond. columns. - calibrated O_2 sensors: 7th floor + 2½ floor. (U-3 WQP's)
2-8-02	New SiO_2 Reagents: - U-3 CPD analyzer - Demin analyzer (U1+2 Lab)
2-14-02	Replaced cation resin on <u>all</u> columns - U1 WQP
2-15-02	New SiO_2 reagents - U-1 Boiler analyzer.
2-18-02	New Cal Std on U-1 CPD SiO_2 analyzer.
2-19-02	New cation resin - 22 Polisher C.C.

2-20-02 - New resin at LPI WQP cation conductivity monitor.
2-21-02 - Etched measuring electrode (DEMIN Na Analyzer)
Cal - slope → 58.5
e_o → -29.5

2-22-02 Calibrated U-3 Na Analyzers
CPD : Slope 106 %
Boiler : Slope 88 %

2-26-02 Replaced Lamp Assembly - LPI SiO_2 Analyzer (Back room of Old Chem Lab)

2-28-02 Fresh Cation Resin - 21 Polisher C.C.
U-2 Econ Inlet C.C.

3-1-02 New SiO_2 reagents - LPI WQP (offsite Location)

3-7-02 New SiO_2 Std. - LPI WQP (Old Chem Lab)

3-8-02 Removed, dis-assembled, and cleaned flow regulator + filter for U-2 Boiler SiO_2 analyzer.

3-11-02 New reagents in U-2 Boiler SiO_2 analyzer.

Primed both U-3 SiO_2 analyzers with D.I. water and turned/powered off for 5 week outage.
Transferred reagents from U-3 analyzers to U-2 CPD SiO_2 analyzer.

3-14-02 Fresh cation resin - LPI - WQP (offsite)
3-20-02 Fresh cation resin - LPI - WQP (U1+2 chem lab)

3-21-02 Fresh cation resin - U-2 Boiler cation cond.

3-26-02 Replaced tubing + reagent, etched measuring electrode
Cal - slope 58.0 (DEMIN Na analyzer)
- e_o -31.9

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3-26-02	Fresh cation resin – 22 polisher C.C. U-2 CPD C.C.
3-28-02	Fresh cation resin – 11 + 12 Polishers C.C. U-1 Econ Inlet C.C.
4-1-02	new reagents for LPI silica analyzer in old lab
	new reagents for Demin silica analyzer
	new standard for U1 Boiler silica analyzer
4-3-02	new reagents & standard for U3 CPD silica analyzer
	new cation resin for U3 CPD column
	replaced resin in cation column @ LPI
4-4-02	new cation resin for U2 Economizer
4-11-02	Calibrated Na analyzers. Unit-3 Put new reagents into Boiler SiO_2 analyzer & calibrated it. Patched into MTC.
4-12-02	Replaced resin in Cation col's. for Unit3 Boiler, Econ In, & Steam.
	Recalibrated Na analyzers on Unit 3. CPD slope = 96% Blr Slope = 90%
4-12-02	Replaced resin in Cation Col for: Unit 1- CPD Unit 2- Pol. 21
4-12-02	Replaced SiO_2 std in LPI (in-house) analyzer

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4-18-02 Replaced in-line filters on both Unit 3 Blr & CPD Na lines.
1000 Cleaned in line filters & pressure regulators on Unit 3 Blr & CPD SiO_2 analyzers.

Cleaned in-line filter on Unit 3 Diss O_2 line

4-19-02 Calibrated Na analyzers: Unit 1 - Boiler
CPD
Unit 2 - Boiler
CPD

4-23-02 switched to North Bank for U3 oxygen feed (DSW)

changed resin on 7th floor Econ sample panel

changed resin on 2½ floor both downcomer samples

4-16-02 Replaced U1 CPD SiO_2 Reagents (JCK)

4-24-02 WQP on LPI & Sherco sites were overwhelmed by excess pressure & temp. Silica analyzers sample hoses were broken & instrument totally steamed up. Repaired hoses, cleaned cell, re-calibrated, & reset systems.

4-25-02 Duane found insufficient cooling water to sample chiller on LPI WQP. New cooling system has been designed/installed on the LPI site.

Replaced cation resion for LPI site WQP.

4-25-02 Replaced cation resin on Unit 3 WQP

5-2-02 Replaced cation resin on Unit 2 Boiler cat. cond.
" " " " " 1 Pol 11 & 12 " "
" " " " " 3 Pol 33

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5-2-02 Installed two filter combos on Econ In U-3 treatment boards. Mon-Tues; Wed-Thurs.

5-2-02 Refilled ref filling sol'n on Demin Na analyzer & calibrated. Slope = 61 E_0 =

5-3-02 JCK
- Replaced Reagents U2 BLR SiO_2 analyzer
- Replaced Reagents U2 CPD SiO_2 analyzer
- Replaced Cal Std U1 CPD SiO_2 analyzer

5-6-02 Replaced cation resin in: Unit 1 - Econ In. cation col.s.
Unit 2 - CPD
Pol 22

5-8-02 Unit 2 CPD SiO_2 is 'unable to calibrate'.
Took apart & cleaned cell.
Found stir bar barely moving. MWR to Kevin.

LPI - WQP surveillance - everything looks good.
Found new cooling water piping.

5-7-02
- Replaced BARNSTEAD filters in U1 + 2 LAB
- REPAIRED Flow cell on U1 Diss O_2 analyzer

5-9-02 Replaced resin in Unit 2 Econ In Cat. Col.
Replaced SiO_2 analyzer SiO_2 reagents Unit 1 CPD

LPI surveillance - all looks good at LPI
Cooling water temp ~ 60° ℄ in-house also g

5-15-02 LPI surveillance

5-16-02 Replaced resin in LPI Cat. Col.
Found leak in SiO_2 analyzer sample hose @ LP.
Removed hose & replaced w/ new, longer hose in case of need for future repair.

5-17-02 Replaced Cation resin on Unit 3 Pol 31 & 32 cat. col.

5-21-02 LPI Surveliance - all looked good.

O_2 filter unit installed

5-22-02 Removed filter assembly O_2 WQP- 7th flr

Retubed top of Demin SiO_2 analyzer.

5-24-02 JCK Replaced Reagents & Std LPI in House SiO_2 analyzer
Replaced Resin U1 CPD Cat Column
Replaced Resin 22 polisher Cat. Cond. Analyzer

5-29-02 Calibrated Unit 3 Boiler & CPD Na^+ analyzers.
Boiler 90% Slope
CPD 96%

5-30-02 Calibrated Unit 1 Boiler Na^+ & CPD Na^+ analyzers → 6-3-02
" Unit 2 CPD Na^+ & BLR Na^+ " → 6-3-02

Replaced Unit 3 CPD SiO_2 reagents, poured left overs into Boiler U-3 SiO_2, because were running short.

LPI surveliance - looks good, C. Cond alittle high 0.27µS There was some steam flow problem. Graph went from mid-line to bottom. Alerted Gary Schmidt upon return.

jed Calibrated Demin Na analyzer - new tubing, o-rings, reagent - etched ref.

5-31-02 replaced in-line filter on U2 Boiler Nat analyzer (no flow)

6-3-02 Recalibrated Demin Analyzer - SLOPE = 61% E_0 = 30

6-6-02 O_2 treatment surveliance - all looks good, bank pressure = 1200

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6-6-02	LPI Surveliance- Cond, flows, temps, ph look good. The bottom of the SiO_2 analyzer (reagent cabinet door) was open, so no R. pressure. Reestablished flow.
	LPI was out of service Mon-Tues. Wed I had class, today it's back on line. Mark W. will change temp leads today or tomorrow.
6-6-02	Replaced Standard in Unit 2 CPD SiO_2 Analyzer
6-6-02	New resin in Cat. Col. Unit 1 Pol. 11 & 12
6-8-02	LPI Surveliance- all looks good O_2 U-3 " - all looks good System Press = 1200
6-10-02	O_2 Surveliance- all looks good System pressure = 1150
	Replaced resin in LPI in-house Cat Col.
6-12-02	O_2 Surveliance - all good
	LPI - at LPI: Changed SiO_2 reagents & standard Replaced cation col. resin
	Replaced resin in Cation col: Unit 1 - Boiler & Econ In Unit 2 - Pol. 22
6-13-02	Unit 1 Boiler SiO_2 analyzer: 'unable to calibrate' Found it very very dirty & crusty so I took it all apart. cleaned the cell. Replaced the stir bar & recalibrated to 518 ppb.
	Replaced resin Unit 2 Econ In & CPD Cation Col.

6-17-02 Replaced reagents in Unit 3 Boiler SiO_2 analyzer

O_2 treatment surveliance Bank pressure = 900#
Conductivity on Econ too high ???

6-18-02 LPI - Out of service

6-19-02 Unit 3 Boiler Silica Analyzer
Took apart & cleaned cell & all surrounding area.
Replaced lamp - Recaled - 502ppb

6-20-02 Recalibrated Unit 2 CPD SiO_2 analyzer after checking on sample cell, etc.

6-21-02 LPI back in-service, Mark W. will do surveliance.
Looked good on all O_2 Treatment on Unit 3.

6-25-02 Calibrated Unit 3 Boiler & CPD Na^+ analyzers.

6-27-02 Replaced resin Pol 21 Cation Col.

6-28-02 LPI Surveliance
Changed resin in cation col.

Replaced SiO_2 reagents on Unit 2 Boiler & CPD SiO_2 anal.

7-1-02 JLK - Replaced Resin U3 Survey CAT cond monitor
- Replaced Selonoid U1 BLR SiO_2 analyzer. Unable to calibrate, Low flow from std.
- Replaced std U1 BLR SiO_2 analyzer.

7-2-02 Replaced SiO_2 STD U3 CPD

7-3-02 LPI - Resin 80%, Reagent 66%, STD 70%
- Sample Press ≈ 2.1
- Looks OK

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7-3-02 JCK – Replaced Resin U3 BLR Downcomer 2½ floor

7-10-02 – Removed O_2 sensors 43524 & 45136 from service on 2½ and 7th floor U3 O_2 Feed. Will put new sensors in service when system is up and running.

7-11-02 – Replaced chart U3 DO analyzer
– LPI - Resin 60%, Reagent 52, STD 60%
– Changed Reagents & STD Demin SiO_2 analyzer

7-12-02 – Replaced Reagents & STD U1 CPD SiO_2 analyzer
– Replaced std U2 BLR SiO_2 analyzer

7-18-02 LPI - Resin 30%, Reagent 41%, STD 50%

7-19-02 – Replaced Reagents LPI (in house) SiO_2 analyzer
– Replaced Resin U2 Economizer CAT cond Analyzer
– Replaced Resin U1 CPD Econ " " "
– Replaced Resin 11 & 12 polisher CAT cond. analyzer
– Replaced Reagents U3 CPD SiO_2 analyzer

7-23-02 ~~Cpt~~ Calibrated U1 Na^+ Analyzers CPD 93%
BLR 107%

7-24-02 Replaced Resin @ LPI CAT COND Analyzer
Resin 100%, Reagent 30%, STD 40%

7-25-02 Replaced Resin LPI in House CAT. COND. analyzer

7-24-02 Calibrated U2 Na^+ Analyzers CPD 96%
BLR 103%

7-25-02 – Changed Resin U2 CPD, 22 polisher Cat. Cond. Analyzer
– Replaced Reagents U1 CPD SiO_2 analyzer

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7-30-02 - Replaced SiO_2 std LPI in-House Analyzer
- Calibrated U3 Nat Analyzer - CPD 111%
- BLR 97%

8-1-02 - Replaced SiO_2 Reagents @ LPI
Reagent 100%
Resin 60%
STD 20%

8-6-02 Replaced SiO_2 std U2 CPD Analyzer

8-8-02 Replaced SiO_2 std @ LPI Resin 30%, Reagent 88
- Buffered pH analyzer (LPI), Buffered fine, but wouldn't read sample accurately, K. Backes will install new pre-Amp. Adjusted analyzer to pH of 9.0. Lab reading 9.0
- Replaced Resin U3 SAT/MAIN steam Cat Cond Analyzer
- Replaced SiO_2 reagents U3 CPD SiO_2 analyzer
- Replaced Resin 21 pol CAT. COND. Analyzer
- Replaced Resin U 2 Boiler CAT. COND. Analyzer

8-13-02 - Changed Resin U3 CPD CAT cond Analyzer
- Changed Resin U1 BLR CAT cond Analyzer
- Replaced Lamp U2 CPD SiO_2 Analyzer
- Replaced Resin @ LPI, STD, 100%, Reagent 80%
- Buffered pH analyzer (OK) Adjusted pH reading to match that of U3 lab 9.0
- Checked pH analyzer for LPI in old chem lab (OK) 93

8-14-02 - Changed Reagents U2 BLR SiO_2 Analyzer

8-22-02 LPI - Resin 75%, Reagent 67%, STD 90%

8-28-02 - Replaced Resin U3 Econ CAT COND Analyzer
- Replaced Resin U2 Econ CAT COND Analyzer
- Replaced Reagents U1 CPD SiO_2 Analyzer
- LPI Resin 50%, Reagent 56%, STD 80%.

