APPENDIX N (continued) Health and Safety Log

WVSER - DAIL	Y SAFETY MEETI	NG – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park /	
	P.O. #PSE-14-1394	Nov 7
Location: Gas Works Park		od and Topsoil from approximately 3 – 18 inches, tural fill & topsoil to match existing grade. Install oseed area.
Emergency Procedures: For Fire, Poli immediately and proceed as directed.		LL 911 - Notify Supervisor and Safety Officer Ids 206-510-0672
	ER 1959 NE Pacific ST. \$	· · · · · ·
Emergency Notification - Supervisor_		Phone:
Chemical Hazards: Fuels Lubrica MSDSs Available in Field Office		s Other
Biological Hazards: Sewage	3loodborne Pathogens 🗌 S	yringes 🗌 Wildlife 🗌
Physical Hazards: Vehicle/Heavy Eq Noise Demolition Weather		rip/Falls Excavation/Trenching
	d Hat; Safety Toed Boots; High	n Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE Sit Tools Electrical Hot Work		ent Operation Excavation/Trenching
Daily	Activity Hazard Analysis - S	Safe Plan of Action
Task / Operation	Potential Hazards	Safe Plan of Action
Printed Name	ATTENDER Company/Agen	
1 Spencer white	company/Agen	
2 Chuck Awed		Station of the second
3 Coblet Cellerops		Fuel Fyman
4 hear beren	Uysen	
5 Helandan Que	1	a clubball
6 Toploth, Dar	the UXSET	1 Davia Viela Ce
Minulsere	2	Jack Ho -
8		1 1

8	V
Conduc	ted By:

WVSER -	A II X / A press passed impact / 10 All press pages	
		ING – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park P.O. #PSE-14-1394	
Location: Gas Works Park		Sod and Topsoil from approximately 3 – 18 inches, uctural fill & topsoil to match existing grade. Install droseed area
		ALL 911 - Notify Supervisor and Safety Officer
HOSPITAL: UW Medical	Center ER 1959 NE Pacific ST.	Seattle 98195 ER (206) 543-3320
Emergency Notification - Sup	pervisor	Phone:
	Lubricants Solvents Adhesiv	
	e Bloodborne Pathogens	
Physical Hazards: Vehicle/H Noise Demolition W		/Trip/Falls Excavation/Trenching
	ent: Hard Hat; Safety Toed Boots; Hi	gh Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE Tools Electrical Hot Other	Work Housekeeping	ment Operation Excavation/Trenching
	Daily Activity Hazard Analysis -	Safe Plan of Action
Task / On another		
Task / Operation	Potential Hazards	Safe Plan of Action
Task / Operation	Potential Hazards	Safe Plan of Action
Task / Operation	Potential Hazards	Safe Plan of Action
Task / Operation	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
Printed Nam	ATTENDE	EES
Printed Nam	ATTENDE	EES
Printed Nam	ATTENDE	EES
Printed Nam Printed Nam Automatica Automatica Automatica Automatica Automatica Automatica Automatica Automatica Automatic	ATTENDE	EES
Printed Nam Printed Nam Printed Nam Auguncho G Auguncho G Auguncho G	ATTENDE	EES
Printed Nam Printed Nam Printed Nam Augusta Augus	ATTENDE Company/Age A-Quiroz WYSE A-Quiroz WYSE Munos A MAC	EES ency Signature/ Lange Market Lange Market Lange Market Lange Market
Printed Nam Printed Nam Printed Nam Augusta Augus	ATTENDE	EES ency Signature/ Lange Market Lange Market Lange Market Lange Market
	ATTENDE Company/Age A-Quiroz WYSE A-Quiroz WYSE Munos A MAC	EES ency Signature/ Lange Market Lange Marke

Conducted	By:
-----------	-----

WYSER - DAIL	Y SAFETY MEETING – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park / Kite Hill Project Date:
Location: Gas Works Park	P.O. #PSE-14-1394 Type Work: Removal of Sod and Topsoil from approximately 3 – 18 inches,
01 N. Northlake Way Seattle 98103	
	ce or Medical Emergency CALL 911 - Notify Supervisor and Safety Officer Safety Director – Dan Reynolds 206-510-0672
	ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320
Emergency Notification - Supervisor_	Phone:
Chemical Hazards: Fuels Lubrica MSDSs Available in Field Office	
Biological Hazards: Sewage 🗌 E	loodborne Pathogens 🗌 Syringes 🗌 Wildlife 🗌
Physical Hazards: Vehicle/Heavy Equ Noise Demolition Weather	
Personal Protective Equipment: Hard	Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE Sit Tools Electrical Hot Work Other	Housekeeping
Daily	Activity Heneral Amelyois Cofe Dlaw of Action
	Activity Hazard Analysis - Safe Plan of Action
	Potential Hazards Safe Plan of Action
	Potential Hazards Safe Plan of Action
Task / Operation	Potential Hazards Safe Plan of Action
	Potential Hazards Safe Plan of Action
Task / Operation	Potential Hazards Safe Plan of Action
Task / Operation Image: Task / Operation Image: Printed Name Image: Print	Potential Hazards Safe Plan of Action
Task / Operation	Potential Hazards Safe Plan of Action

A A CILICI	ALL ALS GE		1 ANDRILO WUNDO?	
MATANAA 1	ADVBALANS_	- in MSR	1 Binlaples	
Spencen	Stip ite		10 crat	
Indit	Verg	Chrisen	XIE	
Chuel	itakt		Phil (4)	
onducted By:				

C

WYSER	- DAILY SAFI	ETY MEETING	3 – PLAN	OF ACTION	
Client: Puget Sound Energy		: Gas Works Park / Kit PSE-14-1394		Date: Dav (2 n approximately 3 – 18 ir	2014
Location: Gas Works Park	attle 98103 backfill,	ork : Removal of Sod a compact with structura n system, and hydrose	al fill & topsoil to	n approximately 3 – 18 ir 9 match existing grade. Ir	nches, Istall
Emergency Procedures: For immediately and proceed as	or Fire, Police or Med	ical Emergency CALL	911 - Notify Su		er
HOSPITAL: UW Medica	I Center ER 1959	NE Pacific ST. Sea	attle 98195	ER (206) 543-3320	
Emergency Notification - S	Supervisor		Phone		
Chemical Hazards: Fuels MSDSs Available in Fie] Other 🗌 _		
Biological Hazards: Sewa	age 🗌 Bloodborne	Pathogens Syrir	nges 🗌 🛛 Wild	life 🗌	
Physical Hazards: Vehicle Noise Demolition Personal Protective Equip Special PPE	Weather Other ment: Hard Hat; Safe	•□	sibility Vests; G	_	otection
Safety Issues / Topics: PP ToolsElectricalHo Other	ot Work Houseke	eeping 🗌 🔄	Operation]
	Daily Activity I	iazaru Analysis - Sale	Plan of Action	1	
			2.5 W 22. WY23		
Task / Operation	Potential I		2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
Task / Operation			2.5 W 22. WY23	Plan of Action	
	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na	Potential	Hazards	2.5 W 22. WY23	Plan of Action	
Printed Na 1 DAWN STUHS	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na 1 DAUD STUHS 2 DELO 1	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na 1 DAUN STURIS 2 ACB(0 1 3 DAUNDUO	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na Printed Na Printe	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na Printed Na Printe	Potential	ATTENDEES	2.5 W 22. WY23		
Printed Na 1 PAUN STURIS 2 Pablo 1 3 Alejandue 4 TAMACO 2 5 Norther 2	Potential	ATTENDEES	2.5 W 22. WY23		

2.0

Client: Pugel Sound Energy Project: Gas Works Park / Kite Hill Project Date: P.O. #PSE-74-1394 Project: Removal of Sod and Topsoli from approximately 3 – 18 inc. "O1 N. Northlake Way Seattle 98103 Type Work: Removal of Sod and Topsoli from approximately 3 – 18 inc. "mergency Procedures: For Fire, Police or Medical Emergency CALL 911 - Notify Supervisor and Safety Office mergency Procedures: For Fire, Police or Medical Emergency CALL 911 - Notify Supervisor and Safety Office OSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 mergency Notification - Supervisor	tection
************************************	tection
Imergency Procedures: For Fire, Police or Medical Emergency CALL 911 - Notify Supervisor and Safety Office Immediately and proceed as directed. Safety Director – Dan Reynolds 206-510-0672 OSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director – Dan Reynolds 206-510-0672 OSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Supervisor Phone: Phone:	tection
OSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 mergency Notification - Supervisor Phone: hemical Hazards: Fuels Lubricants Solvents Adhesives Other	tection
mergency Notification - Supervisor Phone: hemical Hazards: Fuels Lubricants Solvents Adhesives Other MSDSs Available in Field Office Truck Main Office Other	tection
hemical Hazards: Fuels Lubricants Solvents Adhesives Other	tection
MSDSs Available in Field Office Truck Main Office View Ma	tection
Iological Hazards: Sewage Bloodborne Pathogens Syringes Wildlife Inysical Hazards: Vehicle/Heavy Equipment Operation Slip/Trip/Falls Excavation/Trenching Dise Demolition Weather Other	
Demolition [] Weather [] Other [] ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Prote Special PPE	
Demolition [] Weather [] Other [] ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Prote Special PPE	
fety Issues / Topics: PPE fety Issues / Topics: PPE ols Electrical Hot Work Housekeeping her	
fety Issues / Topics: PPE fety Issues / Topics: PPE ols Electrical Hot Work Housekeeping her	
fety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching ols Electrical Hot Work Housekeeping	
ols Electrical Hot Work Housekeeping	
ols Electrical Hot Work Housekeeping	
Daily Activity Hazard Analysis - Safe Plan of Action	
Task / Operation Potential Hazards Safe Plan of Action	
ATTENDEES	
Printed Name Company/Agency Signature Signature	
Soche CV White	
Church Antral A	_
DIGARCE QUIEZ [In parce Quirez	
Robert Kennings	
There Wiser 154	And in case of the second
Alerandro Churce A	
Papio A Quica Aurora	
Jour Je Comerce Jest	
	14

* 4

WYSER -	DAILY SAFETY MEET	ING – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park P.O. #PSE-14-1394	/ Kite Hill Project Date:
Location: Gas Works Park 201 N. Northlake Way Seatt		Sod and Topsoil from approximately 3 – 18 inches, ictural fill & topsoil to match existing grade. Install roseed area.
	Fire, Police or Medical Emergency C. rected. Safety Director – Dan Reyn	ALL 911 - Notify Supervisor and Safety Officer olds 206-510-0672
HOSPITAL: UW Medical (Seattle 98195 ER (206) 543-3320
Emergency Notification - Sup	pervisor Upw KEYWCC	Phone: 206 510 0617
	Lubricants Solvents Adhesiv	
Biological Hazards: Sewage	e 🗌 Bloodborne Pathogens 🗌	Syringes 🗌 Wildlife 🗌
Physical Hazards: Vehicle/He Noise Demolition W		/Trip/Falls Excavation/Trenching
Personal Protective Equipme	ent: Hard Hat; Safety Toed Boots; Hig	gh Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE Tools Electrical Hot Other		nent Operation Excavation/Trenching Safe Plan of Action
Tech / Onemetica		
Task / Operation	Potential Hazards	Safe Plan of Action
SOD WETARLE	CUTTING	GLE VES
	ATTENDE	====
Printed Nam		
1 DAUTO STEPSPI	Rlg WYSERC	Junhort
2 Pablo A-	WHOZ WYSER	- 1100
3 ITA AACIO	QUITO	Hangaro QUIMOZ

4 adjuando Quinto	grang Quicz
5 Robert tennors	(in the h
6	have have
8	
Conducted By:	

WYSER -	DAILY SAFETY MEET	
Client: Puget Sound Energy	Project: Gas Works Park /	Kite Hill Project Date:
ocation: Gas Works Park 801 N. Northlake Way Seattl	e 98103 backfill, compact with struc	ctural fill & topsoil to match existing grade. Instail
	Fire, Ponce or medical Entertioney or rected. Safety Director - Can receive	ere ett -tradity oppolyiour blikt othety cannot ere standitioner
IOSPITAL: UW Medical C	Center ER 1959 NE Pacific 51.	Seattle 90195 ER (200) 543-3520
Chemical Hazards: Fuels	Officer≰i i rucki i Main Officei i	
Biological Hazards: Sewage		Syringes 🔲 Wildlife
Sillar Sillar	Consarent	Trip/Falls Excavation/Trenching h Visibility Vests; Gloves, Eye & Hearing Protection
	Site/Traffic Control L Equipm	ent Operation Excavation/Trenching
	SERV ACTIVITY Hazard Analysis - S	Safe Plan of Action
	Potential Hazards	Safe Plan of Action
Sunda Eccop.	EYE CONTACT	
	ATTENDE	EQ
	Company/Ager	
Treet Jesner Sookrok WW	n Wisen	L'in Lacon
Chier Myle is	8	Chie G
n harring a state of the second		
3		

2^{*} .H

WYSER -	DAILY SAFE	ETY MEETI	NG – PLAN OF ACTION
Client: Puget Sound Energy		Gas Works Park	/ Kite Hill Project Date: //-/S-iy
Location: Gas Works Park 1801 N. Northlake Way Seat	ttle 98103 backfill.		ood and Topsoli from approximately 3 – 18 inches. ctural fill & topsoil to match existing grade. Install roseed area.
immediately and proceed as o	iirected. Safetv Dire	ctor – Dan Revno	
HOSPITAL: UW Medical Emergency Notification - Su	da	NE Pacific ST.	
Chemical Hazards: Fuels	Lubricants Solv	vents Adhesive	es Other
Biological Hazards: Sewag			and a second
Provisical Hazards: Venicle/P NoiseL_1 Demolition [_] V Personal Protective Equipm	Veather 🗌 Other		Trip/Falls Excavation/Trenching Excavation/Trenching
Safety Issues / Topics: PPE Tools () Electrical I I Hot	Workl_I Houseke	eeping	nent Operation D Excavation/Trenching D
	Daily Activity H	azard Analysis - S	Safe Plan of Action
* ki Operation	Potential H	lazards	Safe Plan of Action
B. Thur	Part	120 40-10	
DAKOE LAURS	temp C	in the	CLORN ALL CE OFF
	Scippent	lie	TAWE!
			Mart
2		ATTENDE	ES
Printed Name		Company/Age	
Theat Jey	Treat Jeyner		2=10
Spercer MM	his	1	Good Barger
3 DAGD STUSB	QUE		Strand and
4 Chink March			CAS 12
5 KODENT KEYNO	105		Furthyald
6			
7 8			
Conducted By:		1	1

An			A then a
(mapping)	ashin	5	statiat Korrast
B 077 1 0 ()	>75.50	H. ares	010010
- Orman		if shind	O mprophypo
Ignacio Queros		2011	D OLIDORDI
- Chang		25!	Spencer un
	Company/Agenc	əu	IEN DATITI
	ATTENDEES		
			~
6			
GAILS LETING			COS
Safe Plan of Action		H Isitneto	Task / Operation
☐ gnintonenThroitsvesx∃ ☐ noitsnend tr	it to be a series in	Site/Traffic Co	
Visibility Vests; Gloves, Eye & Hearing Protection	/ Toed Boots; High	rent: Hard Hat: Safet	udinba ovnocioni innocion
Doritone)T/noitevesx∃elle7\p			I/ƏIDIUƏA :SDIRZRII IRDISAU-
□ Əjildlife □ Səgni	IVS Sthogens Syl	de i Piooaporne i	PIOIOGICSI HSZSIGS: 26M9
☐ nərti O	ents		
Бһоле:		npervisor	S - noitsoititoN yoneprema
eattle 98195 ER (206) 543-3320	ie Pacific ST. S	Center ER 1959 h	Isolbell WU
L 911 - Notify Supervisor and Safety Officer 2 206-510-0672			og :seinbeoത്രച്ച സ്വര്ത്തങ്ങം ടെ paarood റെട്ട സ്വര്ത്തങ്ങം
sara ι opsoil from approximately 3 – 18 inches, iral fill & topsoil to match existing grade. Install	ompact with structure	ше 98103 раскин, с	səS yav əxannov .v rosi
Date: Date: U. 19/19/19/19/19/19/19/19/19/19/19/19/19/1	Gas Works Park / K		Client: Puget Sound Energy
		Contraction of the second seco	the second se

Conducted By:

Mar. 2. 2015 12:02PM WYSER CONSTRUCTION

No. 1922 P. 11

and I had han I	- DAILY SA	AFETY MEE	TING - PLAN OF ACTION
Client: Puget Sound Energ	Pro	ject: Gas Works Pa #PSE-14-1394	rk / Kite Hill Project Date: ///20/19
-o(.lon: Gas Works Park N. Northlake Way S	eattle 98103 bac	e Work: Removal c kfill, compact with st ation system, and h	of Sod and Topsoil from approximately 3 – 18 inches, tructural fill & topsoil to match existing grade. Install
Emergency Procedures: I	For Fire, Police or N	ledical Emergency	CALL 911 - Notify Supervisor and Safety Officer
mmediately and proceed a	s directed. Safety I	Director – Dan Rey	nolds 206-510-0672
HOSPITAL: UW Medic	al Center ER 19	59 NE Pacific ST	. Seattle 98195 ER (206) 543-3320
Emergency Notification -	Supervisor		Phone:
Chemical Hazards: Fuels MSDSs Available in Fie	Lubricants	Solvents Adhes	ives Other O
Biological Hazards: Sew			
Physical Hazards: Vehicle	Heavy Equipment	Operation Slit	p/Trip/Falls Excavation/Trenching
loise Demolition	Weather 🗍 Oth	ner	
ersonal Protective Equip	ment: Hard Hat; Sa	afety Toed Boots: H	igh Visibility Vests; Gloves, Eye & Hearing Protection
Special PPE			
afety Issues / Topics: PP ools 🔲 Electrical 🛄 Ho	E Site/Traffic	Control 🔲 Equip	ment Operation 🗌 Excavation/Tranching 🗌
ther		keeping 🗍 🔡	
	Daily Activity	Laward Analysis	0.4. 01
		some me gran special stage	Safe Plan of Action
Task / Operation	Potentia	l Hazards	Safe Plan of Action
and the second se		Contraction	
		ATTENDER	=3
Printed Nam	A STATE OF	ATTENDER Company/Agen	Ξ8
	A STATE OF	Piles and a second	=3
Printed Nam	A STATE OF	Piles and a second	=3
Printed Nam	A STATE OF	Company/Agen	=3
Printed Nam	A STATE OF	Piles and a second	=3
Printed Nam	pi ite	Company/Agen	=3
Printed Nam	A STATE OF	Company/Agen	ES Icy Signature United Signature Signature Signature Signature Signature Signature Signature Signature Signature Signature
Printed Nam	pi ite	Company/Agen	=3

WYSER - DAIL	Y SAFETY MEETI	NG – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park P.O. #PSE-14-1394	
Location: Gas Works Park 1801 N. Northlake Way Seattle 9810	3 backfill, compact with structure irrigation system, and hydr	od and Topsoil from approximately 3 – 18 inches, ctural fill & topsoil to match existing grade. Install roseed area.
Emergency Procedures: For Fire, Po immediately and proceed as directed.	olice or Medical Emergency CA	LL 911 - Notify Supervisor and Safety Officer
HOSPITAL: UW Medical Center	ER 1959 NE Pacific ST.	Seattle 98195 ER (206) 543-3320
Emergency Notification - Supervisor		Phone:
Chemical Hazards: Fuels Lubric MSDSs Available in Field Office	ants Solvents Adhesive	es Other
Biological Hazards: Sewage	Bloodborne Pathogens	Syringes 🗌 Wildlife 🗌
Physical Hazards: Vehicle/Heavy Ed Noise Demolition Weather		Trip/Falls Excavation/Trenching
Personal Protective Equipment: Ha		h Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE S Tools Electrical Hot Work	Housekeeping	ent Operation Excavation/Trenching
Other	y Activity Hazard Analysis - :	Safe Plan of Action
	Second Second	Safe Plan of Action Safe Plan of Action
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis -	
Dail	y Activity Hazard Analysis - S Potential Hazards	Safe Plan of Action
Dail	y Activity Hazard Analysis - S	Safe Plan of Action
Dail Task / Operation	y Activity Hazard Analysis - S Potential Hazards	Safe Plan of Action

Spence, Minite		HASAL
2 Chub thirt		
3 Kenthurgh		Fighting
4 Dahla A. (Dairaz	US4517	hla R
5 TRAT Jasman	6 been	256 1000
6 ADDAGD STRUSBING		affect
MONNEL N. WARRA	WER	lank for
8 Janacio Quiroz	,	Taracio Ound
Conducted By: Alejandro Ginns la		CA MARI
		- yes
v		

VVIOLI	- DAILI OF	AFELY MEEL	ING – PLAN OF ACTION			
Client: Puget Sound Energy	I P O	ect: Gas Works Parl #PSE-14-1394	11/1/14			
.ocation : Gas Works Park 801 N. Northlake Way Seattle 98103 irrigation system, and hydroseed area.						
immediately and proceed as	directed. Safety I	Director – Dan Reyr				
HOSPITAL: UW Medica	I Center ER 19	59 NE Pacific ST.	Seattle 98195 ER (206) 543-3320			
Emergency Notification - S	Supervisor		Phone:			
Chemical Hazards: Fuels MSDSs Available in Fie						
Biological Hazards: Sewa	age 🗌 🛛 Bloodbo	orne Pathogens	Syringes Wildlife			
Physical Hazards: Vehicle/ Noise Demolition			p/Trip/Falls Excavation/Trenching			
		Safety Toed Boots; H	gh Visibility Vests; Gloves, Eye & Hearing Protection			
Safety Issues / Topics: PP Tools Electrical Ho Other			ment Operation D Excavation/Trenching D			
	Daily Activit	ty Hazard Analysis	- Safe Plan of Action			
Task / Operation	- No. Commenter and the	ial Hazards	Safe Plan of Action			
	1 30200.1					
		ING CENTRE	Go Stow			
	thicks .	WHICH OUT	Go Stow			
	thicks .		Coo Stow			
	MORKERS NORKERS ASPACIT.	NILTEH OUT AND EDGES OF	Coo Stow			
	TRUCKS WORKERS ASPAKIT. SUIPS TRI	NATCH OUT AND EDGES OF CPS AND FIFEL	Coo Stow			
	TRUCKS WORKERS ASPARIT. SLIPS TRI MUD DINI	CPS AND FIFEL	<u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>			
	TRUCKS WORKERS ASPARIT. SLIPS TRI MUD DINI	NATCH OUT AND EDGES OF CPS AND FIFEL	<u><u><u></u></u></u>			
	TRUCKS WORKERS ASPARIT. SLIPS TRI MUD DINI	NATCH OUT AND EDGES OF CPS AND FATEL D WATER . THEOLGIFT MUD				
Printed Na	TRUCKS WORKERS ASPHUT SUDPS TEL MUD DINI WALKENG T	CPS AND FIFEL	EES			
1 DAUD STRASBUR	TRUCKS WORKERS ASPARIT. SLEPS TRE MUD DINI WHUKZING T	NATEND	EES			
1 DALD STRASBUR 2 SOPHER WM	TRUCKS WORKERS ASPARIT. SLEPS TRE MUD DINI WHUKZING T	NATEND	EES			
1 DALAD STRASBUR 2 Socher Non 3 Chark hkilt	TRUCKS WORKERS ASPARIT. SLIPS TRI MUD DINI WHLKING T WHLKING T	NATEND	EES ency Signature			
1 DALAD STRASBUR 2 Sochver um 3 Chill Delt	TRUCKS WORKERS ASPAUT. SLEPS TEL MUD DINI WALKENG T WALKENG T	NATEND	EES			
1 DALD STRASBUR 2 Socher NM 3 Chik hkift 4 Janaco (TRUCKS WORKERS ASPARIT. SLIPS TRI MUD DINI WHLFING T WHLFING T G (42 20.402 NDS	NATEND	EES ency Signature			

		1000
16.	0	ica

Conducted By:

ъ

WYSER - DAILY	SAFETY MEETING – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park / Kite Hill Project Date:
Location: Gas Works Park 1801 N. Northlake Way Seattle 98103	Type Work: Removal of Sod and Topsoil from approximately 3 - 18 inches,
	ce or Medical Emergency CALL 911 - Notify Supervisor and Safety Officer afety Director – Dan Reynolds 206-510-0672
HOSPITAL: UW Medical Center E	R 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320
Emergency Notification - Supervisor_	Phone:
Chemical Hazards: Fuels Lubricar MSDSs Available in Field Office	
Biological Hazards: Sewage 🗌 B	loodborne Pathogens 🗌 Syringes 🗌 Wildlife 🗌
Physical Hazards: Vehicle/Heavy Equ Noise Demolition Weather	
	Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE Site Tools Electrical Hot Work Other	
	Potential Hazards Safe Plan of Action
Robert Reymonds	rench Box SHoring Ruf Rugarb
Printed Name	ATTENDEES
1 Spencer white	Company/Agency Signature

Printed Name	Company/Agency	Signature
1 Spencer winde		anno '
2 Tanação Quisio?		O Gracio, Quiroz
3 FORTH SEUNMUDS		Just and
4 Olay Lyke, C		CAL
5 Parlo N- QUEZ	WXSZ 1	, 116
6 A lejandro Quere h		esailio
8		
Conducted By:		

Client: Puget Sound Energy Project Gas Works Park / Kile Hill Project Date: Liceation: Gas Works Park PO. PPS: 14-1394 Date: Date: 1301 N. Northlake Way Seattle 98103 backfill, compact with structural fill A topolo to match existing grade. Install Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 ODOSITAL: UW Medical Energency CALL 911. Notify Supervisor and Safety Officer Obspirate: With Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 Other Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 Other Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 Other Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 Other Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 Other Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Immediately and proceed as directed. Safety Director - Dan Reynolds 206-510-0672 Other Center Center Main Center Center Center Cen	VVISER	- DAILY SA	FETY ME	
Location: Gas Works Park P.O. #PSE-14-1304 Date: P.O. #PSE-14-1304 Date: 2301 N. Northlake Way Seattle 98103 Type Work Removal of Sod and Topsoil from approximately 3 – 18 inches immediately and proceed area. Including the structural fill its topsoil to match existing grade. Install immediately and proceed as directed. Safety Director – Dan Reynolds 206-510-0672 OSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Mission Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Mission Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Mission Pacific St. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Mission Pacific St. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Mission Pacific St. Seattle 98195 ER (206) 543-3320 Intermical Hazards: Fuelso Office Truck Millife Office Truck Mission Pacific St. Seattle 98195 ER (206) 543-320 Intermical Hazards: Sewage Bioodborne Pathogens Syringes Wislidity Vestice (Solves, Eye & Hearing Protection Simp	Client: Puget Sound Energy	/ Proje	ect: Gas Works	TING – PLAN OF ACTION
1801 N. Northlake Way Seattle 98103 Type Work: Removal of Sod and Topsoli from approximately 3 - 18 inchese. Irrigation system, and hydroseed area. Irrigation system, and hydroseed area. 10 inchese. Irrigation system, and hydroseed area. Immediately and proceed as directed. Safety Director – Dan Reynolds 2006-10-0572 2006-10-0572 HOSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification – Supervisor Phone: Phomical Hazards: Fuels[] Lubricants[] Solvents[] Other INSDES Available in Field Office[] Truck [] Main Office]] Excavation/Trenching[] Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection Sign Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection Integer Daily Activity Hazard Analysis - Safe Plan of Action VAALSY Lippe CAVCIn Short Action VAALSY Lippe CAVCIn Short Action VAALSY Lippe Company/Agency Signature Church Maxee Company/Agency Signature		P.O.	#PSF-14-1304	Date:
Image of the system, and hydroseed area. Initial Windows and Status Windows and S	1801 N North Vorks Park	Type	Work Removal	11/2/14
Image of the system, and hydroseed area. Initial Windows and Status Windows and S	Se Northlake Way Se	attle 98103 backi	fill, compact with	of Sod and Topsoil from approximately 3 - 18 inche
mmediately and proceed as directed Safety Director – Dan Reynolds 208-510-0572 HOSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Phone: Phone: Phone: MSDSs Available in Field Office[TrackMain Office] Other [Emergency Procedures	irriga	tion system, and	hydroseed area
HOSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor Phone: Phone: Shemical Hazards: Fuels Lubricants Solvents Adhesives Other Image: Solvents Main Office Shemical Hazards: Several Bloodborne Pathogens Syringes Wildlife Image: Solvents Notifice Image: Solvents	mmediately and proceed as	or Fire, Police or M	edical Emergenc	V CALL 911 Notify Come
DSPITAL: UW Medical Center ER 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 Emergency Notification - Supervisor	and proceed as	directed. Safety D	irector - Dan Re	ynolds 206-510-0672
Phone:				
Premical Hazards: Fuels Lubricants Solvents Adhesives Other MSDSS Available in Field Office Truck Main Office Wildlife hysical Hazards: Sewage Bioodborne Pathogens Syringes Wildlife hysical Hazards: Venicle/Heavy Equipment Operation Slip/Trip/Falls Excavation/Trenching oise Demolition Weather Other	Emergency Notification - S	upervisor	9 NE Pacific S	
itological Hazards: Sewage Bloodborne Pathogens Syringes Wildlife hysical Hazards: Vehicle/Heavy Equipment Operation Sip/Trip/Falls Excavation/Trenching orse Demolition Weather Other Sip/Trip/Falls Excavation/Trenching ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching otis Electrical Hot Work Housekeeping Equipment Operation Excavation/Trenching otis Electrical Hot Work Housekeeping Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action VVA-fSn Line CAVEIn Shorting AttenDEES Printed Name Company/Agency Signature Spectneer Mait 4. Company/Agency Signature AttenDEES Excavation House Mait 4. AttenDEES Excavation/Trenching Excavation/Trenching AttenDEES Excavation Excavation/Trenching Excavation/Trenching	Chemical Hazards: Fuele			
Article Action Sewage Bloodborne Pathogens Syringes Wildlife hysical Hazards: Vehicle/Heavy Equipment Operation Slip/Trip/Falls Excavation/Trenching ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching biter Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action V/A-18m L (me CAVE in Short ine Signature MAR Mark CAVE in Signature Signature Specin Cer NAHE Company/Agency Signature Mark Chuck Chuck Chuck Chuck Mark Chuck Chuck Chuck Chuck <	MSDSs Available in Fiel	d Office Truck	Olvents Adhe	sives Other
Hysical nazards: Vehicle/Heavy Equipment Operation Slip/Trip/Falls Excavation/Trenching ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection Special PPE afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching Disl Electrical Hot Work Housekeeping Environment Operation Excavation/Trenching Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action V/A-18n Like CAVEIn Shoh'ing Safe Plan of Action MATENDEES Printed Name Company/Agency Signature Specin Cer NAHE The Mark The Mark Mathematical Maxies Wesen Signature Mathematical Mark The Mark The Mark Mathematical Mark Company/Agency Signature Mathematical Mark The Mark The Mark Mathematical Mark The Mark The Mark Mathematical Mark The Mark The Mark <td< td=""><td>iological Hazards: Sewa</td><td></td><td></td><td></td></td<>	iological Hazards: Sewa			
Hysical nazards: Vehicle/Heavy Equipment Operation Slip/Trip/Falls Excavation/Trenching ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection afety Issues / Topics; PPE Site/Traffic Control Equipment Operation Excavation/Trenching afety Issues / Topics; PPE Site/Traffic Control Equipment Operation Excavation/Trenching Disl Electrical Hot Work Housekeeping Environment Operation Excavation/Trenching Daily Activity Hazard Analysis - Safe Plan of Action Daily Activity Hazards Safe Plan of Action VA1@n Live CAVEIn ShoPring MA1@n Live CAVEIn ShoPring ATTENDEES Printed Name Company/Agency Signature Oncor Dainy Concor Dainy Concor Dainy Concor Mathematical Mase Mathematical Mathemati	husia III		e Pathogens	Syringes Wildlife
areasonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection afety Issues / Topics: PPE	INSIGH Hazarde Vohiolo/	In a second seco		
ersonal Protective Equipment: Hard Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection Special PPE		Veather Othe	er	ip/Trip/Falls Excavation/Trenching
afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching bols Electrical Hot Work Housekeeping Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action VATER Line CAVEIN After Line CAVEIN ATTENDEES Printed Name Company/Agency Signature After Line ATTENDEES Printed Name Company/Agency Signature Arter Line Attent Line				
afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching bols Electrical Hot Work Housekeeping Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action VATER Line CAVEIN After Line CAVEIN ATTENDEES Printed Name Company/Agency Signature After Line ATTENDEES Printed Name Company/Agency Signature Arter Line Attent Line	Special PPE	ent: Hard Hat; Saf	ety Toed Boots: I	High Visibility Vester Clause
afety Issues / Topics: PPE Site/Traffic Control Equipment Operation Excavation/Trenching bols Electrical Hot Work Housekeeping Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action VA-fer Line CAVEIN After Line Shorting Image: Second State Plan of Action Safe Plan of Action VA-fer Line CAVEIN Second State Plan Safe Plan of Action VA-fer Line CAVEIN Second State Plan Safe Plan of Action VA-fer Line CAVEIN Second State Plan Safe Plan of Action VA-fer Line CAVEIN Second State Plan Safe Plan of Action VA-fer Line CAVEIN Second State Plan Safe Plan of Action Seco				inght visibility vests, Gloves, Eye & Hearing Protection
Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action VVA-len Line CAVein Shorting Image: Second and the				
Iter Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action V/Aden Line CAVein Shoring Image: Second and the second and	afety Issues / Topics PPF			
Daily Activity Hazard Analysis - Safe Plan of Action Task / Operation Potential Hazards Safe Plan of Action WAtten Line CAVEIN Shoving WAtten Line CAVEIN Shoving Image: Shoving Safe Plan of Action Matten Line CAVEIN Shoving Image: Shoving Safe Plan of Action Image: Shoving Shoving Image: Shoving Shoving Image: Shoving Shoving Image: Shoving Signature Image: Shoving Shoving			Control 📋 Equi	pment Operation Excavation/Tranching
Task / Operation Potential Hazards Safe Plan of Action WAden Line CAVein Shoring Waden Line Shoring Attended Shoring Attended Signature Attended Signature Spencer Spencer Spencer Spencer Spencer	ther	Housek	ceeping	
Task / Operation Potential Hazards Safe Plan of Action WAden Line CAVein Shohine Waden Line Shohine Attended Shohine Attended Shohine Attended Signature Spencer Spencer Spencer Spencer Spencer				
Task / Operation Potential Hazards Safe Plan of Action WAden Line CAVein Shohine Waden Line Shohine Attended Shohine Attended Shohine Attended Signature Spencer Spencer Spencer Spencer Spencer		Daily Activity H	azard Analysis	Sofo Diana di Ang
WAter Line Callen Safe Plan of Action Water Line CAllen Shoking Shoking Shoking Image: Shoking Signature Image: Shoking	Task / Operation	Potontial	line in the states	- Sale Plan of Action
ATTENDEES Printed Name Company/Agency Signature ATTENDEES Signature Signature Attended Attended Signature Attended Attended Signature Attended Attended Attended Attended A			Hazards	Safe Plan of Action
ATTENDEES Printed Name Company/Agency Signature ATTENDEES Printed Name Company/Agency Signature Attendees Signature Signature Attendees Signature Signature Attendees Company/Agency Signature Attendees Attendees Signature Attendees Attendees Signature Attendees Attendees Attendees	- June	CAVEIN		Shoring
Spencer Nnite Chuck Mk/ Tran Acon Deer Seguents Chuck Jack Jack Jack Jack Jack Jack Jack Ja				
Spencer Nnite Chuck Mk/ Tran Acon Deer Seguents Chuck Jack Jack Jack Jack Jack Jack Jack Ja				
Spencer Nnite Chuck Mk/ Tran Acon Deer Seguents Chuck Jack Jack Jack Jack Jack Jack Jack Ja			the second second	
Spencer Nnite Chuck Mk/ Tran Acon Deer Seguents Chuck Jack Jack Jack Jack Jack Jack Jack Ja				
Spencer Nnite Chuck Mk/ Tran Acon Deer Seguents Chuck Jack Jack Jack Jack Jack Jack Jack Ja				
Spencer Nnite Chuck Mk/ Trans Dinoz Trans				
Spencer Nnite Chuck Mk/ Tran Assuer Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alex				
Spencer Nnite Chuck Mk/ Tran Assuer Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alexan Alex				
Spencer Nnite Chuck Mk/ Tran Acon Deer Seguents Chuck Jack Jack Jack Jack Jack Jack Jack Ja				
Spencer Nnite Chuck Mk/ Trans Dinoz Trans				
Spencer Nnite Chuck Mk/ Trans Dinoz Trans				
Spencer Nnite Chuck Mk/ Tran Acon Deer Segmen Chuck Jaken Deer Segmen Chuck Jaken Deer Segmens Chuck Jaken Chuck Jaken Deer Segmens Chuck Jaken Chuck				
Spencer Nnite Chuck Mk/ Tran Acon Deer Segmen Chuck Jaken Deer Segmen Chuck Jaken Deer Segmens Chuck Jaken Chuck Jaken Deer Segmens Chuck Jaken Chuck				
Spencer Mnite Chuck Mk/f Tran Alexan				
Spencer mnite Chuck Ankelt Jaco Quinoz Trait Alesen Deer Seguinos Objer S	Drinted No.		ATTEND	EES
Chuck Mkelt Janacio Quivoz Janacio Quivoz J	(Company/Age	ency Signature
Algendas Queens A	- Spencer my	lite		Oignature
Algendas Queens A	Much Agk It			Roman
Algender Queens A	Janacia Di	Con		- Cul Ct
alyandra Queen A	du- at	6	1 .	Innacia Chinas
Colby Dutes Where at this	grant (NESM	er	Wegen	QADD:
Pablo A Contraction Countral	ADORT SCAMO	203	Ulycon	A A A
Pablo A COLLINGO	LOW MAR		ter	Alland
Pablo A COLLINGO	ad landa on			An An
ducted By: MARAMARA WEEK laughte	Dal di	mant		CHINGO
WITH ALLAL USE Guilding	ducted By:	niker=2	Wy Str V.	1 1 min
1 - June Ville	MARINE A	MARIA	Wit	10 10 DALANDE
		1	- /	many
				- /

