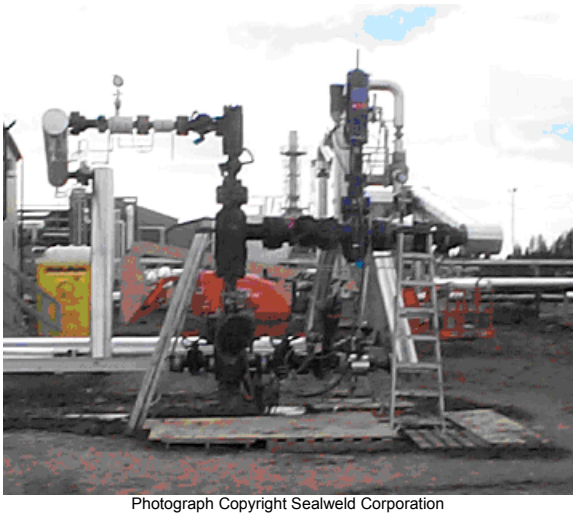
SAG-D Wellhead Commissioning



BACKGROUND

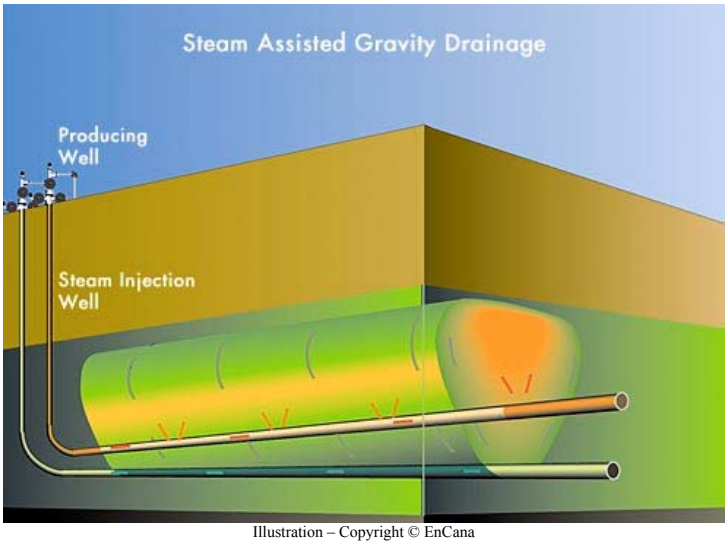
Steam Assisted Gravity Drainage (SAGD)

SAGD is a thermal method for recovering heavy oil. The process uses twin horizontal wells drilled and extended into the base of a reservoir with the horizontal steam injector placed directly above the horizontal production well. The mobilized oil drains by gravity to the lower well and is produced to the surface. The SAGD-based technology was developed at the Underground Test Facility (UTF) Project through efforts of AOSTRA (now AERI) in a consortium with oil companies.
ARC is responsible for managing the Alberta Science and Research Authority's (ASRA) existing and future energy-related intellectual property. This includes all confidential reports and databases.

Potential Applications

SAGD is the technology of choice for developing heavy oil and oil sands reservoirs.

Steam Injection Temperature – +238 C to +296 C



Wellhead Valve Assemblies for SAGD Wellheads cost in excess of $100,000 per unit.

Sealweld Corporation has developed a unique synthetic valve lubricant – Steam Shield 2000 which is designed to remain stable at the extreme high temperatures designed specifically for use in valves used for steam injection and heavy oil recovery.

Pilot – The original field pilot was started in spring 2002 where each of the wellhead valves was filled with Steam Shield 2000 lubricant and then put into service. Steam was injected into the formation at +295C continuously for the past year, now at the first maintenance interval the valves we re-lubricated additional Steam Shield 2000.

Results – We are pleased to announce that the Steam Shield 2000 help up to this extreme service exceptionally well with very little to no break down or hardening occurring. The presence of this inert lubricant prevented seat seal damage and wash-outs and cuts normally associated with high temperature & high pressure service.

In other fields using the same SAGD technology – the wellhead valves were exhibiting extensive seal damage and in many cases severe seat leakage when using conventional so-called hi-temp lubricants or none at all. Wellhead repair is extremely expensive, one must consider both the repair costs and the loss in production revenue in such cases which can be considerable.