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8-28-02 JK	Replaced Resin U1 Flow CAT. cond Analyzer
9-3-02	– replaced reagents on Demin SiO_2 analyzer – new cal standard for U1 Boiler SiO_2 analyzer
9-5-02	new resin for WQP @ LPI (100%) SiO_2 reagents → 43% SiO_2 standard → 70%
9-6-02	new resin for U1 CPD, #11 polisher & #12 polisher new resin for #22 polisher
	new reagents in U3 CPD SiO_2 analyzer
9-11-02	etched electrode and calibrated the Demin Na^+ analyzer Slope → 56.9 E_o → -29.2
	calibrated U1 Na^+ analyzers Boiler slope → 95% CPD slope → 107%
	calibrated U2 Na^+ analyzers Boiler slope → 91% CPD slope → 105%
9-12-02	LPI WQP weekly check (everything was good) SiO_2 reagents → 32% SiO_2 standard → 60%
9-13-02	Replaced cation resin in Unit 3 Polisher #33 col.
9-17-02	– new SiO_2 reagents for U1 Boiler & LPI analyzer in old lab – new cation resin for CPD Unit 2 & #21 polisher
9-18-02	calibrated U3 Na^+ analyzers Boiler slope → 94% CPD slope → 103%
9-19-02	LPI WQP weekly check (looked good) cation → ~ 60% SiO_2 reagents → 20% (reset to 30) SiO_2 standard → 50%

9-24-02 replaced reagents in SiO_2 analyzer @ LPI
Reagents → 100% Standard → 40% Cation Resin → 40%

9-25-02 – new resin for #31 & #32 polisher
– new resin for LPI cation in old lab
– new reagents for U2 CPD silica analyzer

9-26-02 – new reagents and cal standard for U3 Boiler SiO_2 analyzer
– replaced cation resin @ LPI

9-30-02 – new cal standard for U2 Boiler SiO_2 analyzer
– new cal standard for Demin SiO_2 analyzer

10-3-02 LPI silica reagents 85%; silica standard @ 30%
cation resin @~75%

10-7-02 new cal standard in U1 CPD SiO_2 analyzer

10-8-02 new cal standard in U3 CPD SiO_2 analyzer

10-9-02 U2 Boiler Reagents for SiO_2 analyzer replaced

New solution, tubing, etched electrode and calibrated
Demin Nat analyzer. Slope → 52.5
E_o → -37.5

10-10-02 LPI reagents @ 72%, standard @ 20%
cation resin ~ 50%

new cation resin for U2 Economizer

10-16-02 – Calibrated U1 Nat analyzers; Boiler slope → 98%, CPD slope → 100%
– calibrated U2 Nat analyzers; Boiler slope → 91%, CPD slope → 105%
– calibrated U3 Nat analyzers; Boiler slope → 96%, CPD slope → 105%

10-17-02 LPI reagents @ 62%, standard @ 10%, cation resin @ ~ 25%

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10-17-02 – new resin for U2 Boiler cation column
– new reagents for U1 CPD SiO_2 analyzer

10-22-02 replaced resin in East & West Downcomer Sample columns for OT system on 2½ floor.
Also installed new DO probes on 2½ (Serial # 36103) & 7 (Serial # 46308)

10-23-02 – replaced cation resin @ LPI
new SiO_2 standard @ LPI
Reagents → 52% standard → 100% resin → 100%

– replaced cation resin in U1 Boiler, Econ, #11 & #12 polisher columns
– replaced cation resin in U2 #21 & #22 polisher columns

– new reagents in Demin SiO_2 analyzer

10-30-02 – new reagents in U3 CPD SiO_2 analyzer

– Weekly LPI check
SiO_2 standard → 90%; SiO_2 reagents → 41%; cation → 75%

11-6-02 replaced standards on U2 CPD SiO_2 analyzer and the LPI SiO_2 analyzer in the old lab

Calibrated Demin Nat analyzer (etched electrode)
slope → 55.1 E_0 → −28.6

11-7-02 - Weekly LPI check
SiO_2 std → 80%; SiO_2 reagents → 28%; cation → 40%

11-12-02 – Calibrated U1 & U2 Nat analyzers
U1 Boiler slope → 93% U2 Boiler slope → 92%
U1 CPD slope → 100% U2 CPD slope → 106%

– new reagents & standard for U2 CPD SiO_2 analyzer

11-12-02 new cation resin for U1 CPD column

11-13-02 Calibrated U3 nlat analyzers
Boiler slope → 94%
CPD slope → 105%

- new cation resin for U3 Boiler column
- new cation resin for U2 Econ & CPD columns

11-14-02 - new resin for Econ Inlet oxygenated treatment sample on 7th floor
- new cation resin @ LPI
SiO_2 reagents → 16%; SiO_2 STD → 70%; Cation Resin → 100%

11-18-02 - new SiO_2 reagents @ LPI
- new SiO_2 reagents for LPI WGP panel in old lab
- new SiO_2 reagents for U2 CPD analyzer

11-19-02 - new SiO_2 reagents for U3 Boiler analyzer
- new cation resin for LPI panel in old lab
- new cation resin for U3 Make-Up To Condensor column

11-26-02 *LPI check*
SiO_2 reagents → 87%; SiO_2 STD → 60%; Cation Resin → 50%

12-2-02 switched to North Bank oxygen cylinders U3

12-4-02 - new resin for #11 & #12 polisher cation columns
- new resin for U1 Econ inlet cation column
- new SiO_2 reagents in U1 CPD analyzer
- new resin for #21 & #22 polisher cation columns

12-9-02 calibrated Demin nlat analyzer (new tubing, solution & etched electrode)
slope → 52.5 E_o → -36.2

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12-6-02	JCK replaced resin @ LPI
12-11-02	new cation resin for "OT" panels on 2½ & 7th floor
12-12-02	new cation resin for U2 Boiler & Econ columns
	new cation resin @ LPI (100%) weekly LPI check: SiO_2 reagents → 65%; SiO_2 STD → 30%
12-16-02	LPI surveillance: SiO_2 reagents → 59%; SiO_2 STD → 30%
12-17-02 –	calibrated U3 Nat analyzers Boiler slope → 87% CPD slope → 103%
–	replaced standard and reagents on U3 CPD silica analyzer
–	calibrated U1 Nat analyzers Boiler slope → 93% CPD slope → 100%
–	calibrated U2 Nat analyzers Boiler slope → 90% CPD slope → 101%
–	new reagents and standard for Demin SiO_2 analyzer
–	new standard for U2 Boiler SiO_2 analyzer
12-18-02	new cation resin for U3 Main steam, Economizer Inlet & CPD columns

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* * *
* 2003 *

1-3-03 LPI WQP
Post New Year's Day Outage
Replaced cation resin in col.; est. flows - all looks good.

1-8-03 RLM-replaced cation col. resin on Unit 1 Boiler Cation Col.

1-6-03 Replaced Unit1 Boiler SiO_2 analyzer reagents

1-9-03 Replaced Unit 2 CPD SiO_2 Analyzer:
Reagents
Filters-in reagent bottles
The analyzer is 'unable to calibrate', this is the first troubleshooting attempt. Air is being delivered to sample cell from somewhere.

1-10-03 LPI Surveiliance for week-end.
Replaced SiO_2 reagents & standard.

1-13-03 Replaced reagents in Unit 2 Boiler SiO_2 analyzer

1-14-03 Replaced reagents in LPI Sherco In-house SiO_2 analyzer.

Have been working on Demin Sodium Analyzer
Replaced: Na^+ electrode; Reference Electrode & fill. solution; reagent, tubing & O-rings.
I reset the PMA board & have tried several calibrations, but the slope is always too high. Still trying!

1-15-03 Replaced resin in Unit 2 Pol 22 & Unit 1 Pol 12 Cat. Col.

1-16-03 Cleaned & rebuilt O_2 probe for Portable Orbisphere.

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1-17-03	LPI Surveillance: SiO_2 reagents - 89% Std = 90% Replaced resin in Cation Column.
	Unit 1 Replaced resin in Econ In & Pol 11 Cat. Col.
	Unit 2 Replaced resin in Econ In & Pol 21 Cat. Col.
	Replaced resin in Survey Cation Col. on Unit 1
	O_2 treatment Check on 7th/2½ flrs - looks good.
	Tried Cal. on Demin Na again - didn't work!
1-21-03	Replaced resin on Econ. O_2 Treat. 7th Floor Cat. Col.
	Started up O_2 treatment system to 20% on BFP side only.
1-23-03	Replaced resin on LPI - (old lab) Cat. Col.
	Tried to Cal the Demin Na again - ???
	Replaced reagents & SiO_2 std on Unit 1 CPD SiO_2 Analyzer
1-24-03	LPI Surveillance - looks good reagent - 77% Std - 80%
1-27-03	Replaced Unit 2 CPD SiO_2 Std in Series 5000.
1-28-03	Replaced Unit 3 Boiler SiO_2 Reagent in SiO_2 analyzer.
	Restarted O_2 treatment Econ - 30% CPD - 10%
1-29-03	Demin Na Analyzer calibrated Slope = 61.7 E_0 = -7.3

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1-30-03	Replaced resin in 32 Polisher Cat. Col.
1-31-03	LPI Surveillance: Good flows SiO_2 reagents - 68% Std-70%
1300 hrs	LPI SiO_2 Check Analyzer 35ppb Grab Value 34ppb Ops lead was going to call ALLEE so he could alert LPI to their process problem.
2-4-03	Replaced Resin @ LPI
2-7-03	LPI Surveillance - Good flows - all good
2-7-03	Unit 3 CPD SiO_2 Analyzer - replaced reagents
	Replaced cation resin in cation columns on: Unit 2 Boiler " CPD Unit 1 CPD
	Calibrated Nat Analyzers Unit 3 Boiler CPD Slope → 108% ↳Slope → 95%
2-3-03	Calibrated Nat Analyzers Unit 1 Boiler Slope → 96% CPD Slope → 100%
2-3-03	Calibrated Nat Analyzers Unit 2 Boiler Slope → 93% CPD Slope → 105%
2-12-03	Replaced SiO_2 reagents in Demin SiO_2 analyzer
2-13-03	LPI Surveillance - Plant is out of service - took a look at panel SiO_2 analyzer Reagents = 44% Std = 50% Cat Resin ½ used.

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2-17-03	LPI Surveillance after an extended outage. Checked SiO_2 analyzer - theirs read 22ppb lab reading was 23ppb. The analyzer continually flashes an alarm of ⇐B reagent pressure - will have I & C look at it. Possibly ~~replaced gauge~~ sensor??
2-19-03	LPI Surveillance- SiO_2 check - see log book Unit 1/2 Replaced resin in cation column
2-21-03	LPI Surveillance SiO_2 analyzer still has pressure alarm Reading 43 ppb today Reagent = 30% Std = 31% Replaced resin on Unit 3 O_2 treat Econ Panel
2-21-03	LPI - SiO_2 analyzer Duane - replaced all reagents and 1 of the reagent caps because it had fallen apart
2-24-03	Replaced U-3 Boiler SiO_2 analyzer → SiO_2 std.
2-24-03	Replaced resin in Cation Col: Unit 2 Pol 22, Unit 1 Pol 11 & 12 Replaced Whitey valve on Pol 11 Cat. Col.
2-25-03	Replaced cation resin on Polisher 22 Cleaned flow cells on: CPD & Econ Unit 1 CPD Unit 2

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2-26-03 Replaced Econ In. Unit 2 cation Resin.

2-28-03 LPI Surveillance
SiO_2 Analyzer – SiO_2 reagents → 87% Std → 25%
↳ Still is in continual alarm of <8psi reagent pressure.

Portable Diss O_2 probe rebuilt & back in-service.

All turbine oils & EHC's sampled & sent.

Corrosion samples gathered from O_2 treatment center.

O_2 pressure currently at 1000 psi → treatment both @ 10%.