Dther	Daily Activity Hazard Analysis Potential Hazards	Safe Plan of Action	
Julei			
Julei			
Julei			
Safety Issues / Topics: PPE] Site/Traffic Control 🗌 Equip ′ork Housekeeping 🗌	oment Operation Excavation/Trenching	
'ersonal Protective Equipmen] Special PPE	nt: Hard Hat; Safety Toed Boots; H	ligh Visibility Vests; Gloves, Eye & Hearing Prote	ection
Physical Hazards: Vehicle/Hea	avy Equipment Operation Sli	ip/Trip/Falls Excavation/Trenching	
Biological Hazards: Sewage	Bloodborne Pathogens	Syringes Wildlife	
Chemical Hazards: Fuels I MSDSs Available in Field C	Lubricants Solvents Adhes		
Emergency Notification - Supe	ervisor	. Seattle 98195 ER (206) 543-3320	
	Ban Rey		
mergency Procedures: For F	irrigotion susta	of Sod and Topsoil from approximately 3 – 18 inc tructural fill & topsoil to match existing grade. Ins ydroseed area.	tall
	Tuno Morte David	12/14	
Client: Puget Sound Energy Location: Gas Works Park 1801 N. Northlake Way Seattle	P.O. #PSE-14-1394	TING – PLAN OF ACTION	

Concer Marcha		
2 5		Call F
3		and the second
S SAACLE, QUIVAZ		1.06000 1.0002
4 0110 1000	s. Cile -	Ignal & Duroc
FADIO HE WOYCZ	WYSFR	n hla q
5 Alexandral Guira to		D Di billi
6 Lange Villing		S ALLAN
NOGHE KENNARS /		X un the same h
India algemen	11000	Charles 1
Atu Jeren	WYCER	ALAD
· DAY DUKENON	11/10 1	and think
Conducted By:		THE HURD
prince 71 y and	- VY MA	prover 2

WYSER -	DAILY SAFE	TY MEETING		ACTION
Client: Puget Sound Energy	Project:	Gas Works Park / Kite	Hill Project Date	
Location: Gas Works Park	P.O. #P	SE-14-1394		12-02-14
1801 N. Northlake Way Seat	tle 98103 backfill of	Compact with structura	nd Topsoil from app	roximately 3 – 18 inches, th existing grade. Install
	irrigation	system and hydrococ	daroo	
Emergency Procedures: For immediately and proceed as d	Fire, Police or Medic irected. Safety Direc	cal Emergency CALL s ctor – Dan Reynolds	11 - Notify Supervis 206-510-0672	or and Safety Officer
		IE Pacific ST. Seat		(206) 543-3320
Emergency Notification - Su	pervisor		Phone:	
Chemical Hazards: Fuels MSDSs Available in Field	Office Truck	Main Office		
Biological Hazards: Sewag	e 🗌 Bloodborne F	Pathogens Syring	jes 🗌 Wildlife 🗌	
Physical Hazards: Vehicle/H Noise Demolition W	eavy Equipment Ope /eather 🗌 Other[eration Slip/Trip/F	alls Excavation	n/Trenching
Personal Protective Equipme	ent: Hard Hat; Safety	v Toed Boots; High Vis	bility Vests; Gloves,	Eye & Hearing Protection
Tools Electrical Hot	Work Housekee	eping		vation/Trenching
Task / Operation	Potential H			of Action
	Ice		Galerian	OFACION
-				
Delete d N		ATTENDEES		
Printed Nan	IC	Company/Agency	12.1	Signature

Printed Name	Company/Agency	Signature
1 Charl Mielt		Cal
2 Tanal's Ouroz		Janacio Durtos
3 gééncer malte		Sac for 1
4 Joblo 1- (void		1400
5 Alejandon Autro 6		O. MARINA CCC
6 Marcin Jeanen	Sliker	1 Stat
KANILA R. Manapage	Wage 1	Mar Allan
8 KODERT VERNIELDS	Wyser	Alm to the
Conducted By:	0.	prof print

		NG – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park P.O. #PSE-14-1394	
Location: Gas Works Park 1801 N. Northlake Way Seattle	98103 Type Work : Removal of S backfill, compact with strue irrigation system, and hydr	od and Topsoil from approximately 3 – 18 inches, ctural fill & topsoil to match existing grade. Install oseed area.
mergency Procedures: For Fin mmediately and proceed as dire	re, Police or Medical Emergency CA cted. Safety Director – Dan Reyno	LL 911 - Notify Supervisor and Safety Officer
		Seattle 98195 ER (206) 543-3320
Emergency Notification - Supe		
Chemical Hazards: Fuels L MSDSs Available in Field O	ubricants Solvents Adhesiv	es Other
Biological Hazards: Sewage	Bloodborne Pathogens	Syringes Wildlife
Physical Hazards: Vehicle/Hea Noise Demolition Wea		Trip/Falls Excavation/Trenching
Personal Protective Equipmen	nt: Hard Hat; Safety Toed Boots; Hig	h Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE		
		nent Operation Excavation/Trenching
	/ork Housekeeping	
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action
Other	Vork Housekeeping Daily Activity Hazard Analysis -	Safe Plan of Action

	ATTENDELO	
Printed Name	Company/Agency	Signature
1 Spencerunnite		Sand the
2 Jana Co Quitoz		-Lanaco quicz
3 Parlo A. Unroz		160 6
4 Trait Joner	Wyen	JE DI
5 Alemanto Quera		m Balille
6 Chall Autoff		Can A.
HODERT RELIMONDS	Wyser	Curt Emph
o		
Conducted By:		

WYSER - D	AILY SAFE	ETY MEETIN	IG - PLAN	OF ACTION
Client: Puget Sound Energy	P.O. #F	Gas Works Park / SE-14-1394		12/1/4
Location: Gas Works Park 1801 N. Northlake Way Seattle	98103 backfill,		ural fill & topsoil t	m approximately 3 – 18 inches, o match existing grade. Install
∠mergency Procedures : For Fi mmediately and proceed as dire	ected. Safety Dire	ctor – Dan Reynol	ds 206-510-0672	2
HOSPITAL: UW Medical Co Emergency Notification - Supe		NE Pacific ST. S		ER (206) 543-3320
Chemical Hazards: Fuels I MSDSs Available in Field C			s Other _	
Biological Hazards: Sewage	Bloodborne	Pathogens S	yringes 🗌 🛛 Wil	Idlife
Physical Hazards: Vehicle/Hea Noise Demolition We			rip/Falls Exc	cavation/Trenching
Personal Protective Equipmen	nt: Hard Hat; Safe	ty Toed Boots; High	NVisibility Vests;	Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE [Tools] Electrical Hot V Other	Vork Housek		ent Operation	
Task / Operation	Potential	Hazards	Sa	fe Plan of Action
			-	
			-	
		ATTENDE	:ES	
Printed Nam	10	ATTENDE Company/Age		Signature

	Printed Name	Company/Agency	- Ignature -
1	Spencer white		General .
2	Chy & Miles		Che to
3	(Janaco Oviroz		Ighatio auroz
4	Kabert Ferneros		King Kingel
5	least Server	Vyser	SP
6	Alejandro Quine 4	contract of	1 peruny
(MANIH ANDARDAN	Mysto	fun the
б	Poble A Quiez		· hoto
C	onducted By:		

WYSER - D	AILY SAFETY MEE	TING - PLAN	OF ACTION ,
Client: Puget Sound Energy	Project: Gas Works Pa P.O. #PSE-14-1394	ark / Kite Hill Project	Date: 12514
Location: Gas Works Park 1801 N. Northlake Way Seattle		structural fill & topsoil to	m approximately 3 – 18 inches, o match existing grade. Install
	re, Police or Medical Emergency ected. Safety Director – Dan Re		
IOSPITAL: UW Medical C	enter ER 1959 NE Pacific S	T. Seattle 98195	ER (206) 543-3320
Emergency Notification - Supe	ervisor	Phone	9:
	_ubricants Solvents Adhe		
Siological Hazards: Sewage	Bloodborne Pathogens	Syringes 🗌 Wile	dlife 🗌
	ather Other	Slip/Trip/Falls Exc	Gloves, Eye & Hearing Protection
Other	Daily Activity Hazard Analys		on fe Plan of Action
Task / Operation	Potential Hazards	5a	Te Plan of Action
	ATTE	NDEES	
Printed Nam	e Company	Agency And	Signature
2 ANALLE A	VEALRAN Mys	K Ma	mappers
3 John OF VO WAR	NU Sele		/

AVAILUTE A A A A A A A A A A A A A A A A A A A	100		
3 RODERT LOUNTRE	Nuber	1	
4	• • •		
5			
6			
6			
Conducted By:			

WYSER - DAIL	SAFETY MEET	ING – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park P.O. #PSE-14-1394	
Location: Gas Works Park 1801 N. Northlake Way Seattle 98103	Type Work: Removal of S	Sod and Topsoil from approximately 3 – 18 inches, inctural fill & topsoil to match existing grade. Install proseed area.
mmediately and proceed as directed. S	ce or Medical Emergency C	ALL 911 - Notify Supervisor and Safety Officer
	R 1959 NE Pacific ST.	Seattle 98195 ER (206) 543-3320
Emergency Notification - Supervisor_		Phone:
Chemical Hazards: Fuels Lubricar MSDSs Available in Field Office		
Biological Hazards: Sewage 🗌 B	loodborne Pathogens	Syringes Wildlife
Physical Hazards: Vehicle/Heavy Equ		/Trip/Falls Excavation/Trenching
Personal Protective Equipment: Hard Special PPE	Hat; Safety Toed Boots; Hi	gh Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPESit ToolsElectricalHot Work Other	e/Traffic Control	ment Operation Excavation/Trenching
Daily	Activity Hazard Analysis	- Safe Plan of Action
Task / Operation	Potential Hazards	Safe Plan of Action
	ATTEN	DEES

	ATTENDELO	
Printed Name	Company/Agency	Signature
1 GORDON White		6-see
2 Lanacio Quiez		Janacio Quito?/
3 DELG A WILFOZ	WYSEN	1 a Whole
4 Charle And A		Chi O more
5 Alexandro Ching h		a shall
6 Inout Leven	Wisen	15-pl
Conducted By:		

WYSER - [DAILY SAFE	TY MEETING	– PLAN OF ACTION
Client: Puget Sound Energy	P.O. #PS	Gas Works Park / Kite H E-14-1394	12/9/14
Location: Gas Works Park 1801 N. Northlake Way Seattle	98103 backfill, co irrigation s	ompact with structural fi system, and hydroseed	d Topsoil from approximately 3 – 18 inches, ill & topsoil to match existing grade. Install area.
immediately and proceed as dire	ected. Safety Direct	or – Dan Reynolds 20	
HOSPITAL: UW Medical C Emergency Notification - Supe		E Pacific ST. Seattl	le 98195 ER (206) 543-3320 Phone:
Chemical Hazards: Fuels MSDSs Available in Field (Other 🗌
Biological Hazards: Sewage	Bloodborne P	athogens Syringe	es 🗌 Wildlife 🗌
Physical Hazards: Vehicle/He Noise Demolition We			alls Excavation/Trenching
Special PPE Safety Issues / Topics: PPE [Site/Traffic Cor	ntrol 🗌 Equipment O	pility Vests; Gloves, Eye & Hearing Protection
ToolsElectrical Hot V Other		ping zard Analysis - Safe F	Plan of Action
Task / Operation	Potential Ha	azards	Safe Plan of Action
	MVD		
		ATTENDEES	
Printed Nam	le	Company/Agency	Signature

Printed Name	Company/Agency	Signature
1 Goencer white		Except .
2 Janacio Quiroz		Tanacio Quivoz
3 PELC 14 (JUSIGZ	WYSFR	1 Mato
4 Alexandra Quinzy le		Chyellel mare -
5 part Jener	Upen	2-6
6	1.7	
\frown		
Conducted By:		

WYSER - DAILY	SAFETY MEETING – PLAN OF ACTION
Client: Puget Sound Energy	Project: Gas Works Park / Kite Hill Project Date: P.O. #PSE-14-1394
Location: Gas Works Park	Type Work: Removal of Sod and Topsoil from approximately 3 – 18 inches,
1801 N. Northlake Way Seattle 98103	backfill, compact with structural fill & topsoil to match existing grade. Install irrigation system, and hydroseed area.
Emergency Procedures: For Fire, Polic	e or Medical Emergency CALL 911 - Notify Supervisor and Safety Officer
immediately and proceed as directed. Sa	fety Director – Dan Reynolds 206-510-0672
HOSPITAL: UW Medical Center E	R 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320
Emergency Notification - Supervisor	Phone:
Chemical Hazards: Fuels Lubrican MSDSs Available in Field Office	
	podborne Pathogens Syringes Wildlife
Physical Hazards: Vehicle/Heavy Equi Noise Demolition Weather	
Personal Protective Equipment: Hard	Hat: Safaty Taad Baata: Lligh Visibility Vesta: Clause, Fue & Llagring Drotaction
Special PPE	Hat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection
Safety Issues / Topics: PPE Site Tools Electrical Hot Work Other	
Daily	Activity Hazard Analysis - Safe Plan of Action
Task / Operation F	Potential Hazards Safe Plan of Action
water him tr	Emon Box Stleving
Debene Pourand	Las Viala
persona regions	to payment
	ATTENDEES
Printed Name	Company/Agency Signature
	Company/Agency
peticer voiville	
2 Tanago Quind	() Gracia Quiroz
3 Kapeta Keypouros	And X to 20)
4 Joby Dyks	contra to
5 Par 10 H- (Wood WYSZA / Mille 6
6 A Cejandro Queros	h claimen

6 a leignatio linne h		claub
best Jeren	Lipp	JHD
8		- /
Conducted By:		

Chant. Puget Sound Energ	У	Project: Gas Works	Park / Kite Hill Project	No. 1922—P. 12— OF ACTION Date:
Location: Gas Works Park		P.O. #PSE-14-1394 Type Work: Remove	al of Sod and Topsoil from	p
		ingalion system, and	I IIVQI QSEECI BIEB.	Date:
mmediately and proceed as	or Fire, Police	or Medical Emergen	CV CALL 911 - Notify Su	pervisor and Safety Officer
HOSPITAL: UW Medica				
Emergency Notification - S	Supervisor		Phone	
Chemical Hazards: Fuels MSDSs Available in Fie	Lubricants	Solvents Adh	esives 🗍 Other 🗌 _	
liological Hazards: Sew	age 🗌 🛛 Blood	dborne Pathogens	Syringes 🗌 Wild	ife 🗋
hysical Hazards: Vehicler oise Demolition	Weather 🗌	Other	Slip/Trip/Falls Exca	
ersonal Protective Equip Special PPE	ment: Hard Ha	t; Safety Toed Boots;	High Visibility Vests; GI	oves, Eye & Hearing Protection
afety Issues / Topics: PP pols Electrical Ho ther	E Site/Tra t Work Ho		uipment Operation 🗌	Excavation/Trenching
	Daily Acti	vity Hazard Analysi	s - Safe Plan of Action	
Task / Operation		ntial Hazards	Safe	Plan of Action
Coheiner Soc	226		10-	
	()			
			·	
)FFS	
Printed Nam	ê	ATTEND Company/Ag		Signature
Printed Nam SESHER MA	e 10, 1-2.			Signature
Spehrer W	L Quer			Signature
Spehrer W	hie.	Company/Ag		Signature Carvoz
Spehrer W	L Quer	Company/Ag		Signature Can voz
Spehrer W	L Quer	Company/Ag		Signature Can voz
Spehrer W	L Quer	Company/Ag		Signature Can voz
Spehrer W	L Quer	Company/Ag		Signature Carce
Spehrer W	L Quer	Company/Ag		Signature Can voz

Client: Puget Sound Energy	Y SAFETY MEETING - PLAN OF ACTION Project: Gas Works Park / Kite Hill Project Date:	-
and an Oca Winds Dad	+P.O#PSE-14-1394	· · · · · · · · · · · · · · · · · · ·
ocation: Gas Works Park 801 N. Northlake Way Seattle 98103	irrigation system, and hydroseed area.	
mergency Procedures: For Fire, Polic mmediately and proceed as directed. Sa	ce or Medical Emergency CALL 911 - Notify Supervisor and Safety Officer afety Director - Dan Reynolds 206-510-0672	
OSPITAL: UW Medical Center E mergency Notification - Supervisor	R 1959 NE Pacific ST. Seattle 98195 ER (206) 543-3320 MANUEL Phone: 746 516 1031	<u> </u>
hemical Hazards: Fuels Lubricant MSDSs Available in Field Office	Truck Main Office	-1
liological Hazards: Sewage Z Blo	podborne Pathogens Syringes Wildlife	
hysical Hazards: Vehicle/Heavy Equipoise Demolition Weather	Other	M.
ersonal Protective Equipment: Hard H		
] Special PPE	lat; Safety Toed Boots; High Visibility Vests; Gloves, Eye & Hearing Protection	n
afety Issues / Topics: PPE Site/	Traffic Control Equipment Operation Excavation/Trenching Housekeeping	n
afety Issues / Topics: PPE Site/ pols Electrical Hot Work	Traffic Control D Equipment Operation D Excavation/Trenching	n
afety Issues / Topics: PPE Site/ pols D Electrical Hot Work	Traffic Control Equipment Operation Excavation/Trenching Housekeeping ctivity Hazard Analysis - Safe Plan of Action	
afety Issues / Topics: PPE Site/ pols Electrical Hot Work ther Task / Operation Your	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action	-
afety Issues / Topics: PPE Site/ bols Electrical Hot Work ther Task / Operation Your Port	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action	-
afety Issues / Topics: PPE Site/ bols Electrical Hot Work ther Daily Ac Task / Operation You	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-
afety Issues / Topics: PPE Site/ pols Electrical Hot Work ther Task / Operation Your Pole	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-
afety Issues / Topics: PPE Site/ pols Electrical Hot Work ther Task / Operation Your	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-
afety Issues / Topics: PPE Site/ pols Electrical Hot Work ther Task / Operation Your Pole	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-
afety Issues / Topics: PPE Site/ pols Electrical Hot Work ther Task / Operation Your Pole	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-
afety Issues / Topics: PPE Site/ pols Electrical Hot Work ther Task / Operation Your	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-
afety Issues / Topics: PPE Site/ bols Electrical Hot Work ther Daily Ac Task / Operation You	Traffic Control Equipment Operation Excavation/Trenching C Housekeeping C ctivity Hazard Analysis - Safe Plan of Action Mential Hazards Safe Plan of Action MHMLIN - HUMWIND SAFE Plan of Action	-

VVYSER - DAILY	Project: Gas Works Park /	Kite Hill Project	Date:	1.
ocation: Gas Works Park	P.O. #PSE-14-1394			
801 N. Northlake Way Seattle 98103	Indation system, and hydro	tural fill & topsoil to	match existing grade.	Install
nergency Procedures: For Fire, Polic	e or Medical Emergency CAL	1 911 - Notify Sur	pervisor and Safety Off	icer
mmediately and proceed as directed. Sa	fety Director – Dan Reynol	ds 206-510-0672		
IOSPITAL: UW Medical Center EF	R 1959 NE Pacific ST. S	eattle 98195	ER (206) 543-3320)
mergency Notification - Supervisor	MANUE		710 510 10:	
1929040			100 010 10	4
hemical Hazards: Fuels Lubricants MSDSs Available in Field Office	Solvents Adhesives	Other		
		ringes Wildli	fe	
A DE TRANSFORMENTE DE LA COMPANY DE LA C			the second s	(
hysical Hazards: Vehicle/Heavy Equip oise Demolition Weather	Other	ip/Falls Excav	ation/Trenching	1
ersonal Protective Equipment: <u>Hard H</u>] Special PPE	ar; Safety Toed Boots; High	Visibility Vests; Gid	oves, Eye & Hearing Pr	otection
	F		_	
afety Issues / Topics: PPE 🔲 Site/T	raffic Control 🗌 Equipmen	t Operation 🔲	Excavation/Trenching [-
ools 🔲 Electrical 🗌 Hot Work 🗍 H	lousekeeping		-Acavation/ Henching [_
her				
Daily Ac	tivity Hazard Analysis - Sat	fe Plan of Action		
	tivity Hazard Analysis - Sat			
	ential Hazards	- Safe F	Plan of Action	Tan
	ential Hazards IMLI IM - HOHW	Safe F	M @ HUME .	Too
	ential Hazards IMLI IM - HOHW	- Safe F	M @ HUME .	TOO- OF LOSSO
	ential Hazards IMLI IM - HOHW	Safe F	M @ HUME .	TOO OF LOSS O
Task / Operation- Pot MEDMELSYSEM (IN)	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	TOO- OF LOSSIO
	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	TOO OF LOSSO
Task / Operation- Pot MEDMELSYSEM (IN)	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	TOO OF LOSSO
Task / Operation- Pot MEDMELSYSEM (IN)	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	Too or Lossio, Dity n Ulus Zau
Task / Operation- Pot MEDMELSYSEM (IN)	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	TOO OF LOSS O
Task / Operation- Pot MEDMELSYSEM (IN)	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	Too of Lossio, Dity in Ulus
Task / Operation- Pot MODMEL SYSTEM (IN)	ential Hazards IMU IM - HUHW PR	Safe F	M @ HUME .	Teo of Losso
Task / Operation- Pot MEDMELSYSEM (IN)	ential Hazards IMI IM - HUMW PR N=0 MUSSVE o Br An Bl St	Safe F	M @ HUME .	TOO OF LOSS O
Task / Operation- Pot Manuel System Com Est I fell- 150 min Manuel 1	ential Hazards IMU IM - HUW PR Apo MUSSVIE o Br An Bl EE ATTENDEES	Safe F	AUCUNE DU VECUNE DU VE 90° AS I VE 90° AS I	TOO OF LOSSO
Printed Name	ential Hazards IMI IM - HUMW PR N=0 MUSSVE o Br An Bl St	Safe F	M @ HUME .	TOO OF LOSS O
Printed Name	ential Hazards IMU IM - HUW PR Apo MUSSVIE o Br AM BL BL ATTENDEES Company/Agency	Safe F	AUCUNE DU VECUNE DU VE 90° AS I VE 90° AS I	TOO OF LOSSIO
Printed Name Soch Cr Mirel Printed Name	ential Hazards IMU IM - HUU Re Mov MUSSVE & B AA BL ATTENDEES Company/Agency	Safe F MDS-SAFE SDAFE FON DUEC. SOLAN SOLAN SOLAN SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN	NAULINE PIL VAULINE PIL VE 90° AS I VAD ALE F	Too of Lossion Dity no Dity no
Printed Name	ential Hazards IMU IM - HUWW PR Apo MUSSVIE & BA AA BL ATTENDEES Company/Agency	Safe F	AUCUNE DU VECUNE DU VE 90° AS I VE 90° AS I	Too of Lossion
Printed Name Soch Cr Mirel Printed Name	ential Hazards IMU IM - HUWW PR Apo MUSSVIE & BA AA BL ATTENDEES Company/Agency	Safe F MDS-SAFE SDAFE FON DUEC. SOLAN SOLAN SOLAN SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN	NAULINE PIL VAULINE PIL VE 90° AS I VAD ALE F	Too of Lossion
Printed Name Soch Cr Mirel Printed Name	ential Hazards IMU IM - HUWW PR Apo MUSSVIE & BA AA BL ATTENDEES Company/Agency	Safe F MDS-SAFE SDAFE FON DUEC. SOLAN SOLAN SOLAN SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN	NAULINE PIL VAULINE PIL VE 90° AS I VAD ALE F	Too or Lossion
Printed Name Soch Cr Mirel Printed Name	ential Hazards IMU IM - HUWW PR Apo MUSSVIE & BA AA BL ATTENDEES Company/Agency	Safe F MDS-SAFE SDAFE FON DUEC. SOLAN SOLAN SOLAN SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN	NAULINE PIL VAULINE PIL VE 90° AS I VAD ALE F	Too or Lossion
Printed Name Soch Cr Mirel Printed Name	ential Hazards IMU IM - HUWW PR Apo MUSSVIE & BA AA BL ATTENDEES Company/Agency	Safe F MDS-SAFE SDAFE FON DUEC. SOLAN SOLAN SOLAN SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN NSEC SOLAN	NAULINE PIL VAULINE PIL VE 90° AS I VAD ALE F	Too or Lossio

Grein: Fuger Gound Energ	ay .	Project: Gas Works	Park / Kite Hill Project	OF ACTION
Location: Gas Works Parl 1801 N. Northlake Way S	eattle 98103	Type Work: Remove backfill, compact with irrigation system, and	n structural fill & topsoil to	Date: 2 1 2 . 14 m approximately 3 – 18 lhches, p match existing grade. Install
immediately and proceed a	For Fire, Polic is directed. Sa	e or Medical Emergen	CV CALL 911 - Notify Su	pervisor and Safety Officer
HOSPITAL: UW Medic Emergency Notification -				ER (206) 543-3320
Chemical Hazards: Fuels MSDSs Available in Fi	Lubricant	s Solvents Adh		
Biological Hazards: Sew				ife 🗌
Physical Hazards: Vehicle loise Demolition	/Heavy Equip Weather	oment Operation	Slip/Trip/Falls Exca	vation/Trenching[]
ersonal Protective Equip	ment: Hard H	lat; Safety Toed Boots	; High Visibility Vests; Gl	oves, Eye & Hearing Protection
afety Issues / Topics: PF ools Electrical Ho	E Site/I Site/I St Work	Traffic Control 🗌 Equ	ulpment Operation 🗌	Excavation/Trenching
ther	79125		s - Safe Plan of Action	
Task / Operation		lential Hazards	· A S ALBRED - LE SA	Plan of Action
		CONTRACT TRACETOR	Ogie i	an of Action
in the second se	1		1	
· · · · · · · · · · · · · · · · · · ·				
· · · · · · · · · · · · · · · · · · ·				
· · · · · · · · · · · · · · · · · · ·				
······				
······································				
		ATTENI		
Printed Nan		ATTENI Company/Ag		2 Sign#løre
Printed Nan				/ Sign#tore
Printed Nan IVANIAA AS Tacar Te	In International			/ Signatione
Printed Nan IVANIMALAS Taur Te Spencer V	VIBA ROS	Company/Ag		
Printed Nan MANUAL AN There Te Spencer V Table	VIBA ROS			Ma co
Printed Nan IMANINAL AS There Te Spencer V Table Alledan dre	VIBA ROS	Company/Ag		
Printed Nan IVANILAS Jacon Te Spencer V Table Alejas ire Alejas ire	VIBA ROS	Company/Ag		Ma co
Printed Nan IVANIMA AS Jacon Te Spencer Table Alejandre ducted By:	VIBA ROS	Company/Ag		Ma co

Ilent: Puget Sound Energ	У	Project: Gas Works	Park / Kite Hill Project	Date: 2 15 (1)
ocation: Gas Works Park		P.O. #PSE-14-1394		
801 N. Northlake Way Se	eattle 98103	irrigation system, and	i structural fill & topsoil to	n approximately 3 – 18/inches, o match existing grade. Install
ergency Procedures: F	or Fire, Polici	e or Medical Emergence	W CALL OIL NOTE CU	pervisor and Safety Officer
inneclately and proceed as	s directed. Sa	itery Director - Dan R	eynolds 206-510-0672	
OSPITAL: UW Medica	al Center EF	R 1959 NE Pacific S	ST. Seattle 98195	ER (206) 543-3320
mergency Notification - S	Supervisor		Phone	
hemical Hazards: Fuels[1 Lubricante			
MSDSs Available in Fie	ald Office	Truck Main Office	esives Other 🗌 _	
ological Hazards: Sewa				ife 🗋
ysical Hazards: Vehicle	Heavy Equip	ment Operation		vation/Trenching
bise Demolition	Weather	Other	Pulpi Thipir angel Exca	valion/ rienchinge
rsonal Protective Equip	nent: Hard H	at: Safety Toed Booter	High Vielbiller Vester O	oves, Eye & Hearing Protection
Special PPE	·····	-, othery roed books,	ingri visibility vests; Gi	oves, Eye & Hearing Protection
(1)				
fety Issues / Topics: PPI	Site/T	raffic Control	ipment Operation	Excavation/Trenching
ols 🗌 Electrical 🛄 Ho ner		Housekeeping		
	Daily Ac	tivity Hazard Analysis	s - Safe Plan of Action	
Task / Operation		tivity Hazard Analysis ential Hazards		Plan of Action
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation		ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	Plan of Action
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Task / Operation	Pot	ential Hazards	Safe 1	·2'
Thenet in R	Pot MURAY.	ATTEND	EES Safe 1	·2'
Task / Operation	Pot MURAY.	ential Hazards	EES Safe 1	·2'
Thenet in R	Pot MURAY.	ATTENDI Company/Age	EES Safe 1	BAURICODING
Thenet in R	Pot MURAJ.	ATTENDI Company/Age	EES ency Main	BANALICADIN'S
TRONCH IN R	Pot MURAY.	ATTENDI Company/Age	EES ency Main	BAURICODING
TRONCH IN R	Pot MURAJ.	ATTENDI Company/Age	EES ency Main	BANALICADIN'S
TRONCH IN R	Pot MURAY.	ATTENDI Company/Age	EES ency Main	BANALICADIN'S
TRONCH IN R	Pot MURAY.	ATTENDI Company/Age	EES ency Main	BANALICADIN'S
TRONCH IN R	Pot MURAY.	ATTENDI Company/Age	EES ency Main	BANALICADIN'S

Client: Puget Sound Energ	y Pro	ject: Gas Works Park #PSE-14-1394	/ Kite Hill Project	Date: 12 -110 -2014
Location: Gas Works Park	eattle 98103 bac	Work: Removal of S kfill, compact with struct	od and Topsoil from	mapproximately 3 – 18 inches, match existing grade. Install
immediately and proceed a	For Fire, Police or N	ation system, and hydr Medical Emergency CA Director – Dan Reync	LL 911 - Notify Su	pervisor and Safety Officer
HOSPITAL: UW Medic	al Center ER 19	59 NE Pacific ST.	Seattle 98195	ER (206) 543-3320
Emergency Notification -	Supervisor		Phone	· <u>····</u> ·
Chemical Hazards: Fuels MSDSs Available in Fi	eld Office Truc	k 🔲 Main Office	s Other	
Biological Hazards: Sev	/age 🔲 Bloodbo	rne Pathogens 🔲 S	yringes 🔲 Wild	life 🗌
Physical Hazards: Vehicle Noise Demolition	Heavy Equipment	Operation Slip/T	rip/Falls Exca	vation/Trenching
Personal Protective Equip		afety Toed Boots; High	Visibility Vests; G	loves, Eye & Hearing Protection
Safety Issues / Topics: PF Tools [] Electrical [] H Other	PE U Site/Traffic ot Work House	c Control 🔲 Equipme ekeeping 🗌	ent Operation 🗌	Excavation/Trenching
	Daily Activity	/ Hazard Analysis - S	afe Plan of Action	
Task / Operation	Potentia	Al Hazards	The second se	Plan of Action
TREACH BO	april 2 his	nby partlawy-	Which Worst	Mons.
recommendation and an		- / /	·	
		/////		· · · · · · · · · · · · · · · · · · ·
		-		
			· · · · ·	
-				
-		ATTENDEES		
Printed Na		ATTENDEES		Signature Ab
Printed Na MANUEL / N	Men and a second	the second se		signature the
Printed Na MANUEL / N LINE / N	BULA	the second se		signature the
Minute Na Minute N Incit J Januar G	Brahares Duxoz	the second se		Signature Ab
Manuel Na Manuel N Incit J Japano G Dablo Oglejan 0/20	BULA	the second se	I gue	Signature the Quivor Quivor Nucli hip Co
Typero G	Brahares Duxoz	the second se	I gue	I hinco
Typero G	Brahares Duxoz	the second se	I gue	I hinco
Tento C Tento C Deblo OA Ganoizo	Brahares Duxoz	the second se	I gue	I hinco
Typero G	Brahares Duxoz	the second se	I gue	I hinco

APPENDIX O Air Monitoring Report



13228 NE 20th Street, Suite 100 Bellevue, Washington 989005-2049 Phone 425-455-2959 Toll Free 800-666-2959 Fax 425-646-7247

May 5th, 2015

Ms. Zanna Satterwhitte GeoEngineers, Inc. 8410 - 154th Ave NE Redmond, WA 98052

Subject: Kite Hill Cover Project, Gas Works Park, Seattle, WA GeoEngineers Perimeter Fence Line and Worker Exposure Air Sampling Closeout Report EHSI Project 10663-02

Dear Zanna:

On September 5th, 2014, at your request, EHS-International, Inc. (EHSI), an environmental health and safety firm, conducted perimeter fence line and worker exposure air sampling at Gas Works Park, located at 2101 North Northlake Way, Seattle, WA. On September 12th and 17th, 2014, EHSI returned and accomplished additional fence line air sampling per your request. The attached report provides a summary and the lab results for those air sampling events.