Approved – Steam Shield 2000 has been independently tested and approved for use by Stream-Flo Industries Ltd. for all SAGD Valves and Wellheads after performing their own in-shop testing as described below;

1. test temperature: 650°F
2. test duration: what we did was filled the valve with your Steam Shield 2000, and heated the valve up to 650°F. We spent about 18 hrs to get temperature. We did the valve cycling at 650°F. After cycling, we cooled the valve temperature back to room temperature, which was another 11 hrs.
3. test solution: the valve operating torque was very good. This means that your Steam Shield 2000 works fine at such a high temperature.

   After the valve got back to room temperature, we disassembled the valve, and checked the Steam Shield 2000. Basically, the Steam Shield 2000 looked almost the same as it was used before the test. Further, this tells this Steam Shield 2000 could be used at very high temperature.

Thanks.

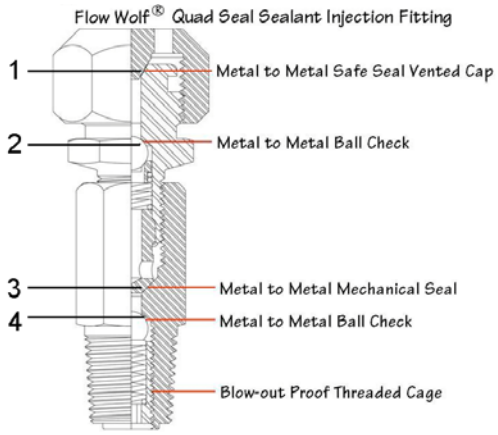
Tino T. Guo, PH.D, P.Eng.
R&D Dept. Manager
Stream Flo Industries Inc.

Additional Sealweld Products

New – *Steam Shield Sticks* – Injectable High Temperature Valve Stem Packing

This moldable plastic type valve stem packing putty made from Steam Shield 2000 with additional graphite particles and non-organic thickeners. Tested in thermal wellheads, expansion joints and in geothermal applications in “Senior” orifice fittings with excellent results.

New – *Sealweld Quad-Seal Flow Wolf® Sealant Injection Fitting*



Sealweld Corporation is proud to introduce the latest advancement in sealant injection fitting design technology – the Flow Wolf® Quad-Seal Sealant Injection Fitting.

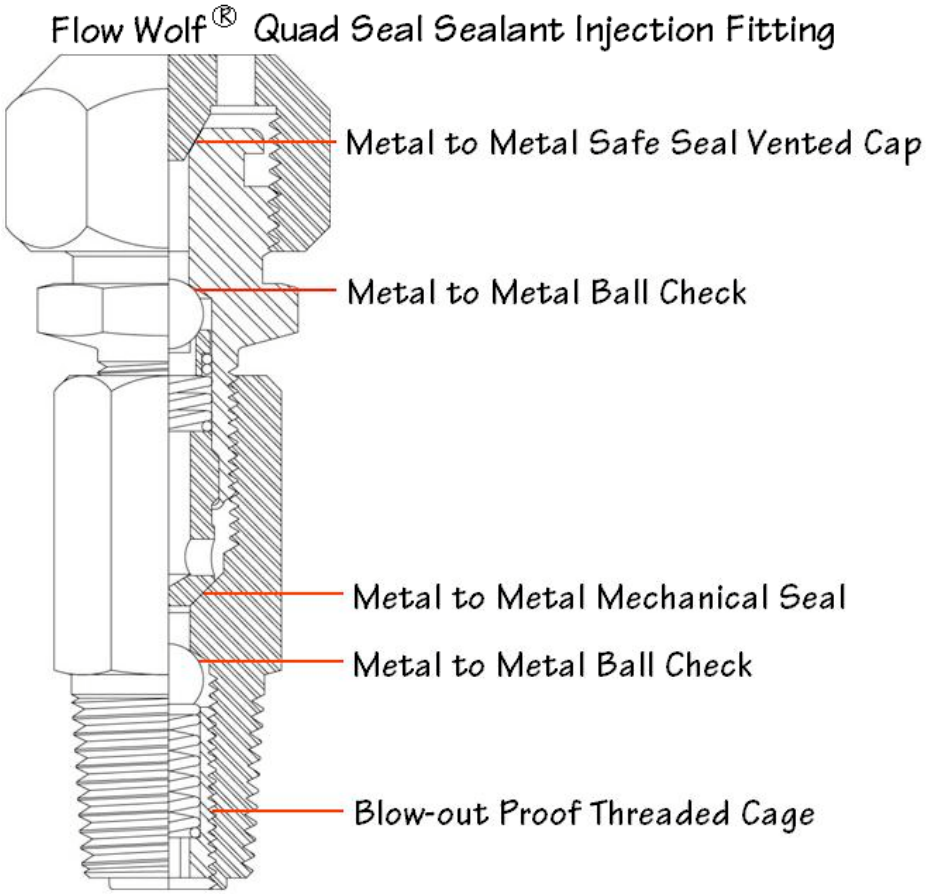
- 316 stainless steel construction for long life and superior corrosion resistance.
- 4 independent metal-to-metal seals for maximum seal reliability
- Two / Double Isolation Check Valves with verification capability.
- Patented Flow Wolf® threaded cage design allows heavy sealants to be injected in an emergency. Collapse proof springs reduce injection pressures.