3-3-03 LPI Surveillance
The plant was doing a boil-out on the paper roller.
The Cat. Cond was 0.56
pH 9.6
SiO_2 35ppb grabbed a sample.
Lab → 14ppb
Analyzer Cal was 479ppb - some work may be required out there.

Patched out all analyzers for Unit 2 outage.

Put DI water in reagent bottles for SiO_2 analyzers on Unit 2 Boiler & CPD's.

3-5-03 Replaced resin in Unit 1 Boiler & Econ In. cation col.

Replaced blue pen on YoKagawa ORP recorder Unit 3.

LPI
Replaced resin in cation col on their WQP
SiO_2 analyzer still flashing > 8psi reagent pressure
Cal value = 501ppb SiO_2 = 17ppb Grab = 12 ppb

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3-7-03 Changed O_2 bank

LPI Surveillance
Looks good
SiO_2 reagent preasure - still continuous alarm
↳ 72% Sample press = 5 psi
CC - 0.22 µS pH 9.6

SiO_2 LPI WQP 14ppb Grab = 8ppb
Sherco WQP 25ppb Grab = 6ppb (???)

Called SS (Nerdang) told him things look OK for WK-ed.

3-10-03 LPI Surveillance
all working well
SiO_2 → 10ppb
Reagent → 67% Std → 30%
C.C. 0.15 µS pH 9.5

3-11-03 Replaced sample solenoid in Unit 3 Boiler SiO_2 5000. It was 'unable to calibrate', sample was constantly dripping into sample cell - diluting sample.

3-12-03 LPI Surveillance
SiO_2 - Site = 9ppb Lab = 4ppb

Sherco WQP SiO_2 analyzer has something wrong. I retubed the upper half. It calibrates OK It read 20ppb - grab sample read 15 ppb. Next sample, it read 5ppb, grab = 21 ppb. ???

3-14-03 LPI Surveillance
Looks good
SiO_2 still same alarm.
↳ 8ppb

3-17-03 LPI Site
Replaced SiO_2 std.
↳ the pressure sensor didn't register that the analyzer lost pressure. It should have put the system into alarm & it would have needed a reset - after the bottle was removed, etc, but none of that happened. It just continued reading the usual '>8 pressure' alarm.
A WO has been generated & parts have been ordered for the instrument to have an overhaul after Unit 2 outage is over.

3-19-03 Sherco LPI WRP SiO_2 analyzer
Replaced reagents & moved sample tube in solenoid slightly.
Replaced resin in Cation Col.

Unit 2 CPD SiO_2 analyzer Overhaul
Retubed all of the reagent delivery system, top & bottom
Replaced lamp
Replaced reagents
Recalibrated
Since this analyzer was intermittently 'unable to calibrate' I found the sample cell filled with air bubbles when the reagents were low-during cal. cycle, but with full reagent bottles the calibration would be OK. After the retube I placed low level reag. bttles from another analyzer in there purposely & tried several calibrations & it worked. Hopefully this fixed the problem.

3-19-03 ~~Replaced SiO_2 reagents on SHERCO LPI WRP SiO_2 Analyzer~~

Replaced SiO_2 reagents on Unit 1 Boiler SiO_2 Anal.
" " " " " " CPD SiO_2 Anal.

3-19-02 ~~1 resin in cation col. for Sherco WQP LPI's~~
CALIBRATION UNIT 3 Sodium's
Boiler Sodium Analyzer
Slope → 90%

CPD Sodium Analyzer
SLOPE → 104%

3-20-03 CALIBRATION SODIUM ANALYZERS
UNIT 1
Boiler → Slope = 100%
CPD → " = 94%

UNIT 2
Boiler → Slope = 109%
CPD → " = 88%

3-21-03 Replaced reagents in Unit 3 Boiler Silica Analyzer

O_2 Bank pressure = 1700 psi

Calibrated Demin Na^+ analyzer repeatedly all week.
Left it with out-of-limit slope of 62.5 E_0 = -13.4

LPI-
Replaced cation resin at their WQP
Checked out SiO_2 analyzer - looks good. Still has exact alarm situation. Readout = 45ppb
They are bringing several things back on-line today.
There was navy blue spill over everywhere over there, it looked VERY strange.
pH was reading high → 9.8 C.C. 0.58 B-4 change-out.

3-24-03 Corrosion sampler in-service again. Samples gathered Mon-Fri.

3-23-03 Replaced resin in Cation Col. on Unit 2 Pol. 21 & 22

3-24-03 Unit 2 Boiler Silica Analyzer
Upper half retubed
Replaced lamp
Cleaned sample cell
Cleaned everything in upper half

Cleaned sample trough & replaced sample tubing on Unit 2.

LPI Surveillance - looks good throughout SiO_2 Mon = 8ppb

3-25-03 Replaced resin in Unit 3 Polisher 31 & 33 Cation Col.

Replaced resin in both O_2 treatment WQP treatment panels.

4-1-03 - Replaced CAL STD + Reagent U3 CPD SiO_2 analyzer
- LPI
- Reagent 31 %
- STD 80 %
- Resin 40 %
- Adjusted pH analyzer with sample cal. Was in alarm and reading 9.7. Adjusted to 9.3 lab reading.

4-1-03 Replaced Cation resin on Unit 2 in: Boiler; Econ; CPD Columns

4-2-03 Replaced Ref Solution, tubing, o-rings, etched electrode calibrated Demin Na^+ Analyzer Slope 59.2

4-4-03 - Changed O_2 Banks U3
- Changed resin column U1 CPD
- changed reagents on Demin SiO_2 analyzer
- Changed resin @ LPI C.C. analyzer

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4-8-03 JCK	- Replaced SiO_2 std U1 Boiler Analyzer
4-10-03	- Replaced Resin U3 Boiler, Econ, CPD, main Steam Cation Conductivity Analyzer.
	- Replaced Reagents @ LPI SiO_2 analyzer
4-16-03	Changed SiO_2 std on LPI in-house SiO_2 analyzer
4-17-03	- Changed Resin U3 Economizer Downcomer 7th Floor - Changed Resin @ LPI C.C. Analyzer - Changed Resin U1 Econ C.C. Analyzer
4-18-03	New Stir Motor U2 Boiler SiO_2 Analyzer
4-22-03	New O_2 Banks U3 O_2 feed System
4-29-03	- New std U1 CPD SiO_2 analyzer - Installed & calibrated new Diss O_2 probe U1 WQP. - Installed & Calibrated new Diss. O_2 probe U3 WQP. - Installed & calibrated U3 7th Fl DO probe - Installed & Calibrated U3 2½ Fl D.O. probe - Replaced resin U3 2½ Floor C.C. analyzer
5-1-03	Replaced Resin in U2 CPD, Econ, 21 pol, 22 pol
5-6-03	Calibrated U3 Na^+ Analyzers BLR = 88% slope CPD = 111 % slope
5-6-03	Changed Resin Column at LPI

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5-7-03	Calibrated - U1 BLR Na^+ Analyzer - slope 93% - U1 CPD 94% - U2 BLR 97% - U2 CPD 115% - Demin Na Analyzer - slope - 59.2
5-8-03	Changed SiO_2 Reagents U3 BLR
5-16-03	- CHANGED RESIN U2 CPD, 21 pol, 22 pol - New Reagent U3 Boiler SiO_2 analyzer - New Reagent U1 Boiler SiO_2 analyzer - New Reagent U2 Boiler SiO_2 analyzer - New Reagent LPI in House analyzer
5-20-03	New Resin U1 CPD, 11pol, 12pol
5-22-03	- Replaced SiO_2 std. at LPI - Replaced resin @ LPI - Reagent @ 34% @ LPI SiO_2 analyzer - Replaced resin U2 BLR CAT. cond. monitor
5-27-03	Replaced SiO_2 Reagents & STD Demin analyzer Replaced SiO_2 STD U3 CPD
5-30-03	- Replaced Resin U1 ECON CAT COND Analyzer - Replaced Reagents U2 Boiler SiO_2 analyzer - Replaced Reagents LPI SiO_2 analyzer - Replaced Resin U3 32 pol CAT. COND. Analyzer
6-5-03	- Replaced Resin 21 & 22 pol CAT COND Analyzer - Changed O_2 Banks U3 O_2 Feed system
6-11-03	Calibrated U3 Na^+ Analyzers CPD Slope 108% BLR Slope 91%

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6-12-03	Calibrated U1 CPD Na^+ analyzer U1 BLR Na^+ analyzer 85 % U2 BLR Na^+ analyzer 83 % U2 CPD Na^+ analyzer 89 % Demin Na^+ analyzer -59.2 slope
6-26-03	- Changed Resin #1 polisher Cat. Cond. analyzer - Changed Resin #2 polisher Cat. cond. Analyzer - Changed Reagents U2 CPD SiO_2 analyzer - Changed Reagents U1 Boiler SiO_2 analyzer - Changed electrodes U1 CPD Na^+ analyzer - Changed Reagents U3 Boiler SiO_2 analyzer
6-27-03	Changed Resin U3 O_2 feed 7th & 2½ Floor LPI 60% Resin 60% STD 60% Reagent - Flows established after outage, filter plugged
7-3-03	new cation resin U2 economizer
7-7-03	new reagents U1 CPD SiO_2 analyzer
7-8-03	new reagents for U3 CPD SiO_2 analyzer
7-9-03	new cation resin @ LPI SiO_2 reagents => 46% SiO_2 STD => 50%
7-10-03	new cation resin for U1 Econ & CPD new cation resin for U2 Boiler, #21 & #22 polishers
7-16-03 RLM	Maintenance + calibration of Demin Na^+ analyzer. Slope 59.0

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7-17-03 Visit to LPI – cation column 1/3 depleted
– reagents 32 % std. 40 %

7-21-03 Visit to LPI – reset reagents to 30 %
– cation in 2/3 depleted

New reagents - Demin SiO_2 analyzer
New chart paper - 11WQP-01

7-23-03 New reagents - U-2 Boiler SiO_2 analyzer

7-25-03 - LPI status - No sample flows due to steam + drain line maintenance activities.

- New resin on 31 polisher cation column.

7-31-03 - New resin at LPI plant WQP.

8-1-03 - New resin - U-3 7th floor WQP

8-4-03 - New reagents at LPI SiO_2 analyzer.
- New reagents LPI WQP in U1+2 chem Lab
- SiO_2 Std. U1 - CPD SiO_2 analyzer.
- New Resin - U-2 Econ (C.C. Cond)
U-2 CPD

8-5-03 New Resin - U3 Econ Inlet, 33 Polisher, Steam Sample, Sample Survey.

8-8-03 - New Resin - 11 + 12 Polisher cation cond.
- Made a visit to LPI plant.