EHSI is pleased to provide our professional industrial hygiene services. If you have any questions concerning this report or if EHSI can provide further services to you, please call me at (425) 455-2959.

Sincerely, *EHS-International, Inc.*

Herb Brod, CIH Technical Director 425-455-2959

Attachments:

Summary Report of Air Sampling September 5th, 12th, and 17th, 2014 at Gas Works Park

- Environmental Engineering
- Earth Sciences and Mapping
- Industrial Hygiene Services
- Construction Management



PERIMETER FENCE LINE AND WORKER EXPOSURE AIR SAMPLING REPORT FOR GEOENGINEERS, Inc. September 5th, 12th, & 17th, 2014

Kite Hill Soil Cover Project, Gas Works Park Seattle, Washington

EXECUTIVE SUMMARY

Puget Sound Energy (PSE) contracted GeoEngineers, Inc. (GeoEngineers) to provide construction administration and environmental support for the soil cover maintenance work at the Kite Hill portion of Gas Works Park (project area), located at 2101 North Northlake Way in Seattle, Washington. In conjunction with that project, GeoEngineers contracted EHS-International, Inc. (EHSI), an environmental health and safety consulting firm, to conduct representative perimeter fence line ambient air sampling and personal exposure air sampling, and review the analytical results. On September 5th, 12th & 17th, 2014, EHSI conducted ambient air sampling at the downwind fence line perimeter of the project area for GeoEngineers. In addition, on September 5th, EHSI collected worker exposure air monitoring samples. The individual to be monitored for worker exposure monitoring, as well as perimeter sample locations, were chosen by GeoEngineers. The majority of earthwork activities (excavation and tilling) was conducted between August and October 2014. Air sampling was conducted on select days representative of substantial earthwork activities completed in the project area. Air samples were collected and analyzed for arsenic, benzene, and polycyclic aromatic hydrocarbons (PAHs).

On September 5th, 2014, worker exposure monitoring was conducted on Michael Gray, who was responsible for observing excavation and tilling work. Mr. Gray was noted to be in close proximity to this work throughout the sampling period. On September 5th, a perimeter ambient air sample was also collected on the east perimeter fence line (downwind) of the construction work zone.

On September 12th & 17th, 2014, perimeter air monitoring was conducted along the north perimeter fence line (downwind) of the construction work zone. Sample location maps for each day are included in the attachments section of this report.

Results from the worker exposure and perimeter fence line air sampling indicate that excavation, stockpiling and off-loading of soils during the Kite Hill Soil Cover Project did not create exposures to arsenic, benzene, or PAHs at or above the analytical method detection limits or approaching the Washington State Department of Labor and Industries (L&I) Division of Occupational Safety and Health (DOSH) permissible exposure limits (PELs) within the work zone or at the perimeter fence line. These thresholds were developed for worker exposure scenarios and cannot be directly applied to public bystanders, but are included for comparison purposes.

BACKGROUND

Gas Works Park is comprised of three parcels totaling approximately 20 acres between North Northlake Way and Lake Union in Seattle. The project area includes approximately 4 acres and is located in the southwest quadrant of the park. The project area is surrounded by a pedestrian walkway to the north, the existing cracking towers to the east, Lake Union to the south and the Seattle Harbor Patrol to the west. The project area generally slopes away from a central high point on top of a large manmade hill known as Kite Hill; however, there are local variances associated with the storm water collection system. This central hill and immediately surrounding area is referred to, collectively, as the project area.

From 1907 to 1956 the Seattle Gas Light Company (predecessor to Puget Sound Energy) owned and operated a manufactured gas plant at what is currently known as Gas Works Park. Gas manufacturing, tar refining, landfilling, chemical manufacturing, and fuel storage occurred at the park. From 1962 to 1970, the City used the Kite Hill area to stockpile material generated from off-site construction projects. The stockpile became known as the "Great Mound" and was re-graded to form the current Kite Hill using soil stockpiled on Site from 1970 to 1976. Known chemicals of concern that were potentially anticipated to be impacted by the current project include: inorganic Arsenic; Benzene; and polycyclic aromatic hydrocarbons (PAHs), including, but not limited to: Benzo (a) anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Benzo (a) pyrene, Chrysene, Dibenz (a, h) anthracene, Indeno (1,2,3-cd) pyrene, Fluoranthene, Fluorene, Naphthalene and Pyrene.

The site chemicals of concern had been previously characterized by GeoEngineers and others.

EHSI provided chemical-specific perimeter fence line and worker exposure air sampling to provide information regarding the potential levels of airborne contaminants within and at the perimeter of the project area during earthwork operations.

APPROACH

When collecting the ambient air data, EHSI used a 3M 3520 Organic Vapor Monitoring (OVM) badge for benzene, glass fiber filter cassette for PAH's and 37 mixed cellulose ester (MCE) 0.8µm filter media for arsenic. For worker exposure sampling, the OVM, glass fiber filter cassette and 37 MCE 0.8µm filter media were placed in the breathing zone of a GeoEngineers worker who wore them for a 6 hour shift. For perimeter air samples, the OVM, glass fiber filter cassette and 37 MCE 0.8µm filter media were placed approximately three feet above ground level along the "downwind" perimeter chain link fence line and allowed to collect air for a 6 hour work shift. At the conclusion of each 6 hour shift the sampling media were collected, processed and sent to Galson Laboratories (Galson) in East Syracuse, New York, under chain-of-custody control. Galson is accredited by the AIHA under the Industrial Hygiene Laboratory Accreditation Program, LLC (Laboratory ID 100324). A copy of Galson's accreditation is available upon request. Wind direction, temperature and relative humidity measurements were determined by periodic checks with a hand held Extech Instruments model 45160 - 3 in 1 hygrometer, thermometer and anemometer and visual observation of the project area.

EHS INTERNATIONAL, INC. GeoEngineers Closeout Report – Air Monitoring EHSI Project #10663-02 May 5, 2015

Air sampling was conducted on September 5th, 12th and 17th by Ms. Lisa Kollasch, EHSI Industrial Hygienist.

DESCRIPTION OF WORK ACTIVITIES

Work activities on September 5th consisted of tilling the top soil of the eastern portion of the project area and stripping the topsoil on Kite Hill and the southeast portion of the project area along Lake Union. Work was conducted in the southeast area from 7:30am until about 10am, in the eastern area from 7:30am until about 11am and on Kite Hill from 7:30am until past the sampling end time around 2pm.

Work activities on September 12th and 17th consisted of excavating, stockpiling and off-loading the top soil on Kite Hill. Work on Kite Hill started at 7:30am and continued past the sampling end time around 2pm.

Daily periodic weather and wind checks indicated that on September 5th the wind was predominantly from the west with gusts up to almost 470 feet per minute (fpm). The day was windy with most wind speeds measuring at about 250 fpm. On September 12th the wind was predominantly from the south with gusts up to almost 381 fpm. The weather was breezy with most wind speeds measuring around 200 fpm. On September 17th the wind was predominantly from the southwest with gusts up to almost 300 fpm. The weather was cloudy and breezy with periods of light rain and most wind speeds measuring about 300 fpm.

ANALYTICAL RESULTS

Table 1 provides a summary of the analytical results for the worker exposure air samples collected on September 5th, 2014. Table 2 provides a summary of the analytical results for the perimeter air monitoring collected on September 5th, 12th & 17th, 2014. Analytical reports, Chain-of-Custody forms and EHSI data sheets are provided as attachments to this report.

Table 1							
Worker Exposure Monitoring Results							
September 5, 2014							
Rep	orted at milligram	s per cubic me	eter of air (mg/m ³)				
Analyte	10663- Benzene-2014- 09-05-02	10663-As- 2014-09-05- 02	10663-PAH- 2014-09-05-02	WA State PELs			
Arsenic		<0.00041		0.01			
Benzene	<0.2 3.195						
Polycyclic Aromatic Hydrocarbons			<0.081	0.2			

--- = Sample not analyzed for noted analyte.

Perimeter Ambient Air Monitoring Results September 5, 12 & 17, 2014 Reported at milligrams per cubic meter of air (mg/m³)									
Analyte	10663- Benzene-2014- 09-17	10663-As- 2014-09-17	10663-PAH- 2014-09-17	WA State PELs					
	September 5, 2014								
Arsenic		<0.00041		0.01					
Benzene	<0.2			3.195					
Polycyclic Aromatic Hydrocarbons			<0.083	0.2					
	Septe	ember 12, 2014							
Arsenic		<0.00042		0.01					
Benzene	<0.2			3.195					
Polycyclic Aromatic Hydrocarbons			<0.082	0.2					
September 17, 2014									
Arsenic		<0.00042		0.01					
Benzene	<0.2			3.195					
Polycyclic Aromatic Hydrocarbons			<0.083	0.2					

Table 2

--- = Sample not analyzed for noted analyte.

DISCUSSION OF ANALYTICAL RESULTS

The laboratory analytical reports are included as an attachment to this report.

Analytical results indicate that at each time of monitoring the air samples were found to contain none of the chemicals of interest at concentrations above the analytical laboratory's detection limits (DLs).

In addition, the DLs are all less than the PEL levels established by DOSH.

LIMITATIONS AND STANDARD OF CARE

This perimeter and worker exposure air monitoring was conducted by EHSI in accordance with the Scope of Work defined by EHSI proposal 14-158. The assessment contained in this report is in accordance with currently accepted industrial hygiene practices. Other than this no warranty is implied or intended.

EHS INTERNATIONAL, INC. GeoEngineers Closeout Report – Air Monitoring EHSI Project #10663-02 May 5, 2015

Samples were collected and the report prepared by Ms. Lisa Kollasch, Industrial Hygienist.

May 5, 2015

Lisa Kollasch, Industrial Hygienist

Date

Report reviewed by Herbert Brod, Certified Industrial Hygienist.

AntBiod

Herbert Brod, Certified Industrial Hygienist Cert No. 8563 CP, Cert Exp. Date 12/01/18 May 5, 2015

Date



Attachments:

- o Daily Logs
- o Galson Laboratory Analytical Reports
- o EHSI Air Monitoring Sampling Sheets
- Perimeter Air Sampling Location(s)



DAILY LOG

Date: 9-5-14	Project #: / Oleb	Broject: Gasworks
Time: <u>7:30</u>	Weather:	Gen. Con. Wyser Construction
Shift:	Temp: 80	Abate Con. Geo Engineers
Site Conditions: Work in Progress:	xequation and =	tilling of contaminated soil
	le meter barrie	
Materials Disposed:		1
Personnel:		
Contractor Manpower	1+4 Site	e Superintendent Theo Leaverd
Visitors ACF West	t	

Observations: (Time, events, discussions, corrective actions, progress, names, contact #'s, locations, etc.)

7:00 Leave for site
7:30 On site meet Thee Leonard of the Engineers, site
supervisor and an given site safety training and orientation.
the tells me the wind has been blowing towards the East
and asks me to collect my samples there. They also
requested that promal air sampling be done today.
8:00 area ain samples for evengene, PAH and aronic
are not up along the east primeter gence. Heling of
topsail is taking place on the East portion of the site.
Executions are evering done at the part end of the site
near Lake Union and on bits hill.
Personal samples for benzene, lAtt and assenic are also
bet up in the breathing gone of mark gray. He is
doing discrutions of all execution and tilling
activites today.
The wind is beauing from the NW at 198 RPM (revelations
Signature:
Print Name: CISIA KOTTASCH

Page <u>}</u> of ______ Date: <u>9-5</u> 20 <u>14</u> Project #: <u>1066 3</u>



EHS-International, Inc. 13228 NE 20th Street, Suite 100 Bellevue, WA 98005 Phone: (425) 455-2959 . (800) 666-2959. Fax: (425) 646-7247

DAILY LOG

Observations Continued:

10 68.7% relative humidity and Jenderature con minute) appe 66.706 measurement 3 ditained 0 m mo, Lamo in model Erotoch instruments anomeno Hydro and 45160 # Jenoproture wind 232 Rem reading 2 mon the west 10:00 Executio 59.07. 72.2°F relative humediter in N and Both exaustors has cased acuth end of the at the pite hill now working on one Semperature to 322 Rim Irom north wind the 11:00 75.9% humidite and relative in 50 iD maria gray continues lunch 12-12:30 Do Engineers takes break. his le alina durino a quinent wearing The Que nom Jen 466 LPM the 1:00 wind at Der non at 37.1 07 91.9°F permidity relative -7 the te lling war the east DA at Killo Do Do an water One worken drives a tank to The it down with hops ,aton manualle streped ~1/3 Dal The mas a Dein stor had the Tro ton Soil is being steckou ly excavato pite siles prevoud portien no meon asphalt vegetati and TRIAX 130 annies with trucklos cl 1:20 ACF West mo. and staged st is unleaded 1 (read and stabilion) turk The NE the auto ana al Puel air samples and prepare for physment to Shlon Lals. 2:00 2:30 Leave site samples at Fed Ex. Drop off 3:30 1 h Signature: KOLLASCH LISA Print Name:



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324

Account# 13697

Login# L327603

September 09, 2014

Dear Mr. Brod:

Enclosed are the revised analytical results for the samples received by our laboratory on September 08, 2014. The Project # and sample IDs have been updated. The data are not affected. This version of the report replaces any previously issued versions. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road East Syracuse, NY 13057 (315) 432-5227	Client Site Project No.	:	EHS-International, Gasworks 10663	Inc.	
FAX: (315) 437-0571 www.galsonlabs.com		:	05-SEP-14 08-SEP-14 08-SEP-14 848626		Account No.: 13697 Login No. : L327603

Arsenic

Sample ID	Lab ID	Air Vol liter	Total ug	Conc mg/m3
10663-AS-14-09-05-01	L327603-1	730	<0.30	<0.00041
10663-AS-14-09-05-02	L327603-2	734	<0.30	<0.00041

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

ŝ	OSHA PEL :	0.30 ug mod. NIOSH 7300/mod. 0.01 mg/m3 (TWA) Filter		09-SEP-14 NYS DOH # : 11626		
>	-Greater Than	mg -Milligrams ug -Micrograms ND -Not Detected	m3 -Cubic Meters l -Liters ppm -Parts per Mi	NS -Not Specified		



LABORATORY FOOTNOTE REPORT

	Client Name : EHS-International, Inc. Site : Gasworks Project No. : 10663	
6601 Kirkville Road		
East Syracuse, NY 13057	Date Sampled : 05-SEP-14 Account No.: 13697	
(315) 432-5227	Date Received: 08-SEP-14 Login No. : L327603	
FAX: (315) 437-0571	Date Analyzed: 08-SEP-14	
www.galsonlabs.com		

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L327603 (Report ID: 848626):

Reported results reflect elemental analysis of the requested metals. Certain compounds may not be solubilized during digestion, resulting in data that is biased low. SOPs: MT-SOP-9(26), im-filter(19)

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
Arsenic	+/-9.6%	105%

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	ka	-Kilograms
>	-Greater Than	ug	-Micrograms	1	-Liters		-Not Specified
NA	-Not Applicable	ND	-Not Detected	ppm	-Parts per Million		not opterried

Next Day by 6on 100% Ust description of industry or Process/Interferences present in sampling area : State samples were collected in (e.g., NY) Please indicate which OEL this data will be use indicate which OEL this data will be used which OEL this data will be use indis a state sample area in the usether of the d	Need Resi	Fax: (315) 4 www.galson 315	e Rd 2, NY 13057 32-5227 2-LABS (5227) 37-0571	New Clien Client Account 1 <u>13697</u> Site Name : Gr Comments :	No.*: Phone No.* Cell No.	Et 1322 fellru (42 (42 (42 (42)	S Crod IST IST IST IST IST IST IST IST	546 mtl. COM	Phone P Em P.O. 1 Credit Ci Program Samples	$\frac{F}{N}$ \frac{F}	E 8 NE 2015 1455-2959 40 @ ehsio 58-01	t card Info.
Date Sampled Collection Medium Sample Time Sample Area" Sample Area" Analysis Requested* Method Reference* Process plating, plating, plating, plating, plating, plating, plating, 100662, Macmium et 20 characters) 9-5-14 37 mm 0.8 un 365 3902 Al Sanic Method Reference* Method Reference* Process plating, no.8 un Method Reference* Method Reference* Method Reference* Process plating, no.8 un Method Reference* Method Reference* Process plating, no.8 un Method Reference* Method Reference* Method Reference* Process plating, no.8 un Method Reference* Process plating, no.8 un Method Reference* Method Reference* Process plating, no.8 un Method Reference* Method Reference* Process plating, no.8 un Method Reference* Method Reference* Method Reference* Process plating, no.8 un Method Reference* Method Ref		y by Noon	150%						collected in (e.g., NY)	POSHA PEL	ACGIH TLV	be used for :
106668: As-2014-09-05-01 9-5-14 37 mm 0.8un 365 300L Atsanic Mod. Notich 7300 A 106668: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 304L Atsanic Mod. Notich 7300 A 106668: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 304L Atsanic Mod. Notich 7300 A 106668: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 304L Atsanic Mod. Notich 7300 A 106668: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 304L Atsanic Mod. Notich 7300 A 10668: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 304L Atsanic Mod. Notich 7300 A 10669: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 304L Atsanic Mod. Notich 7300 A 10669: As-2014-09-05-02 9-5-14 37 mm 0.8un 365 314 A	663 (Maxn	nium of 20 Chara	cters)	Date Sampled		m	Sample Time				Method Reference*	Hexavalent Chromium Process (e.g., welding plating, painting, etc.) ⁶
Holdest: As 2014 01-05-02 9-5-14 37 mm 0.84n 367 314 At seri L Mod. ModH 7300 Refs Image: Serie Seri	1668- AS	-2014-	10-20-90	9-5-14 Stimm				SN.	Alsonic		005 min 7300	A second s
Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:	the As	- 2014 -Q	60-20-	9-5-14				346				
Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked: Use method(s) listed on COC For metals analysis: if requesting an analyte with the option of a lower LOO, please indicate if the lower LOO is reputired (only available for certain analytes - see SAC) -												
or inclusion analysis: in requesting an analyte with the option of a lower LOO, please indicate if the lower LOO is remained (only available for certain analytes a see SAC).						-		8 <u></u> 2				
roj crystalline slinca: torm(s) of silica needed must be indicated (Quartz, Cristobalite, and /or Tridymite)*	A HICLOIS OLIC	uysis: ii requ	esung an analy	te with the option of	a lower LOQ, pleas	e indicate i	if the lower 100 is r	COC unless this bo	x is checked:Use me ble for certain analiytes - se	thod(s) listed on CO re SAG) :	¢	
		suice. toutils	or since need	inca needed must be indicated (Quartz, Cristobalite, and/or Tridymite)*:							1.1.1	
Chain of Custody Print Name/Signature Date Time Print Name/Signature Date Date						Date	Time	1.	Print Na	me/Signature	Da	ate . Timé-
Relinquished by: USA KOUASCH/UM 9-5-14 3.00m Received by: Relinquished by: Received b	anduished b		LOUASC	1 1 11		-5-14		Received by :		1	1	1.1

-

	Tel: 425- Fax: 425	E 20 TM St., Ste. 100 WA 98005 455-2959 -648-7247	8		×			Tiech	nician <u>Lisa</u>	10668 works Kollas	ch	
	Sample #	Location	Pump	Flow	A cated v.Ráte PM)	Ave.	Ave. Actual Flow	NG SA	Elapsed	Total Liters	1	
1663	10669-	East Reinde	1	Initial	Final	Flow Rate	Rate	Off	(min.)	Liters	Media	Activities/Comments
	2014- 09-05		P635	2.0	2.0	5.0		7146	365	730	37mm	Conterninated soil
	AS-284: 09.05-Q	Resonation	PIZOT	Ġ.c	2.0	20	4	8:00		734	11	execution observation of cont. Soil excavetions.
+						Te.		4				
-												
L								-				
	Rotameter	<u>k763</u>	6 Web-England .	R	otameter (Correction Fa	ctor Y	= 1.10	Σ8 χ+	-0.084		Porspectications



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324 Account# 13697

Login# L327601

Dear Mr. Brod:

Enclosed are the revised analytical results for the samples received by our laboratory on September 08, 2014. The Project # and Sample IDs have been updated. The results are not affected. This version of the report replaces any previously issued versions. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)

September 09, 2014



LABORATORY ANALYSIS REPORT

6601 Kirkville Road	Client	: EHS-International, Inc.	
East Syracuse, NY 13057	Site	: Gasworks	
(315) 432-5227	Project No.	: 10663-01	
FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled Date Received Date Analyzed Report ID		Account No.: 13697 Login No. : L327601

Benzene

Sample ID	Lab ID	Time <u>minutes</u>	Front ug	Back ug	Total ug	Conc _mg/m3	ppm
10663-2014-09-05-01			<2	<2	<2	<0.2	<0.05
10663-2014-09-05-02	L327601-2	360	<2	<2	<2	<0.2	<0.05

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	Level of quantitati Analytical Method OSHA PEL Collection Media	on: 2 ug : mod. NIOSH 1501; : 1 ppm (TWA) : M3M-3520	GC/FID BADGE	A	Submitted by: mln Approved by : dnf 09-SEP-14 NYS DOH # : 11626 KSB
< > NA	-Less Than -Greater Than -Not Applicable	mg -Milligrams ug -Micrograms ND -Not Detected	m3 -Cubi l -Lite ppm -Part		NS -Not Specified



LABORATORY FOOTNOTE REPORT

	Client Name : EHS-International, Inc.
	Site : Gasworks
	Project No. : 10663-01
6601 Kirkville Road	
East Syracuse, NY 13057	Date Sampled : 05-SEP-14 Account No.: 13697
(315) 432-5227	Date Received: 08-SEP-14 Login No. : L327601
FAX: (315) 437-0571	Date Analyzed: 08-SEP-14
www.galsonlabs.com	

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L327601 (Report ID: 848596):

Total ug corrected for a desorption efficiency of 100%. Please note that back media results above the LOQ have been multiplied by a factor of 2.2 in all "total ug" calculations (as specified in the 3M method). SOPs: GC-SOP-12(8), GC-SOP-16(13), GC-SOP-9(11)

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
Benzene	+/-6.4%	94.1%

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms
>	-Greater Than	ug	-Micrograms	1	-Liters	NS	-Not Specified
NA	-Not Applicable	ND	-Not Detected	ppm	-Parts per Million		

			New Clier	nt? Repo	rt To* : _ J	tob Bro	be					oimb			-
	GALS	ON				HST		-		"					-
			Client Account	No.":	13	228	NE 2	(CM)	St #1	100		ISI	140		
	6601 Kirkvi	ille Rd	1307-	I_		levue	. W/	A	78005			AS NE			
1	Tel: (315)	se, NY 13057 432-5227		Phone			155-	295	9			teure, u		9800	-
	888-4 Fax: (315)	32-LABS (5227)					766-			<u> </u>	_14	25) 455 -			
	www.galso	nlabs.com		Email Resul		erbb	e eh	thil	1.000	·		Oble Chi		COL	
		31552	7	Email add	dress :	Heb	Groc	LI.						lit Card Info.	-
Г	Need Results By:	(surcharge)	1			amalas aut		1.6			redit Card : Card	16663 5			
] Standard	0%				amples subm	nitted using	githe Fre	ePumpLoanm	Program' 🕅 Sa	mples submitted us	ing the FreeSampl	ing8adge	M Program	-
	Janime: Gaswa						Proj	ect							-
	3 Business Days	50%	Comments :				1	64	106630		Sompled by :	Lisa kolle	WCF		71
2 Business Days 75% Cumuter Th								J	6	Para				0	5
	Next Day by 6pm	100%	and the second se	ID TO	141 02	Bade	AT.	11-		-00	1				-
N	Next Day by Noon	150%	List description of in	ndustry or Proc	ess/interfere	ences presen	t in sampli	ingiarea		State samples were	l Plaza ind	icate which OEL th	la data uni		
	Same Day	200%	Excavati	ou of	coup	am'i no		55:1		collected in (e.g., N	n Dosha	PEL ACGIH T		Cal OS	
F	Sample Identifica							14		I WA	MSHA	Other (s			
E	(Maxmium of 20 Chiracters)		Date Sampled	Collection	Medium .	Sample Vo Sample T Sample A	ime	Sam	ole Units*: n,in2,cm2,ft2	Analysi	s-Requested*	Method Re		Hexavalent Process (e.g	, weld
_			04/24/13	2pc UW	PVC S	900	and the second se	100	ATA 1	Laurine - CO			•	plating, pair	nting, e
¥10	06000 - Bangere - 2014-09-05-01		9-5-14	3m 352				24		Hexavalent Ch	iomium-(Cr6)	Mod OSH	A 10-21	Weldir	₽-
HOF	50-20-80-14-05-02-		9-5-14	3m 35				1. 1	in.	Banzere		NEOSH	1501	excave	atis
tot				1011 33	aut			Im	nin	bontene		NIOSH	1501	excave	tio
								1.							
								14							-
							1	1							
-							and the owner where the owner w	0F							-
-								Pl.				_			
-			1. Sec. 19. 19. 19.					27				_			_
-								1							
							-	1					•		
^Ga	lison Laboratories will s	ubsititute or	mutine last	1				11							-
For	lson Laboratories will s metals analysis: if requ	esting an analy	to with the setting me	unoo ii it does	not match t	he method I	isted on th	e COC u	nless this box	is checked: Us	method(s) listed o	n COC	-		
For	crystalline silica: form(a) of silira nand	ad must be to the	a lower LOQ,	please indica	ate if the low	ver LOQ is r	required	(only availab	le for certain analyte	s - see SAG) :				
Chai	or metals analysis: if requesting an analyte with the option of a lower LOQ or crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristhan of Custody				balite, and/	or Tridymite	:)*:	"]							
		Print	Name/Signature		Date	e	Time	1	T	Brin	t Name/Signature				71.
	rquished by :	Kollast	1474	-	9-5-1	4 3:	ngo	Rece	ved by :	- Fill	t manner signature		Da	le	Tim
								Recei	ved by :	milsons	Invi		alat	1	an
4			* Re		amalan ana			42		ay's business	e mona	us	9/8/1	4 . K	11

....

	EHS-Inte 13228 NE	STR mational, inc. 20 TH St., Sta. 100 WA 98005 155-2959 646-7247				Date 9-5-14 EttSI Project No. 10668 Project Name Microsoft Technician Lisa Follosu Analyte On 200 Analyte SAMPLING SHEET							
	Sample	Location	Dadge Pump		cated Rate		Ave. Actual		on	Elapsed	Total Liters	Media	Activitles/Comments
106	63		ÍD	Initial	Final	Flow Rate	Rate		Off	(min.)			
for	PRH- 204.09-65		w10967	MA	MIA	MIR	MA		53 58	360	MIA	3M 3520 Badje	contaninated soil excavation on kite Hill and along Lake Union
63	1000- 1000- 2014-07- 05-02	Personal Mark broy	WG7636	MA	MA	MA	NIR	8.	06	360	NIA	3m 3520 Bodge	Observing excavations "
				à.									÷
		·						-				-	
					·	•		-				1.	
F	Rotameter_	R763		R	totameter	Correction F	actor	2=1	.108	X+	- 0.084	1	1
147 Tay 9, 17	l certify th	in Certification s at the above sa M.Signature	mpleswe	ne tak	enanc	ompliance	with	DCI	Cabl	Astandards			



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324

Account# 13697

Login# L327599

September 09, 2014

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 08, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road	Client	: EHS-International, :	Inc.
East Syracuse, NY 13057	Site	: Gasworks Park	
(315) 432-5227	Project No.	: 10663-01	
FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled Date Received Date Analyzed Report ID	: 08-SEP-14	Account No.: 13697 Login No. : L327599

Benzene Soluble Particulate

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
10663-2014-09-05-01	L327599-1	722	<0.060	<0.083
10663-2014-09-05-02	L327599-2	738	<0.060	<0.081

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	Level of quantitatio Analytical Method OSHA PEL Collection Media	n: 0.060 mg : mod. OSHA 58; Gravime : 0.2 mg/m3 (TWA) : 225-7 GFF	etric	Appro	ved	by: PJD by : JGC NYS DOH # : 11626
<	-Less Than	mg -Milligrams	m3	-Cubic Meters	-	-Kilograms
	-Greater Than -Not Applicable	ug -Micrograms ND -Not Detected	l ppm	-Liters -Parts per Million		-Not Specified



LABORATORY FOOTNOTE REPORT

6601 Kirkville Road	Client Name : EHS-International, Inc. Site : Gasworks Park Project No. : 10663-01
East Syracuse, NY 13057 (315) 432-5227 FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled : 05-SEP-14Account No.: 13697Date Received: 08-SEP-14Login No. : L327599Date Analyzed: 09-SEP-14

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final Unrounded results are carried through the calculations that yield the final result and the r result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L327599 (Report ID: 848663): SOPs: ic-ctpv(16)

<

The Benzene Soluble Particulate results are considered accurate to within +/- 20.5% based on a 95% confidence interval (k=2). This method has an average recovery of 98.5%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	ka	-Kilograms	
>	-Greater Than	ug	-Micrograms	1	-Liters	-	-Not Specified	
NA	-Not Applicable	ND	-Not Detected	ppm	-Parts per Million		openning	

						and a damage				
GALSON LABORATORIES 6601 Kirkville Rd East Syracuse, NY 13057 Tel: (315) 432-5227 888-432-LABS (5227) Fax: (315) 437-0571 www.galsonlabs.com	□ New Client: Client Account N 	Io.*: Phone No.* : Cell No. : Email Results to : Email address :	<u>201120102,</u> (425) 4: (360) 4 (360) 4 Herb B herbb 6	E 20 WA 55- 2 171- 171- 171- 170-	100000	Phone N Ema P.O. N Credit Ca	Etts 13228 13228 Bellev 6: (425) iii: Shello iii: Shello c: +Oto d: Card on Film	I NE 20 Ve, WA USS-295 Dyn @ eng ogn @ eng	dit Card Inf	05 00/
Standard 0% Standard 0% 4 8usiness Days 3 8usiness Days 2 8usiness Days 2 8usiness Days 7 2 8 100% 9 Next Day by 6pm 100% 9 Next Day by Noon 150%	Comments :	ASWORKS Par N S - 10008-20 dustry or Process/Interference OF Contram	erences present	in samplin	" GD		Please indicate v	a Ko []asu which OEL this data w □ ACGIH TLV	(
Same Day 200%	Date Sampled	Collection Medium	Sample Volu Sample Tin Sample Are	ime i	Sample Units*: , ml,min,in2,cm2,ft2	Analysis Reque		Other (specify): Method Reference^	Process (plating, pa	
100-01-01-01-01-01-01-01-01-01-01-01-01-	9-5-14 9-5-14 9-5-14	2pe UW PVC 37mm GFF 37mm GFF	900 ' 722 738	19		Hexavalent Chromi Coal Tar Pite Coal Tar Pitch	h Volatiles	MOO USHAID-2 OSHA 58 OSHA 58	Ares Reso	A
SHP-14 1 1:53	30) 					Amples Received in Material: Yes				
^Galson Laboratories will subsititute ou For metals analysis: if requesting an ana For crystalline silica: form(s) of silica nee	alyte with the option o	f a lower LOQ, please in	dicate if the low	er LOQ is i	W.		A TALE A PARAMETER AND AN AND A PARAMETER AND A	:		
	int Name/Signature		Date	Time 3pr	Received by :	Print Nam M. Krause	e/Signature	1	ate	Tim

ehsil
EHS-International, Inc.
13228 NE 20TH St., Ste. 100
Bellevue, WA 98005
Tel: 425-455-2959
Fax: 425-646-7247

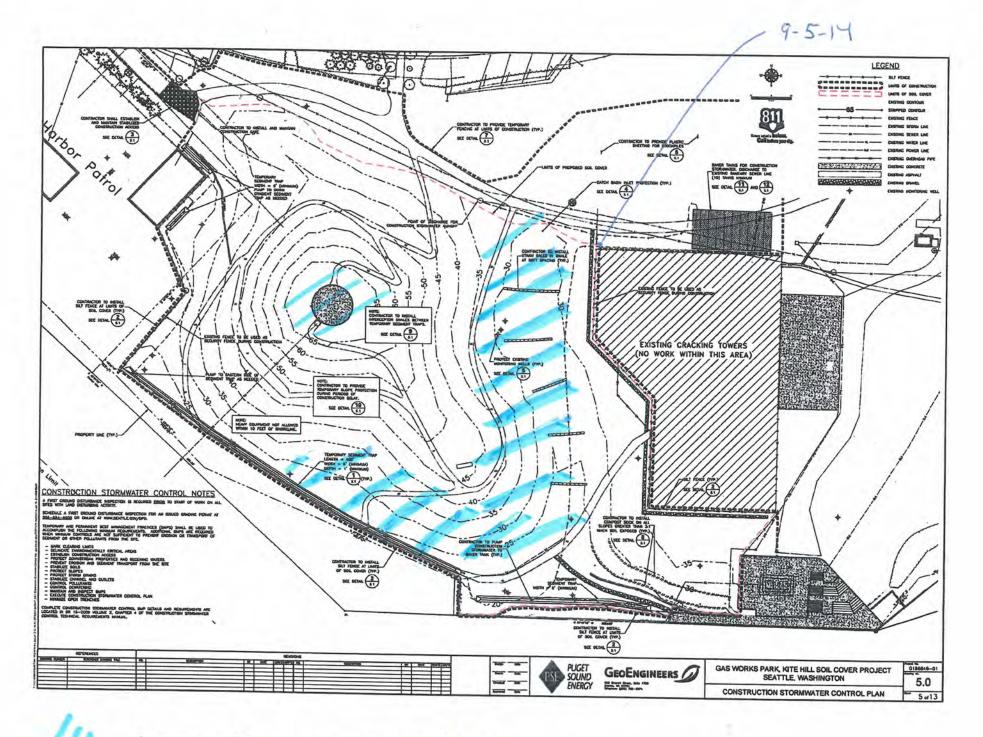
Date	9-5		
EHSI Pr	oject No	106 68	
-roject N	lame . C.	LSW20116	
Technic	ian Lis	a Koll	lasch

122

Analyte PAH

AIR MONITORING SAMPLING SHEET

Sample	Location	Pump	Flow	cated Rate PM)	Ave. Indicated	Ave, Actual Flow	On	Elapsed Time	Total Liters	Media	Activities/Comments
		ID	Initial	Final	Flow Rate	Rate	Off	(min.)			Autorities/ourintents
0669-9AN 1914-09-05 -01	East	91325	2.0	20	9.0		2:03	361	722	37mm GEF	6 9-
	Personal Mark Gray	9143	2.0	20	Q- 2		8:06	369	738	11	opening exaderious
										• • • • • • • • • • • • • • • • • • •	a manan ini ini makanan ini ini manandipana pané na ini dipana pané na ini dipana pané na ini dipana pané
										ai	
Rotameter	R763			otameter	Correction F	actor Y	= 1.08	X+ - (0.08Y		
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	That AL ALS	2-Y. 1						Le nues		
echnicia	m.Sionature	724			mpliance	witha	pplicabl	e standards	regulation	is and pro	Page for the



Approximate work area locations.