Eliminates all leakage to atmosphere, and harmful fugitive emissions, during the maintenance routine, and when the valve is unattended.

In Steam Service – the additional metal-to-metal mechanical seal prevents the accidental release of high temperature / high pressure steam when removing the upper cap.

All stainless steel construction eliminates the risk of plating failure, which can occur on all types of standard carbon steel fittings. The thin plating is often worn off through use. The bare steel then begins to rust and corrode, rendering the fitting unusable and potentially dangerous.

Extend the effective service life of the fitting many times over. Reduce fitting replacement costs in all types of valves and wellhead equipment. Increase technician safety,



Ordering Information:

Part Number	Thread Type	Material
F-FWQS 1/4 - SS	1/4" –18 NPT	.316 Stainless Steel
F-FWQS 3/8 - SS	3/8" –18 NPT	.316 Stainless Steel
F-FWQS 1/2 - SS	1/2" –14 NPT	.316 Stainless Steel

Additional thread configurations & material grades available by special order.

Available from Sealweld Corporation
#106 – 4116 – 64th Ave. S.E Calgary, Alberta, Canada T2C 2B3
Phone (403) 236-0043 Facsimile (403) 236-5487

Installation:

1) **Never remove a fitting from a valve or pipeline that is under pressure!**
2) Wrap the lower connecting thread with Teflon® tape, or similar company approved thread sealer.
3) **DO NOT** use too much **tape** - one complete wrap should be sufficient.
4) **DO NOT** apply excess tape to the bottom of the fitting. Make sure that tape does not cover the bottom of the fitting, and cannot get into the sealant system of the valve.
5) Tighten in place with the proper sized wrench. Make sure the wrench is only attached to the lower section of the fitting.

Use & Operation:

ALWAYS USE 2 WRENCHES WHEN TIGHTENING OR REMOVING THE CAP, AND WHEN OPENING AND CLOSING THE MECHANICAL SEAL.

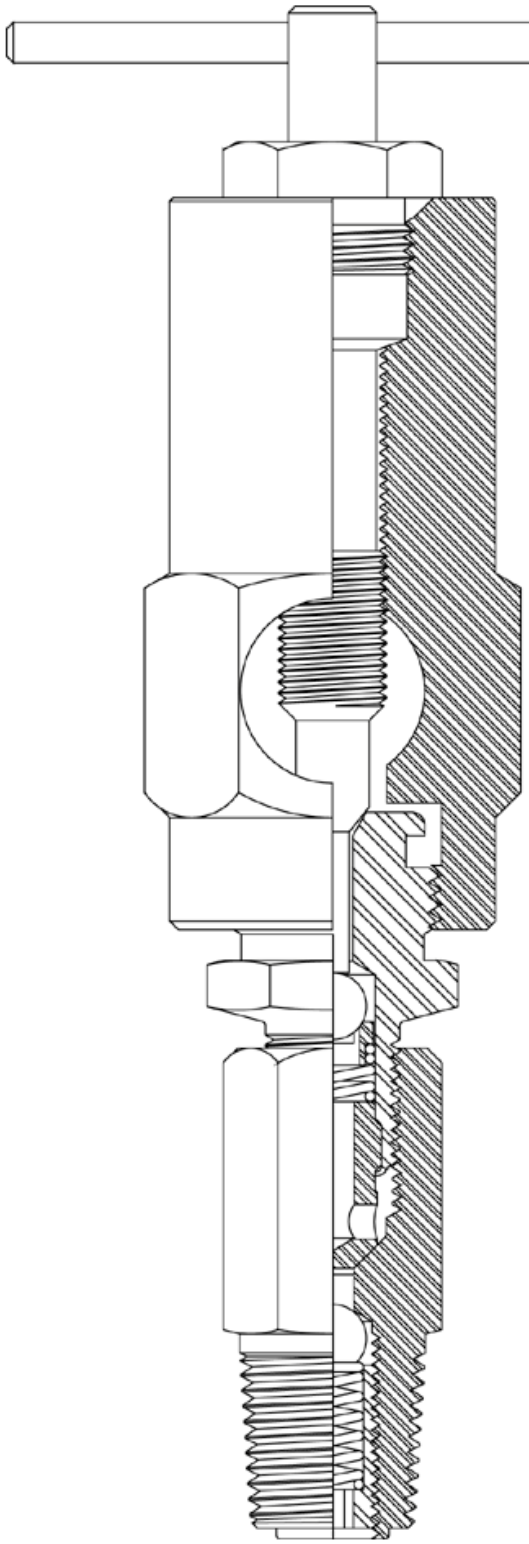
1) Remove the safe vent cap, and connect sealant pump with either a giant buttonhead coupler or a screw-on style coupler.