8-12-03 Air cleaned chiller units on 2.5 fl. + 7th floor (Unit 3 - Ox Feed WQP's)

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8-14-03	Demin Na Analyzer – etched measuring elec. – New filling solution bottle for Ref. elec. Calibration – 59.5 slope
8-15-03	– New resin at LPI WQP – New Cal Std at LPI – New resin U1 Boiler + Econ } C.C. U2 Polishers }
8-18-03	New SiO_2 reagents : – U2 CPD – U1 Boiler New Cal Std : Demin SiO_2
8-19-03	New reagents : U3 Boiler SiO_2
8-21-03	New resin : U3 CPD Cation Cond.
8-28-03	New Resin : U1 CPD , U2 Boiler, Shetco LPI WQP
9-2-03	New Resin : LPI WQP
9-5-03	New Resin : U2 Econ Inlet Na Calibrations U2 Boiler 84 % CPD 89 %
9-8-03	Na Calibrations U1 Boiler 85 % CPD 100 % New Cal Stds : U1 Boiler SiO_2, Shetco LPI WQP
9-9-03	New Resin : 11 + 12 Polisher C. Cond.
9-11-03	New Resin : U2 CPD column

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9-12-03	New Resin : U1 Econ Inlet
	New Reagents : DEMIN SiO_2 analyzer
9-18-03	New Resin : U3 Boilet Cat. , U3 32 Polishet cat.
	Na Calibrations U3 - Boilet Slope 91 % CPD Slope 108 %
	Na Calibration Demin Analyzet (60.8 slope)
9-19-03	New Resin at LPI WQP C.C.
9-19-03	New Resin : U2 Polishers - 21 + 22 Cat. Cond.
	New Reagents : U2 Boilet SiO_2 analyzet
9-22-03	New Reagents at LPI WQP SiO_2 analyzet.
9-30-03	New Reagents in LPI SiO_2 analyzer in old chem lab
10-1-03	new resin for U1 Boiler cation column
10-7-03	new cation resin @ LPI SiO_2 Reagents → 76 % SiO_2 STD → 30%
	new cation resin for LPI panel in old lab new cation resin for U2 Econ new cation resin for U1 CPD
10-9-03	new reagents in U3 Boiler SiO_2 analyzer new reagents in U2 CPD SiO_2 analyzer new reagents in U1 Boiler SiO_2 analyzer
	new cation resin for OT panel West Downcomer sample on 2½

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10-14-03 Calibrated Unit 1 Nat Analyzers
Boiler Slope → 85%
CPD Slope → 112%

Calibrated Unit 2 Nat Analyzers
Boiler Slope → 89%
CPD Slope → 89%

manual check of SiO_2 @ LPI return panel in old lab
lab → 37 ppb monitor → 51 ppb

10-15-03 New resin for U1 Econ, #11 & #12 polishers

New resin for U2 Boiler, CPD, #21 & #22 polishers

Calibrated Unit 3 Nat Analyzers
Boiler Slope → 91%
CPD Slope → 107%

10-16-03 etched electrode & calibrated Demin Nat analyzer
Slope → 56.7 E_0 → -14.8

checked LPI SiO_2 Reagents → 61% SiO_2 STD → 10%
Cation Resin → ~60% left

10-23-03 checked LPI WSP: SiO_2 Reagents → 50%
SiO_2 STD → 100% (replaced)
Cation Resin → 100% (replaced)

10-29-03 new reagents & cal standard in the Demin SiO_2 analyzer

10-30-03 replaced cation resin on U3 OT panel for economizer (7th floo

check LPI WSP: SiO_2 Reagents → 38%
SiO_2 STD → 90%
Cation Resin → 60% left

11-4-03 cleaned Nupro filter on DO sample line

replaced reagent valve for citric acid on U3 CPD SiO_2 analyzer

11-6-03 new reagents U2 Boiler SiO_2 analyzer
new resin for U2 Econ cation column

LPI cation resin changed @ LPI
cation resin → 100%
SiO_2 Reagents → 27%
SiO_2 STD → 80%

new reagents for U3 CPD SiO_2 analyzer

11-10-03 new cal standard for U1 CPD SiO_2 analyzer

11-12-03 new resin for U3 Main steam cation column
" " " U3 Economizer " "
" " " #31 polisher " "
" " " #33 polisher " "

Calibrated U1 Nat Analyzers: Boiler Slope → 85%
CPD Slope → 112%
Calibrated U2 Nat Analyzers: Boiler slope → 89%
CPD Slope → 89%

11-13-03 new cation resin for LPI panel in old lab

New solution, tubing, etched electrode & calibration of Demin Nat analyzer
Slope → 51.5 E_0 → -22.8

replaced SiO_2 Reagents in analyzer @ LPI: Reagents → 100%
STD → 90%
Cation Resin → 60%

11-18-03 new cation resin for U1 Boiler, Econ, CPD, #11 & #12 polisher
new cation resin for U2 CPD, #21 & #22 polisher

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11-19-03 - new reagents & STD for LPI silica analyzer in old lab
- new reagents for U1 CPD SiO_2 analyzer

11-20-03 LPI WQP check: Changed cation resin @ LPI → 100%
Silica Reagents → 82%
Silica STD → 60%

Calibrated U3 Nat Analyzers:
Boiler Slope → 83%
CPD Slope → 93%

11-24-03 new resin for U3 CPD cation column

11-25-03 - new cation resin for U2 Boiler cation column
- new reagents for U2 CPD SiO_2 analyzer
- replaced bulb in LPI SiO_2 analyzer in old lab

- LPI weekly check: SiO_2 Reagents: 74%
SiO_2 STD: 60%
Cation Resin: 75%
also replaced lamp in SiO_2 analyzer @ LPI

- new reagents for U3 Boiler SiO_2 analyzer
- new cation resin for Econ Inlet sample on "OT" system (7th floor)
- switched to North Bank for oxygen feed

12-1-03 DSW - Replaced both "Boiler" and "CPD" sodium analyzer pre-filters (Shot); Unit 3
- Restarted U-3 boiler sample, after packing on value SSG-TV-3105 was adjusted. Have full flow and valve continues to hold. W.O. was re-routed to "Outage" to replace packing.

12-3-03 – new SiO_2 STD for U1 Boiler SiO_2 analyzer
– new cation resin for U2 Econ column
– new in-line filters for U1 Boiler & CPD Na^+ analyzers
– new in-line filters for U2 Boiler & CPD Na^+ analyzers

12-4-03 – LPI Weekly Check: SiO_2 Reagents → 59%
SiO_2 STD → 40%
changed cation resin → 100%

– replaced reagent cap on U1 Boiler SiO_2 analyzer STD Bottle (it was cracked)

12-9-03 calibrated U3 Na^+ Analyzers: Boiler slope → 83%
CPD slope → 93%

calibrated U1 & U2 Na^+ Analyzers:
U1 Boiler slope → 85% U2 Boiler slope → 95%
U1 CPD slope → 112% U2 CPD slope → 89%

12-10-03 calibrated Demin Na^+ Analyzer & etched electrode
Slope → 53.2 E_o → −20.2

12-11-03 Weekly LPI check: SiO_2 Reagents → 48%
SiO_2 STD → 30%
cation resin → 75%

12-15-03 new standard for U3 Boiler SiO_2 analyzer

12-16-03 – new reagents for Demin SiO_2 analyzer
– new reagents for U1 Boiler SiO_2 analyzer

– new cation resin for U1 Boiler, Econ, CPD, #11 & #12 polisher
– new cation resin for U2 CPD, #21 & #22 polisher
– new cation resin for LPI panel in old lab

Weekly LPI check: SiO_2 Reagents → 60% (topped off)
SiO_2 STD → 30% Cation Resin → 100%

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12-31-03 LPI WQP Check: SiO_2 Reagents Level 36%
SiO_2 → 8ppb
C.C. → 0.18 µS Col. Y2 full
pH → 9.4
They were up & down all day yesterday (???)

1-02-04 LPI Check- Looks good Reagent Level = 33%
In house SiO_2 still a bit high. 28ppb
Column over there still Y3 full.

O_2 treatment:
7th floor - Col. slightly low - will last till Monday
2.5 floor - only right side has flow - don't know if this is normal.
Ops put system IN @ 10%.

1-4-04 RLM LPI check:
* replaced cation resin *
* replaced SiO_2 std. Reagent levels = 31 %

1-5-04 O_2 Feed WQP 7th floor
* changed cation cond. resin
* replaced Econ Inlet cond. resin (U-2)

1-9-04 Replaced 32 pol. cation cond. resin.

1-12-04 New SiO_2 reagents on U-3 CPD
New SiO_2 reagents on U-1 CPD (None left except citric)

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1-14-04 Replaced Diss. O_2 sensor on U1 WQP
New S/N 51344 (replaced S/N 50632)

Maintenance + calibration of Demin Na analyzer:
- new tubing + reagent, etched measuring electrode
- slope: 61.0

1-19-04 LPI visit: Added reagent to each bottle to bring level to ~ 33 %.

1-20-04 * No SiO_2 reagent in stock *
Transferring from analyzer to analyzer in order to maintain levels around 30-35 %.

1-21-04 Replaced Diss. O_2 sensors on U3 Oxygen Panels
2.5 floor New S/N 33198 (replaced 34719)
RLM 7th floor New S/N 35468 (replaced 45760)

1-26-04 Demin SiO_2 analyzer: Repaired/replaced leaking cap on Amino acid reagent.
- New cal standard installed.

- New reagents at LPI WQP SiO_2 analyzer.
- Fresh cation resin at LPI WQP.

1-27-04 Swapped DO_2 sensors between U1 WQP + U3 2nd fl.
U1 is now S/N 33198
U3 2.5 floor is now 51344

1-28-04 Changed cation resin columns on U1 WQP.

1-29-04 - New reagents in U2 CPD SiO_2 analyzer.

- Switched from North bank to South bank of oxygen cylinders for O_2 feed, unit 3.

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1-30-04 New reagents in LPI WQP SiO_2 analyzer (Old Chem Lab)

2-6-04 Changed cation column resin (U3 - 7th Fl.)

* Refrigeration system pump leak repaired by Lloyd on 2-5-04.

2-9-04 - New cation cond. resin at LPI WQP panel.
- New reagents in U1 Boiler SiO_2
- New reagents in Demin SiO_2 analyzer
- New Std. in LPI WQP SiO_2 analyzer (Old chem lab)

2-13-04 - Fresh cation resin - U1 + U3 Boiler Cat. Cond.
- Etched Na measuring electrode on Demin. Na analyzer.
- Also replaced Reference Electrode solution.

2-16-04 - Demin Na analyzer Cal. Slope → 59.7
- Replaced Cal stds. U1 Boiler + CPD analyzers.

2-19-04 New reagent + standard in U-3 CPD SiO_2 analyzer.

2-23-04 New cation resin - U3 32 + 33 Polisher cation cond.

2-24-04 New cation resin - U2 CPD + both polisher cation cond.

2-25-04 U-3 Sodium Analyzer calibrations:
CPD slope - 93 %
Boiler slope - 83 %

3-3-04 Fresh cation resin in 31 Pol. cation cond.

3-3-04 Unit 3 WQP Oxygen Sensor replacement:
New serial # (52516)

b)

3-4-04 Calibration of Unit 2 Sodium Analyzers.
CPD slope → 89 %
Boiler slope → 95 %

3-5-04 Fresh cation resin today for various cation conductivities:
- U3 boiler C.C. (2.5 Fl. Oxygen WQP)
- LPI WQP (backroom old chem lab)
- U2 boiler C.C.
- U2 econ inlet C.C.

3-8-04 - Fresh cation resin for U3 CPD, Econ Inlet, Steam C.C.'s.
- Layed up U1 Boiler + CPD SiO_2 analyzers for major unit overhaul (3-4 weeks).

3-12-04 Fresh cation resin for U3 7th floor WQP (Oxygen Feed)

3-15-04 Fresh cation resin for LPI WQP C.C. at LPI.

3-18-04 Demin Na analyzer
- New reagent + tubing
- etched measuring electrode
- slope 60.1

3-19-04 - New reagents over at LPI WQP silica analyzer.
- New reagents in U-2 CPD SiO_2 analyzer.

3-24-04 - New reagents in U-3 Boiler SiO_2 analyzer.
- Calibrated U-1 Sodium analyzers
Boiler - 85 % slope
CPD - 112 % slope

3-26-04 New reagents in U-1 CPD SiO_2 analyzer (ready for startup)

3-29-04 Changed 4 cation resin columns on U2 WQP:
(Econ Inlet, CPD, 21 + 22 polishers)

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3-30-04 – Changed all 3 cation resin columns on Oxygen Feed WQP's (U-3, 7th + 2.5 floors)

– New reagents in Demin SiO_2 analyzer.

4-1-04 – New cation resin in CPD + Econ Inlet columns, U1 WQP
– New cation resin at LPI WQP.
– Fresh reagents in U1 Boiler SiO_2 analyzer.