EHS-International, Inc. 13228 NE 20th Street, Suite 100 Bellevue, WA 98005 Phone: (425) 455-2959 . (800) 666-2959. Fax: (425) 646-7247

DAILY LOG

Date: <u>9-12-14</u> Time: <u>7:30</u> Shift: <u>Poy</u>	Project #: <u>10663-0</u> Weather: <u>Sunny</u> Temp: <u>70</u>	Gen. Con.	4 80.
Site Conditions: Work in Progress:	water, barrie	tominated topscil	On Rike Hill
Personnel: Contractor Manpower VisitorsTrue No	1+Y Site Su 1+h Lend Swrey,	perintendent <u>TheO</u>	Lecrovd

Observations: (Time, events, discussions, corrective actions, progress, names, contact #'s, locations, etc.)

D retire the boo
7:15 On site. Turces ne leaving site with leads of
contaminsted soil, as a public all atter
7:45 speak with Theo about wind directions this
week, engoing atte work and where head like samples.
Joday's work on contaminated soil remaral and
stockpiling will be perused on the NW side of the hill
theres have been periodically from the south and Theo
asked for the fonce line samples to be set up to the north.
Samples are set up.
9:30 susts of wind noted from the sw up to 62 pm.
relative humidity is 41.0%. Tenperature is 60.9°F
Two excavators running on pite hill with one worker
hoving down doil.
11:30 wind from the SEat 240 gpm. Jump = 73.8°K
Relative humidity is 33.7%.
Signature: 42
Print Name: USA KOILA SCH

Page 2 of 2Date: 9 - 12 20 09Project #: 10663 - 02



EHS-International, Inc. 13228 NE 20th Street, Suite 100 Bellevue, WA 98005 Phone: (425) 455-2959 . (800) 666-2959. Fax: (425) 646-7247 Observations Continued:

DAILY LOG

12-12:3	O hewtakes	bunch			
	collect a		s. Win	d reading	from
the o	north is 38	1 lom.	Relative	numidity	io 30%
	Tenperature				
	Do go gona				
	1 00				

Signature:	47	h	
Print Name:	LISA	KOILASCH	



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324 Account# 13697

Login# L328120

September 16, 2014

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 13, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road East Syracuse, NY 13057 (315) 432-5227	Client Site Project No.	;	EHS-International, GasWorks Park 10663-02	Inc.	
FAX: (315) 437-0571	Date Sampled		12-SEP-14		Account No.: 13697
www.galsonlabs.com	Date Received	÷	13-SEP-14		Login No. : L328120
	Date Analyzed	:	15-SEP-14		
	Report ID		849508		

Arsenic

Sample ID	Lab ID	Air Vol	Total ug	Conc mg/m3
10663-AS-14-09-12-01	L328120-1	720	<0.30	<0.00042

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	OSHA PEL :		OSHA ID-125G; ICP Approv	tted by: GJM/MLH ved by : mlh P-14 NYS DOH # : 11626
< > NA	-Greater Than	mg -Milligrams ug -Micrograms ND -Not Detected	m3 -Cubic Meters l -Liters ppm -Parts per Million	kg -Kilograms NS -Not Specified



LABORATORY FOOTNOTE REPORT

	Client Name : EHS-International, Inc. Site : GasWorks Park Project No. : 10663-02
6601 Kirkville Road	
East Syracuse, NY 13057	Date Sampled : 12-SEP-14 Account No.: 13697
(315) 432-5227	Date Received: 13-SEP-14 Login No. : L328120
FAX: (315) 437-0571	Date Analyzed: 15-SEP-14
www.galsonlabs.com	and the second

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L328120 (Report ID: 849508):

Reported results reflect elemental analysis of the requested metals. Certain compounds may not be solubilized during digestion, resulting in data that is biased low. SOPs: MT-SOP-9(26), im-mwvfilt(20)

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery	
Arsenic	+/-9.6%	105%	

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms
>	-Greater Than	ug	-Micrograms	1	-Liters	NS	-Not Specified
NA	-Not Applicable	ND	-Not Detected	ppm	-Parts per Million		all of second star

		New Client?	Report To* :	Herb Brod	1				Invoice To* :	Admin EHSI		
GALS	ON	Client Account No		EHSI	0041-04	4400			00		20th St. #100	1
	ON	" 13697		13228 NE Bellevue,		-			65		WA 98005-20	
144765401 e:09/13/14		1	-	and the second s		03-20	J49		Dhone No.			10
pper:FEDEX tials:CMS		Ĩ,		(425) 455-2		e -				(425) 455-2		
		1		(425) 766-1	546					shelbyn@e	nsinu.com	
p : PSY315527		Ì	Email Results to :							10663-02	e 🗌 Call for Cred	lit Card Info
p:P31313327		P	Email address :	herbb@ehs	inti.com	1			Clean caia			in card nuo.
				Samples su	bmitted using	g the Fre	eePumpLoan™	Program	Samples sul	bmitted using th	e FreeSamplingBadge	s [™] Program
Need Results By:	(surcharge)	Carly	adea Davide		Deal		0663-02		Cample	d by : Lisa K	ollasch	
Standard	1	Site Name : GasW	onks Pank		Proj	ecte: 1	0003-02		Sample	UUY: LIGAT	Ullason	
Standard 4 Business Days 3 Business Days 2 Business Days		Comments :			1	ž						
2 Business Days						1						
	-	List description of ind	ustry or Process /	interferences pre	sent in sampl	lindare	a :	State samp	les were	Please indicate	which OEL this data wi	ill be used for :
Next Day by 6pm Next Day by Noor Sample Identifi (Maxmium of 20 d				1		缢		collected in			ACGIH TLV	Cal OSHA
Same Day		Gravat	ion of	conten	rineted	112	0.15	WA		MSHA	Other (specify):	
Sample Identifi (Maxmium of 20 d	cation"	Date Sampled	Collection Medi	um Sampl	le Volume ple Time ple Area*	× Sar Ly ml,r	mple Units*: min,in2,cm2,ft2	÷	Analysis Requeste	ed*	Method Reference*	Hexavalent Chromiun Process (e.g., weldin plating, painting, etc.
2063-AS-2014.	-10 D. DI	9-12-14	37mm 0.5		20	ist	1	AIG	nic		MODI NEOSH	
1005 N 2011	01-14-01	1-10-19	UW	374 10	X	17:		1			7300	
			000	4.		5					1300	
								>				
						1						
A. 11. A.							-					
				- 1 Sec. 1		*						
				+		1 i					12 20 10	
						1		-				
						1.						
				_		1	_					
				-		A						
			Q			ł			1			
Galson Laboratories v	vill subsititute ou	routine/preferred me	thod if it does no	t match the met	thod listed on	the co	C unless this bo	x is checked	Use metho	d(s) listed on CC	oc	1
for metals analysis: if	requesting an ana	alyte with the option of	a lower LOQ, ple	ase indicate if th	ne lower LOQ	is requi	red (only availa	ble for certai	n analytes - see s	SAG) :		
		eded must be indicated		the second s		1						
Chain of Custody	the second se	int Name/Signature		Date	Time	F			Print Name	/Signature	D	ate Time
	sa Kollasch /	16 74	-	9-12-14	2:30	R	eceived by :	0		0	1	
Relinquished by :		11-		112.11	10.000		eceived by :	1/1	DI	-11	9/13/	14 941
consideration of a			Sa	mples received a	fter 3pm will	be con	sidered as next	day's busines	s (-		Page 1 of 1
		* 8	equired fields, fai	lure to complete	these fields	may res	ult in a delay in	n your sample	es being processed	d.		rage

1

1

-



EHS-International, Inc. 13228 NE 20TH St., Ste. 100 Bellevue, WA 98005 Tel: 425-455-2959 Fax: 425-646-7247

Date	9-12-14			
	ect No. 10663	-02	1	
	me Gasworks		Hill	
Technicia	n Lisa Kal	lasch		
Analyte	Land Auseni	C		

AIR MONITORING SAMPLING SHEET

Sample	Location	Pump	Flow	cated Rate PM)	Ave: Indicated	Icated Flow	On	Elapsed Time	Total Liters	Media	Activities/Comments
. m		.ID	Initial	Final	Flow Rate		Off	(min.)			
10263- 75 - 1014-09- 12-01	NW Onea at Sence line	9483	2.0	20	20		7:44	360	720	37 mm 0.8 Mm	Contaminated acil epechation.
		1					1	s ¹	_		*
84.94		ā e	-		1.4.4	2 . 9			e , 1		
						0					
											-
totameter_	2763		R	lotameter	Correction F	actor	1 = 110	8 X+	+ - 0.08	4	



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324 Account# 13697

Login# L328118

September 16, 2014

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 13, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road	Client Site	: EHS-International, I : GasWorks Park	nc.
East Syracuse, NY 13057 (315) 432-5227	Project No.	: 10663-02	
FAX: (315) 437-0571	Date Sampled	: 12-SEP-14	Account No.: 13697
www.galsonlabs.com	Date Received	: 13-SEP-14	Login No. : L328118
	Date Analyzed	: 16-SEP-14	
	Report ID	: 849558	

Benzene Soluble Particulate

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3	
10663-PAH-14-09-12-1	L328118-1	736	<0.060	<0.082	

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	Level of quantitation Analytical Method OSHA PEL Collection Media	: mod. OSHA 58; Gravin : 0.2 mg/m3 (TWA) : 225-7 GFF	netric	Appro	itted by: PJD oved by : DMM EP-14 NYS DOH # : 11626
<	-Less Than	mg -Milligrams		-Cubic Meters	kg -Kilograms
>	-Greater Than	ug -Micrograms		-Liters	NS -Not Specified
NA	-Not Applicable	ND -Not Detected		-Parts per Million	1



LABORATORY FOOTNOTE REPORT

		EHS-International, GasWorks Park 10663-02	Inc.	
6601 Kirkville Road				
East Syracuse, NY 13057	Date Sampled :	12-SEP-14	Account No.: 13697	
(315) 432-5227	Date Received:	13-SEP-14	Login No. : L328118	
FAX: (315) 437-0571	Date Analyzed:	16-SEP-14		
www.galsonlabs.com				

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank -

L328118 (Report ID: 849558):

<	-Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
>	-Greater Than	ug -Micrograms	1 -Liters	NS -Not Specified
NA	-Not Applicable	ND -Not Detected	ppm -Parts per Million	

	GALSO	RIES	New Client? Client Account No 13697		ISI 228 NE 20				Invoice To*	And the second se	20th St. #100	
	6601 Kirkvill East Syracuse Tel: (315) 4 888-43 Fax: (315) 4 www.galson	e, NY 13057 32-5227 2-LABS (5227) 37-0571		Phone No.* : (42 Cell No. : (42 Email Results to : Her	5) 766-1546 b Brod		5-2049		Email P.O. No.	: (425) 455-2 : shelbyn@el : 10663-02	nsintl.com)49
Nee	d Results By:	(surcharge)	1	Email address : <u>her</u>	10000	1	the FreePumpLoan™			: Card on File	FreeSamplingBadge	
Nee	Standard	0%	Site Name : GasWo	orke Park	-	0. D.	10662.00				Warach	
5	4 Business Days	35%	Comments :			Piojec	t: 10663-02		Sampl	ed by : Lisa Ko	masch	
] .	3 Business Days	50%	commence.			Į.						
]	2 Business Days	75%				a la						
	Next Day by 6pm	100%	List description of indu	ustry or Process/interfe		in camplin	0.3703 .	State samples we	-	Diance indicate u	hich OEL this data w	I he wood for
N N	ext Day by Noon	150%				1		collected in (e.g.,		OSHA PEL		Cal OSHA
Ĵ	Same Day	200%	excavation	of conte	minate	d so		WA	-		Other (specify):	
	Sample Identificat (Maxmium of 20 Chara		Date Sampled	Collection Medium	Sample Vol Sample Ti Sample Ar	me I.	Sample Units*: L, ml,min,in2,cm2,ft2	Anal	ysis Request	ed."	Method Reference*	Hexavalent Chron Process (e.g., wel plating, painting,
	3-994-20		9-12-14	37 mm GFF	731						CSHA SE	
	4										ight Sensitve	
						K			les R	eceived	or No	
						1	-	Sal	Mat	erial: res	ight Sensitve or No	
										1		
											9/	
											y	
	Laboratories will		routine/preferred met					x is checked:	Use metho	d(s) listed on COC		
or meta	Laboratories will als analysis: if req	uesting an anal	routine/preferred met	a lower LOQ, please ind	icate if the lov	ver LOQ is r		x is checked:	Use metho	d(s) listed on COC		
or meta	Laboratories will als analysis: if req alline silica: form	uesting an anal (s) of silica nee	routine/preferred met lyte with the option of a ded must be indicated (a lower LOQ, please ind (Quartz, Cristobalite, ar	icate if the lov d/or Tridymite	ver 10Q is r ?)* :		x is checked: D	Use metho /tes - see S	d(s) listed on COC AG) :		
for meta for cryst Chain of	Laboratories will als analysis: if req alline silica: form Custody	uesting an anal (s) of silica nee	routine/preferred met	a lower LOQ, please ind (Quartz, Cristobalite, ar D	icate if the lov d/or Tridymite ate	ver LOQ is r		x is checked: D	Use metho	d(s) listed on COC AG) :		te Tin

÷.

.

12

-

;



EHS-International, Inc. 13228 NE 20TH St., Ste. 100 Bellevue, WA 98005 Tel: 425-455-2959 Fax: 425-646-7247

Technician Signature

Date	9-12-1	4		
EHSI Project	No. /C	1663-	-02	
Project Name	Gasu	DOILS	Kite	Hill
Technician	Lisa	KOIL	asch	
Analyte S				

PAH AIR MONITORING SAMPLING SHEET

Sample	Location	Pump	Flow	ated Rate PM)	Ave: Indicated	Ave. Actual Flow	On	Elapsed Time	Total Liters	Media	Activities/Comments
#	т	ID	Initial	Final	Flow Rate	Rate	Off	(min.)			
0663 - 294-2014 29-12-01		8143	2.0	2.0	a.D		736	368	736	37 mm 666 280:	CONT. Soil excuetion
							St. Start				
				dron marries a				موده ما ما در مواند المراجع	an faik atan masa	т.р. н. илэт хүлж тэс. ¹¹ г	ann an ang an si sana manananan a sa s
		-									
	e-										
Rotameter_	R763		F	lotameter	Correction F	actor	Y = 1.	108 X	+ - 0.	084	



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

September 16, 2014

DOH ELAP #11626 AIHA-LAP #100324

Account# 13697

Login# L328119

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 13, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road	Client	: EHS-International, Inc.	
East Syracuse, NY 13057	Site	: GasWorks Park	
(315) 432-5227	Project No.	: 10663-02	
FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled Date Received Date Analyzed Report ID	: 13-SEP-14	Account No.: 13697 Login No. : L328119

Benzene

Sample ID	Lab ID	Time <u>minutes</u>	Front uq	Back ug	Total ug	Conc _mg/m3	ppm
10663-BENZ-09-05-01	L328119-1	364	<2	<2	<2	<0.2	<0.05

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	Level of quantitati Analytical Method OSHA PEL Collection Media	on: 2 ug : mod. NIOSH 1501; : 1 ppm (TWA) : M3M-3520		Submitted by: sab Approved by : nkp 16-SEP-14 NYS DOH # : 11626 KSB
<	-Less Than	mg -Milligrams	m3 -Cubic Meter	s kg -Kilograms
>	-Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA	-Not Applicable	ND -Not Detected	ppm -Parts per M	illion



LABORATORY FOOTNOTE REPORT

	Site : GasWorks Park Project No. : 10663-02
6601 Kirkville Road	
East Syracuse, NY 13057	Date Sampled : 12-SEP-14 Account No.: 13697
(315) 432-5227	Date Received: 13-SEP-14 Login No. : L328119
FAX: (315) 437-0571	Date Analyzed: 15-SEP-14
www.galsonlabs.com	

.

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L328119 (Report ID: 849471):

Total ug corrected for a desorption efficiency of 100%. Please note that back media results above the LOQ have been multiplied by a factor of 2.2 in all "total ug" calculations (as specified in the 3M method). SOPs: GC-SOP-12(8), GC-SOP-16(13), GC-SOP-9(12)

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
Benzene	+/-6.4%	94.1%

<	-Less Than	mg -	-Milligrams	m3	-Cubic Meters	kg	-Kilograms
	-Greater Than	ug ·	Micrograms	1	-Liters	NS	-Not Specified
NA	-Not Applicable	ND .	Not Detected	ppm	-Parts per Million		

-128			New Client?	Report To* :	Herb Bro	d	}	Invoice To	o*: Admin		
	1.00				EHSI		2		EHSI		
GALSON		ES	Client Account No	o.*:	13228 NE	20th St.	#100	the second se	20th St. #100)	
660	1 Kirkville I	bd	13697	-	Bellevue,	WA 980	05-2049	p3		WA 98005-20	
East	Syracuse, I	NY 13057		Phone No." :	(425) 455-2	959	1	Phone N	0. : (425) 455-2		-
lel:	(315) 432 888-432-1	-5227 LABS (5227)			(425) 766-1		1		il : shelbyn@e		
	(315) 437	-0571		Email Results to :	Herb Brod	t.	lt.		0.: 10663-02		
www	w.galsonlat	os.com		Email address :	herbb@ehs	sintl.com	5		rd : Card on File	e Call for Cred	lit Card Info.
			() () () () () () () () () ()			throitted using	the FreePumpLoan™	_			
Need Results (-	(surcharge)			_ Jourbies St		1	Program Samples	submitted using the	e FreeSamplingBadges	s ^m Program
	tandard	0%	Site Name : GasW	orks Park		Proje	tt : 10663-02	Sam	pled by : Lisa Ko	ollasch	
4 Busine		35%	Comments :				1			,	
		50%				+	1				
2 Busines		75%	114 4 1 1 1 1 1 1			1	1				
Next Day b		100%	List description of ind				*	State samples were		which OEL this data wi	
	ne Day	150%	Excavation of conteminated st				sil	collected in (e.g., NY)	=		
								WA	MSHA	Other (specify):	
	Identification of 20 Characte		Date Sampled	Collection Mediu	Samp	e Volume ple Time ple Area*	Sample Units": L. ml,min,in2,cm2,ft2	Analysis Reque	sted*	Method Reference*	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)
Oldo3 - Ben	ten - art	24-09-	9-12-14 3m 35		0 36	4	min	Denzene		NIDSH ISO	
	C	10-20	*							is south is of	
							1				
						1	R				
							4 <u>.</u>			1	
							9				
			* * * · · · · · · · · · · · · · · · · ·				4				
	_							**		-	
						1					
						4	3			:	
						1	*	1			
					-						
Galson Laborato	ries will su	bsititute our	routine/preferred met	had if it door not	match the meth	ad listed or th		L	- MA Bas 1		
or metals analysi	is: if reque	sting an analy	vte with the option of	a lower 100 aless	a indicate if the	louisted on th	e coc unless this bo	ble for certain analytes - see	od(s) listed on COC		
or crystalline silic	ca: form(s)	of silica need	ded must be indicated	(Quartz, Cristobali	te and/or Tridu	mite *	isdniisa (ouià sasiis	iole for certain analytes - see	5AG) :		
hain of Custody	1		t Name/Signature		Date	Time		Drint Made	/Siegosture	1 0-	ta Time
linquished by :	Lisa Ko	lasch /	AR		7-12-14	2130~	Received by :	Print Name	e/Signature	Da	té Time
linquished by :			11-		1-12-14	arar	Received by :	110		9/12	14 941
	-			(sm/	les received aff	ar Zom will h	considered as next			19/13/	19 19 41
				Joint	it's received dit	er ohn win of	CONSIDERED OF HEXL	oay-s-posiness i your samples being processe		. ,	Page of



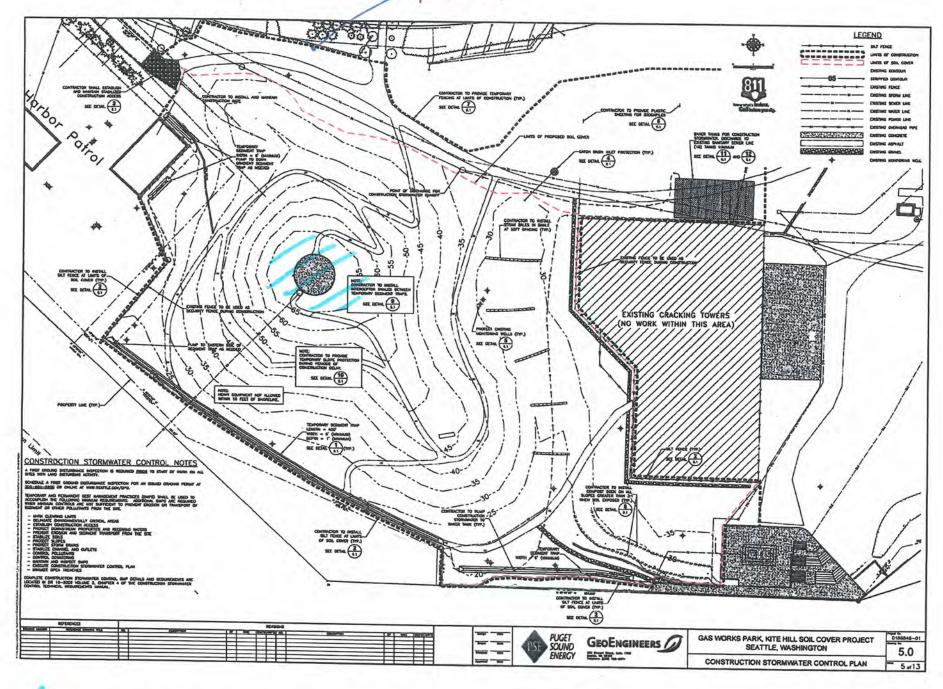
Bellevue, WA 98005 Tel: 425-455-2959 Fax: 425-646-7247

Date C	1-12-14
EHSI Project	No. 10063-02
Project Name	Gasworks kile Hill
Technician_	Lisa Kollesch
Analyte	BAZERE

AIR MONITORING SAMPLING SHEET

Sample #	Location	Pump	Flow	ated Rate M) Ave.		Ave. Actual Flow	On	Elapsed . Time	Total Liters	Media	Activities/Comments	
			Initial	Final	Flow Rate	Rate	Off	(min.)				
2063 - 2014-09- 21-01	on ferce	NA	MA	MA	NIA	NIA	7.35. 1:39a	364	MA	3 M 3520 badge	bodge # WG 7632	
		1										
		•	~		u tur v ar 129 annua '		1	antanan				
	R7-63						į.					
tameter_	p Certification //	101 112.12	R	otameter	Correction Fa	actor	1=1.10	08 X.	+ -0.08	Y		
		nnles u				All and		a an				
200		i pies we	Ie lake		mpliance	with ap	plicable	standards	regulation	s and proj	ect specifications	

- 9-12-14



Approximate work Area Location.

Phone: (425) 455-2959 . (800) 666-295	59. Fax: (425) 646-7247	DAILY LOG
Date: <u>9-77-14</u>	Project #: _/0663-02	
Time: 7:30	Weather: Noin j clar	dy Gen. Con. Wyser Construction
Shift: Day	Temp: <u>70°</u>	Abate Con. Crew Engineers
	water, barres	and offloading cont soil
viateriais Disposed.		
Personnel:		
Personnel: Contractor Manpower	Site Supe	rintendent the Leonard

10:30 -	wind grom	the	SW	ak	asa fem	Temp =	68.9	:4,
	Humidity							

1:00 - Wind grom S-SW at 389 Fem, Temp = 77°h, Relative Humidily = SS.79.

2:30 - Wind grom N-NW at 481 fpm, Temp= 76.8°F, Nelative Humiduby = 51.6%.

and transported to hed Ex for shipment to Dalson

Signature: 17

Print Name: USA KONASUN



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324

Account# 13697

Login# L328521

September 18, 2014

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 18, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road East Syracuse, NY 13057 (315) 432-5227	Client Site Project No.	:	EHS-International, GasWorks Park 10663-02	Inc.	
FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled Date Received Date Analyzed Report ID	:	18-SEP-14		Account No.: 13697 Login No. : L328521

Arsenic

Sample ID	Lab ID	Air Vol liter	Total ug	Conc mg/m3
10663-AS-2014-09-17	L328521-1	720	<0.30	<0.00042

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	OSHA PEL :		OSHA ID-125G; ICP Appr	SEP-14 NYS DOH # : 11626
<	-Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
>	-Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA	-Not Applicable	ND -Not Detected	ppm -Parts per Millio	n



LABORATORY FOOTNOTE REPORT

Project No. : 10663-02	
6601 Kirkville Road	
East Syracuse, NY 13057 Date Sampled : 17-SEP-14 Account No.: 13697	
(315) 432-5227 Date Received: 18-SEP-14 Login No. : L328521	
FAX: (315) 437-0571 Date Analyzed: 18-SEP-14	
www.galsonlabs.com	

. ..

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L328521 (Report ID: 850020):

Report	ed results ref.	lect elemental analysis of the requested meta	als. Certain
compou	nds may not be	solubilized during digestion, resulting in a	iata that is
biased	low.		
SOPs:	MT-SOP-9(26),	im-fitler(19)	

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
Arsenic	+/-9.6%	105%

<	-Less Than	mg	-Milligrams	m.3	-Cubic Meters	kg	-Kild	grams
	-Greater Than	ug	-Micrograms	1	-Liters	NS	-Not	Specified
NA	-Not Applicable	ND	-Not Detected	ppm	-Parts per Million			

1			New Client?	Report To* :	Herb Broo	đ			Invoice To" :	Admin				· ·
ł.					EHSI	3				EHSI				
1	GALS	ON	Client Account No.	•	13228 NE	20th St. #	100			13228 NE	E 20th St.	#100		
	CABORA	We ad	13697			WA 98005			Bellevue, WA 98005-20					
	6601 Kirky East Syrac	Jse, NY 13057		Phone No.* :	(425) 455-2	959			Phone No. : (425) 455-2959					
	Tel: (315	432-5227 432-LABS (5227)			(425) 766-1				Email : shelbyn@ehsintl.com					
	Fax: (315	437-0571		Email Results to :	Herb Brod	1				10663-02				
	www.gals	onlabs.com				intl.com & Lis	saK@ehsintl.co	m		Card on Fi		for Credit	Card Info.	
	315527					1	S. 7		_		1.50			
	Need Results By:	(surcharge)			Samples su	ubmitted usingit	ne FreePumpLoan ¹⁴⁴	Program	Samples sul	omitted using th	e FreeSamplin	ngBadges™	Program	
]	Standar	d 0%	Site Name : GasWo	orks Park		Project	: 10663-02		Sample	d by : Lisa K	ollasch			
כ	4 Business Day	\$ 35%	Comments :			1								
]	3 Business Day	s 50%		1.0.0		1	-1	-						
]	2 Business Day	s 75%	1 Please	e send	unes.	ched	bgt vel	your.						
]	Next Day by 6pr		List description of indu	stry or Process/in	terferences pre	sent in sampling	area :	State samples	were	Please indicate		s data will	be used fo	or :
1	Next Day by Noo	150%	floading	contami	i bottom	soil.		collected in (e.		OSHA PEL		v [Cal OSI	HA
ו	Same Da	200%	Execustin	& Dtock	pieing.	. 1		WA		MSHA	Other (sp	pecify):		
	Sample Identif		Date Sampled	Collection Media	Samp	le Volume ple Time ple Area*	Sample Units*: , ml,min,in2,cm2,ft2	A	Analysis Requested" Metho			erence*	Hexavalent Process (e.g	g., weldi
06	63-As-2014-09	-17 *	09/17/14	37 mm 0.8um			(Arsenic			Mod,NIOS			
^Ga	alson Laboratories v	vill subsititute ou	r routine/preferred met	hod If it does not	match the met	hod listed on the	e COC unless this bo	x is checked:	Use method	d(s) listed on CC				
-			lyte with the option of a eded must be indicated			16+	equired (only availa	able for certain a	nalytes - see S	AG) :	_			_
-	in of Custody		nt Name/Signature		Date	Time 🕌			Print Name			, Dati		Time
_	and the second se	a Kollasch /	11h		09/17/14	3:3013	Received by :	Texesal	werthe	Alla (4	Dett	9/18/1	4	09:E
	nquished by :						Received by :					11 1-		
Reli				Fam	oles received a	fter 30m will be	considered as next	day's husiness	1					of

EHS-International, Inc. 13228 NE 20TH St., Ste. 100 Bellevue, WA 98005 Tel: 425-455-2959 Fax: 425-648-7247

Date	9-17-14	
EHSI	Project No. 10663-02 t Name Gasworks Park	
Projec	t Name Gasworks Park	
Tech	nician Lisa Kollasch te Arsenic	
Analy	te Arsenic	

Page 5 of 5 Report Reference:1 Generated:18-SEP-14 16:11

Sample	Location	Pump	Flow	cated Rate PM)	Ave. Indicated	Ave. Actual Flow	On	Elapsed Time	Total Liters	Media	Activities/Comments
#		ID	Initial	Final	Flow Rate	Rate	Off	(min.)		•	
10663- As- 2014-09- 17	North, at Rence line	1143	2.0	2.D	2.0		827	360	720	37mm 0.8um	OFF 10. dry wontenineted Soil. Gravetizt Storkpilling
	Ŷ			۰.	4	1.					
							New Year				
-											
Rotameter_	1763		R	otameter	Correction F	actor	Y!=	1.108	X+ - 0	0.084	
I certify t	an Certification: hat the above s an Signature		ere tak	en in c	ompliance			e standards,	· · · · · · · · · · · · · · · · · · ·		ject specifications

AIR MONITORING SAMPLING SHEET

Same



September 19, 2014

Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

DOH ELAP #11626 AIHA-LAP #100324 Account# 13697

Login# L328526

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 18, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road East Syracuse, NY 13057 (315) 432-5227	Client Site Project No.		international, orks Park -02	Inc.	
FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled Date Received Date Analyzed Report ID	: 18-SE	P-14 P-14		Account No.: 13697 Login No. : L328526

Benzene

Sample ID	Lab ID	Time minutes	Front uq	Back ug	Total ug	Conc mg/m3	ppm	
10663-BENZ-14-09-17	L328526-1	360	<2	<2	<2	<0.2	<0.05	

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation Analytical Method OSHA PEL Collection Media	on: 2 ug : mod. NIOSH 1501; : 1 ppm (TWA) : M3M-3520	GC/FID BADGE	Appr	oved b EP-14	by: sab by : tlh NYS DOH # : QC by:	
-Less Than -Greater Than -Not Applicable	mg -Milligrams ug -Micrograms ND -Not Detected	l -Lite:	c Meters rs s per Millio	NS	-Kilograms -Not Specifie	d



LABORATORY FOOTNOTE REPORT

	Client Name : EHS-International, In	nc.
	Site : GasWorks Park	
	Project No. : 10663-02	
6601 Kirkville Road		
East Syracuse, NY 13057	Date Sampled : 17-SEP-14	Account No.: 13697
(315) 432-5227	Date Received: 18-SEP-14	Login No. : L328526
FAX: (315) 437-0571	Date Analyzed: 18-SEP-14	
www.galsonlabs.com		

Olizab Name

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L328526 (Report ID: 850108):

Total ug corrected for a desorption efficiency of 100%. Please note that back media results above the LOQ have been multiplied by a factor of 2.2 in all "total ug" calculations (as specified in the 3M method). SOPs: GC-SOP-12(8), GC-SOP-16(13), GC-SOP-9(12)

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated uncertainty applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process.