2) Attach 2 wrenches and open the mechanical center seal by turning the upper section half a turn to **allow** the sealant to flow.

3) Relieve pump pressure when sealant injection is complete. Close the mechanical seal, and then safely disconnect your pump from the fitting.

4) Attach a Sealweld SO-BV Tool to un-seat the upper check in order to verify the lower mechanical seal.

5) Replace the safe vent cap, and tighten it, to eliminate the possibility of leakage.



SO-BV Tool

Turn T-handle counter-clockwise to fully retract the stinger.

Attach the SO-BV Tool to the sealant injection fitting and tighten.

Turn T-handle clockwise to extend the stinger to un-seat the ball check in the sealant fitting to verify the integrity of the mechanical seal below.

Domestic New Valve Commissioning Clients:

Federated Pipelines	PanCanadian – Weyburn CO2 Project
Nova Gas Transmission	EnCana Christina Lake
TransCanada Pipelines	BC Gas / Terasen
Petronas Gas	Vector Pipeline
Foothills Pipelines	EnCana Gas Storage
Express Pipeline	Duke Energy
Maritimes & Northeast Pipeline	
Alliance Pipelines	And many more……

Contact Sealweld Services to commission all your new valves during the construction and commissioning phase of your next project. These new procedures have been proven to be extremely cost effective and are an excellent means of extending the service life of all your new valves.

Please do not hesitate to contact us directly for additional information or to book our services.

Sincerely,

Dean Chisholm

Dean Chisholm
President
Sealweld Corporation

#106 – 4116 – 64th Ave. S.E.
Calgary, AB T2C 2B3
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Facsimile – (403) 236-5487
Website – www.sealweld.ca

SAMPLE LABEL

STEAM SHIELD 2000

Lubricant, Sealant and Protective Coating for SAG-D Valves

SEALWELD STEAM SHIELD 2000 provides an insoluble film of synthetic lubricant to protect seal faces and reduce torque requirements. Use in gate, ball and plug valves and in stuffing boxes in high temperature service. **STEAM SHIELD 2000** non-melting and is insoluble in water and related by-products. Contains synthetic ingredients and a proprietary blend of synthetic oils and moly, this blend of synthetic oils combine to exceed the rating of each of its components. Use at: steam plants, heavy oil stuffing boxes, refineries, wellheads and pumps. For additional information regarding application, call Sealweld Corporation at the numbers listed below.

Base Oil	Synthetic	NLGI Grade	1	Special Additive	Moly
Color	Black	**ASTM Penetration**	300 - 335	**Particle Size**	< 4 microns
Drop Point	+621 F +327 C	**Compatibility**	Excellent	**Composition**	Semi-Liquid
Texture	Tacky	**Water Resistance**	Excellent	**Temp. Range**	-21F to +750F -30C to +400C

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1-403-236-0043
1-800-661-8465

Houston
1-713-937-9222
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SEALWELD CORPORATION

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