4-7-04 * LPI Weekly check *
SiO_2 Reagents → 74% SiO_2 STD → 80% Resin → ~66%

4-8-04 New Reagents for U3 CPD silica analyzer

4-13-04 replaced lamp on U3 Boiler silica analyzer

new in-line filters on U3 Boiler & CPD Na^+ analyzers

4-14-04 New reagents for U2 Boiler silica analyzer
New cation resin for LPI column in old lab

4-15-04 new cation resin for U3 Survey cation column
new cation resin for #32 polisher cation column
new cation resin @ LPI
Reagents → 61% STD → 70%

4-19-04 etched electrode & calibrated Demin Na^+ analyzer
Slope → 61.7 E_0 → -14.2
LPI check → Reagents → 54% STD → 60%
Cation @ ~80%

4-20-04 Calibrated U3 Na^+ Analyzers
Boiler Slope → 83% CPD Slope → 93%

Calibrated U1 Na^+ Analyzers: Boiler Slope → 83% CPD Slope → 87%
Calibrated U2 Na^+ Analyzers: Boiler Slope → 90% CPD Slope → 88%

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QP's 4-22-04 new cation resin for U2 Boiler column

LPI bi-Weekly Check
Reagents → 49% STD → 60% Cation → 66%

4-29-04 new cation resin U1 CPD column
new cation resin U2 Econ column

LPI looks good: Reagents → 38% STD → 50% Cation → 33%

5-3-04 - new STD for Demin SiO_2 analyzer
- new STD for LPI SiO_2 analyzer in old lab
- new electrodes for U2 Boiler & Economizer pH
- new cation resin for U2 CPD, #21 & #22 polisher
- new cation resin @ LPI
- new ph electrodes @ LPI

5-5-04 - new SiO_2 reagents @ LPI
- replaced reagent valve for molybdate reagent on SiO_2 analyzer @ LPI
- new SiO_2 reagents for U2 CPD analyzer

5-6-04 - new cation resin for U1 Boiler, Econ, #11 & #12 polisher
- Bi-Weekly LPI check: SiO_2 Reagents → 98% SiO_2 STD → 70%
Cation Resin → ~85%

5-13-04 - new reagents for LPI SiO_2 analyzer in old lab
- new reagents for U1 Boiler & U1 CPD SiO_2 analyzer
- new reagents for Demin SiO_2 analyzer & new tubing from reagent valves & sample valve to sample cell
- new reagents for U3 Boiler SiO_2 analyzer
- weekly LPI check
Reagents → 87% STD → 30% Cation Resin → 66%

5-17-04 New solution, tubing, o-rings & etched electrode on Demin Na+ analyzer. Calibrated with a slope of → 53.1
Eo of → -27.3

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5-19-04
- new resin for east boiler downcomer on 2½ floor "OT" panel
- new resin for econ inlet on 7th floor "OT" panel

- calibrated U3 Nat analyzers
  Boiler slope → 83%
  CPD slope → 93%

- new resin in LPI cation column in old lab

5-20-04
Calibrated U1 Nat analyzers: Boiler slope → 81%
CPD slope → 84%
Calibrated U2 Nat analyzers: Boiler slope → 90%
CPD slope → 88%

- replaced in-line filters on both Nat analyzers on U1 & U2

- Bi-weekly LPI Panel check
  Reagents → 75% STD → 20% Cation → ~45%

5-24-04
replaced D.O. probe on 2½ floor Boiler Downcomer sample line serial #31591

replaced D.O. probe on 7th floor econ inlet sample line serial #48906

- new cation @ LPI
- new SiO2 STD @ LPI
- new SiO2 STD for U1 Boiler analyzer

5-25-04
replaced pH electrodes on U3 Boiler & Economizer buffered with 7 & 10

5-27-04
new reagents & STD for U3 CPD SiO2 analyzer

6-1-04
new reagents for U2 Boiler SiO2 analyzer
new resin for U2 Boiler & Economizer columns

6-3-04 cleaned coils on "OT" cooling system on 2½ & 7th floors U3
check of LPI
Reagents → 52% STD → 90% Cation → 60%

6-8-04 Air cleaned refrig. system grill on 7th Floor WQP. (U-3)

6-9-04 checked on LPI Panel
Reagents → 42% STD → 80% Cation → 40%

6-10-04 - new STD for U1 CPD SiO_2 analyzer
- new cation resin for U1 Econ column
- new cation resin for U2 CPD, #21 & #22 columns

6-14-04 - new cation resin for U3 Main steam, Economizer, CPD, #31 polisher and #33 polisher columns
- new cation resin @ LPI

6-15-04 - etched electrode and calibrated Demin Nat analyzer
slope → 59.3 E_0 → -15.1

6-16-04 calibrated U1 & U2 Nat analyzers
U1 Boiler slope → 81% U2 Boiler slope → 82%
CPD slope → 82% CPD slope → 82%

6-21-04 - new resin for U1 Boiler, CPD, #11 & #12 polishers
- new cation resin for LPI column in the old lab
- new SiO_2 reagents for U2 CPD analyzer
- new SiO_2 reagents for LPI SiO_2 analyzer @ LPI
Reagents → 100% STD → 60% Cation → 75%

6-22-04 - new resin for Econ Inlet "OT" system 7th Floor U3
- calibrated U3 Nat analyzers
Boiler slope → 83% CPD slope → 93%

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6-28-04 – LPI WQP Check
Reagents → 88% STD → 50% Cation → 50%
– new STD for U3 Boiler SiO_2 analyzer

6-29-04 new cation resin for U2 economizer column

6-30-04 new reagents for U1 Boiler & CPD SiO_2 analyzers

7-1-04 new cation resin @ LPI
Reagents → 83% STD → 50% Cation → 100%

7-8-04 LPI WQP CHECK
Reagents → 129% STD → 40 CATION → 80%

7-8-04 Replaced U3 Boiler Silica Analyzer Reagents.

7-13-04 LPI WQP CHECK
– Fluctuating Flow → fixed by MPW I+C

7-14-04 – New CATION RESIN U1 Survey analyzers

– Calibrated 1811 EL
Slope → 59.2 E_0 → 7.8
Etched electrode, new o rings, solution, tubing

7-15-04 – New Resin U3 Boiler column
– New Reagents U3 CPD SO_2 analyzer
– U3 O_2 Pad check
– Replaced Resin 2 1/2 Floor EAST
Adjusted Flow to 1000 mls
– Replaced Resin U2 CPD, 21 pol, 22 pol
–
– LPI WQP Check
Resin → 50% STD → 30% Reagent → 60%

7-20-04 * LPI WQP CHECK *
RESIN 40% Reagent 52% STD 20%

- New Resin U1 Econ CAT COND Analyzer
- New STD Demin SiO_2 Analyzer

- Calibrated U1 & U2 Nat Analyzers
U1 CPD Slope → 82%
U1 BLR Slope → 81%
U2 CPD Slope → 82%
U2 BLR Slope → 82%

7-22-04 Calibrated U3 Nat Analyzers
CPD Slope → 83%
Boiler Slope → 89%

- New Reagents U2 Boiler SiO_2 analyzer

LPI CHECK - everything OK

7-23-04 Replaced Resin U2 BLR Cat. Cond. Analyzer

U3 O_2 feed check - Adjusted Flows
Resin 2nd = 80% Resin 7th = 30%

7-27-04 * LPI Check *
Resin 10% Reagent 41% STD 10%
- Replaced Silica STANDARD

- Replaced Reagents Demin Silica analyzer

7-29-04 * LPI Check *
Replaced Resin Reagent 37% STD 100%

- Replaced Resin 32 pol CAT cond Analyzer

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7-30-04 *LPI CHECK*
- Cleaned Sample cell
- cleaned Flow Sight Glass + sample table
- Looks Good

- Replaced Resin 7th Floor O_2 Feed
- Ordered new O_2 sensor, 7th Floor O_2 sensor not working

- New Resin U2 Econ CAT. COND Analyzer

8-5-04 *LPI WQP CHECK*
Replaced SiO_2 Reagents, adjusted Flows after outage
Resin 80% STD 90%

8-6-04 Replaced resin 11 + 12 pol CAT. COND Analyzer
Replaced SiO_2 STANDARD U2 CPD SiO_2 analyzer
Replaced SiO_2 STD U1 BLR Analyzer

8-10-04 *LPI WQP CHECK*
- Replaced Sample Cell after the 'clean sample Cell' error code would not clear
- Resin 60%, Reagent 92% STD 80%

8-12-04 New Electrodes Unit one Na^+ Analyzers
U1 CPD Slope → 85%
U1 BLR Slope → 80%

8-13-04 *LPI WQP CHECK*
- Resin 50% Reagent 87% STD 80%
- Replaced Resin at the SHERCO LPI CAT cond Analyzer
- Kevin Backes Working on Sample Pressure fluctuation in the SHERCO WQP

8-17-04 Calibrated 1811 EL Demin Na^+ Analyzer
- Slope → 59.2 E_o -9.8
- Etched electrode

8-17-04 *LPI WQP Check*
Resin 40 % Reagent 80 STD 70 %

8-18-04 NEW Electrodes Unit Two Nat Analyzers
U2 CPD Slope → 85 %
U2 BLR Slope → 80 %

8-19-04
- Replaced Reagents U1 BLR + CPD SiO_2 analyzers
- Replaced Electrodes U3 Na^+ Analyzers NEW
- Calibrated U3 Na^+ Analyzers
CPD - 86 % Slope
BLR - 92 % Slope
- Replaced D.O. Probe on 7th Floor econ inlet sample Line
Serial # 42858
Model # 31110
Membrane 52

8-24-04 Replaced Cal STD U3 CPD SiO_2 analyzer

8-24-04 Replaced Resin @ LPI Cat. Cond. Analyzer
STD 60 % Reagent 69 %

8-26-04 - * LPI WQP Check*
- Replaced Lamp in the SiO_2 analyzer. This cured the 'clean sample cell' alarm.
- Resin, STD, Reagents OK
- Replaced Resin in U1 Econ Inlet CAT cond Analyzer

8-27-04 - Replaced Reagents U3 Boiler SiO_2 Analyzer
- Replaced Resin U2 Econ, CPD, 21 pol, 22 pol

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8-31-04 Replaced Cal Std U4 CPD SiO_2 analyzer

9-2-04
- New Resin 2½ Floor U3 O_2 PANEL
- New Resin 7th Floor U3 O_2 PANEL
- HAD K. Backes Blowdown 2½ floor O_2 panel
- Installed New O_2 Sensor 2½ floor
  S/N 48427
  Membrane S2
  MODEL 3110

*LPI WQP CHECK
- Resin 80% STD 40% Reagent 49

9-3-04
- New Reagents U3 CPD SiO_2 analyzer
- New Resin U1 CPD CAT COND analyzer
- Switched O_2 Banks U3 O_2 Feed System

9-8-04 Replaced Reagents U2 BLR SiO_2 analyzer

"LPI WQP CHECK"
- Replaced SiO_2 STD Sample Valve
- Replaced SiO_2 STD
- Replaced Sample Cell cover Plate
  - Molybdate plugged
  - cured LOW CALIBRATION Values
- Resin 50% STD 100% Reagent 44%

9-14-04
- Replaced SiO_2 STD U3 BLR Silica Analyzer
- Calibrated RIIFEL Demin Na^+ Analyzer
  Slope → 59.2 E_0 → -11.1
  New Solution, Tubing, O-rings, etched electrode.

9-15-04 - Calibrated U1 Na^+ Analyzers
CPD Slope 86 %
BLR Slope 80 %

- Calibrated U2 Na^+ Analyzers
CPD Slope 86 %
BLR Slope 80 %

9-16-04 - Replaced Reagents Demin SiO_2 Analyzer

- Calibrated U3 Na^+ Analyzers
CPD Slope → 96 %
Boiler Slope → 86 %

* Replaced Resin @ LPI CAT. COND. Analyzer
- Resin 100 % Reagent 31 % STD 80 %.

9-17-04 - New Resin 11 polisher CAT. COND. Analyzer
- New Resin 12 polisher CAT. COND Analyzer
- New Resin U2 Boiler CAT. COND. analyzer

9-22-04 * Replaced SiO_2 Reagents @ LPI
- Resin 90 % Reagent 100 % STD 70 %

- Replaced Lamp U2 Boiler SiO_2 Analyzer

9-24-04 - Replaced Reagents U2 CPD SiO_2 analyzer

- Cleaned Coils U3 2 1/2 47' Floor O_2 feed System

9-28-04 Replaced Resin U3 CPD CAT COND Analyzer
" " 31 polisher " " "
" " 33 polisher " " "
" " U3 MAIN STEAM " "
" " U3 Economizer " " "

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9-28-04	*LPI WQP CHECK* · STD 60% Reagent 90% Resin 75% - Cleaned Sample cell - Software Restart Alarm — System Reset
9-29-04	- Replaced Cal STD U3 CPD SiO_2 analyzer
9-30-04	- Replaced Resin U1 Econ CAT cond Analyzer " " U2 " " " " " " 21 pol " " " " " " 22 " " " "
10-1-04	*LPI CHECK* - Resin 60% STD 40% Reagent 86% - Cleaned filter, Blew Down Lines
10-5-04	LPI Reagents 78% STD 30% Resin 50% "Clean sample cell" alarm - I cleaned it & √'ed it again later & same thing happened. There is condensation on the outside of the cell, due to the excess heat created by the lamp housing. I installed a hose clamp on the sample cell outlet hose. I tried to identify liquid anywhere & that was suspect. Now the cell housing cover doesn't tightly fit like it did, but maybe that will help w/ the alarm It looks to me like the condensation may be a problem.
10-6-04	LPI is clear
10-7-04	Replaced cation resin in Unit 2 CPD column. LPI is good.

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10-11-04 Replaced reagents on Unit 1 CPD SiO_2 analyzer.