Parameter	Accuracy	Mean Recovery
Benzene	+/-6.4%	94.1*

*	-Less Than	mg -Milligrams	m3 -Cubic Meters	kg	-Kilograms
>	-Greater Than	ug -Micrograms	1 -Liters	NS	-Not Specified
NA	-Not Applicable	ND -Not Detected	ppm -Parts per Million		

		-					j						
			New Client?	Report To* :	Herb Bro	d	}	1-	Invoice To	: Admin			(19)
	GALSC	DN	Charles and a second second		EHSI	1.000	1			EHSI			
	LABORATO	RIES	Client Account No. 13697	.*:	13228 N	E 20th St	. #100				NE 20th St	#100	
	6601 Kirkvill	e Rd	10031	-	Bellevue		005-2049				e, WA 98		9
	East Syracuse Tel: (315) 4	2, NY 13057		Phone No.* :	(425) 455-	2959	1		Phone No	.: (425) 45			
	888-43	2-LABS (5227)		Cell No. :	(425) 766-	1546	1				Dehsintl.com		
	Fax: (315) 4 www.galson			Email Results to :	Herb Brod	-	š			.: 10663-02			
				Email address :	herbb@eh	sintl.com &	LisaK@ehsintl.c	om				Il for Credit C	and lofo
Need Res	ults By:	(surcharge)	315527		2.2 C		githe FreePumpLoan"		-		the FreeSampli		
]	Standard	0%	Cito Mana Castal	de De d					_ samples s	uomitteo osing	the Freesample	ngBadges	Program
	standard Jsiness Days	35%	Site Name : GasWo	orks Park		Pro	ject : 10663-02		Samp	led by : Lisa	Kollasch		
-	isiness Days	50%	Comments :				1				1		
	isiness Days	75%	Please o	end w	reacter	t adf	reports.						
							1 .						
Next D	Day by 6pm	100%	List description of indu	Istry or Process/in	nterferences pro	esent in samp	ling area :	State samples	were	Please indicat	e which OEL thi	is data will b	e used for :
Next D	Same.Day	150%					1	collected in (e	.g., NY)	SHA PEL		V C	Cal OSHA
		200%	Execution	8 2 000	milian	-	1	WA		MSHA	Other (s	pecify):	
(Maxi	nple Identificat mium of 20 Chara	icters)	Date Sampled	Collection Mediu	m Sam Sam	le Volume ple Time ple Area"	Sample Units*: 11, ml,min,in2,cm2,ft2		Inalysis Request	ed*	Method Re	ference* Pr	exavalent Chromiun ocess (e.g., weldin
0663-Ben	zene-2014	4-09-17	09/17/14	3m 3520	3	60	min.	Benzene	14		NIOSH 1		ting, painting, etc.
		-			-		Č.					001	
							1						
							6				-		
					-		l					-	
						-	ſ.						
				1.1.1.1	1		4						
							4						
							0				_		
							1						
					_		ł.						
	-				_		l					-	
Galson Labo	ratories will	subsititute our	routine/preferred meth	od if it daes not	match the met	hod listed on	the COC unless this bo	x is-checked: -	-Use metho	d(s) listed on C	oc		
or metals an	alysis: If requ	Jesting an anal	yte with the option of a	lower LOQ, pleas	e indicate if the	e lower LOO is	required (only availa	ble for certain an	alvtes - see S	AG):			1
or crystalline	e silica: form(s) of silica need	ded must be indicated (Quartz, Cristobali	te, and/or Tridy	mite)*:	5						
hain of Custo	ody		t Name/Signature		Date	Time	li li		Dalast blog	leine ab			1 -
elinquished	by : Lisa K	Kollasch /	176-		09/17/14	3:30-	Received by :	La	Rrint Name,		A	Date	Time
elinquished I	by :			-	· ·		Received by :	Teresa	Uner	Veresa	mest	9/18/14	09125
				Same	les received aff	A Ilive most rat	e considered as next	daugh hunterer					

ehsia EHS-International, Inc. 13228 NE 20TH St., Ste. 100 Bellevue, WA 98005 Tel: 425-455-2959 Fax: 425-646-7247

. .

2		
Date	9-17-14	
EHSI	Project No. 10663-02	
Projec	t Name Gasworks Park	
Tech	nician Lisa Kollasch	
	de Benzene	

2.8.7

AIR MONITORING SAMPLING SHEET

Sample	Location	Pump	Flow Flow		Media	Activities/Comments					
#		ID	Initial	Final	Flow Rate	Rate	Öff	(min.)			
10663- Benzene- 2014-09- 17	NoAh, at Fonce line	MA	MA	MA	MA	NIA	3:23	360	MA	3M 3520 Badge	Bade ID WG7566 OFF leading cont. soil excounting & stockpilin
				• •						1 1	2
							1				
				-			-				
Rotameter_	~	/A	R	otameter	Correction F	actor					
Technici	an Certification:							1. 1. 1.			
l certify (Technicia	hat the above si an Signature	amples w	ere tak	en in c Z	ompliance	with a	pplicable	e standards,	regulation	hs and pro	Ject specifications . Page of
		and all Side and	Shall of The	A	Read a Marine	12.		······································	Date	NICONSCRIPTION	



Mr. Herb Brod EHS-International, Inc. 13228 NE 20th Street Suite 100 Bellevue, WA 98005

September 19, 2014

DOH ELAP #11626 AIHA-LAP #100324 Account# 13697

Login# L328523

Dear Mr. Brod:

Enclosed are the analytical results for the samples received by our laboratory on September 18, 2014. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report, with the exception of IOMs, which will be cleaned and disposed of after seven calendar days.

Current Scopes of Accreditation can be viewed at www.galsonlabs.com in the accreditations section under the "about Galson" tab.

Please contact Pamela Weaver at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary & Unangst

Mary G. Unangst Laboratory Director

Enclosure(s)



LABORATORY ANALYSIS REPORT

6601 Kirkville Road East Syracuse, NY 13057 (315) 432-5227	Client Site Project No.	:	EHS-International, GasWorks Park 10663-02	Inc.	
FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled Date Received Date Analyzed Report ID	:	18-SEP-14		Account No.: 13697 Login No. : L328523

Benzene Soluble Particulate

Sample ID	Lab ID	Air Vol liter	mg	Conc mg/m3	
10663-PAH-2014-09-17	L328523-1	720	<0.060	<0.083	

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

	OSHA PEL	: 0.060 mg : mod. OSHA 58; Gravimetric : 0.2 mg/m3 (TWA) : 225-7 GFF	Submitted by: CTW Approved by : DMM Date : 19-SEP-14 NYS DOH # : 11620 Supervisor: JGC QC by: KSB
<	-Less Than	mg -Milligrams m3	-Cubic Meters kg -Kilograms
>	-Greater Than	ug -Micrograms 1	-Liters NS -Not Specified
NA	-Not Applicable	ND -Not Detected ppm	-Parts per Million



LABORATORY FOOTNOTE REPORT

6601 Kirkville Road	Client Name : EHS-International, Inc. Site : GasWorks Park Project No. : 10663-02
East Syracuse, NY 13057 (315) 432-5227 FAX: (315) 437-0571 www.galsonlabs.com	Date Sampled : 17-SEP-14 Account No.: 13697 Date Received: 18-SEP-14 Login No. : L328523 Date Analyzed: 19-SEP-14

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L328523 (Report ID: 850152): SOPs: ic-ctpv(16)

The Benzene Soluble Particulate results are considered accurate to within +/-20.5based on a 95% confidence interval (k=2). This method has an average recovery of 98.5%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

<	-Less Than	mg	-Milligrams	m3	-Cubic Meters	kg	-Kilograms
	-Greater Than	ug	-Micrograms	1	-Liters	NS	-Not Specified
NA	-Not Applicable	ND	-Not Detected	ppm	-Parts per Million		

GALSON CABORATORIES 6601 Kirkville Rd East Syracuse, NY 13057 Tel: (315) 432-5227 888-432-LABS (5227) Fax: (315) 437-0571 www.galsonlabs.com		227 35 (5227) 571	New Client? Client Account No. 13697	*: Phone No.* : Cell No. : Email Results to :		20th St. WA 980 2959 1546		om	Phone No. Email P.O. No.		ehsintl.con	005-20		
Need Results B	y: (su	rcharge)			Samples.su	ubmitted using	the FreePumpLoan**	Program	Samples su	ubmitted using t	he FreeSampl	ingBadges	M Program	1
Need Results B	brebn	0%	Site Name : GasWo	rks Park		Pro	ect : 10663-02		Samp	led by : Lisa I	Kollasch			
4 Business	s Days	35%	Comments :				1							
3 Business	s Days	50%						-						
2 Business	· · ·	75%	Please	and	unloc	ned .	ede report	Ø.						
		100%	List description of indu	stru or Drocover /le	tadaranan	reat in second	il ilia area :	Cente ener	atas when	Please indicate	which OEL 45	ie data wil	I he wood	for .
Nort Day by			List description of indu	Controcess/II	memerences pre	ci o	ing area :	State samp	n (e.g., NY)	OSHA PEL			Cal 0	
Next Day by	_	150%					1	and the second second						
Sam	e Day	200%	gravating	1 2 stoe	spieinz	•		WA		MSHA	Other (s	specily):		
	dentification" of 20 Characters)		Date Sampled	Collection Mediu	m Sam	le Volume ple Time ple Area"	Sample Units*: L, ml,min,in2,cm2,ft2		Analysis Request	led"	Method Re	eference^	Hexavalen Process (e plating, pa	.g., weldi
0663-PAH-20	14-09-17		09/17/14	37mm GFF	70	20		Coal Tar	Pitch Volatile	S .	OSHA 5	8		
							normality of the second s		Sample	s Received	Tin Light Yes) or	Sensit	ve	·
					-			-						-
and the second se			routine/preferred meth yte with the option of a				11.				oc			
			ded must be indicated (11							
hain of Custody	T		t Name/Signature				1	1	Print Name	Cienature		, Da	te	Time
elinquished by :	Lisa Kolla		A. OL		Date Time		1 Decelued hus	1		Polo -	1.00	010	il.	-
elinquished by :	LISA NOIR	ascri/ .	4/m		09/17/14	3:30	Received by : -	Teresa	Correct	10mp	an ito	alig	14	09:0
				Com.	ales received a	fter 3nm will	de considered as next	day's husings					1	1

ehsi & EHS-International, Inc. 13228 NE 20TH St., Ste. 100 Bellevue, WA 98005 Tel: 425-455-2959 Fax: 425-646-7247

Date	9-17-14		
EHSI	Project N	0. 1066	53-02
Projec	t Name	Gaswor	ks Park

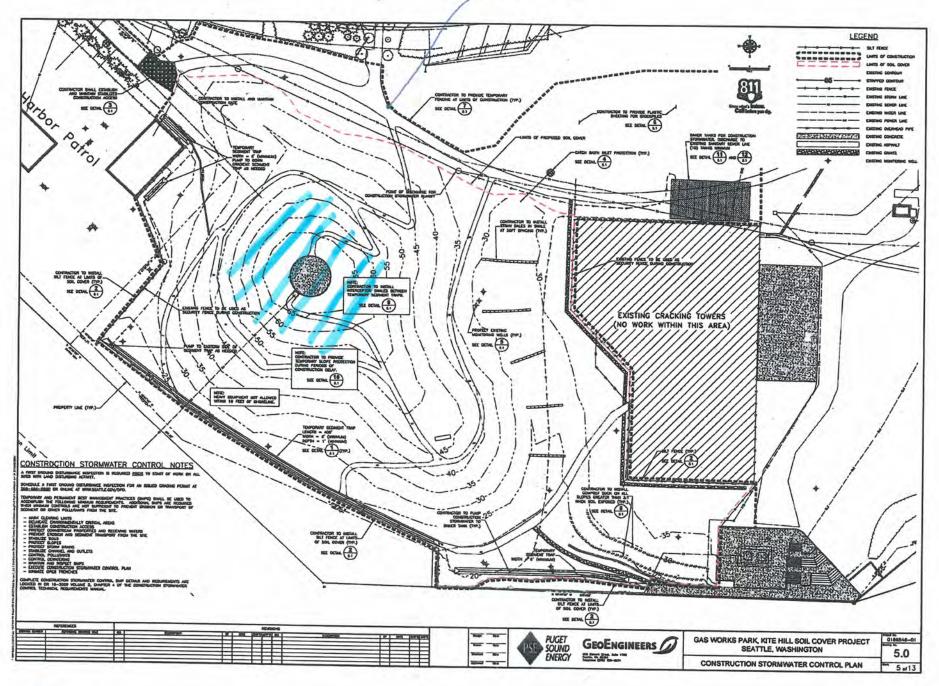
Technician Lisa Kollasch

Page 5 of 5 Report Reference:1 Generated:19-SEP-14 11:35

AIR MONITORING	SAMPLING SHEET
-----------------------	----------------

Sample	Location	Pump	Flow Rate (LPM)		Ave.	Ave. Actual	On	Elapsed Time	Total Liters	Media	A of hit is a formation
*		D	Initial	Final	Flow Rate	Flow Rate	Off	(min.)	Liters	Media	Activities/Comments
10663-PAH 2014-09- 17	Norsh, at Ence line	P483	2.0	2.0	2.0		8:26	360	7,10	37mm GFF 2 pc	OFFIDADiz of conternet Soil. Excavating f Stockpilling
	*	5	*		в		1				2.00.00
							1				
Rotameter	R763	5	R	otameter	Correction Fa	actor Y	1=	tv 10	-0.087		
Fechnicia	n Certification:			1.4	947£ [4]		* +				
certify th	at the above sa	mples we	erē tako	en in co	mpliance	with ap	oplicable	standards,	regulation	is and pro	ject specifications:
Fechnician	n Signature	13h	1		1. 19 Mar 19	۲				and the second se	Pageof





Approximate work Area Location:

APPENDIX P Irrigation Coverage Test Documentation



Date 5/18/2015

+ 206 E02 0620 f 206 E02 0622

PROJECT: GASWORKS KITE HILL SOIL COVER PROJECT

CONSTRUCTION FIELD MEETING

FIELD OBSERVATIONS

MEETING NOTES

Prepared by:

J.A. Brennan Associates

Meeting Date: 5-13-2015

A. Attendees:

- 1. Karen Galt (COS Parks)
- 2. Kevin Blanchard (COS Parks)
- 3. Drew Coombs (JA Brennan)
- 4. Robert Reynolds (Wyser)
- 5. Ignesio (Wyser)

B. Meeting Purpose:

1. Irrigation coverage test.

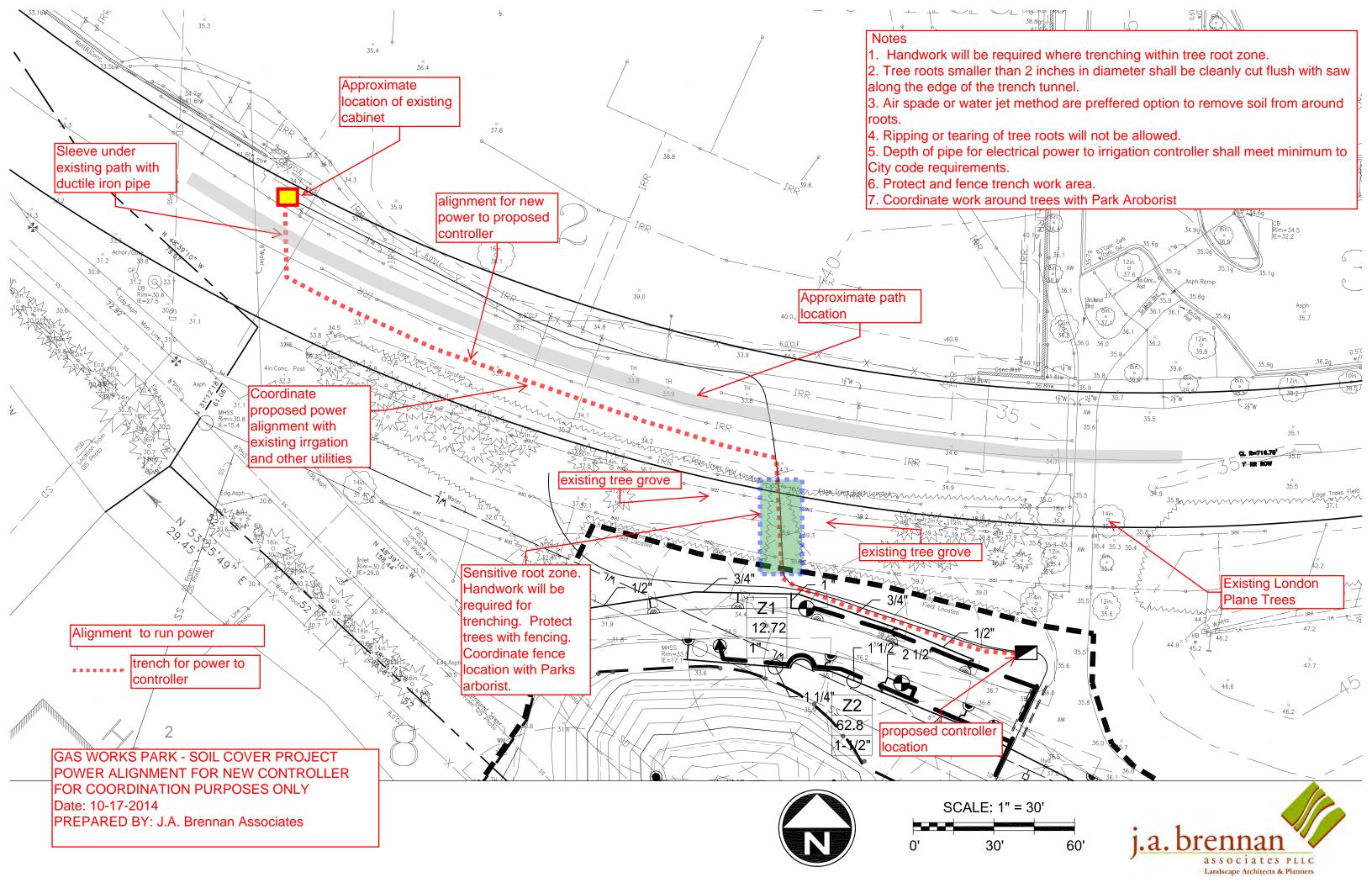
$C.\;$ Site walk and Observations:

- 1. Generally looked great.
- 2. Zone 4 raise south head at fence corner
- 3. Zone 12 seems to be missing one head
- 4. Zone 17 adjust angle of north head more vertical (was short spraying on downhill side)
- 5. Zone 21 lower north head at gravel path edge
- 6. Zone 22 had broken line so were unable to test
- 7. OLD zone 19 two heads from old zone at NW corner of cracking tower fence due to duplicated coverage by new zones 21 and 22; to be capped.
- 8. OLD zone 2 and 3 (staging area) –2 or 3 broken heads had been replaced with new ones
- 9. Contractor moved blue master valve wire to station 24 and manually turned on station 2; by activating #24 at clock, we could observe the master valve close and stop the water flow on #2, as Maxicom would do in its "mainline break" or "stuck valve" situation.
- 10. Controller was left to run locally until handed over to Parks, in Auto on dial and a 4-day rain delay.
- 11. Please advise when irrigation scheduling is to be handed over to Parks.
- 12. Flow monitor was calibrated for 2" flow sensor and was reporting flow while running.

Notes to Parks District for future monitoring:

Zone 19/20 by viewpoint is very wet near vault lid Zones 6 and 8 – may be quickly overtaking by blackberries from shoreline, may need frequent monitoring/cutting back

APPENDIX Q Irrigation Controller Trenching Coordination Diagram



APPENDIX R Irrigation Operations and Maintenance Manual



O & M MANUAL: GAS WORKS

Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5898 (360) 658-5305 Fax



O&M Manual Index

- 1. C509 Resilient Wedge Gate Valves
- 2. 950XLT2 Double Check Valve Assembly
- 3. 600XL Pressure Reducing Valve
- 4. 3100 Series Globe Valve
- 5. Model VB Brass Valve
- 6. 950 Series Brass Valve
- 7. 640 Series Rotors
- 8. E/One Extreme Grinder Pump
- 9. Orion Water Endpoint W/M25 Meter
- **10.** Fiberglass Valve Enclosures
- **11. Yard Hydrant**

Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5898 (360) 658-5305 Fax

www.hdfowler.com

Waterworks • Irrigation • Pumps



C509 RESILIENT WEDGE GATE VALVES



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax



M&H Valve Co.

Division of McWANE, Inc.

605 West 23rd Street P.O. Box 2088 Anniston, AL 36202 Telephone (256) 237-3521 Fax (888) 549-5309

M&H VALVE RESILIENT WEDGE GATE VALVE MAINTENANCE MANUAL

The M&H Valve Resilient Wedge Gate Valve requires no routine maintenance except that <u>the</u> <u>valve must be operated at least once a year</u> to prevent stem binding due to rust and encrustation.

M&H Valve does not recommend stocking any spare parts for the Resilient Wedge Gate Valve.

To obtain correct components it is necessary to furnish the following information to M&H Valve or an authorized distributor.

- 1. Style (4000 Series C-509 & 7000 Series C-515)
- 2. Valve Size.
- 3. Year of manufacture.

INSTALLATION:

Install the resilient wedge gate valve like any other gate valve, following the recommendations of AWWA and N.E.P.A.

BEFORE INSTALLING THE VALVE:

- 1. Wipe away any dirt and grit from the inside of the valve
- 2. Flush the line completely.
- 3. Check the operation of the valve full open to full closed when installing the valve.
- 4. Cover the valve with burlap or similar material while backfilling to protect the coating after installing the valve.
- 5. Open the valve about five turns and allow the flow an opportunity to flush any trash and debris from the line.

GENERAL OPERATION:

The operation of resilient wedge gate valve is not like that of a double disc gate valve. Resilient wedge gate valves require considerable torque to fully shut off the flow through the valve but are easily opened. Closing torque to close the valve can be expected to be as follows:

2"	20 ft-lb	6"	110 ft-lb
21/2"	28 ft-lb	8"	150 ft-lb
3"	52 ft-lb	10"	185 ft-lb
4"	75 ft-lb	12"	225 ft-lb

TOOLS:

All repair of a M&H Valve resilient wedge gate valve may be accomplished with only:

- 1. A $\frac{1}{2}$ drive socket set.
- 2. A 12" adjustable ("Crescent") wrench.
- 3. A small pry bar (a soft faced hammer is occasionally useful).

STOCKING SPARE PARTS:

M&H Valve does not recommend stocking any repair parts for resilient wedge valves.

COMPONENT REPLACEMENT:

If the valve has not been abused, the stem packing is the only item that might ever be replaced and instructions are included below.

There have been occasions where a disc has been replaced and instructions for disc replacement are included but this should not be considered normal maintenance.

PACKING PROCEDURE:

I. Non-Rising Stem (NRS) Valves:

Before beginning repacking, contact M&H Valve or an authorized distributor to obtain:

- A. Stem sealing o-rings: #R6 (2) req'd.
- B. One stuffing box gasket/o-ring #R7 (1) req'd,
- -- NRS Repacking Procedure:
- 1. Open the valve tightly (50 ft-lb for valves 3" and smaller, 100 ft-lb for valves 4" and larger).

- 2. Remove the bolts retaining the stuffing box.
- 3. Gently pry the stuffing box from the valve (if necessary, separate the stuffing box from the cap (bonnet) by tapping the stuffing box with a soft faced hammer).
- 4. Remove and replace the o-rings. Wipe all grit and dirt from the bore of the stuffing box and stem. Lubricate the bore of the stuffing box, the stem, and the stem seal o-rings before installing the stem seal o-rings.

Two o-rings (item #R6) on the shank of the stem and

One o-ring/gasket seal (item #R7) on the Bottom of the stuffing box. It is desirable to Retain the gasket/o-ring with "Plybond" or similar cement during reinstallation.

- 5. Replace the stuffing box tighten all bolts uniformly and carefully so that the stuffing box is flat and snug against the cap (bonnet) and the gap between the cap and stuffing box does not exceed 0.015" (normally there should be no gap) and is uniform. Check the stem for binding.
- II. Outside Screw & Yoke (OS&Y):

Before attempting to repack the valve, first attempt to stop the leakage by tightening the brass nuts on the packing gland. Tighten both nuts snugly and uniformly to about 60 ft-lb. Operate the valve a time or two to determine if the leakage has stopped.

Before beginning repacking, contact M&H Valve or an authorized distributor to obtain packing.

- --OS&Y Packing Procedure:
- 1. Open the valve tightly (50 ft-lb for valves 3" and smaller, 100 ft-lb for valves 4" and larger)
- 2. Remove the nuts retaining the packing gland. Item # R8.
- 3. Lift the packing gland. If necessary, lever the packing gland with a crow bar or similar tool.
- 4. Remove and replace the packing.

Engineering prefers to use two threaded rods the same diameter as the packing gland bolts and about 6" long. Remove the bolts from the packing gland and replace them with threaded rods through the packing gland and place nuts on the free ends of the threaded rods. Tighten the nuts with a deep well socket until all leakage stops then remove the rods and replace them with the packing gland bolts and nuts.

5. Reinstall the packing gland bolts and nuts, tightening the nuts uniformly, one side then the other so that the packing gland pulls down evenly. Tighten the nuts until all leakage past the packing stops. Operate the valve once or twice to check for stem binding and to be certain that there is no leakage.

RESILIENT DISC REPLACEMENT:

- 1. It is necessary to take the valve fully out of service to replace the disc but it is not necessary to remove the valve from the line.
- 2. It is very unusual to have to replace a disc. Discs normally can be expected to last for many years and thousands of cycles. Before replacing a disc, first check to see if the operation personnel are closing the valve tightly. If the valve is closed tightly, open the valve about five turns and attempt to cause the maximum flow through the valve to flush any debris from the seating area. If it is necessary to replace a disc suspect that there is some systematic problem causing the disc failure such as stones in the line.
- 3. Before attempting to replace the disc, contact M&H Valve or an authorized distributor to obtain:
 - A. Cover O-ring
 - B. Disc
- -- Disc Replacement Procedure:
 - 1. Partially open the valve.
 - 2. Remove the cap (bonnet) bolts and nuts.
 - 3. Lift the cap, stem, stuffing box, disc assembly from the body. .
 - 4. Remove and replace the disc.
 - 5. Replace the cap sealing o-ring (not always necessary) Retain the o-ring with a flexible adhesive such as "Plybond".
 - 6. Replace the cap, stem, stuffing box, disc assembly taking care to start the disc into the guides cast into the body.

- 7. Place the bolts through the holes in the body and cap taking care to line the bolt holes up.
- 8. Snug the cap bolts finger tight and then tighten them. First tighten two bolts diagonally opposite with wrist torque. Then go to another bolt opposite the first two and tighten. Then work around the bolt pattern tightening the bolts.
- 9. Operate the valve fully open to fully closed before backfilling.

- 7. Place the bolts through the holes in the body and cap taking care to line the bolt holes up.
- 8. Snug the cap bolts finger tight and then tighten them. First tighten two bolts diagonally opposite with wrist torque. Then go to another bolt opposite the first two and tighten. Then work around the bolt pattern tightening the bolts.
- 9. Operate the valve fully open to fully closed before backfilling.

LIMITED WARRANTY M&H AWWA C509 RESILIENT WEDGE GATE VALVES (1993)

TEN YEAR LIMITED WARRANTY ON M&H VALVE RESILIENT WEDGE GATE VALVES

M&H Valve Company M&H Valve Company warrants that its Resilient Wedge Gate Valves will be free from defects in material and workmanship under normal and customary use and maintenance for a period of ten (10) years form the date of purchase, provided the hydrant is installed and maintained according to M&H Valve instructions, and applicable codes. The foregoing warranty does not cover failure of any part or parts from external forces, including but not limited to earthquake, vandalism, vehicular or other impact, application of excessive torque to the operating mechanism or frost heave.

Should any M&H Valve Company part or parts fail to conform to the foregoing warranty, M&H Valve shall, upon prompt written notice thereof, repair, or replace, F.O.B. point of manufacture, such defective part or parts. Purchaser shall, if requested, return the part or parts to M&H Valve, transportation prepaid. Purchaser shall bear all responsibility and expense incurred for removal, reinstallation and shipping in connection with any part supplied under the foregoing warranty.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS. IN NO EVENT SHALL M&H VALVE COMPANY BE RESPONSIBLE OR LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL LOSSES, DAMAGES OR EXPENSES.





Division of McWane, Inc.

1021 East Water Street P.O. Box 931 Elmira, New York 14902-0931 Telephone (607) 734-2211 Fax (607) 734-1003

KENNEDY VALVE RESILIENT SWING CHECK MAINTENANCE MANUAL

I. SELECTION

Check valves are for the prevention of backflow. Particular check valves perform additional services as follows:

- 1. Wafer check valves reduce the effect of water hammer (FM approved for such service).
- 2. Outside lever check valves may be fitted with a limit switch to detect flow.

General Service by Product

1. Figure 106/1106 Check Valve

For service in other than fire protection lines and other than a connection to a potable water system where there is the possibility of a pollutant in the user's system back flowing into the potable water system. The 106/1106 check valves should not be used if water hammer is a known problem.

- a. Standard Figure 106/1106 brass to brass seating General service, cold water, and non-shock up to 200 psi. Allows backflow (when new) up to 1 oz/hr/in nominal size at 200 psi back pressure (possibly more at low back pressure.
- Figure 106A/1106A Resilient rubber to brass seating for General service, cold water, non-shock, at temperatures not exceeding 125°F. Provide drip tight sealing (when new). May allow some backflow at conditions of low backpressure (less than 5 ft H₂O backpressure) preferred for service when water hammer check cannot be used. Not for steam service.
- c. Outside lever (lever & spring/lever & weight) occasionally used where water hammer might be a problem. Occasionally fitted with limit switches to detect flow. Rarely arranged to counter balance disc and reduce head loss at low flows. Levers may be a safety hazard for personnel if the valve opens suddenly.
- 2. Figure 126/1126 Check Valves

UL/FM approved for fire protection service. All other remarks for Figure 106/1106 valves apply. Differ from 106/1106 valves in body length and primary pressure rating.

3. Figure 706 Wafer Checks

UL/FM approved for service where hammer is a problem. Fit between standard ASME/ANSI B16.1, Class 125 flanges. Drip tight sealing at backpressures greater than 5 fl. H_2O . Recommended for service where water hammer is a problem. Not for steam service.

4. Figure 426 Groove Check Valves

UL/FM approved for service where an approved grove coupling is desired. This valve may be installed in either horizontal or vertical positions (flow up). All valves have a ¹/₂" NPT connection on the inlet size for installation of a ¹/₂" ball drip.

5. Figure 506 Resilient Hinged Check Valve

This AWWA valve eliminates most problems associated with swing check valves. It is ideal for dirty water applications. Design is simple requiring no maintenance.

6. Figure 306/1306 Increasing Check Valve

Utilizes same components as used in the 106/1106 swing check valve. Used where you need to increase the size of outlet side pipe.

7. Figure 206/1206 Cushion Check Valve

Utilizes same internal components as the 106/1106 swing check valves but additionally has an air cylinder, which retards the closing of the check valve.

General Selection Information

- 1. For swing check valves to function properly and not be a source of chatter and water hammer, there must be at least ½ psi differential across the valve under normal flow conditions. When in doubt, undersize check valves.
- 2. For service in normal environments (clear water or dry air) at temperatures less than 100°F, resilient seated valves will allow less backflow and minimize water hammer vs. metallic seated valves.
- 3. For service other than clean water, consult the factory.
- 4. Levers may injure personnel and may be misused by persons to open the valve and allow backflow.

INSTALLATION

All Kennedy AWWA and UL/FM check valves bolt between ASME/ANSI B16.1, Class 125 flanges.

- A. Swing Check Valves
 - 1. Orientation
 - a. Swing check valves are always installed with the hinge pin parallel to the place of the horizon and above the pipe centerline. Incorrect installation may result in binding, high head loss, and/or hanging open.
 - b. Figure 106/1106 & 126/1126 check valves must be installed with the flow horizontal or the flow up.
 - c. Outside lever swing check valves must be installed with the end of the lever that is fixed to the hinge pin higher than the opposite end. Failure to do this will certainly void the function of the check and may result in backflow.
 - 2. Lifting

Lift swing check valves with a sling around the body. Never lift valves by placing a bar or fork through the valve.

- 3. Clearances
 - a. Allow two pipe diameters clearance minimum from the top of the cover for removal of the disc without removing the valve from line.
 - b. Allow a minimum of one pipe diameter on one side of the valve and two and a-half (2-1/2) pipe diameters on the opposite side for removal of the hinge pin.
 - c. If space is limited, consult factory for space limitations with outside lever valves. Levers may be a safety hazard for personnel and lever valves should be installed where personnel will not normally be in the area or guards should be installed.
- 4. Start-up

The lines should be bled of air.

5. Gaskets

See page 8.

B. Wafer Check Valves – C508

- 1. Orientation
 - a. The hinge pin should be parallel to the plane of the horizon and above the centerline of the pipe.
 - b. Wafer check may be installed horizontally or vertically with the flow up.
- 2. Gaskets

The wafer check valves bolt between ASME/ANSI B16.1, Class 125 flanges and do not require gaskets (o-rings being provided).

3. Fasteners

Threaded rods are usually used to fasten up the wafer check.

4. Lifting

Some sizes may be provided with a threaded hole for inserting an eyebolt for lifting.

III SERVICE LIMITATIONS (Pressure Temperatures)

All valves, all services 32°F minimum working temperature non-shock.

- A. UL/FM (Figure 126/1126) valves are for service at 175 psi maximum and 125°F maximum, water only.
- B. Figure 106A/1106A (Resilient Seated Checks)
 - 1. Cold water service ($125^{\circ}F$ maximum)

Sizes: 2" to 12" - 200 psi maximum Sizes: 14" to 24" - 150 psi maximum

- C. Figure 106/1106 (Metallic Seated Checks)
 - 1. Cold water service (150°F maximum)

Sizes:	2" to 12"	-	200 psi maximum
Sizes:	14" to 24"	-	150 psi maximum

IV MAINTENANCE, CHECKING AND TESTING

A. Swing Checks

Excepting misuse and severe service, maintenance should be limited to the following:

- 1. Seating surfaces;
- 2. Bearing surfaces (hinge pins, hinges and side plugs);
- 3. Replacement of parts subject to corrosion; and
- 4. Lubrication and repacking of hinge pin stuffing boxes and o-ring stuffing boxes for outside lever valves.

Replacement of resilient disc rings (item #1) and lubrication and repacking of stuffing boxes for outside lever valves (item #4) are the only items subject to regular replacement maintenance or repair.

Replacement of parts subject to corrosion is unpredictable, as corrosion conditions are unknown and subject to many variables. Only the field service representative is qualified to judge when a part is corroded beyond use or safe limits and should be replaced; for replacement procedures see the section on replacing disc rings.

Kennedy Valve is not aware of a case where the bearing surfaces have been worn beyond use, but the possibility remains.

The field service representative must decide what item has worn and replace it.