10-11-04 LPI: Replaced cation resin
SiO_2 analyzer looks good:
Reagents = 68% Std = 40%
Slight condensation on upper part of sample cell, but no 'clean sample cell' alarm.

10-20-04 "LPI WQP √"
Resin @ 60% new
SiO_2 analyzer → 13ppb
Reagents = 54% Std = 30%

10-20-04 Cleaned sample cell and area on Boiler SiO_2 Unit 1

10-22-04 Demin Na^+ Analyzer
Replaced reagent, tubing, O-rings
Etched electrode
Calibrated Slope → 59.2 E_0 → -9.7

10-23-04 Replaced cation resin on Unit 1:
CPD; Polisher 11 & 12

10-22-04 LPI WQP '√'
Reagent → 50% Std → 30% C.C. Resin → 60%

10-25-04 Unit 1 Boiler SiO_2 Analyzer had a problem reading - 0 ppb.
Cleaned cell, checked all tubing
Found O-ring in lamp housing, crimped.

10-26-04 Replaced SiO_2 reagents on Unit 3 Boiler and CPD Series 5000 analyzers.

10-26-04 Replaced SiO_2 Std in Unit 1 Boiler 5000 Series.

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10-26-04	Replaced cation resin for Boiler Unit 1.
"	LPI Check - Reagent % → 42 Resin % → 40
10-26-04	Unit 1 Boiler Na^+ Analyzer Calibration Slope → 91%
10-27-04	Unit 2 Na^+ Analyzers Calibration Boiler Slope → 94% CPD Slope → 106%
10-28-04	Unit 3 Na Analyzer Calibrations Boiler Slope → 91% CPD Slope → 101%
10-29-04	LPI Reagents 37% Resin 100% Replaced cat. resin - to assure weekend flows Replaced SiO_2 std in SiO_2 analyzer
11-1-04	LPI ✓ Reagents → 41% STD → 90% Resin → 90% came in on Sat. (10-30-04) found loss of reagent pressure. No SiO_2 readings for 5 hrs.
11-2-04	Replaced O_2 probes on: Unit 3 WQP — Unit 3 7th floor Model # 31110 — 31110 Membrane 52 — 52 Serial # 48929 — 53322 Unit #1 WQP Model # 31110A Membrane 52 Serial # 44936

11-3-04	Replaced cation resin in Unit 2: Econ. Inlet Pol 11 Pol 12
	Cleaned flowmeters on Unit 2 Econ. In: pH and Cat. Cond ↳ CPD: Cat. Cond.
	Calibrated all new DO probes
	Replaced electrodes on Unit 1 CPD Na analyzer.
11-4-04	Recalibrated Unit 3 O_2 sensor on 7th floor.
	Cleaned portable DO sensor
	Replaced Cat. resin in Unit 3 DO_2 WQP 2.5 ft.
11-5-04	Calibrated Portable DO analyzer
	Replaced Unit 2 Boiler SiO_2 reagents
	New SiO_2 std in Demin SiO_2 analyzer
	Cleaned flowmeter on Unit 1 Econ. In. Cond.'s
	Called Hach with question on reagent pressure alarms on the Series 5000 analyzers There is one regulator therefore one alarm source, either high, low or no reag. psi. The alarm only appears if there is abnormal pressure at the END of a cycle. If the instrument (bottom) happens to be opened and closed during the cycle span, no alarm will appear. If it's open (with no pressure) at the end of a cycle, the alarm will appear & need resetting.

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11-5-04	Replaced in-line filter on Unit 1 Boiler Sodium analyz
11-8-04	LPI WQP ✓ Reagents-29% Std-80% Resin-70%
	Replaced SiO_2 reagents in Demin analyzer
11-9-04	Recalibrated Unit 1 & Portable O_2 analyzers
11-10-04	Cleaned flowmeters on Unit 3 CPD SiO_2 & Cond's.
	Replaced resin in Cation col. of: Unit 1- Econ. In. Unit 2- Boiler and CPD
	LPI WQP "✓" Reagent-25% Std-80% Resin-60%
11-12-04	Replaced SiO_2 reagents over at LPI WQP Rgt→100% Std→80% Resin→55%
11-15-04	Replaced SiO_2 reagents on Sherco's LPI WQP(in lab)
11-17-04	Replaced resin on O_2 WQP 7th fl. Unit 3.
	Replaced resin on Unit 2 Survey Cat. Cond. Col.
	Replaced Unit 2 CPD SiO_2 reagents.
11-18-04 (Lost flow)	New in-line filters for Unit 3 Na analyzer
11-19-04	LPI → Reagents 88% Std 80% Resin 40%
	Cleaned in line filters on SiO_2 analyzers: Unit 1 Boiler Unit 2 Boiler Unit 3 Boiler CPD CPD CPD

yzer 11-19-04 Replaced resin in Unit 2 Cation Col.'s: Polisher 21 & 22.

Cleaned in-line filters on:

Unit 1	Unit 2	Unit 3	
Blr	Blr	Blr	SiO_2's
CPD	CPD	CPD	

11-20-04 Buffered pH elec. on Unit 2 Boiler & Econ. In.

Cleaned sample cells & stir bars on Unit 2 Blr & CPD SiO_2's

11-22-04 Unit 1 & Unit 2 Na Analyzer calibrated (Slopes):

1 Blr → 2 Blr →
1 CPD → 2 CPD →

11-23-04 Unit 3 Na analyzers calibrated (slopes):

Blr → 107% CPD → 91%

Replaced in-line filters on Unit 2 Na^+ analyzers

Cleaned Unit 2 Boiler: SiO_2 sample cell, in-line filter stir bar changed cat. col. resin after

Drag valve was replaced. Root valve was removed for replacement (no parts available). It was cleaned & reinstalled.

LPI √ - Looks good SiO_2 reag → 81% Std → 60%
Replaced cat. col. resin
Rinsed resin works great. Back to pre-change value within 5 minutes of replacement.

11-24-04 Replaced cation resin for Polisher 32.

11-30-04 Replaced cation resin on In house LPI WQP.

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11-30-04 LPI WQP "√"
Reagent = 70% Std = 50% Resin = 60%

12-1-04 Demin Na analyzer:
New: reagent, tubing, O-rings, ref. fill solution
Replaced air pump
Etched measuring electrode
Calibrated. slope = 59.2 E_0 = -9.4

12-2-04 Demin SiO_2 analyzer:
cleaned cell, re-tubed top, tried recal - didn't work - Shut it off!

12-3-04 Replaced SiO_2 reagents in Unit 1 CPD.

Replaced cation resin in: Unit 1 Polisher 11
Unit 2 CPD

12-7-04 Replaced cation resin in:
Unit 1 Polisher 12
Unit 2 Econ. In.

LPI WQP "√"
Resin 40% SiO_2 reagent 59% Std 40%

12-9-04 New O_2 sensor 2.5 floor Unit 3
SN → 48890
Model → 31110
Membrane Type 2952A

12-9-04 Demin SiO_2 analyzer is "unable to calibrate" I checked everything. Suspected leak through on Std solenoid, but a new one installed didn't remedy the problem. The 500ppb std reads over 400 ppb.

12-9-04 Replaced Unit 1 CPD SiO_2 std
↳ Blr SiO_2 reagents

12-10-04 New O_2 sensor Unit 3 WQP
SN → 46862
Model → 31110
Membrane 52

LPI WQP ✓
Replaced cation resin
SiO_2 reagents 51% std 50%

12-17-04 LPI WQP ✓
Resin → 60% SiO_2 reag. → 41% Std → 50%
LPI was out for maintenance on the 15th. Back on-line. SiO_2 analyzer had a 'clean sample cell' alarm. Took care of that - now reads 17ppb

Replaced reagents in Unit 3 SiO_2 for Boiler & CPD

Series 5000 Overhauled Demin SiO_2 analyzer completely this week. It was 'unable to calibrate'.

New cation resin for: Unit 1 Econ In
Unit 2 Polishers 21 & 22

Cleaned sample cell on Unit 1 Blr SiO_2

12-21-04 Sodium Analyzer Calibrations

SLOPES=	Unit 1	Unit 2	Unit 3
	Blr → 83%	Blr → 111%	Blr 97%
	CPD —	CPD → 111%	CPD 95%

Replaced resin in Unit 1 CPD Cat. Col.

LPI WQP '✓' - Resin → 50% std → 40% Reag. → 35%

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12-27-04 LPI WQP "✓"
Replaced resin in Cation Col
Reag. 30% Std. 30% Resin-100%

New reagents in Unit 2 Boiler SiO_2

12-28-04 LPI WQP "✓"
Reag. 26% Std 30% Resin 100%

Had an upset yesterday, today SiO_2 is back to 14ppm

12-30-09 LPI WQP
Replaced SiO_2 reagents Cat Col ~90%

Replaced resin in Unit 1 Boiler Cation

1-4-05 Fresh cation resin - Unit 3 (2.5 ft) WQP (O_2 Feed)

1-6-05 Fresh cation resin - Old Chem Lab (LPI WQP)

1-6-05 Fresh cation resin - U3 Econ Inlet C.C.
1-6-05 New silica std. (at LPI WQP)

1-10-05 - Fresh cation resin - Unit 2 Boilet + Econ C.C.
- New Reagents and std. LPI WQP (Old chem lab)

1-11-05 Fresh cation resin on WQP at LPI plant.

1-12-05 - Calibration of Demin Na analyzer (Slope 61.8)

- New SiO_2 Reagents - Unit 2 CPD analyzer

1-14-05 Fresh cation resin - Unit 1 Polishers C.C.
- Unit 2 CPD C.C.

1-19-05 Fresh cation resin - Unit 2 Polishers C.C.

1-21-05 Fresh cation resin in nearly all the U-3 WQP columns.

1-24-05 New SiO_2 Std - Unit 1 Boiler SiO_2 analyzer

1-25-05 New SiO_2 reagents - Unit 1 CPD SiO_2 analyzer

1-25-05 LPI cation resin changed by JPW.

1-27-05 Fresh cation resin - Unit 1 Econ Inlet C.C.

1-31-05 - New DO probe, U-3 WQP (S/N 52771)
- New standard, Demin SiO_2 analyzer
- Fresh reagents, Unit 1 Boiler SiO_2 analyzer.

*(Work done by Jim W. the week of Feb 7-11)
- 7th Fl. cation
- O_2 Feed to 350
- U3 CPD SiO_2
- U2 Boiler SiO_2
- Cation Resin LPI in lab
- LPI cation resin
- LPI SiO_2 reagents

2-15-05 Demin Na analyzer rebuild + calibration:
(Slope 59.3)

2-18-05 Fresh cation resin in the following:
- U-2 Polisher + CPD columns.
- U-1 Polisher, CPD, Boiler columns

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2-25-05	Fresh cation resin – U-1 Polisher C.C. U-2 Boiler C.C.
3-2-05	Fresh cation resin at LPI plant. (LPI having a 1 day outage)
3-4-05	Fresh cation resin – U2 Econ Inlet – U1 Econ Inlet
	New Reagents – U2 CPD SiO_2 analyzer
3-7-05	New SiO_2 Stds – U1 CPD analyzer U3 CPD analyzer at LPI WQP
3-9-05	U-3 Sodium analyzer calibrations: Slope of CPD 95% Boiler 97%
3-10-05	U-2 Sodium analyzer calibrations: Slope of CPD 111% Boiler 111%
3-11-05	U-1 Sodium analyzer calibrations: Slope of CPD 104% Boiler 83%
3-17-05	DEMIN Na analyzer calibration Slope 58.2
3-18-05	Fresh resin, LPI WQP in old chem lab.
	Fresh SiO_2 reagents, U-1 CPD analyzer.

3-21-05 Fresh cation resin - 11 Polisher C.C.

3-22-05 Replaced U-3 7th fl Oxygen sensor with sensor from U-3 Lab WQP. The sensor from the lab appears to work. It is "S/N 52771".
The sensor originally in place is completely exhausted. "S/N 48890"
2.5 fl sensor seems to be marginal. It is "S/N 46862"
Unit 1 sensor is "S/N 44936".

* We'll begin the process of ordering replacement sensors.

3-22-05 Fresh cation resin in U-2 CPD, 21 Pol + 22 Pol. C. Columns.