- 1. Resilient Discs
 - a. When to replace
 - 1. Replace resilient disc rings whenever leakage is judged excessive or at scheduled intervals.
 - b. Replacement parts (order from factory for correct size)
 - 1. Disc ring
 - 2. Cover gasket or o-ring (advisable, but not always required, see Schedule Page 8 for sizes).
 - 3. Anaerobic sealants low strength "Loctite" or equal.
 - 4. O-ring(s) or gasket for disc bolt (advisable, but not always required).
 - c. Special tools

None

- d. Procedure (see 22 below for lever valves)
 - 1. Remove cover.

- 2. Remove side plugs. Use an appropriate size socket or box wrench not an adjustable or pipe wrench.
- 3. Drive hinge pin out with wooden dowel.
- 4. Lift hinge/disc assembly from valve ("V" notches in side of valve provide clearance for disc assembly).
- 5. Remove nut retaining disc plate. At this time, it might be advisable to remove the disc bolt and replace the o-ring(s) or gasket on the disc ball.
- 6. Lift the disc plate off. If the disc plate sticks, try tapping the back of the disc assembly with a soft faced mallet. Pry it off only as a last resort.
- 7. Remove the resilient disc ring.
- 8. Clean the "pocket" where the disc ring seats in the disc holder.
- 9. Replace the resilient disc ring (seat) with a new one, seating it flat and centered in the "pocket" in the disc holder. Do not use gasket sealant.
- 10. Clean the back of the disc plate.
- 11. Polish the seat ring in the valve body with crocus cloth or 600 grit wet/dry sandpaper (see Page 7).
- 12. If the disc bolt has been removed, lubricate the hole in the disc holder and the disc bolt with clean grease. Then carefully insert the disc bolt through the hinge and disc holder taking care not to twist or cut the o-ring(s).
- 13. Replace the disc holder by positioning it over the threaded portion of the disc bolt.
- 14. Replace the disc bolt nut and use a low strength anaerobic sealant. Do not over tighten the disc bolt nut. Tighten the nut only to the point that the disc plate makes a very slight impression into the resilient disc ring.
- 15. Carefully position the disc/hinge assembly through the cover flange and align with side plug holes and insert the hinge pin.
- 16. Replace the side plugs, starting by hand, and then tighten with 300 <u>in</u>-lb torque.
- 17. Inspect the cover sealing surfaces and clean if needed.
- 18. Inspect the cover gasket or o-ring and replace if needed (order from Kennedy Valve or see Schedule on Page 8).
- 19. Tighten the cover bolts in an alternating pattern, tightening two bolts at 180° snug, and then tighten two bolts 90° to the first two and 180° to each other, finally tightening all bolts tight. (See Schedule on Page 8 for specific torque.)
- 20. Pressurize and bleed the valve, checking for any leaks and tighten joints as necessary.
- 21. Procedure for outside lever valves; same as for valves without outside lever except:

- a. Remove spring or weight before removing cover.
- b. Loosen setscrew on lever and remove lever and key.
- c. Remove side plug packing gland.
- d. Remove side plug opposite hinge pin.
- e. If setscrews are used on hinge, remove them.
- f. Lubricate extended hinge pin.
- g. Remove side plug stuffing box from valve.
- h. Drive the hinge pin out with a hardwood dowel. (It may be necessary to heat the hinge, but this should be avoided if at all possible).
- i. Replace resilient disc ring as above.
- j. Lubricate hinge pin and start hinge pin and key into the hinge.
- k. Replace the side plug (normally on left-hand side as seen facing valve inlet).
- 1. Drive hinge pin in with a soft tool (make certain that key and key seats remain lined up).
- m. Replace set screws in hinge (if any).
- n. Repack or replace rings in the side plug stuffing box.
- o. Start packing gland into side plug stuffing box.
- p. Replace lever, lever key, and setscrew on extended hinge pin.
- q. Tighten side plug stuffing box. Tighten slowly and move lever frequently so as to not over tighten and cause valve to hang open.
- r. Replace cover
- s. Replace spring or weight.
- t. Pressurize and bleed.
- 2. Seat Rings/Disc Rings
 - a. When to polish

Leakage is considered excessive.

b. Replacement parts

See Pages 7 & 8.

c. Supplies

Crocus cloth or very fine (600 grit maximum) wet/dry sand paper or valve lapping compound.

- d. Procedure
 - 1. See Page 5 Steps d.1 through d.6.
 - 2. Inspect seat ring and disc ring (on metal to metal valves). Polish away any scale and check for nicks and scratches.
 - 3. For metal to metal valves lay a piece of wet/dry paper on a very flat surface and polish the disc ring (with a wiping and rotating motion) until the entire brass disc ring is smooth, flat and free of scratches.
 - 4. Wipe the entire surface of the seat ring. It must be smooth, flat and free from radial scratches.
 - 5. For a better than usual seal, use some valve lapping compound on the seat ring. Rub the disc on the seat ring with a rotating and wiping motion. Clean the compound from the seat and disc and replace it several times.
 - 6. See Page 5 & 6 -Steps d.13 through d.21.

V. RECOMMENDED SPARE PARTS FOR C.I. CHECK VALVES (Figure 106, 106A, 1106, 1106A, 126, 126A, 1126 and 1126A.

- A. Necessary
 - 1. Cap gasket (1100 series checks use o-rings)
 - 1. Resilient disc (for rubber faced valves only)
 - 2. Packing for lever & spring and lever & weight valves.

B. Useful

- 2. Hinge pin, hinge, and disc assembly
- 3. Bolts and nuts (1100 series valves do not require cover nuts)
- 4. Disc bolt o-ring(s) (106A, 1106A, 126, 1126, 126A and 1126A valves)
- 5. Disc bolt gasket (106/1106 valves)

Valve Size	Bolt Size	Torque (ft-lbs)	
2", 2 ½", 3", 4", 6"	5/8 UNC	100	
6" & 8"	³ / ₄ UNC	150	
10" & 12"	7/8 UNC	230	

Gaskets (Cap):

2" to 12" valves use a cap gasket identical to the end flange gasket (N/A for 1100 series check valves)

VI SIZING OF SWING CHECK VALVES

To assure reliable, stable, chatter-free operation, it is recommended that swing check valves be sized to assure the disc will open full during normal flow conditions. The head loss during normal flow conditions should exceed (1) one psi for valves 4" and smaller and exceed (1/2) one-half psi for the remaining larger sizes. The data below provides an estimate of what should be the minimum design flow rates:

	DESIGN MIN. FLOW	
SIZE	G.P.M.	REF CV*
2"	150	141
2 1/2"	250	235
3"	350	347
4"	650	643
6"	1100	1532
8"	2100	2836
10"	3300	4573
12"	4800	6756

*CV values are based partially on extrapolated data and in any case only apply to flows greater than the minimum flows specified.

WARRANTIES

KENNEDY VALVE COMPANY

Limited Warranty

Kennedy Valve warrants that the goods furnished hereunder, will be free from defects in material and workmanship, and will operate freely without failure or leakage under the service conditions they were installed under.

If within one year from date of initial operation, but not more than eighteen months from date of shipment by Kennedy Valve of any item of product(s), the purchaser discovers that such item(s) was not as warranted above, notifies Kennedy Valve in writing within 30 days from date purchaser discovered; or should have discovered, then Kennedy Valve shall remedy such nonconformance by, at Kennedy Valve's option, adjustment or repair or replacement of the item and any affected part of the product(s) within 30 days of such notice. Purchaser shall assume all responsibility and expense for removal, reinstallation and freight in connection with the foregoing remedies.

Kennedy Valve shall not be liable for incidental or consequential losses, damages, or expenses, directly or indirectly arising from the sale, handling or use of the goods, or from any other cause relating thereto, and Kennedy Valve's liability hereunder in any case is expressly limited to replacement (in the form originally shipped) of goods not complying with this agreement, or, at Kennedy Valve's election, to the replacement of, or crediting Purchaser with, an amount equal to the purchase price of such goods whether such claims are for breach of warranty or negligence.

Kennedy Valve reserves the right to change material composition without prior notice as long as it meets applicable standards.

Ten Year Limited Warranty on Kennedy K81A&D Guardian Fire Hydrant

Kennedy Valve Company warrants that its Kennedy Guardian Fire Hydrant will be free from defects in material and workmanship under normal and customary use and maintenance for a period of ten (10) years from the date of purchase, provided the hydrant is installed and maintained according to Kennedy Valve instructions, and applicable codes. The foregoing warranty does not cover failure of any part or parts from external forces, including but not limited to earthquake, vandalism, vehicular or other impact, application of excessive torque to the operating mechanism or frost heave.

Should any Kennedy Valve Company part or parts fail to conform to the foregoing warranty, Kennedy Valve shall, upon prompt written notice thereof, repair or replace, F.O.B. point of manufacture, such defective part or parts. Purchaser shall, if requested, return the part or parts to Kennedy Valve, transportation prepaid. Purchaser shall bear all responsibility and expense incurred for removal, reinstallation and shipping in connection with any part supplied under the foregoing warranty.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS. IN NO EVENT SHALL KENNEDY VALVE COMPANY BE RESPONSIBLE OR LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL LOSSES, DAMAGES OR EXPENSES.

Ten Year Limited Warranty on Kennedy Valve Resilient Wedge Valve

Kennedy Valve Company warrants that its Resilient Wedge valves will be free from defects in material and workmanship under normal and customary use and maintenance for a period of ten (10) years from the date of purchase, provided the valve is installed and maintained according to Kennedy Valve instruction, and applicable codes. The foregoing warranty does not cover failure of any part or parts from external forces, including but not limited to earthquake, vandalism, vehicular or other impact, application of excessive torque to the operating mechanism or frost heave.

Should any Kennedy Valve Company part or parts fail to conform to the foregoing warranty, Kennedy Valve shall, upon prompt written notice thereof, repair or replace, F.O.B. point of manufacture, such defective part or parts. Purchaser shall, if requested, return the part or parts to Kennedy Valve, transportation prepaid. Purchaser shall bear all responsibility and expense incurred for removal, reinstallation and shipping in connection with any part supplied under the foregoing warranty.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS. IN NO EVENT SHALL KENNEDY VALVE COMPANY BE RESPONSIBLE OR LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL LOSSES, DAMAGES OR EXPENSES.

1-1



950XLT2 DCVA



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax

Model 950XLT2

LEAD-FREE*

Double Check Valve Assembly (3/4", 1", 1 1/4", 1 1/2" & 2")

*This product contains a weighted average lead content less than 0.25% for wetted surfaces. *Certified to NSF/ANSI 61-G



Installation I Testing I Maintenance Instructions

INSTALLATION INSTRUCTIONS

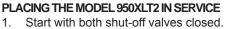
CAUTION: Installation of Backflow Preventers must be performed by qualified, licensed personnel. The installer should be sure the proper device has been selected for the particular installation. Faulty installation could result in an improperly functioning device.

ZURN WILKINS Model 950XLT2 Double Check Valve assemblies are for use on potable water lines where a health hazard does not exist in the event of a backflow situation.

Damage to the device could result wherever water hammer and/or water thermal expansion could create excessive line pressure. Where this could occur, shock arresters, check valves and/or pressure relief valves should be installed downstream of the device.

If installation is in a pit or vault, the Backflow Preventer must never be submerged in water because this could cause a cross-connection. Make sure that the pit or vault always remains dry by providing ample drainage.

- Before installing a Model 950XLT2 Backflow Preventer, flush the line thoroughly to remove all debris, chips and other foreign matter. If required, a lead-free strainer should be placed upstream of the Backflow Preventer. CAUTION: Do not use a lead-free strainer in seldom used emergency waterlines such as fire lines.
- 2. Provide adequate space around the installed unit so that the test cocks will be accessible for testing and servicing.
- 3. Install valve at least 12 inches above surrounding flood level.
- 4. Always consult local codes for installation methods, approvals and guidance.

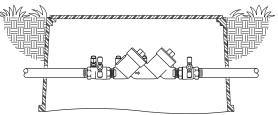


1. Start with both shut-off valves closed. Slowly open the inlet shut-off valve until the backflow preventer is completely pressurized.

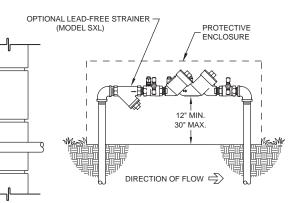
2. When the unit has been pressurized, vent any trapped air by slightly opening each of the four test cocks.

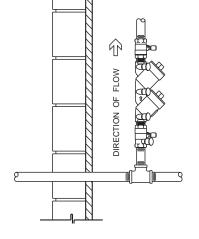
3. Slowly open the downstream shut-off valve. The Model 950XLT2 Double Check Valve assembly is now in service.

4. After the Model 950XLT2 has been properly installed, test the device (see "TEST PROCEDURES"). If the device fails the test, remove the first and second check valves and thoroughly flush the device. Clean rubber and seats of all debris and place unit back in service.



DIRECTION OF FLOW





VERTICAL INSTALLATION

Vertical installation is acceptable in applications where inlet and outlet piping are flowing vertically upwards. All the basic installation instructions apply to such installations. Consult factory for approval status.

INDOOR INSTALLATION

Indoor installation is preferred in areas that are subject to freezing conditions. All the basic installation instructions apply to such installations.

DIRECTION OF FLOW

OUTDOOR INSTALLATION

The Model 950XLT2 Backflow Preventer may be installed outdoors only if the device is protected against freezing conditions. Exposure to freezing conditions will result in improper function or damage to the device. The installation location must be kept above 32°F. All the basic installation instructions apply.



ZURN WILKINS 1747 Commerce Way, Paso Robles, CA 93446 Phone:855-663-9876 Fax:805-238-5766

1

Testing Procedures

MODEL 950XLT2 DOUBLE CHECK VALVE ASSEMBLY

Equipment Required: Differential pressure gauge test kit.

TEST NO. 1 - TIGHTNESS OF #1 CHECK VALVE

REQUIREMENT:

The static pressure drop across check valve #1 shall be at least 1.0 psid. If test cock #3 is not at the highest point of the check valve body, then a vertical tube must be installed on test cock #3 so that it rises to the top of the check valve body.

PROCEDURE:

- 1. Slowly open all 4 test cocks to remove any foreign material and attach fittings.
- 2. Attach hose from the high side of the test kit to the #2 test cock.
- 3. Open test cock #2 and bleed all air from the hose and gauge by opening the high side bleed needle valve. Close high side bleed needle valve. If a tube is attached to test cock #3, open test cock #3 to fill the tube. Close test cock #3. Close #2 shut-off valve then close the #1 shut-off valve.
- 4. Hold gauge at same level as test cock #3 or water level in tube. Slowly open test cock #3. Record the static pressure drop across check valve #1 after gauge reading stabilizes and water stops running out of test cock #3.
- 5. Close all test cocks, open shut-off valve #1 and remove test equipment.

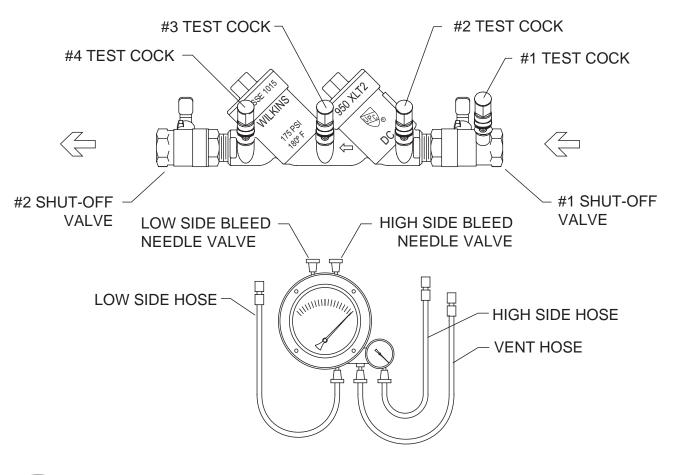
TEST NO. 2 - TIGHTNESS OF #2 CHECK VALVE

REQUIREMENT:

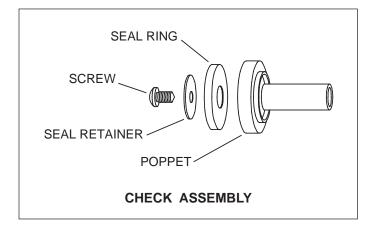
The static pressure drop across check valve #2 shall be at least 1.0 psid. If test cock #4 is not at the highest point of the check valve body, then a vertical tube must be installed on test cock #4 so that it rises to the top of the check valve body.

PROCEDURE:

- 1. Attach hose from the high side of the test kit to the #3 test cock.
- Open test cock #3 and bleed all air from the hose and gauge by opening the high side bleed needle valve. Close high side bleed needle valve. If a tube is attached to test cock #4, open test cock #4 to fill the tube. Close test cock #4. Close #1 shut-off valve.
- 3. Hold gauge at same level as test cock #4 or water level in tube. Slowly open test cock #4. Record the static pressure drop across check valve #2 after gauge reading stabilizes and water stops running out of test cock #4.
- 4. Close all test cocks, slowly open shut-off valve #1 & #2 and remove test equipment.



Maintenance Instructions



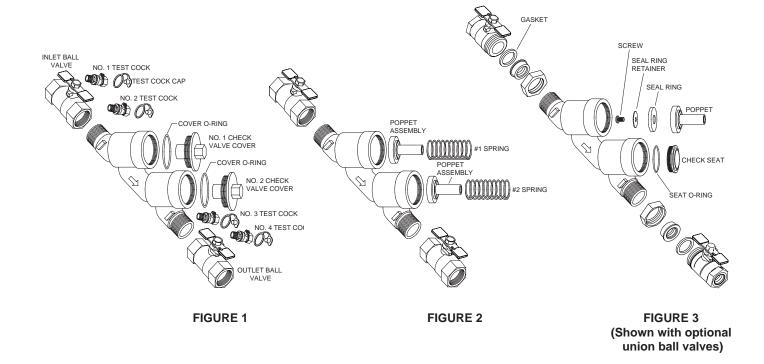
All Model 950XLT2 Double Check Valve Backflow Preventers must be inspected and maintained by licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "ZURN WILKINS" parts.

GENERAL MAINTENANCE

- 1. Clean all parts thoroughly with water after disassembly.
- 2. Carefully inspect rubber seal rings and o-rings for damage.
- 3. Test unit after reassembly for proper operation (refer to "TESTING PROCEDURES").

SERVICING CHECK VALVES

- 1. Close inlet and outlet shut-off valves.
- 2. Open No. 2, No. 3 and No. 4 test cocks to release pressure from valve.
- 3. Unscrew check valve cover using appropriate sized wrench. CAUTION: COVER IS SPRING LOADED. To avoid injury, hold cover down firmly with one hand while unscrewing.
- 4. Remove cover, spring and poppet assembly.
- 5. Inspect the rubber seal ring for cuts or embedded debris.
- 6. To remove seal ring, remove screw and seal retainer.
- 7. If the reverse side of the seal ring is unused, it is possible to invert the seal ring. This would be considered a temporary solution to fixing a fouled check and should be replaced with a new seal ring as soon as possible.
- 8. Inspect the valve cavity and seating area. Remove any debris.
- 9. If necessary, unscrew seat from body and replace with new seat and lightly greased o-ring (For seat removal assistance, contact factory).
- 10. Reverse the above procedures to reinstall check valve assemblies and access cover, making sure the 3 test cocks remain open.





www.zurn.com

3

PROBLEM

1. LEAKING CHECK VALVES

2. LOW OR NO FLOW

POSSIBLE CAUSES

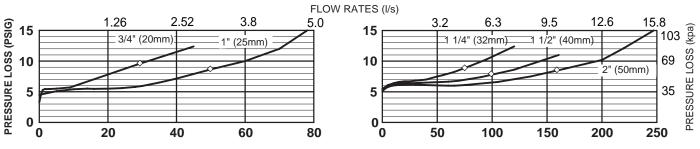
- 1. Debris on seat or seal ring
- 2. Damaged seat
- 3. Damaged seat o-ring
- 1. Device installed backwards
- 2. Shut-off valves or valve upstream may not be fully open
- 3. Low supply pressure

CORRECTIVE ACTION

- 1. Clean seat and seal ring area
- 2. Replace seat
- 3. Replace seat o-ring
- 1. Verify flow direction arrow
- 2. Turn handles counterclockwise
- 3. Attach pressure gauge to test cock #1 and verify pressure

Performance Characteristics

MODEL 950XLT2 3/4", 1", 1 1/4", 1 1/2" & 2" (STANDARD & METRIC)



FLOW RATES (GPM)

♦ Rated Flow (Established by approval agencies)

Capacity thru Schedule 40 Pipe						
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec		
1/8"	1	1	2	3		
1/4"	2	2	3	5		
3/8"	3	4	6	9		
1/2	5	7	9	14		
3/4"	8	12	17	25		
1"	13	20	27	40		
1 1/4"	23	35	47	70		
1 1/2"	32	48	63	95		
2"	52	78	105	167		

SPECIFICATIONS

Maximum working water pressure: 175 PSI Maximum working water temperature: 180°F Hydrostatic test pressure: 350 PSI End connections: Threaded ANSI B1.20.1

Proper performance is dependent upon licensed, qualified personnel performing regular, periodic testing according to ZURN WILKINS' specifications and prevailing governmental & industry standards and codes and upon following these installation instructions. Failure to do so releases ZURN WILKINS of any liability that it might otherwise have with respect to that device. Such failure could also result in an improperly functioning device.

<u>Proposition 65 Warning</u> This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.



www.zurn.com

⁴

MODEL 950XLT2



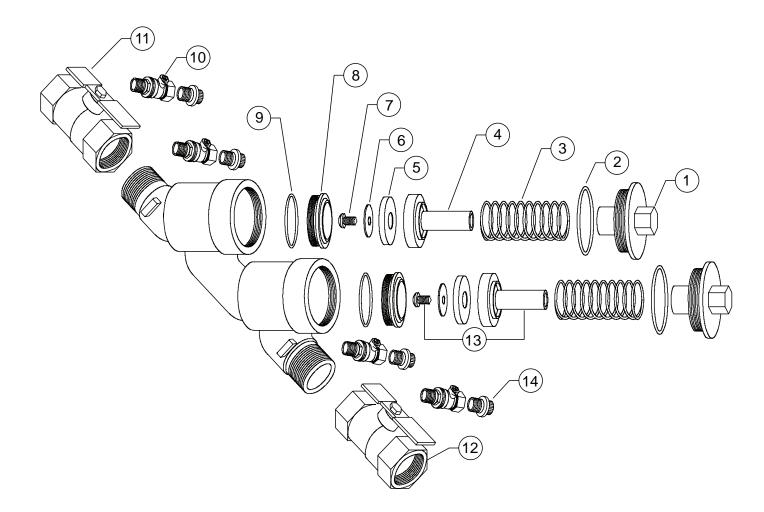
Lead-Free* Double Check Backflow Preventers 3/4" to 2"

*This product contains a weighted average lead content less than 0.25% for wetted surfaces.

ITEM NO.	DESCRIPTION	3/4"	1"	1 1/4"	1 1/2"	2"
1	CHECK COVER	952-3XL2-010F	952-3XL2-010F	954-3XL2-010F	954-3XL2-010F	954-3XL2-010F
2	O-RING, COVER	136N	136N	153N	153N	153N
3	CHECK SPRING	952-33	952-33	554-33	554-33	554-33
4	POPPET	952-30-010F	952-30-010F	954-30-010F	954-30-010F	954-30-010F
5	SEAL RING	952-12S	952-12S	954-12S	954-12S	954-12S
6	SEAL RING RETAINER	952-14	952-14	954-14	954-14	954-14
7	RETAINING BOLT	952-11	952-11	952-11	952-11	952-11
8	CHECK SEAT	952-18T	952-18T	954-18T	954-18T	954-18T
9	O-RING, CHECK SEAT	WK-125N	WK-125N	136N	136N	136N
10	TEST COCK	18-860XL	18-860XL	14-860XL	14-860XL	14-860XL
11	BALL VALVE, TAPPED	34-850TXL	1-850TXL	114-850TXL	112-850TXL	2-850TXL
12	BALL VALVE	34-850XL	1-850XL	114-850XL	112-850XL	2-850XL
13	POPPET ASSEMBLY	952-300S	952-300S	954-300S	954-300S	954-300S
14	TEST COCK CAP PLUG	2-7P	2-7P	2-7P	2-7P	2-7P
	CHECK SEAT TOOL	972-SEATTOOL		OL 974-SEATTOOL		

REPAIR KITS

DESCRIPTION SEAL RING O-RING, COVER CHECK SPRING	PART NO. 954-12S 153N 554-33	QTY. 2 2	DESCRIPTION SEAL RING O-RING, COVER CHECK SPRING	
O-RING, COVER	153N	2	O-RING, COVER	
,			· · · · · · · · · · · · · · · · · · ·	
CHECK SPRING	554-33	2	CHECK SPRING	
·		·	·	
RUBBER REPAIR KIT MODEL 950XLT2, 3/4" & 1" Only	RK114-950	OXLR	RUBBER REPAIR KIT MODEL 950XLT2, 1 1/4", 1 1/2", 2" On	
DESCRIPTION	PART NO.	QTY.	DESCRIPTION	
SEAL RING	954-12S	2	SEAL RING	
O-RING, COVER	153N	2	O-RING, COVER	
	MODEL 950XLT2, 3/4" & 1" Only DESCRIPTION SEAL RING	MODEL 950XLT2, 3/4" & 1" Only DESCRIPTION PART NO. SEAL RING 954-12S	MODEL 950XLT2, 3/4" & 1" OnlyRK114-950XLRDESCRIPTIONPART NO.QTY.SEAL RING954-12S2	



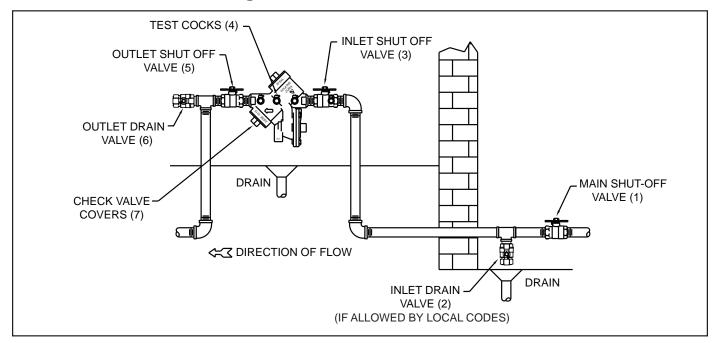
Model 950, 950XL, 975 & 975XL

Double Check Valve Backflow Preventer

Reduced Pressure Principle Backflow Preventer



Draining Procedure for Freeze Protection



To drain backflow preventer for freeze protection, use the following procedure:

- 1. Turn off main shut-off valve (1) that supplies water to the system.
- Open both inlet and outlet drain valves in the system (2 & 6). Open inlet and outlet shut-off valves on the backflow preventer (3 & 5) and all of the test cocks (4). Leave all valves and test cocks in the half open/half closed (45°) position to allow full drainage of the ball valves and test cocks.
- If you wish to "blow out" the system downstream of the backflow preventer, make sure the outlet drain valve (6) is open and the backflow preventer shut-off valve (5) is closed.
- 4. Connect an air hose to the outlet drain valve (6) and inject an adequate volume of air to remove all water from the downstream portion of the system.

- CAUTION: Open outlet shut-off valve to the backflow preventer (5) and outlet drain valve (6) to the half open/half closed (45°) position after "blow out" process is completed.
- Leave all drain valves (2 & 6), shut-off valves (3 & 5) and test cocks (4) in the half open/half closed position (45°) for the duration of the winter to prevent freezing.
- 7. You may loosen the check valve covers (7) to allow complete drainage of the backflow body.

CAUTION: Be certain that main shut-off valve (1) remains tightly closed to prevent refilling of the system. Also, the main shut-off valve must be resilient seated to insure no leakage of water into the system.

WARRANTY: ZURN WILKINS Valves are guaranteed against defects of material or workmanship when used for the services recommended. If in any recommended service, a defect develops due to material or workmanship, and the device is returned, freight prepaid, to ZURN WILKINS within 12 months from date of purchase, it will be repaired or replaced free of charge. ZURN WILKINS' liability shall be limited to our agreement to repair or replace the valve only.

<u>Proposition 65 Warning</u> This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

In accordance with U.S. Federal Safe Drinking Water Act Lead-Free requirements, as of January 4, 2014, this product can only be used in water systems considered non-potable. Please contact your local water utility for further requirements.





Wilkins® Terms and Conditions

Price and Terms of Payment

Terms are net, payable 30 days from date of invoice. All pricing in U.S. currency. The Buyer shall pay all sales, consumers, or other applicable taxes. A 1-1/2% per month service charge will be added to all past due invoices. Annual rate 18% of the outstanding balance due.

Minimum invoice \$50.00. Zurn reserves the right to apply a minimum order charge to equal \$50.00. All orders are subject to credit approval by the Zurn Credit Department prior to the acceptance of an order. Orders may be refused, delivery may be withheld, or shipment stopped in transit without any liability on Zurn's part if in its sole opinion, the Buyer's ability to pay for the merchandise or the terms and conditions herein are in doubt. The Credit Department of Zurn must be notified of potential pricing errors within 30 days of invoice date.

Freight

All sales are F.O.B. Zurn's plant. Zurn will allow full freight allowance only on Zurn Wilkins[®] orders of \$5,000 or more. This full freight allowance is when the shipment is within the continental United States and has a destiny of a Buyer's standard address of job location. Routing of shipment shall be determined at the sole discretion of Zurn. Multi product line orders totaling \$7,500 can be combined to meet FFA guidelines. Shipping dates are estimates and time of delivery is not the essence of this sale of the contract therefore. Under no circumstances will Zurn have any responsibility on account of any delays in manufacture, transportation, or otherwise.

Limited Warranty

All goods sold hereunder are warranted to be free from defects in material and factory workmanship for a period of one year from the date of purchase. Zurn will replace goods at no cost that prove defective provided Zurn is notified in writing of such defect and the goods are returned to Zurn prepaid at Paso Robles, California, with evidence that they have been properly maintained and used in accordance with instructions. ZURN SHALL NOT BE RESPONSIBLE FOR ANY LABOR CHARGES OR ANY LOSS, INJURY, OR DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES. The sole and exclusive remedy shall be limited to the replacement of the defective goods. Before installation and use, the purchaser shall determine the suitability of the product for his intended use and the purchaser assumes all risk and liability whatever in the connection therewith. Where permitted by law, THE IMPLIED WARRANTY OF MERCHANTABILITY IS LIMITED TO A PERIOD OF ONE YEAR AND SHALL BE LIMITED SOLELY TO THE REPLACEMENT OF THE DEFECTIVE GOODS. A damaged/broken test cock or ball valve is not considered defective. Please reference the Wilkins Rep Guide for assistance. All weights stated in Zurn catalogs and lists are approximate and are not guaranteed.

Illustrations of Typical Installations

The typical installations for various products found in each product section are intended to illustrate the products and potential options for the use of these products. Under no circumstances are they to be construed as recommended installation procedures. Consult local codes and project specifications for proper installation instructions.

Returned Goods

Standard cataloged material may be returned only with written permission of Zurn. Returned goods are subject to a 25% restocking charge of total saleable material returned, plus cost of reconditioning, if necessary, to make material sellable. Transportation charges are the responsibility of the Buyer. Credit allowance will be in the form of merchandise credit only – not cash credit. The value of a return must total at least \$50.00 to qualify for credit allowance. A damaged/broken test cock or ball valve is not considered defective. Please reference the Wilkins Rep Guide for assistance. No credit will be allowed for parts unless originally ordered and invoiced as parts. No credit will be allowed for discontinued or made-to-order items. Items that have been specially made are not subject to return or cancellation except by special negotiation. Material must be returned within two years of invoice date for credit to be issued.

Shortage/Damage Claims

Notification of material shortages or incorrect filling of orders must be made to Zurn within 10 days of receipt. No claims over three months old will be honored. Buyer agrees to make all complaints for damage in transit or "short count" directly to the carrier; before the contents are unloaded have the carrier agent's acknowledgement of such damage noted on the bill of lading and to present to the carrier its agent's acknowledgement of such damage.

General

Zurn reserves the right to make changes in design or equipment of any item or product without incurring any obligation on previously sold items, and to discontinue items at any time, without notice. Possession of this Catalog or other sales literature is not to be construed as an offer to sell. All orders are subject to acceptance by the general office of Zurn in Paso Robles, California.

Catalog printed in U.S.A.



600XL PRV Valve



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax

Model 600XL

Pressure Reducing Valve with Integral By-pass

(1/2", 3/4", 1", 1 1/4", 1 1/2" & 2")

*This product contains a weighted average lead content less than 0.25% for wetted surfaces.



□ Installation □ Testing □ Maintenance Instructions

LEAD-FREE*

REPAIR KIT INSTRUCTIONS HOW TO MAKE REPAIRS: (Shut off convice before starting

- (Shut off service before starting disassembly)
- 1. Open faucet on dwelling to remove line pressure.
- Note distance that adjustment bolt protrudes from bell housing. Loosen locknut on adjustment bolt, then turn adjustment bolt out of bell housing until free of spring tension.
- 3. Loosen main cap and remove counterclockwise.
- 4. Loosen plunger and remove counterclockwise. Remove old seal ring then insert new seal ring.
- 5. Loosen strainer cap counterclockwise and remove screen.
- 6. Unscrew bell housing counterclockwise and remove spring, spring disc and friction ring.
- 7. Remove stem assembly from regulator. Inspect area in body where stem o-ring guides for pitting or scratches. Smooth bore with emery cloth if needed. This area must be smooth for the valve to function correctly.

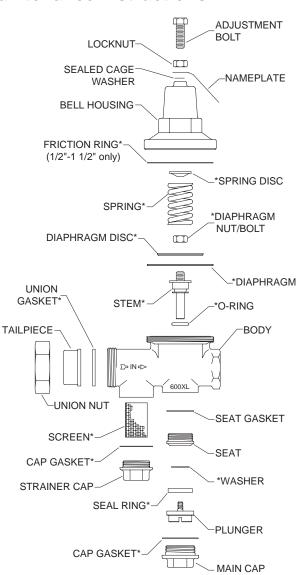
TO REASSEMBLE:

- 1. Open shut-off valve slowly and flush body and line of any debris.
- 2. Assemble new stem unit using new stem, o-ring, diaphragm, diaphragm disc and diaphragm bolt/nut. Tighten bolt/nut securely (CAUTION: Be sure the rounded edge of the diaphragm disc is next to the diaphragm).
- 3. Lubricate o-ring with grease supplied in repair kit and install stem unit in body.
- 4. Center washer on stem. Screw plunger into stem unit. CAUTION: Do not over tighten plunger; it is possible to break the threaded end of the plunger.
- 5. Install new spring, spring disc and friction ring then replace bell housing by tightening clockwise. Turn adjustment bolt clockwise until adjustment bolt touches spring disc.
- 6. Install new screen, cap gaskets and replace caps by tightening clockwise.
- 7. Turn adjustment bolt into bell housing to old setting then enter dwelling and turn on several faucets.
- 8. Turn on water service. Let water run for several seconds then turn off faucets in dwelling.
- 9. Adjust the regulator to desired pressure by turning adjustment bolt clockwise (into bell housing) to raise pressure or counterclockwise (out of bell housing) to lower pressure. It is recommended a pressure gauge be installed downstream of the regulator to ensure pressure is reduced below 75 psi. NOTE: When reducing pressure, open a downstream faucet to relieve pressure.
- 10.Tighten locknut when desired pressure is achieved.

INSTALLATION INSTRUCTIONS

Install valve in line with arrow on valve body pointing in direction of flow. Before installing reducing valve, flush out line to remove loose dirt and scale which might damage seal ring and seat. All valves will be furnished with stock settings to reduce to 50 psi. To readjust reduced pressure, loosen outer locknut and turn adjustment bolt clockwise (into bell housing) to raise reduced pressure, or counterclockwise (out of bell housing) to lower reduced pressure.

NOTICE: Annual inspection and maintenance is required of all plumbing system components. To ensure proper performance and maximum life, this product must be subject to regular inspection, testing and cleaning.



* INDICATES PARTS SUPPLIED IN REPAIR KITS (spring disc not included in sizes 1 1/2"-2")

Regulators in series: Where the desired pressure reduction is more than a 4 to 1 ratio (i.e. 200psi to 50psi), multiple regulators in series should be installed.

SEALED CAGE WARNING: Loosen lock washer at adjustment bolt slowly. Look for any trapped water pressure under the sealed cage washer. Relieve pressure before removing bell.

CAUTION: Anytime a reducing valve is adjusted, a pressure gauge must be used downstream to verify correct pressure setting. Do not bottom out adjustment bolt on bell housing. Valve may be installed in any position.

WARRANTY: ZURN WILKINS Valves are guaranteed against defects of material or workmanship when used for the services recommended. If in any recommended service, a defect develops due to material or workmanship, and the device is returned, freight prepaid, to ZURN WILKINS within 12 months from date of purchase, it will be repaired or replaced free of charge. ZURN WILKINS' liability shall be limited to our agreement to repair or replace the valve only.

<u>Proposition 65 Warning</u> This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.



1

Pipe lines in a water supply system must be of sufficient carrying capacity to maintain adequate pressure at the most remote or highest fixture. Under the maximum probable fixture use, minimum adequate pressure is generally 8 to 15 lbs. but may be more, depending on the equipment being supplied. Relatively high service pressures which can create high water velocities in pipe lines would allow use of smaller pipes to satisfy fixture use. However, high velocity tends to cause whistling and humming. Reduction of pressure by the use of a pressure reducing valve, in an attempt to eliminate such a condition, may reduce pipe line capacities below that which is adequate for maximum probable use. When high service pressures are in effect, either continuously or periodically, the application of a pressure reducing valve will be successful only when the installed pipe line is of adequate size to satisfy the system demand at the lower pressure. When actual water demands are unknown, the valve size should be no less then the existing pipe size.

PROBLEM

1. Pressure creeps or builds up in system above the setting of pressure reducing valve.

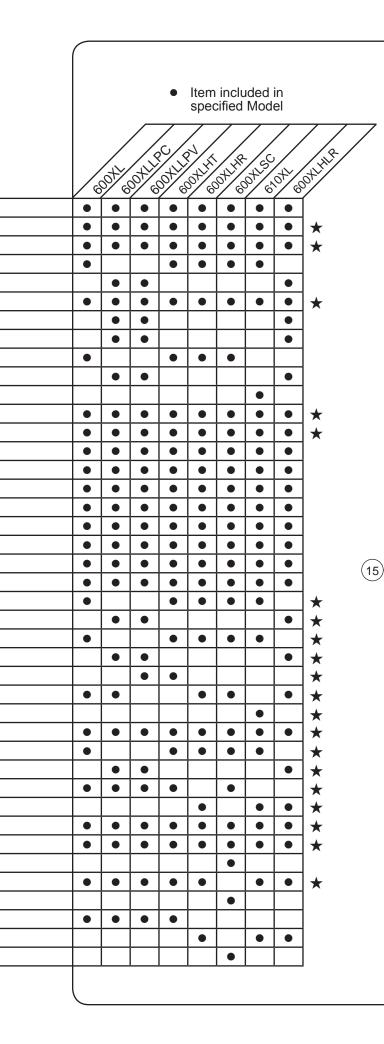
POSSIBLE CAUSE OR CAUSES

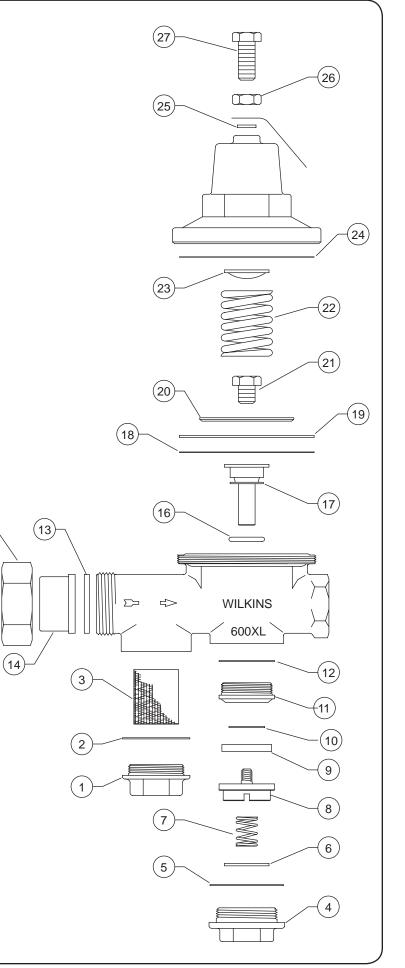
- A. Thermal expansion of water as it is being heated.
- B. Foreign matter on seating face of seal ring.
- C. Cut, worn or chipped seal ring.
- D. Cut or worn stem o-ring or worn o-ring groove.
- SOLUTION a. This is a natural consequence. It may happen each time that the heater runs. A pressure relief valve or expansion tank must be installed. This will not prevent pressure rise but should limit it to a safe level.
 - b. Flush the reducing valve by opening one or two fixture outlets wide. If this does not correct the problem, remove seal ring for cleaning.
 - c. Replace with new seal ring. Temporary repairs may be made by turning the seal ring over.
 - d. Replace with new stem o-ring and/or cartridge.
- 2. Pressure and fixture flow is unsteady.
- A. Low water supply pressure in mains caused possibly by high area demand during certain periods of the day.
- B. Heavy periodic demands by appliances in the house.
- SOLUTION a. This is a water department problem. It is due to the mains being inadequate for the demands made on them.
 - b. House service lines may at times be inadequate for the load. Size of some pipelines may need to be increased. Pressure setting of reducing valve may be too low.
 - c. Try increasing pressure before changing pipelines.
- 3. Small, inadequate flow from fixtures.
- A. Pipelines to fixtures may be too small or house main supply may be inadequate for normal fixture demand.
- B. Heavy periodic demands by appliances in the house.
- C. Screen clogged with debris.
- SOLUTION a. It may be necessary to increase pipe sizes only in some sections of the system leading to the offending appliances or fixtures. Increasing the house service mains might be necessary if small supply is general at all fixtures.
 - b. Raise pressure gradually by readjusting valve until this point is determined.
 - c. Clean screen.
- 4. Valve appears to be noisy; hums, whistles or chatters.
- A. Hum or whistle is usually caused by a high velocity of flow in pipelines causing vibration.
- B. Chatter usually originates with worn seat washer or loosely installed seal ring.
- SOLUTION a. Pipelines could be small or too light. Reducing valves could be too small. Pipes and valves being small would accentuate this condition.
 - b. Inspect seal ring. If a deep channel appears on seal ring face, replace or use the opposite side.
 - c. Frequently noise appears in a faucet or appliance and seems to originate from the reducing valve. There is a general tendency to use streamline piping of a relatively small size. Velocity is naturally high and noise of fast moving water is not unusual.



2

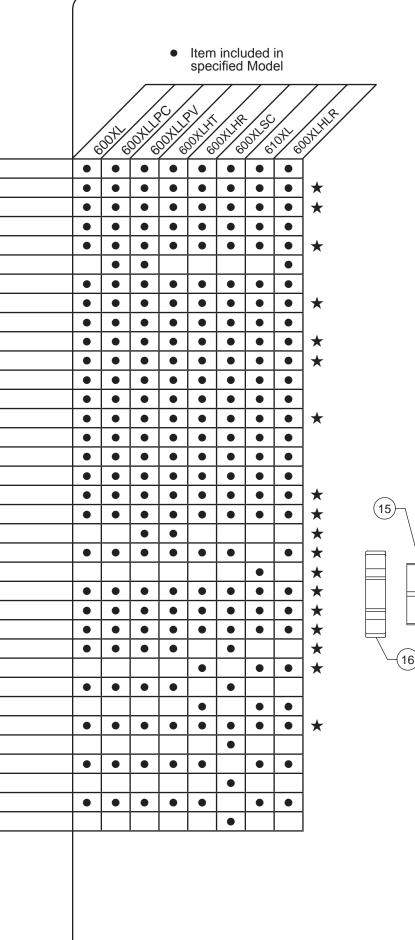
	', 3/4", 1"		LEAD-FREE*		
produc EM IO.	ct contains a weighted average DESCRIPTION	e lead content less than 0.2 1/2"	25% for wetted surfaces. 3/4"	1"	
1	STRAINER CAP	601-3XL	602-3XL	501-3XL-010F	
2	CAP WASHER	601A-12	503A-13	501A-12	
3	SCREEN	601-41	602-41B	603-41	
4	MAIN CAP	601-3XL	602-3XL	603-3AXL-010F	
	MAIN CAP	601-3XLLP	602-3XL	603-3AXL-010F	
5	CAP WASHER	601A-12	503A-13	603A-12A	
6	WASHER		[']	204-14A	
7	SPRING	602-33LPVS	602-33LPVS	602-33LPVS	
8	PLUNGER	601-34XL	602-34XL	603-34XL	
	PLUNGER	601-34XLLP	602-34XLLP	603-34XLLP	
	PLUNGER	611-34XL, 604C-12, 602B-11	612-34XL, 604C-12, 602B-11	613-34XL, 604C-12, 602B-11	
9	SEAT WASHER	601-12A	502-12	603-12A	
10	WASHER	601-14	502-14	62-14	
11	SEAT	601-18	602-18	603-18	
12	SEAT GASKET	501A-13	502A-13	603A-13	
13	UNION GASKET	601-13	62-13	63-13	
14	TAILPIECE NPT (FEMALE)	601-19XL	602-19XL	63-19	
	TAILPIECE NPT (MALE)		602M-19XL	63M-19XL	
	TAILPIECE COPPER (FEMALE)	601C-19	602C-19	63C-19	
	TAILPIECE COPPER (MALE)		602CM-19XL	63CM-19XL	
15	UNION NUT	601-9-010F	62-9-010F	63-9-010F	
16	O-RING	011N	WK-111N	113N	
	O-RING	011N	113N	113N	
17	STEM	601-5XL	602-5XL	603-5XL	
	STEM	601-5XL	602-5XLLP	603-5XL	
18	TEFLON DIAPHRAGM	62-43HT	62-43HT	503-43HT	
19	DIAPHRAGM	501-43	501-43	503-43	
	DIAPHRAGM	511-43	511-43	513-43	
20	DIAPHRAGM DISC	602-80	602-80	603-80	
21	BOLT / NUT	501B-9	501B-9	503-11	
	BOLT / NUT	501B-9	503-11	503-11	
22	SPRING	62-33	62-33	603-33	
	SPRING	601-33HR	601-33HR	503-33HR	
23	SPRING DISC	602A-80	602A-80	602A-80	
24	FRICTION RING	602B-12	602B-12	603B-12	
25	WASHER	606C-12	606C-12	606C-12	
26	LOCKNUT	501B-9	501B-9	501B-9	
	LOCKNUT SS	501B-9SS	501B-9SS	501B-9SS	
27	ADJUSTMENT BOLT	602A-11A	602A-11A	602A-11A	
	ADJUSTMENT BOLT	602A-11A	602A-11A	603A-11AHR	
	ADJUSTMENT BOLT SS	602A-11ASS	602A-11ASS	602A-11ASS	

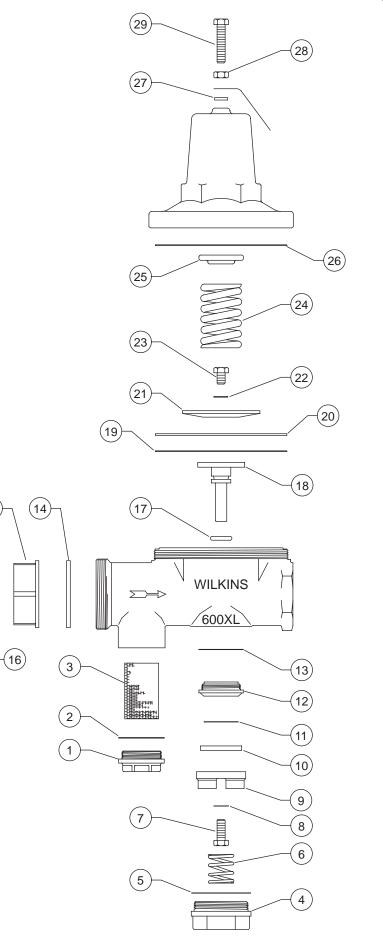




ZURNR MODEL 600XL 1-1/4", 1-1/2", 2" LEAD-FREE* WILKINS *This product contains a weighted average lead content less than 0.25% for wetted surfaces. ITEM 1-1/4" 2" DESCRIPTION 1-1/2" NO. 1 STRAINER CAP 603-3AXL-010F 605A-3AXL-010F 606A-3XL-010F 2 GASKET 603A-12A 603A-12A 604A-12 3 SCREEN 603-41 505-41 606-41 4 MAIN CAP 604-3XL-010F 604-3XL-010F 606-3XL-010F 5 GASKET 604A-12 604A-12 606A-12 6 SPRING 604-33LPVS 606-33LPVS 605-33LPVS 7 BOLT 604B-11 606B-11 606B-11 8 WASHER 604C-12 606C-12 606C-12 9 PLUNGER 604-34XL 605-34XL-010F 606-34XL-010F 10 SEAT WASHER 604-12 605-12 506-12 11 WASHER 504-14 505-14 606-14 12 SEAT 604-18 605-18 606-18 13 SEAT GASKET 504A-13 505A-13 506A-13 14 UNION GASKET 604-13 605-13 606-13 15 TAILPIECE NPT (FEMALE) 604-19XL-010F 605-19XL-010F 606-19XL-010F TAILPIECE COPPER (FEMALE) 604C-19 605C-19 606C-19 UNION NUT 604-9-010F 605-9-010F 606-9-010F 16 17 **O-RING** 110N 115N 115N 18 STEM 604-5XL 606-5XL-010F 606-5XL-010F **TEFLON DIAPHRAGM** 19 504-43HT 505-43HT 606-43HT 20 DIAPHRAGM 504-43 505-43 606-43 DIAPHRAGM 514-43 515-43 606-43 21 **DIAPHRAGM DISC** 604-80 505-80BR 505-80BR 22 WASHER 605A-14 ____ _ BOLT 503-11 505-11 23 505-11 24 SPRING 604-33 605-33B 606-33 SPRING 1005-33 605-33HR 606-33HR 25 SPRING DISC 602A-80 505A-80 505A-80 SPRING DISC 604A-80 505A-80 507A-80 FRICTION RING 604B-12 505B-12 26 27 WASHER 606C-12 508C-12 508C-12 28 501B-9 LOCKNUT 505B-9A 505B-9A LOCKNUT SS 501B-9SS 505B-9SS 505B-9ASS 29 ADJUSTMENT BOLT 62A-11 605A-11A 605A-11A ADJUSTMENT BOLT SS 62A-11SS 605A-11ASS 605A-11ASS

★ REPAIR KIT ITEMS (ALL ★ ITEMS IN KIT)







Wilkins® Terms and Conditions

Price and Terms of Payment

Terms are net, payable 30 days from date of invoice. All pricing in U.S. currency. The Buyer shall pay all sales, consumers, or other applicable taxes. A 1-1/2% per month service charge will be added to all past due invoices. Annual rate 18% of the outstanding balance due.

Minimum invoice \$50.00. Zurn reserves the right to apply a minimum order charge to equal \$50.00. All orders are subject to credit approval by the Zurn Credit Department prior to the acceptance of an order. Orders may be refused, delivery may be withheld, or shipment stopped in transit without any liability on Zurn's part if in its sole opinion, the Buyer's ability to pay for the merchandise or the terms and conditions herein are in doubt. The Credit Department of Zurn must be notified of potential pricing errors within 30 days of invoice date.

Freight

All sales are F.O.B. Zurn's plant. Zurn will allow full freight allowance only on Zurn Wilkins[®] orders of \$5,000 or more. This full freight allowance is when the shipment is within the continental United States and has a destiny of a Buyer's standard address of job location. Routing of shipment shall be determined at the sole discretion of Zurn. Multi product line orders totaling \$7,500 can be combined to meet FFA guidelines. Shipping dates are estimates and time of delivery is not the essence of this sale of the contract therefore. Under no circumstances will Zurn have any responsibility on account of any delays in manufacture, transportation, or otherwise.

Limited Warranty

All goods sold hereunder are warranted to be free from defects in material and factory workmanship for a period of one year from the date of purchase. Zurn will replace goods at no cost that prove defective provided Zurn is notified in writing of such defect and the goods are returned to Zurn prepaid at Paso Robles, California, with evidence that they have been properly maintained and used in accordance with instructions. ZURN SHALL NOT BE RESPONSIBLE FOR ANY LABOR CHARGES OR ANY LOSS, INJURY, OR DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES. The sole and exclusive remedy shall be limited to the replacement of the defective goods. Before installation and use, the purchaser shall determine the suitability of the product for his intended use and the purchaser assumes all risk and liability whatever in the connection therewith. Where permitted by law, THE IMPLIED WARRANTY OF MERCHANTABILITY IS LIMITED TO A PERIOD OF ONE YEAR AND SHALL BE LIMITED SOLELY TO THE REPLACEMENT OF THE DEFECTIVE GOODS. A damaged/broken test cock or ball valve is not considered defective. Please reference the Wilkins Rep Guide for assistance. All weights stated in Zurn catalogs and lists are approximate and are not guaranteed.

Illustrations of Typical Installations

The typical installations for various products found in each product section are intended to illustrate the products and potential options for the use of these products. Under no circumstances are they to be construed as recommended installation procedures. Consult local codes and project specifications for proper installation instructions.

Returned Goods

Standard cataloged material may be returned only with written permission of Zurn. Returned goods are subject to a 25% restocking charge of total saleable material returned, plus cost of reconditioning, if necessary, to make material sellable. Transportation charges are the responsibility of the Buyer. Credit allowance will be in the form of merchandise credit only – not cash credit. The value of a return must total at least \$50.00 to qualify for credit allowance. A damaged/broken test cock or ball valve is not considered defective. Please reference the Wilkins Rep Guide for assistance. No credit will be allowed for parts unless originally ordered and invoiced as parts. No credit will be allowed for discontinued or made-to-order items. Items that have been specially made are not subject to return or cancellation except by special negotiation. Material must be returned within two years of invoice date for credit to be issued.

Shortage/Damage Claims

Notification of material shortages or incorrect filling of orders must be made to Zurn within 10 days of receipt. No claims over three months old will be honored. Buyer agrees to make all complaints for damage in transit or "short count" directly to the carrier; before the contents are unloaded have the carrier agent's acknowledgement of such damage noted on the bill of lading and to present to the carrier its agent's acknowledgement of such damage.

General

Zurn reserves the right to make changes in design or equipment of any item or product without incurring any obligation on previously sold items, and to discontinue items at any time, without notice. Possession of this Catalog or other sales literature is not to be construed as an offer to sell. All orders are subject to acceptance by the general office of Zurn in Paso Robles, California.

Catalog printed in U.S.A.



3100 SERIES GLOBE VALVE



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax

Model 3100 Disassembly Instructions and Troubleshooting (Applies to Model 3100PRS)

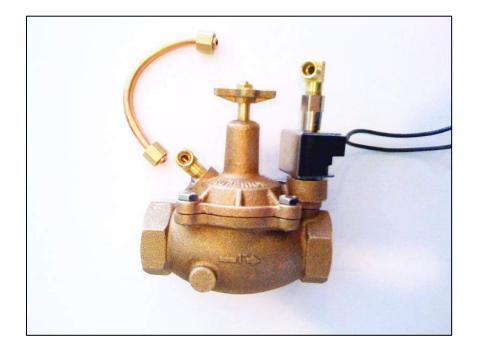
Index



	Page
Solenoid Disassembly Instructions	2-4
Valve Disassembly Instructions	5-8
Troubleshooting	
• Valve will not close when energized.	9-11
 Valve remains closed when not energized. 	12
Valve opens only part way.	12
• Valve closes when controller energizes a station.	13
• Water leaks out around flow control stem.	13
Additional Troubleshooting for 3100PRS	
• Valve remains closed when not energized.	14
Parts Sub-Assemblies and Renair Kits	15

Solenoid Disassembly Instructions

1. Using a ½" wrench, remove copper by-pass tube from top of valve.



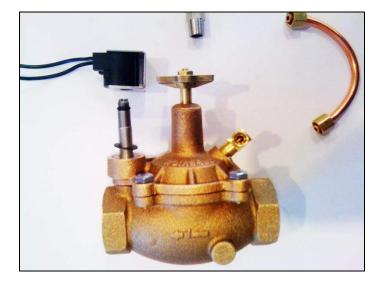
2. Remove coupling and L-fitting from top of solenoid by applying a ½" wrench to the coupling. It is not necessary to separate the L-fitting from the coupling.



Solenoid Disassembly Instructions

3. Slide coil and U-frame off of solenoid post.

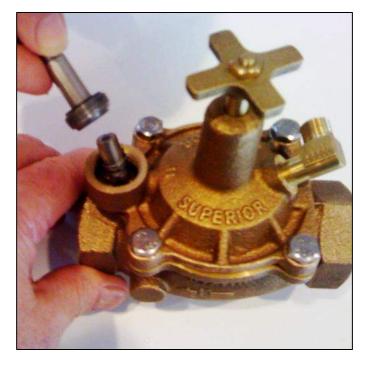
4. Using a flathead screwdriver, remove post from top of valve.





Solenoid Disassembly Instructions

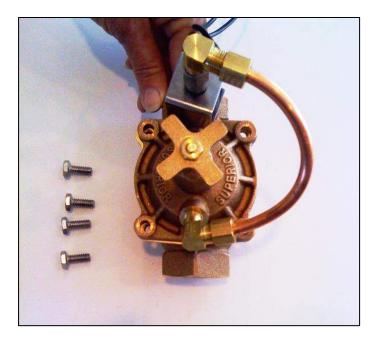
5. As you remove solenoid post, solenoid plunger will drop out of plunger tube.



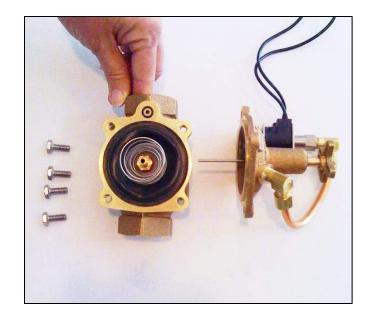
6. After removing the solenoid plunger, all that remains is the o-ring at the bottom. Note that seat has a cross machined in it so water will be able to escape downstream when the solenoid is not energized and valve will remain open.



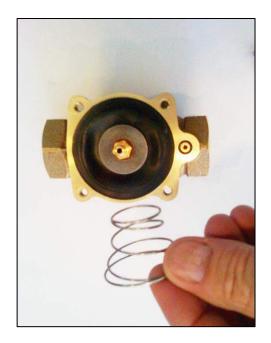
1. Remove bolts that fasten top of valve to valve body.



2. Lift top assembly straight up until metering rod clears the top of the diaphragm shaft.



3. Remove spring from top of diaphragm assembly.



4. Remove diaphragm assembly from valve body.



5. To remove rubber seat disc from diaphragm assembly, unscrew nut at bottom of diaphragm assembly.



6. Completely disassembled diaphragm assembly. From top to bottom: Diaphragm shaft, fiber washer, upper diaphragm plate, diaphragm, lower diaphragm plate, fiber washer, spacer nut, fiber washer, seat disc holder, seat disc, retaining washer, and seat disc nut.



7. To remove flow control stem from bonnet, remove nut and cross-handle from top of stem, then unscrew flow control stem from underside of bonnet.



PROBLEM: Valve will not close when energized.CAUSE #1: Debris in plunger tube is preventing plunger from sealing port at top of plunger tube.SOLUTION: Clean plunger tube or replace if necessary.



PROBLEM: Valve will not close when energized. **CAUSE #2:** Plunger seat on top side of solenoid plunger is retracted below surface of plunger top. The rubber seat has a spring under it in an opening in the top of the plunger that allows the seat to move up and down. It is possible for the plunger to get stuck below the surface of the plunger top.

SOLUTION: Attempt to dislodge plunger seat or replace if necessary.



PROBLEM: Valve will not close when energized.

CAUSE #3: Debris under rubber seat disc is preventing it from seating onto brass seat in valve body.

SOLUTION: Remove diaphragm assembly, check and remove debris in body or in rubber seat disc. If rubber seat is pitted, flip it over or replace it.

dy. LUTION: Remove diaphragm assembly, check and

PROBLEM: Valve will not close when energized.

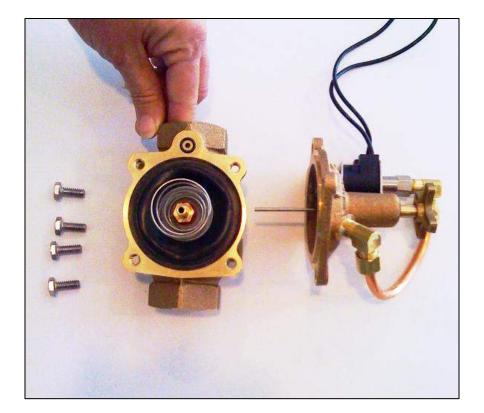
CAUSE #4: Torn diaphragm.

SOLUTION: Disassemble diaphragm assembly and replace diaphragm or replace diaphragm assembly.



PROBLEM: Valve will not close when energized. **CAUSE #5:** Clogged inlet port at bottom of diaphragm shaft is preventing water from entering upper diaphragm chamber. This can be diagnosed by loosening the compression fitting where copper tubing connects to L-fitting above solenoid. If water does not exhaust out of tubing, this indicates water is not entering upper diaphragm chamber. This needs to be done while valve is pressurized.

SOLUTION: Problem is most likely due to buildup of minerals on metering. Remove top of valve and clean metering rod with emery cloth.



PROBLEM: Valve closes or partially closes when solenoid is not energized.

CAUSE #1: Inlet orifice at top of solenoid plunger tube is clogged, or corrosion in solenoid plunger tube is preventing water from escaping at the rate required to keep the valve fully open.

SOLUTION: If port is clogged, clean it with small sharp object such as a paper clip. If corrosion is evident, replace stem and plunger assembly.



PROBLEM: Valve remains closed when solenoid is not energized.

CAUSE #2: Water is entering upper diaphragm chamber at too great of a rate due to: 1) Stainless steel inlet orifice in bottom of diaphragm shaft has fallen out, or 2) metering rod in flow control stem has fallen out.

SOLUTION: If the stainless steel inlet orifice is missing, replace diaphragm shaft or diaphragm assembly. If metering rod is missing, replace flow control stem.



Additional Troubleshooting Applying to 3100PRS

PROBLEM: Valve remains closed when solenoid is not energized.

CAUSE: Adjustment knob on regulator is in "off" position preventing water from passing thru regulator.

SOLUTION: Raise knob on regulator to unlock it, then rotate knob clockwise, a half turn at a time, until water begins to pass thru valve. Wait until system is fully pressurized then continue to rotate knob clockwise until desired setting is reached. Next, push down on regulator knob to lock it in place.



PROBLEM: Valve closes whenever controller energizes a station.

CAUSE: Master valve circuit is also energized causing normally open master valve to close.

SOLUTION: Follow wiring and/or programming instructions included with controller for connecting to and operating a normally open master valve.

PROBLEM: Water is leaking out around flow control stem.

CAUSE: O-ring on flow control stem is damaged. **SOLUTION:** Disassemble flow control stem from bonnet and replace o-ring. Before reassembling stem to bonnet, apply silicone grease to o-ring.





Parts, Sub-Assemblies, and Repair Kits

Solenoid Coil (24 VAC): 16008

Solenoid Stem and Plunger Assembly: 16300

24 VAC 3-Way Solenoid Assembly: 16075

L-Fitting: 16500-1

Copper Tubing (includes compression fittings): ¾" & 1"-16516, 1 ¼"-16517, 1 ½" & 2"-16518, 2 ½" & 3"-16519 Flow-Control Stem (includes o-ring): ¾"-20006-A, 1"-16081, 1 ¼"-16004-1, 1 ½" & 2"-16004, 2 ½" & 3"-19000 Diaphragm: ¾"-16055, 1"-16056-A, 1 ¼"-16057RW, 1 ½" & 2"-16058, 2 ½" & 3"-400028

Regulator (3100PRS): 16525

Repair Kits (includes all rubber and fiber parts): ³/₄"-17308, 1"-17309, 1 ¹/₄"-17310, 1 ¹/₂"-17311, 2"-17312, 2 ¹/₂" & 3"-17313

Diaphragm Assemblies: ³/₄"-16211, 1"-16212, 1 ¹/₄"-16213, 1 ¹/₂"-16214, 2"-16215, 2 ¹/₂" & 3"-16216 Top Assemblies: ³/₄"-16280, 1"-16281, 1 ¹/₄"-16282, 1 ¹/₂" & 2"-16283, 2 ¹/₂" & 3"-16284

SMG - Buckner/Superior Limited Trade Warranty

Buckner/Superior warrants to its trade customers that its products will be free from original defects in material and workmanship for a period of time (commencing on the date of original sale to the trade customer) as follows:

3 YEARS for all Buckner/Superior Brass trademarked products, which include:

- Brass/Plastic body valves
- Brass/Plastic automatic adaptors
- Brass quick coupling valves, keys, and hose swivels
- Brass manual angle valves
- Brass above-ground impact sprinklers
- Brass spray nozzles
- Sterling controllers

2 YEARS for all other products.

Note: Solenoids and pressure gauges are warranted for three years.

This warranty applies only to Buckner/Superior products which are installed as specified and used as intended for irrigation purposes. This warranty applies only to cataloged products which have not been altered, converted, damaged, misused, or misapplied. This warranty does not cover products adversely affected by the system into which the products are incorporated, including improperly designed, installed, operated, or maintained systems, or systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, and scale. This warranty does not cover component failures caused by lightning strikes, electrical power surges, or damage caused by freezing environments. Buckner/Superior's liability is limited to the repair and/or replacement at Buckner/Superior's sole discretion, of products which are returned prepaid through the trade customer to the factory and found by Buckner/Superior to be defective, but in no event shall Buckner/Superior's liability exceed the selling price of the product.

Buckner/Superior makes no other warranties, expressed or implied. No representative, agent, or distributor or other persons has the authority to waive, alter, or add to the printed provisions of this warranty, or to make representation of warranty not contained herein. The sole and exclusive remedy against Buckner/Superior is limited to repair or replacement; Buckner/Superior is not liable for consequential, incidental, indirect, or special damages, including but not limited to labor to inspect, remove, or replace products, vegetation loss, costs of substitute equipment or services, property damage, loss of use or loss of profits; nor is Buckner/Superior liable for economic losses, lost profits, consequential damages or damage to property arising out of Buckner/Superior's negligence or based on strict liability in tort.

The user and/or trade customer agrees to the limitations and exclusion of liability of this warranty by purchase or use of Buckner/Superior products.

Some states do not permit the exclusion or limitation of incidental or consequential damages or of implied warranties. Therefore, some of the exclusions or limitations may not apply to you.

Buckner/Superior reserves the right to redesign, alter or modify its products and shall incur no liability if a trade customer's inventory of Buckner/Superior goods becomes obsolete. Alterations, modifications, and redesign of a product shall not be evidence that the previous product design was defective and the user and/or trade customer so agrees by purchase or use of Buckner/Superior products.



MODEL VB Brass Valve



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax

Buckner Model VB Disassembly Instructions and Troubleshooting

Index



	Page
Solenoid Disassembly Instructions	2,3
Valve Disassembly Instructions	4,5
Troubleshooting	
Valve will not close.	6,7
Water weeps past valve.	7
Valve will not open.	8
• Water leaks out around internal bleed lever .	10
• Water leaks out around manual bleed screw.	11
Repair Kits	12

Solenoid Disassembly Instructions

1. Disconnect solenoid lead wires. Next, using your hand, unscrew solenoid from top of valve.

2. Take care as you remove the solenoid as the solenoid plunger will drop out of plunger tube.





Solenoid Disassembly Instructions

3. Photo shows solenoid cavity. There is a plastic seat that can be removed by pulling the black plastic lever out of the bonnet while the lever is in the down position. The lever is used to open the valve manually. When the lever is raised to the up position, the valve opens. When placed in the down position, the valve closes. Lever kit #LA510841KIT includes ten each of the lever, lever o-rings, and plastic seat.



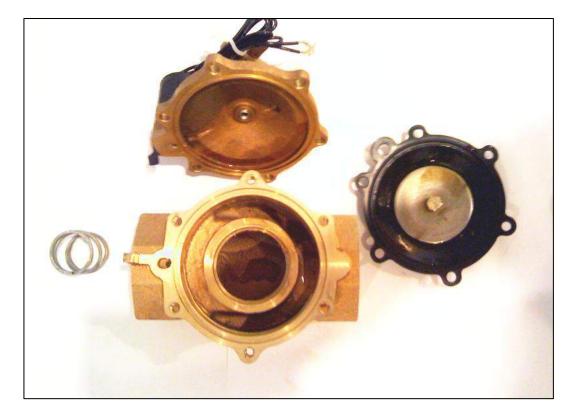
1. Remove top bolts.