3-23-05 Fresh cation resin at LPI plant - WQP

3-24-05 New Reagents - U1 Boiler SiO_2 analyzer
Demin SiO_2 analyzer

3-28-05 Fresh cation resin on U-3 7th fl. WQP (Oxygen feed)
Fresh cation resin on U-3 2.5 fl. WQP (oxygen feed)
New SiO_2 Std in LPI WQP, (backroom old chem lab)

3-29-05 Replaced 2 oxygen sensors today:
- Unit 3 WQP (Lab) now has S/N 29502
- Unit 3 2.5 fl. WQP now has S/N 36825

[S/N's sent back: 46862 + 48890]

* Replaced S.S. in line filter for Dissolved Oxygen analysis on U-3 Lab WQP.

3-30-05 Fresh cation resin on U-3 WQP, 32 polisher c.c.

3-31-05 New Reagents - U2 Boiler SiO_2 analyzer
U3 CPD SiO_2 analyzer
Fresh cation resin on U2 WQP, Econ Inlet C.C.

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4-4-05 New SiO_2 Reagents @ LPI
Reagents → 100%
STD → 60%
Cation → ~50%

4-6-05 – new cation resin for U1 Boiler, Econ, CPD and #12 polisher
– new cation resin for U2 Boiler

4-8-05 new cation resin @ LPI (JCK)

4-11-05 new STD's for U1 Boiler SiO_2 analyzer and Demin SiO_2 analyzer

4-12-05 Calibrated U1 & U2 Nat analyzers
U1 Boiler Slope → 87% U2 Boiler slope → 109%
CPD Slope → 106% CPD slope → 111%

Calibrated U3 Nat analyzers
Boiler Slope → 97% CPD slope → 105%

4-13-05 New solution, tubing & orings on Demin Nat analyzer
also etched electrode & calibrated
slope → 58.2 E_o → -14.8

4-18-05 recalibrated Demin Nat analyzer
slope → 55.6 E_o → -14.9

4-20-05 – new cation resin for #11 polisher
– new cation resin for U2 Econ, CPD, #21 & #22 polisher
– new cation resin for LPI column in old lab.
– new SiO_2 Reagents for U2 CPD analyzer

4-21-05 LPI Check: SiO_2 Reagents → 72% SiO_2 STD → 40%
Cation Resin → ~50%

4-27-05 new SiO_2 Reagents for U1 CPD, Demin & LPI Analyzer in old lab

4-27-05 new cation resin @ LPI
Reagents → 64% STD → 30%

5-5-05 new reagents for U1 Boiler SiO_2 analyzer

LPI Weekly check: Reagents 49% STD 20% Cation 66%

5-10-05 – Replaced in-line filters on U1 & U2 Na^+ analyzers
Also calibrated: U1 Boiler → 92% U2 Boiler → 93%
U1 CPD → 113% U2 CPD → 111%

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– new cation resin for U1 Economizer

– replaced in-line filters on U3 Na^+ analyzers

5-11-05 LPI Weekly check: Reagents → 39% STD → 100% Cation → 45%

Calibrated U3 Na^+ Analyzers: Boiler → 90%
CPD → 105%

5-16-05 Replaced resin @ LPI

5-18-05 – new cation resin for #12 polisher
– new cation resin for U2 Boiler & Economizer
– new reagents for U2 Boiler SiO_2 analyzer

– calibrated Demin Na^+ analyzer & etched electrode
slope → 53.1 E_0 → -19.3

5-19-05 – New SiO_2 Reagents @ LPI
Reagents → 100% STD → 90% Cation → 90%

– New SiO_2 Reagents for U3 Boiler SiO_2 analyzer

– New cation resin for LPI in old lab

5-24-05 – new cation resin for U2 CPD, #21 & #22 polishers

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5-24-05 new cation resin for U3 Main Steam

5-26-05 new cation resin for U1 Boiler, CPD & #11 polisher

* LPI Weekly Check *
SiO_2 Reagents → 88% SiO_2 STD → 80% Cation → ~60%

6-2-05 new cation @ LPI
SiO_2 Reagents → 77% SiO_2 STD → 70% Cation → 100%

6-6-05 – new standard for LPI SiO_2 analyzer in old lab
– new standard for U1 CPD SiO_2 analyzer
– new Reagents for U2 CPD SiO_2 analyzer

6-8-05 new reagents & STD for U3 CPD SiO_2 analyzer

6-13-05 replaced reagents in Demin SiO_2 analyzer

6-14-05 Calibrated U1 & U2 Na^+ Analyzers
U1 Boiler → 93% U2 Boiler → 93%
CPD → 113% CPD → 114%

6-15-05 – new cation resin for U1 Economizer, U2 Economizer and LPI in old lab

– new SiO_2 reagents in U1 Boiler & CPD analyzers
– new SiO_2 reagents for LPI analyzer in old lab

– Replaced tubing, solution & reference electrode filling solution on Demin Na^+ analyzer
Also etched etched electrode & calibrated: Slope → 57.2
E_o → -14.4
– rebuilt & calibrated DO probe for the portable

6-16-05 Calibrated U3 Na^+ analyzers: Boiler slope → 85%
CPD slope → 103%

6-16-05 LPI WQP check: Reagents → 55% STD → 50% Cation → 50%

6-20-05
- new SiO_2 STD for U3 Boiler analyzer
- new cation resin for #32 polisher column
- new STD for Demin SiO_2 analyzer

6-21-05
new cation resin @ LPI
new in-line filter @ LPI

6-22-05 LPI WQP check: Reagents → 45% STD → 40% Cation → 95%

6-29-05
- new pH electrodes for U2 Economizer
- new SiO_2 reagents for U2 Boiler
- new cation resin for U2 Boiler, CPD and #21 polisher
- new cation resin for #11 and #12 polisher

New Reagents for LPI silica analyzer @ LPI
Reagents → 100% STD → 30% Cation → 66%

7-5-05 Replaced Lamp @ LPI SiO_2 analyzer

7-6-05 Replaced SiO_2 STD U1 Boiler SiO_2 analyzer

7-8-05 Erratic Reading @ LPI SiO_2 analyzer
- replaced Reagents
- replaced Lamp
- cleaned Sample cell + Assembly
- Calibrated 509 ppb

7-12-05 Installed new O_2 probe on portable Analyzer
- calibrated the instrument

7-13-05 Calibrated U1 Na^+ Analyzers CPD Slope → 109
BLR Slope → 93
Calibrated U2 Na^+ Analyzers CPD Slope → 111
BLR Slope → 88

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7-14-05 - Replaced reagents U3 BLR SiO_2 analyzer
- Replaced Resin U2 Econ Cat. Cond. ANALYZER

LPI WQP check:
Reagent 90%
STD 100%
Resin 75%

- Calibrated 1811 EL Demin Na^+ Analyzer
Slope → 59.7 E_o → -5.9

7-19-05 Calibrated U3 Na^+ Analyzers
Boiler Slope → 85% CPD Slope → 103%

7-20-05 Replaced Resin LPI Cat Cond Analyzer @ SHERCO

7-21-05 Replaced Resin U1 BLR, Econ, CPD Cat Cond Analyzers

7-22-05 *LPI WQP check*
Resin 100% Reagent 77% STD 90%
- Replaced Resin @ LPI

7-26-05 *LPI WQP Check*
Resin 80% Reagent 70% STD 80%

7-27-05 - Replaced ~~Resin~~ Reagent U2 CPD SiO_2 analyzer
- Replaced Reagent U3 CPD SiO_2 analyzer

7-28-05 Replaced Resin 22 pol CAT COND.
* LPI WQP CHECK
Resin 75% Reagent 63% STD 80%

7-29-05 New Reagents U1 BLR, CPD SiO_2 analyzer
New Reagents Demin SiO_2 analyzer

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8-4-05 * LPI WQP CHECK *
- Changed Resin - 100% Reagent 47% Std 70%

8-5-05 New Reagents LPI SiO_2 analyzer @ SHERCO
New Resin 21 polisher, U2 CPD

8-9-05 New Resin 11, 12 polisher CAT cond Analyzer
New Resin U2 Boiler CAT COND analyzer
New Resin 31, 33, polisher U3 CPD U3 Econ CAT COND. Anal.
New Resin U3 Boiler CAT. COND. Analyzer

8-10-05 * LPI WQP CHECK *
Resin → 75 % Reagent → 43% STD → 60%

8-16-05 - Replaced Resin U2 Econ CAT. Cond. Analyzer
- Calibrated Demin Na^+ Analyzer
Slope → 59.2
E_o → -5.6

* LPI WQP Check *
Reagent → 35% STD → 50% Resin 35%

8-17-05 Calibrated U1 Na^+ Analyzers Boiler Slope 87
CPD Slope 106

Calibrated U2 Na^+ Analyzers Boiler Slope 90
CPD Slope 108

Calibrated U3 Na^+ Analyzers Boiler Slope 91
CPD Slope 98

8-18-05 * LPI WQP Check *
Resin 100% Reagent 33% STD 50%

- Replaced Reagent U2 Boiler SiO_2 analyzer

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8-25-05	New STD U3 CPD SiO_2 analyzer
	New Reagent @ LPI WQP SiO_2 analyzer
	* LPI WQP CHECK*
	Reagent → 100 STD → 40 Resin → 50
8-30-05	New Cal STD U1 CPD SiO_2 analyzer
	New Cal STD Demin SiO_2 analyzer
	New Resin U1 Econ Inlet Cat Cond Analyzer
8-31-05	Replaced Resin 22 pol CAT. COND. Analyzer
9-1-05	* LPI WQP CHECK*
	Reagent → 89 STD → 30 Resin → 100
	- replaced Resin @ LPI CAT COND Analyzer
	Replaced Reagents U3 Boiler SiO_2 analyzer
	Replaced STD U3 Boiler SiO_2 analyzer
9-9-05	Replaced Resin U2 CPD, 21 pol CAT COND Analyzers
	*LPI WQP CHECK
	Reagent → 76 % STD → 20 % Resin → 75 %
9-15-05	Replaced Reagents U3 CPD SiO_2 analyzer
	LPI WQP CHECK
	Reagent → 66 % STD → 10 % Resin 40 %
9-15-05	- Replaced pH electrodes U2 Econ Sample Analyzer
	- Replaced Reagents and STD's U1 SiO_2 analyzers
	Replaced Reagents U2 CPD SiO_2 analyzer
9-21-05	Replaced Resin @ LPI WQP
	Resin - 100 % STD - 100 % Reagents 54 %

9-21-05 - New Resin U2 Econ Inlet Cat. Cond. Analyzer
- New Reagent Demin SiO_2 analyzer

9-22-05 Calibrated U1 Nat Analyzers Boiler Slope → 91
CPD Slope → 99

Calibrated U2 Nat Analyzers Boiler Slope → 97
CPD Slope → 111

Calibrated U3 Nat Analyzers Boiler Slope → 93
CPD Slope → 99

Calibrated 1811EL Demin Na Analyzer Slope → 592
E_0 → -8.5

9-27-05 Replaced Resin U3 SAT Steam Cat. Cond. Analyzer

LPI WQP CHECK
Resin 75% STD 90% Reagents 46%

9-28-05 Replaced Reagents LPI SiO_2 analyzer @ SHERCO
Replaced Resin LPI Cat Cond analyzer @ SHERCO
Replaced Resin U2 BLR Cat Cond analyzer
Replaced Resin U1 BLR Cat Cond Analyzer
Replaced Resin U1 Econ Inlet Cat Cond analyzer
Replaced Resin 11 polisher Cat Cond Analyzer

10-3-05 Replaced Unit 1 Boiler sample solenoid on SiO_2 analyzer.

Replaced tubing & O-rings & reagents on 1811EL Demin Sodium Analyzer.

DO probe on Unit 1 replaced:
Old S/N: 44936
New S/N: 44465

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10-4-05	LPI ✓ Reagents 34% Resin 30%
10-7-05	LPI ✓ Reagents 30% Resin 100% Replaced cation Resin @ 1515 hrs.
10-10-05	LPI ✓ Replaced SiO_2 reagents SiO_2 Reag- 100% Std- 84% Resin- 80%
	Valved out all of Unit 3 WQP Replaced SiO_2 reagents w/ DI H_2O. Left std in service. Removed DO probe - will install new one just prior to U-3 start-up.
10-11-05	New cation resin for Unit 2 - 22 polisher col. Stored Na electrodes on analyzers on Unit 3.
10-12-05	LPI ✓ Reagent = 97% Std= 80% Resin 70%
	Replaced SiO_2 reagents on Unit 2 Boiler SiO_2 analyzer
10-17-05	LPI ✓ Reagent = 88% Std= 60% Resin = 45%
10-19-05	LPI ✓ OK
10-21-05	LPI WQP ✓ Resin replaced in cation col. - 100% Reagents = 82% Std= 60%

10-21-05 Replaced resin in col. of: Unit 2 - Econ. In.
CPD
Pol 21

10-24-05 LPI WQP ✓
Resin=80% Reag=77% Std=48%

10-27-05 Replaced resin in: Unit 1 Pol 12
LPI (in house) WQP

Etched electrode & calibrated 1811E Demin Sodium

10-31-05 Calibrated Sodium Analyzers

Unit 1		Unit 2	
	slope		slope
Boiler	91%	Boiler	94%
CPD	100%	CPD	108%

LPI WQP ✓
Resin 40% std 40% Reagent 65%

Series 5000

11-1-05 Rebuild of (Unit 3) Boiler Silica Analyzer
Retubed upper manifold (reagent) delivery to cell.
Cleaned lamp/photocell housing (very DIRTY)
Replaced lamp & interference filter

11-2-05 Rebuild of Unit 3 CPD Silica Analyzer.
Exactly the same as above (boiler)

11-3-05 LPI WQP ✓ - Post outage (11-2-05)
Replaced cation resin
SiO_2 reagent = 60% std = 40% (adjusted to 50%)

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11-3-05	Replaced Unit 1 Econ In Cation resin
11-7-05	(NEW HOUSE) LPI SiO_2 Analyzer Rebuild
SERIES 5000	Retubed upper & lower parts Replaced: lamp, interference filter, capillary module, sample cell, stir bar, bottle caps, bottle filters.
	Replaced SiO_2 reagents in: Unit 1 Boiler & CPD Unit 2 Boiler
11-9-05	New resin in Cat. Col. for Unit 1: CPD & Pol 11
11-10-05	LPI WQP √ - Resin 60% Reag & Stds-OK
	Cleared sample cell & filter (sample) on Unit 2 Boiler Silica. Found liquid in the reagent air press. reg. Will order new one. to replace.
	Replaced reagents in Demin SiO_2 & std. Cap was broke on Amino Cap reagent bottle. Replaced cap & filter
10-14-05	LPI √ Resin 35% SiO_2-OK
10-17-05	Unit 3 CPD SiO_2 Installed reagents & calibrated
11-18-05	Unit 3 Sodium - CPD Installed elec. & calibrated Slope = 101%
	LPI WQP √ Replaced cation resin SiO_2 reag. → 40% Std → 40%

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11-18-05 Replaced cation resin in Unit 2: Boiler
Econ In
Pol. 22

11-21-05 LPI WQP ✓
SiO_2 reag → 30% Std → 35% Resin → 85%

Replaced cation resin on LPI WQP (Sherco site)

Replaced std in Unit 1 CPD SiO_2

11-23-05 LPI ✓ Resin - 70% SiO_2 reag Replaced 100% Std 100%

11-28-05 Replaced resin cat. col. Unit 2 → CPD; & Pol 21

11-29-05 LPI WQP ✓
Resin 50% SiO_2 reag. 90% Std 80%

Calibrated Sodium Analyzers

Unit 1	SLOPE	Unit 2	SLOPE
Boiler	98%	Boiler	94%
CPD	103%	CPD	113%

Demin Nat analyzer
Changed: Ref. elec. fill. sol'n
Reagent: tubing, O-rings
Etched Na elec.
Calibrated SLOPE 61 E_0 -8.9

12-2-05 Replaced resin @ LPI WQP
SiO_2 reag. 85% Std 90%

Put Unit 3 Boiler SiO_2 in-service
Fresh reagents & stds.
Calibrated
Replaced all tubing, fittings, & bottle cap on std. (too short)

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12-2-05	Placed Unit 3 Boiler Sodium Analyzer in-service. Calibration slope → 93%
	Replaced cation resin in Unit 3; CPD & 31,32,33 Polishers
12-5-05	New reagents in Unit 2 Boiler SiO_2 analyzer.
	Replaced cation resin in Unit 1 Pol. 12 col.
12-9-05	LPI WQP ✓ SiO_2 Analyzer Reag → 74% Std → 80% Resin → 60% Cat. Cond. is on the high side → 0.487 μS
12-12-05	Cleaned filter & sample cell on Unit 3 Boiler SiO_2 Post start-up
	Replaced resin in Unit 1 Econ. In. Cation Col. Cleaned flow cells for Econ. In. Cond's & pH.
12-10-05	DO probe placed in-service in Unit 3 WQP
12-15-05	LPI WQP ✓ Reag → 63% Std → 70% Replaced cation resin @ LPI
12-16-05	unit 1 CPD SiO_2 - replaced reagents only
12-19-05	Removed & cleaned in-line filter & sample cell on Unit 2 Boiler SiO_2. Post start-up.
12-20-05	Replaced reagents & std in Sherco side LPI SiO_2 analyzer. Replaced sample tubing.
12-22-05	Cleaned sample cell on Unit 3 CPD silica.
	Replaced Pol. 11 cation resin.

12-23-05 LPI WQP ✓
SiO_2 slightly high
Reagent → 50% Std → 60% Resin → 50%

ers

12-27-05 Replaced LPI (Sherco WQP) cation resin.

Replaced cation resin Unit 2 : Econ In.
Pol. 22

LPI WQP ✓
% Reagent 35% Std 50% Resin 40%

12-29-05 Replaced reagents Unit 1 Boiler SiO_2.

12-30-05 Replaced reagent Unit 2 CPD SiO_2

LPI WQP ✓
Replaced resin

✳ 2006 ✳

1-3-06 Unit 3 Boiler Silica Analyzer
"Unable to calibrate"
Cleaned sample cell & stir bar
Sample solenoid- leaking- REPLACED

New reagents in Demin SiO_2 analyzer.

Replaced cation resin in Unit 1: CPD
Unit 2: CPD & Pol. 21

1-4-06 Etched Demin Na^+ - tried to cal-NOT!

1-6-06 Calibrated Demin Na^+ - Slope → 61 E_0 → -9

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1-06-06 LPI WQP ✓
Resin-60% std-40% R-40%

1-09-06 Replaced reagents Unit 3 CPD Silica.

1-12-06 Calibrated Unit 1 & 2 Sodium Analyzers

Unit 1	SLOPE	Unit 2	SLOPE
Boiler	94%	Boiler	82%
CPD	101%	CPD	107%

1-13-06 LPI WQP ✓
Resin-40% ~~std~~-40% Reag-35%

Replaced cation resin Unit 2 Boiler

1-16-06 Replace Unit 3 Boiler Sodium monitor inlet filters

1-17-06 LPI WQP
- replaced Resin

- Replaced CAL STD Demin SiO_2 analyzer

1-18-06 Replaced Econ. Inlet Cation Column 7th Floor

1-20-06 Replaced Reagents @ LPI WQP
Reagents - 100
STD - 10
Resin - 90

- Replaced U3 Boiler SiO_2 Reagents & STDs

- Replaced STD @ LPI WQP

- Replaced Resin U1 BLR, Econ, 12 polisher CAT Conductivity analyzers

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1-23-06 Replaced SiO_2 std U1 CPD

1-24-06 * LPI WQP CHECK *
- Replaced Sample cover - moly plugged
- unable to Calibrate, mutiple CALS
- Replaced Resin
- Reagent 93% STD 70% Resin 100%

1-25-06 Replaced SiO_2 Reagents U2 Boiler

1-26-06 * LPI WQP CHECK *
Reagent - 90 STD 70 Resin 95

1-27-06 Replaced Resin LPI CAT COND Analyzer @ SHERCO
Reagents on SiO_2 analyzer were at 43%, changed to 26%.

2-3-06 * LPI WQP CHECK *
Reagent 77% STD 60% Resin 50%

Replaced Resin U1 polisher CAT COND Analyzer

Replaced Resin U2 ECON CAT. COND. Analyzer

Replaced Reagents U1 CPD SiO_2 analyzer

Replaced Reagents LPI SiO_2 analyzer @ SHERCO

2-8-06 * LPI WQP CHECK *
- LPI down for OUTAGE
- Replaced Resin in CAT. COND. analyzer
Reagent- 68% STD. - 60% Resin - 100%

2-10-06 * LPI WQP CHECK *
Reagent - 65 STD - 50 Resin 95%

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2-10-06 Replaced Cation Resin 22 pol cond. analyzer

2-12-06 Calibrated Na^+ Analyzers

	BLR	← slope →	CPD
U1	99		108
U2	100		108
U3	94		95

- Calibrated Demin Na^+ Analyzer
  Slope 59.2
  E_o 2.1
- New O-rings, solution, Tubing and etched electrode - Demin Na^+ Analyzer

2-13-06 Replaced CAL STD U3 CPD SiO_2 analyzer

2-16-06 Replaced Resin U2 CPD Cat Cond. Analyzer
Replaced Resin 21 pol CAT cond analyzer

Replaced Bulb LPI SiO_2 analyzer @ SHERCO
- this was to try and cure a software reset alarm

2-17-06 * LPI WQP CHECK *
Reagent 54% Resin 60% STD 40%

New Reagent U2 CPD SiO_2 analyzer.

2-20-06 New SiO_2 std reagent in Sherco LPI analyzer.

2-21-06 Replaced SiO_2 reagents in U1 Boiler

2-20-06 New cation resin in U-3 Pol. 33 col.

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2-27-06	Replaced Demin SiO_2 reagents
2-28-06	LPI WQP ✓ SiO_2 → R=~~35~~% Std-40 Resin-new 100%
3-2-06	Replaced resin Unit 3 Cat. Col: Econ & M. Steam
3-3-06	New silica reagents in U-3 CPD & LPI.
	LPI WQP ✓ New reagents → 100% Std → 100% Resin → 90%
3-6-06	Replaced resin on Unit 1 Econ. In. & Pol. 12 cat. col. & LPI Here
3-8-06	LPI WQP ✓ Reag.-100% Std-90% Resin-60%
3-9-06	Replaced resin on Cation col's: Unit 1 → CPD Unit 2 → Boiler & Econ. In. Also cleaned all flow meter glass.
3-10-06	Cleaned U-3 Boiler Silica in-line filter
3-10-06	Calibrated Unit 3 Sodium Analyzers Boiler slope 89% CPD " 99%
	Calibrated Unit 1 & 2 Sodium Analyzers Boiler U-1 Slope → 95% Boiler U-2 " 90%
	CPD U-1 Slope → 98% CPD U-2 " 102%
3-13-06	Calibrated Demin Na EL1811 Etched Na elec. Slope → 59.2 E=0.1

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3-14-06

Overhaul of the LPI Silica analyzer:
Series 5000
All chemical and sample delivery tubing
Lamp
Interference filter
Stir motor
Sample cell
Reagent solenoids
NOTE: The #2 solenoid wiring has been modified. The ground wire is relocated to a functioning site.

Calibrated and functioning 3-14-2006

3-15-06 Replaced resin Unit 1 Boiler cation col.

3-17-06 Unit 3: New resin in → CPD
Pol 31

New reagents for Boiler SiO_2.

Replaced SiO_2 reagents in Unit 2 Boiler analyzer

3-24-06 - New Reagents U2 CPD SiO_2 analyzer

- New Reagents LPI (@ SHERCO) SiO_2. analyzer

- New Resin @ 21, 22 pol CAT. COND. analyzers

3-23-06 LPI WQP CHECK — OK

3-27-06 Replaced SiO_2 STD Demin Analyzer

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3-28-06 *LPI WQP CHECK*
STD- 40% Resin 50% Reagent 68%

3-29-06 Unit 2 Boiler Silica
Reading negative #'s.
Sample solenoid leaking slowly. REPLACED
Checked reagent flow rates. GOOD
Replaced interference filter. Found no O-ring over filter.
Replaced lamp. Replaced sample straw assembly.
Calibrated
"Unable to calibrate" at first. Did a grab sample of 500ppb std - value= 514ppb. Installed std was reading 738ppb. Replaced std and it read 514ppb. Called it good.

3-31-06 Cleaned sample cells on Unit 1 Boiler & CPD Silica's.

LPI WQP ✓
Resin 50% Reag 62% Std 40%

4-3-06 New STD. U1 CPD SiO_2 analyzer.

4-5-06 New STD. U3 Boiler SiO_2 analyzer

4-5-06 *LPI WQP CHECK*
- changed Resin
Resin- 100 % Reagent- 55 % STD - 30 %

4-6-06 New Resin 32 pol. CAT. COND. analyzer.
New Resin U2 CPD CAT. COND analyzer
New Resin U3 7th FI. O_2 System (CAT. COND.)

4-7-06 * LPI WQP CHECK*
Resin 90 % Reagent - 51 % STD - 30 %