2. Lift bonnet assembly off of valve body.



3. Remove spring and diaphragm assembly from valve body.



PROBLEM: Valve will not close.

CAUSE #1: Opening in diaphragm that allows water to enter upper diaphragm chamber is clogged.

SOLUTION: The opening, shown in red circle, needs to be cleaned. If clog is due to nylon fibers, then the opening will need to be punched with a sharp object, but care must be taken not to increase the size of the opening as this may prevent the valve from opening.

PROBLEM: Valve will not close.

CAUSE #2: Stuck solenoid plunger or debris in solenoid cavity that prevents plunger from sealing exhaust port.

SOLUTION: Remove solenoid. If plunger does not move freely up and down in plunger tube, clean plunger tube and plunger or replace if necessary. If there is debris in the solenoid cavity, remove it.





PROBLEM: Valve will not close or closes but water weeps past valve.

CAUSE #3: Debris in valve body and/or debris embedded in rubber seat.

SOLUTION: Disassemble valve and remove debris. If seat is damaged, replace diaphragm/seat assembly.



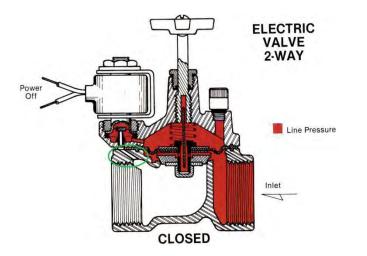
PROBLEM: Valve will not open.

CAUSE #1: Exhaust path of water leaving upper diaphragm chamber is impeded.

SOLUTION: Remove solenoid and check passageway between diaphragm chamber and solenoid chamber. Clean if necessary. If passage is clear, then remove bonnet assembly and check solenoid exhaust passage in body by running a wire down it to see if it is clear. If blocked, attempt to clean with the wire, or use a portable drill to clean passage. **PROBLEM:** Valve will not open.

CAUSE #2: Torn diaphragm. The VB model is a reverse flow valve. If the diaphragm tears, the valve closes.

SOLUTION: Replace diaphragm/seat assembly.





PROBLEM:: Valve will not open

CAUSE #3: Solenoid not receiving power. This could be do to one of three things: 1) No power output from controller, 2) bad solenoid coil, or 3) broken or disconnected wire.

SOLUTION: Disconnect solenoid leads from valve wires and remove solenoid from valve. Go to controller with solenoid in hand and connect one solenoid lead to common and the other to the station that the valve is connected to. Energize the station manually and see if solenoid plunger gets sucked up into plunger tube. If it does, the problem is a broken or disconnected wire between the controller and valve. If the plunger does not lift, then connect the lead to a station that you know is OK. Energize the station. If plunger does not lift into plunger tube, then solenoid is defective and needs to be replaced.



PROBLEM: Water leaks out around manual bleed lever.

CAUSE: Damaged lever o-rings.

SOLUTION: Remove bonnet from valve body. Rotate lever to down position and pull lever out of bonnet. Replace with new lever from lever o-ring kit (kit #LA510841KIT).



PROBLEM: Water leaks out around manual bleed screw.

CAUSE: Damaged o-ring on bleed screw.

SOLUTION: Replace manual bleed screw.



Repair Kits

Solenoid Kit (complete coil and post assembly): VBPRASKIT Bonnet Repair Kit (includes all bonnet assembly parts except for solenoid coil and post assembly): ¾" & 1"-VB0710BKIT, 1 ¼"-VB12BKIT, 1 ½"-VB15BKIT, 2"-VB20BKIT, 2 ½" & 3"-VB2530BKIT Diaphragm Repair Kit (includes diaphragm assembly and spring): ¾" & 1"-VBPR0710DKIT, 1 ¼"-VBPR12DKIT, 1 ½"-VBPR15DKIT, 2"-VBPR20DKIT, 2 ½" & 3"-VBPR2530DKIT Lever O-ring Kit (includes lever, o-rings, and plastic solenoid seat—10 sets per kit): LA510841KIT Manual Bleed Kit: VBBPKIT

SMG - Buckner/Superior Limited Trade Warranty

Buckner/Superior warrants to its trade customers that its products will be free from original defects in material and workmanship for a period of time (commencing on the date of original sale to the trade customer) as follows:

3 YEARS for all Buckner/Superior Brass trademarked products, which include:

- Brass/Plastic body valves
- Brass/Plastic automatic adaptors
- Brass quick coupling valves, keys, and hose swivels
- Brass manual angle valves
- Brass above-ground impact sprinklers
- Brass spray nozzles
- Sterling controllers

2 YEARS for all other products.

Note: Solenoids and pressure gauges are warranted for three years.

This warranty applies only to Buckner/Superior products which are installed as specified and used as intended for irrigation purposes. This warranty applies only to cataloged products which have not been altered, converted, damaged, misused, or misapplied. This warranty does not cover products adversely affected by the system into which the products are incorporated, including improperly designed, installed, operated, or maintained systems, or systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, and scale. This warranty does not cover component failures caused by lightning strikes, electrical power surges, or damage caused by freezing environments. Buckner/Superior's liability is limited to the repair and/or replacement at Buckner/Superior's sole discretion, of products which are returned prepaid through the trade customer to the factory and found by Buckner/Superior to be defective, but in no event shall Buckner/Superior's liability exceed the selling price of the product.

Buckner/Superior makes no other warranties, expressed or implied. No representative, agent, or distributor or other persons has the authority to waive, alter, or add to the printed provisions of this warranty, or to make representation of warranty not contained herein. The sole and exclusive remedy against Buckner/Superior is limited to repair or replacement; Buckner/Superior is not liable for consequential, incidental, indirect, or special damages, including but not limited to labor to inspect, remove, or replace products, vegetation loss, costs of substitute equipment or services, property damage, loss of use or loss of profits; nor is Buckner/Superior liable for economic losses, lost profits, consequential damages or damage to property arising out of Buckner/Superior's negligence or based on strict liability in tort.

The user and/or trade customer agrees to the limitations and exclusion of liability of this warranty by purchase or use of Buckner/Superior products.

Some states do not permit the exclusion or limitation of incidental or consequential damages or of implied warranties. Therefore, some of the exclusions or limitations may not apply to you.

Buckner/Superior reserves the right to redesign, alter or modify its products and shall incur no liability if a trade customer's inventory of Buckner/Superior goods becomes obsolete. Alterations, modifications, and redesign of a product shall not be evidence that the previous product design was defective and the user and/or trade customer so agrees by purchase or use of Buckner/Superior products.



950 SERIES BRASS VALVE



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax

950 Series Disassembly Instructions and Troubleshooting (Also Applies to 950PRS)





	Page
Solenoid Disassembly Instructions	2,3
Valve Disassembly Instructions	4-8
Troubleshooting	
Valve will not close.	9,10
Valve will not open.	11-13
 Water leaks out around flow-control stem. 	13
 Water leaks out between bonnet and body. 	14
• Water leaks out around manual bleed screw.	15
Additional Troubleshooting for 950PRS	
Water weeps past valve.	16
Valve will not open electrically or manually.	17
Parts, Sub-Assemblies, and Repair Kits	18

Solenoid Disassembly Instructions

1. Unscrew and remove retaining nut from solenoid post and slide coil and U-frame off of solenoid post.



2. Using a flathead screwdriver, unscrew and remove solenoid post from top of valve.



Solenoid Disassembly Instructions

3. Solenoid plunger will drop out of plunger tube as post is removed from solenoid cavity.



Solenoid cavity. The center port is the exhaust port. The other port connects the solenoid cavity to the diaphragm chamber



1. Remove solenoid retainer nut and slide solenoid coil and U-frame off of solenoid post



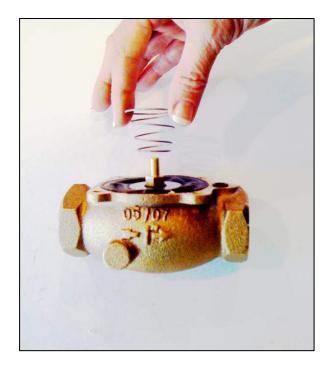
2. Unscrew bolts that fasten valve bonnet to valve body.



3. Lift bonnet straight up off of valve body taking care that the metering in bonnet exits top of diaphragm shaft.



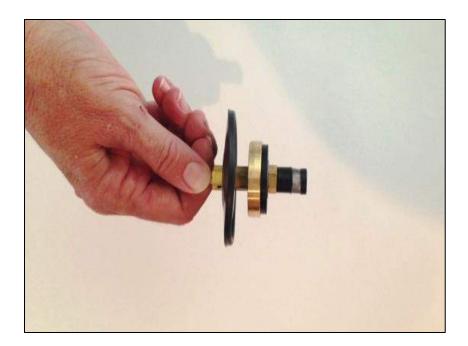
4. Remove diaphragm spring from top of diaphragm assembly



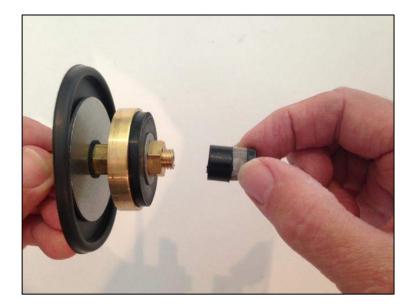
5. Remove diaphragm assembly from valve body.



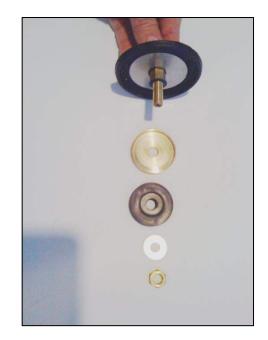
6. This photo shows the diaphragm assembly of the 950DW, 950DWIB, and 950PRS. The only difference is the filter that is screwed onto the bottom of the shaft.



8. For 950DW, 950DWIB, and 950PRS models, unscrew filter from bottom of shaft.



9. To access rubber seat disc, unscrew retainer nut from bottom of shaft and remove retaining washer, brass disc-holder, and rubber seat disc.



7. Completely disassembled diaphragm assembly.



8. To remove flow control stem from bonnet, remove nut and cross-handle from top of stem, then unscrew flow control from underside of bonnet.



PROBLEM: Valve will not close.

CAUSE #1: Malfunctioning solenoid. Solenoid plunger is unable to seal exhaust port due to debris in solenoid cavity or plunger being stuck in plunger tube and unable to drop.

SOLUTION: Remove debris from solenoid and/or clean plunger and plunger tube. Replace stem and plunger assembly if necessary.

PROBLEM: Valve will not close.

CAUSE #2: Debris in valve body prevents rubber seat from fully closing onto brass seat.

SOLUTION: Remove debris from valve body.





PROBLEM: Valve will not close (or closes but weeps).CAUSE #3: Debris embedded in rubber seat of diaphragm assembly or rubber seat is pitted.

SOLUTION: Disassemble lower portion of diaphragm assembly, flip rubber seat disc or replace with a new one.

PROBLEM: Valve will not close.CAUSE #4: Torn diaphragm.SOLUTION: Replace diaphragm assembly or disassemble diaphragm assembly and replace diaphragm.





PROBLEM: Valve will not open.

CAUSE #1: Solenoid is not receiving power. Check as follows: 1) Energize solenoid at controller. The solenoid should vibrate enough that it can be felt when coil is touched. 2) As an additional check, remove coil and solenoid stem and plunger from bonnet. Have another person energize solenoid at controller while you are holding solenoid with thumb pressing up on plunger so that plunger is most of the way up plunger tube. Plunger should be sucked up all the way in tube when coil is energized.

If solenoid is not receiving power, disengage solenoid lead wires from valve wires and go to controller with solenoid assembly. Attach one solenoid lead to common terminal and other to a station terminal. Energize the station while holding solenoid in manner described above. If solenoid plunger is sucked into cylinder, then solenoid is OK. Problem is damaged wire between controller and valve.

SOLUTION: Replace solenoid coil if bad.



PROBLEM: Valve will not open.

CAUSE #2: Clogged inlet orifice as indicated by water not exiting manual bleeder when opened. The likely cause is a mineral buildup on metering rod.

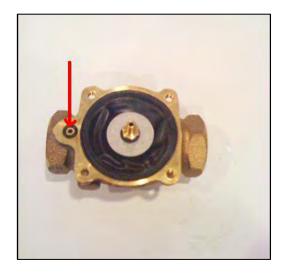
SOLUTION: Remove bonnet assembly and clean metering rod with emery cloth.

PROBLEM: Valve will not open.

CAUSE #3: Clogged solenoid exhaust port.

SOLUTION: Run a wire down exhaust port. If necessary, remove bonnet and run a drill down exhaust port into opening of valve.





PROBLEM: Valve will not open.

CAUSE #4: Dislodged stainless steel inlet orifice enabling water to enter upper diaphragm chamber faster than it can exit through the solenoid exhaust port. This condition is revealed by an excessive amount of water exhausting out of manual bleeder when opened.

SOLUTION: Replace diaphragm shaft .

PROBLEM: Water leaks out around flow-control stem.

CAUSE: Torn or damaged flow-control o-ring. **SOLUTION:** Remove flow-control stem from bonnet and replace o-ring. Apply silicone grease to o-ring before reassembling stem into bonnet.

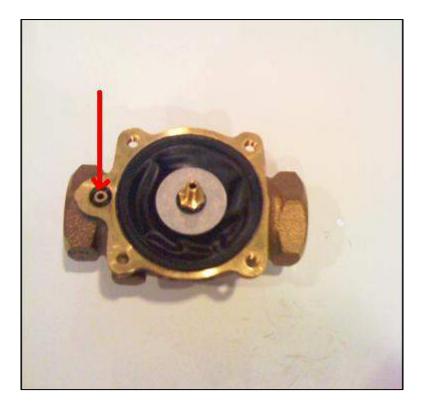




PROBLEM: Water leaks out of valve between bonnet and body in area below solenoid.

CAUSE: Damaged or missing exhaust o-ring.

SOLUTION: Remove bonnet and replace o-ring. It may be necessary to scrape remnants of the o-ring from the o-ring groove using a sharp object. This is because the o-ring was set in groove with epoxy.



PROBLEM: Water leaks out around manual bleed screw.

CAUSE #1: Damaged o-ring on manual bleed screw. **SOLUTION:** Replace manual bleed screw.

PROBLEM: Water leaks out around manual bleed screw.

CAUSE #2: Bleed screw unable to screw all the way down due to disappearing threads in opening. This is caused by a transfer of metal between threads of bleed screw and female threads in opening.

SOLUTION: Using a 5/16"-24 tap, rethread opening and replace bleed screw with a new one.





Additional Troubleshooting Applying to 950PRS

PROBLEM: Water weeps past valve and seeps out of lowest head in system.

CAUSE: If the solenoid has been checked and is OK and the interior of the valve has been checked for debris but none is found, then the likely cause is a defective manual bleed valve. To verify, remove the plastic tubing from the barbed fitting on the manual bleed valve. The best way is to slit the end of the tubing about ¼" with a knife or razor blade and pull the tubing off of the barb. If water, even a very small amount, exhausts from the manual bleed valve when it is in the "off" position, then the manual bleed valve is defective.

SOLUTION: Replace the manual bleed valve and reconnect the tubing after slicing the end of the tubing just below the slit that was made in order to remove the tubing.



Additional Troubleshooting Applying to 950PRS

PROBLEM: Valve will not open electrically or by opening the manual bleed valve.

CAUSE: Adjustment knob on regulator is in "off" position preventing water from passing thru regulator.

SOLUTION: Open manual bleed valve by turning handle in counter-clockwise direction. Next, raise knob on regulator to unlock it, then rotate knob clockwise, a half turn at a time, until water begins to pass thru valve. Wait until system is fully pressurized then continue to rotate knob clockwise until desired setting is reached. Next, push down on regulator knob to lock it in place, then close manual bleed valve.



Parts, Sub-Assemblies, and Repair Kits

Solenoid Coil (24 VAC): 16008 Solenoid Stem and Plunger Assembly: 16010-2A Solenoid Assembly (24VAC): 16200 Manual Bleed Screw (includes o-ring): 15013 (all sizes) Manual Bleed Ball Valve-950PRS, 950DWIB: 16551 (all sizes) Note: Replaces Manual Bleed Needle Valve **Flow-Control Stem (includes o-ring):** ³/₄"-2006-A, 1"-16081, 1 ¹/₄"-16004-1, 1 ¹/₂" & 2"-16004, 2 ¹/₂" & 3"-19000 **Diaphragm:** ³/₄"-16055, 1"-16056-A, 1 ¹/₄"-16057RW, 1 ¹/₂" & 2"-16058, 2 ¹/₂" & 3"-400028 **Diaphragm Assembly-950:** ³/₄"-16211, 1"-16212, 1 ¹/₄"-16213, 1 ¹/₂"-16214, 2"-16215, 2 ¹/₂" & 3"-16216 Diaphragm Assembly-950DW, 950PRS, 950DWIB: Add –L to above numbers (i.e. 1"-16212-L) **Repair Kits (includes all rubber and fiber parts):** ³/₄"-17308, 1"-17309, 1 ¹/₄"-17310, 1 ¹/₂"-17311, 2"-17312 2 ½" & 3"-17313 **Top Assembly-950, 950DW :** ³/₄"-16201, 1"-16202, 1 ¼"-16203, 1 ½"-16204, 2"-16205, 2 ½" & 3"-16220 **Top Assembly-950PRS:** Add –M to above numbers (i.e. $1 \frac{1}{2}$ "-16204-M

(i.e. 1 ½"-16204-M)

Pressure Regulator-950PRS: 16525

T-Tubing Assembly-950PRS: 1"-16513, 1 ¼" thru 2"-16514, 2 ½" & 3"-165150

SMG - Buckner/Superior Limited Trade Warranty

Buckner/Superior warrants to its trade customers that its products will be free from original defects in material and workmanship for a period of time (commencing on the date of original sale to the trade customer) as follows:

3 YEARS for all Buckner/Superior Brass trademarked products, which include:

- Brass/Plastic body valves
- Brass/Plastic automatic adaptors
- Brass quick coupling valves, keys, and hose swivels
- Brass manual angle valves
- Brass above-ground impact sprinklers
- Brass spray nozzles
- Sterling controllers

2 YEARS for all other products.

Note: Solenoids and pressure gauges are warranted for three years.

This warranty applies only to Buckner/Superior products which are installed as specified and used as intended for irrigation purposes. This warranty applies only to cataloged products which have not been altered, converted, damaged, misused, or misapplied. This warranty does not cover products adversely affected by the system into which the products are incorporated, including improperly designed, installed, operated, or maintained systems, or systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, and scale. This warranty does not cover component failures caused by lightning strikes, electrical power surges, or damage caused by freezing environments. Buckner/Superior's liability is limited to the repair and/or replacement at Buckner/Superior's sole discretion, of products which are returned prepaid through the trade customer to the factory and found by Buckner/Superior to be defective, but in no event shall Buckner/Superior's liability exceed the selling price of the product.

Buckner/Superior makes no other warranties, expressed or implied. No representative, agent, or distributor or other persons has the authority to waive, alter, or add to the printed provisions of this warranty, or to make representation of warranty not contained herein. The sole and exclusive remedy against Buckner/Superior is limited to repair or replacement; Buckner/Superior is not liable for consequential, incidental, indirect, or special damages, including but not limited to labor to inspect, remove, or replace products, vegetation loss, costs of substitute equipment or services, property damage, loss of use or loss of profits; nor is Buckner/Superior liable for economic losses, lost profits, consequential damages or damage to property arising out of Buckner/Superior's negligence or based on strict liability in tort.

The user and/or trade customer agrees to the limitations and exclusion of liability of this warranty by purchase or use of Buckner/Superior products.

Some states do not permit the exclusion or limitation of incidental or consequential damages or of implied warranties. Therefore, some of the exclusions or limitations may not apply to you.

Buckner/Superior reserves the right to redesign, alter or modify its products and shall incur no liability if a trade customer's inventory of Buckner/Superior goods becomes obsolete. Alterations, modifications, and redesign of a product shall not be evidence that the previous product design was defective and the user and/or trade customer so agrees by purchase or use of Buckner/Superior products.



640 SERIES Rotars



Marysville Branch 6017 29th Drive NE Marysville, WA 98271 (360) 651-2400 (800) 819-5859 (360) 658-5305 Fax

10R0 Installation and Service Instructions 640 Series Rotary Sprinkler

Installation Procedure

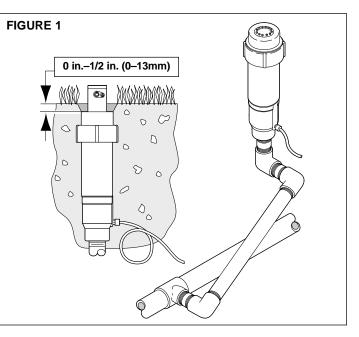
To assure maximum performance from your 640 Series Rotary Sprinklers, read these instructions completely prior to installing or servicing the sprinkler.

Construct Swing Joints

 Construct triple swing joints for each sprinkler as shown in Figure 1. Use PVC or ABS pipe nipple for sprinkler connection.

Note: On sites where the possibility of heavy equipment rolling over a sprinkler exists, the swing joint will flex preventing damage to the lateral or main lines. On a new installation in raw ground where the sprinklers are to be initially installed above the finished grade and lowered when new turf is established, the swing joint allows sprinkler repositioning without changing risers. This is a common and practical procedure which eliminates the problem of dirt being accidentally introduced into the lateral lines when a riser is changed.

- 2. Flush lines thoroughly prior to installing sprinkler.
- 3. Apply Teflon[™] tape on riser threads. Install sprinkler to riser and tighten.



CAUTION

Use only Teflon tape on riser threads. Use of pipe dope or other types of sealing compounds can cause deterioration of plastic threads and components.

- 4. Install sprinkler on riser. Align part-circle heads by rotating sprinkler body on riser until radius adjustment slot on top of the nozzle rubber cover is positioned to the left side of the intended coverage area.
- 5. Valve-In-head models only: Remove tube retainer and cap from sprinkler fitting. Provide a service loop in control tube at sprinkler to prevent binding. Slide tube retainer over end of control tube. Push control tube onto sprinkler fitting and secure with tube retainer.
- 6. Install sprinklers flush with grade to 1/2 in. (0-13mm) below grade.
- 7. Backfill and compact soil around sprinkler avoiding contact with nozzle assembly.

Servicing the Sprinkler

Valve Replacement

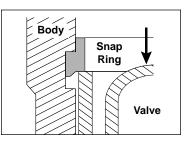


WARNING POSITIVELY SHUT OFF WATER SUPPLY AT SOURCE PRIOR TO DISASSEMBLING SPRINKLER. BLEED ALL PRESSURE FROM SPRINKLER SYSTEM INCLUDING CONTROL TUBES. FAILURE TO DEPRESSURIZE SYSTEM PRIOR TO VALVE SNAP RING REMOVAL MAY CAUSE VALVE MECHANISM TO FORCIBLY EJECT FROM SPRINKLER BODY RESULTING IN POSSIBLE SERIOUS INJURY.

- 1. Remove cap set screw with 1/8 in. hex wrench and unscrew cap.
- 2. Remove nozzle container seal, nozzle retainer and nozzle/drive assembly from body.
- 3. Depress valve mechanism using a long screwdriver or similar tool (see CAUTION below).

CAUTION

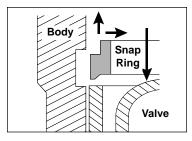
Do not continue valve removal procedure if the valve cannot be pressed down with minimum force. Confirm that water pressure is off and the control tube is bled before continuing.



- 4. With the valve depressed, grasp snap ring "ears" with TORO snap ring pliers (Model No. 995-07), release snap ring from groove and remove from body.
- 5. Remove valve mechanism with TORO Valve Removal Tool (Model No. 995-08) or carefully grasp one valve rib with snap ring pliers, pulling valve up and out of body.
- 6. Reassemble valve mechanism in reverse order.

Note: Due to limited work space in 640 sprinklers, use of Toro Valve Insertion Tool (Model No. 995-35) is recommended to simplify valve and snap ring installation.

7. See Reinstalling Nozzle/Drive Assembly.



Changing Nozzle and Stator

Note: Nozzle changes may be accomplished by changing the entire nozzle assembly or by removing the nozzle container end changing only the upper nozzle. In either case, the appropriate matching stator must be installed (i.e., No. 42 Nozzle and No. 42 Stator, etc.) to ensure proper sprinkler operation.

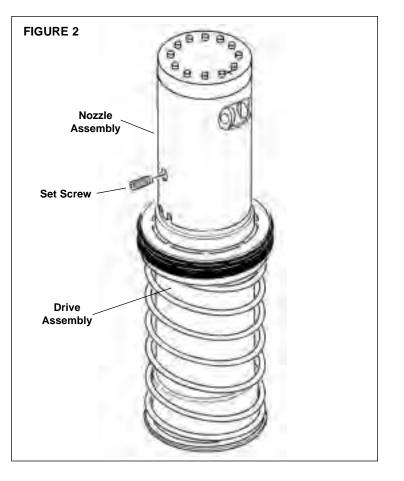
Changing Complete Nozzle Assembly

- 1. Remove cap set screw with 1/3 in. hex wrench and unscrew cap.
- Remove nozzle container seal, nozzle retainer and nozzle/drive assembly from body.
- 3. Remove 1/16 in. allen set screw in side of nozzle canister.
- 4. Unscrew nozzle assembly from drive assembly.
- 5. Assure nozzle seal is located at bottom of nozzle base threads.
- 6. Install new nozzle assembly HAND-TIGHTEN ONLY, DO NOT OVER-TORQUE.
- 7. Turn set screw clockwise until contact with riser threads is made (see CAUTION below).

CAUTION

Do not over-torque set screw. Over-tightening will cause thread damage and possible water leak between lower nozzle base and drive assembly.

8. Remove boss on nozzle rubber cover to identify drive assembly arc.

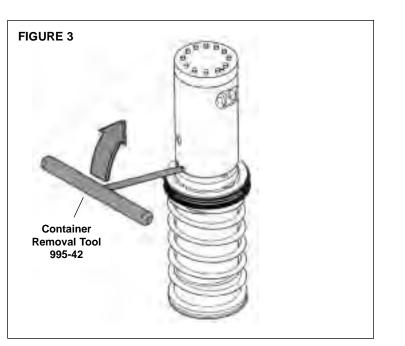


Changing Upper Nozzle

Note: Some of the nozzle assembly components shown in the following procedure are no longer available from Toro as service parts. This procedure should only be used if the upper nozzle assembly is already on hand.

- 1. Remove cap set screw with 1/8 in. hex wrench and unscrew cap.
- 2. Remove nozzle container seal, nozzle retainer and nozzle/drive assembly from body.
- Straighten locking tabs on nozzle container with nozzle container removal tool, Model No. 995-42 or other appropriate tool (see Figure 3).
- 4. Remove nozzle container, nozzle screws and upper nozzle assembly (see Figure 4).
- Position new upper nozzle assembly and secure with nozzle screws. DO NOT OVER-TIGHTEN SCREWS. (See Figure 4 and Note below.)

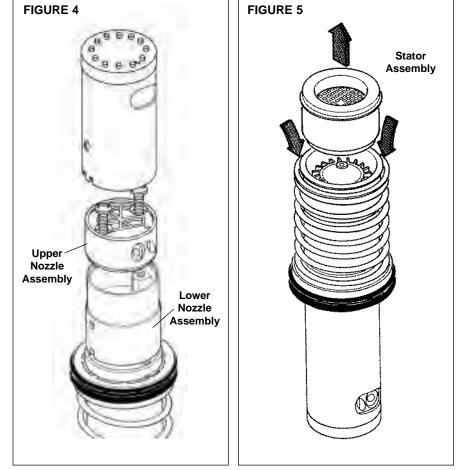
Note: Over-tightening nozzle screws will expand plastic nozzle base causing difficult nozzle container replacement.



- 6. Align nozzle opening in container with nozzle orifices and press container downward until fully seated on nozzle assembly.
- 7. Bend locking tabs into notches approximately 90° to secure nozzle container.

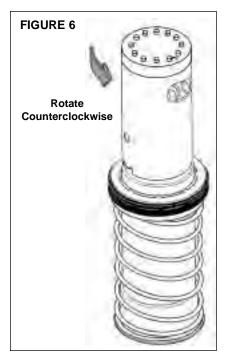
Changing Stator

- Place nozzle/drive assembly on a flat work surface, nozzle down, and compress return spring to expose stator assembly (see Figure 5).
- Separate stator from drive assembly (held together by press fit) and CAREFULLY relieve return spring tension.
- 3. Press in new stator assembly to fully seated position.



Reinstalling Nozzle/Drive Assembly

- 1. **Part Circle Only:** Holding drive assembly stationary, slowly rotate nozzle assembly counterclockwise to left side of arc pattern (see Figure 6).
- 2. Check drive assembly key tab for approximately 30° upward bend, adjust if necessary (see Figure 7).
- Insert nozzle/drive assembly into body until seal is approximately one (1) inch below top of body.
 Part Circle Only: Align main nozzle orifice with left edge of watering arc before inserting (see Figure 8).
- 4. Place nozzle retainer over nozzle assembly aligning keyway and drive assembly key (see Figure 9).

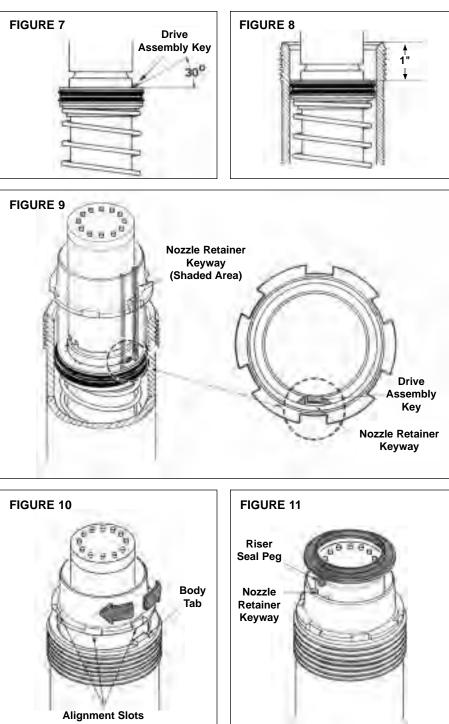


- Rotate nozzle retainer, interlocked with nozzle/drive assembly, to align the nearest of six (6) alignment slots with tabs on body (see Figure 10).
- 6. Press retainer into body to interlock alignment slot and body tab.
- Install riser seal over nozzle assembly placing peg into retainer keyway (see Figure 11).
- 8. Install cap and secure with set screw.
- Check watering arc. If minor adjustments are required (1/6 of a turn or less); rotate sprinkler body on riser. Do not make adjustments by turning nozzle assembly (see CAUTION below).

CAUTION

Rotating nozzle assembly to make watering arc adjustments may cause severe internal damage to drive assembly.

Note: Refer to Illustrated Parts Breakout Book Form No. 368-0044 for current parts listing.





© 1998 THE TORO COMPANY Irrigation Division • An ISO 9001-Certified Facility P.O. Box 489 • Riverside, CA 92502 Printed in U.S.A. The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants to the owner each new piece ofirrigation product (featured in the current catalog at date of installation) against defects in material and workmanship for a period described herein, provided they are used for irrigation purposes under manufacturer's recommended specifications.

During the warranty period, we will repair or replace, at our option, any part found to be defective. Your remedy is limited solely to the replacement or repair of defective parts. This warranty does not apply (i) to Acts of God (e.g., lightning, flooding, etc.) unless specifically listed under the Extended Lightning Protection Warranty provided herein; or (ii) to products not manufactured by Toro when used in conjunction with Toro products; or (iii) where equipment is used or installation is performed in any manner contrary to Toro's specifications and instructions, or where equipment is altered or modified.

Return the defective part to your irrigation contractor or installer, or your local distributor who may be listed in your telephone/web directory under "Irrigation Supplies" or "Sprinkler Systems", or contact The Toro Warranty Company, 5825 Jasmine Street, Riverside, California, 92504, phone (877) 345-8676, for the location of your nearest Toro distributor, or outside the U.S., call (951) 688-9221.

Neither Toro nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of equipment, including but not limited to vegetation loss, the cost of substitute equipment or services required during periods of malfunction or resulting non-use, property damage or personal injury resulting from installer's actions, whether negligent or otherwise. Some states do not allow the exclusion of incidental or consequential damages, so this exclusion may not apply to you. All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty. Some states do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

Standard Warranty

Toro Irrigation Division products are covered by this warranty for a period of two years from the date of installation, except as otherwise noted.

Extended Three-Year Warranty

The following products are covered by this warranty for three years from date of Wr e ACFGx f f e [™]WP Controller.

Extended Five-Year Warranty

The following products are covered by this warranty for five years from date of W SpraysWRE uv 570Z PRX Series ; Rotors: T5, TR50XT, T7, TS90 and 640 Series Valves: EZ-Flo Plus, TPV, P-220 and 220 Brass Series ; Controllers: EVOLUTION [®], TMC-424E, Custom Command and TDC Series Sensors: TWRS Wireless RainSensor[™] Series (receiver and transmitter)

Sentinel[®] Series Product Warranty

All Sentinel Centrals, with the exception of centrals covered by the Toro National Support Network (NSN®), and Sentinel hand-held remotes arecovered by this warranty for a period of two years from date of installation. All Sentinel Series satellites are covered by this warranty for a period of five years from date of installation.

Landscape Drip Warranty

DL2000 [™]	Series Dripline
g	2 years
m	5 years (prorated)
v	7 years
	-

W

- Drip In[®] Series Dripline g 2 years m 5 years (prorated)
- Blue Stripe[®] Hose c 7 years (prorated)

Fittings c 1 year

Emission Devices c 1 s | g2 F s | g[®] Emitter and Drip Bubblers 2 years

Filters and Components c 1 year

Other Accessories

c 1 year

Grounding

The Toro Warranty for Irrigation Controllers is void if controller is not properly grounded per instruction manual. A good ground source is a mandatory component of overall surge protection for Toro Irrigation Control Systems. Grounding electrode(s) should be placed at each automatic controller or controller group locations. The resistance to the grounding electrode should not exceed 10 Ohms when measured with a Megger Earth Resistance Testing instrument or equivalent. It is the responsibility of the installer to connect all electronic irrigation equipment for which he is responsible to earth ground in accordance with Article 250 of the National Electrical Code (NEC). Even with optimum grounding, neither Toro nor Toro Warranty Company are liable for product failures due to acts of God (i.e., lightning, flooding, etc.), and these failures are not covered by warranty.

