Stantec

Stantec Consulting Services Inc.
3995 South 700 East; Ste 300
Salt Lake City, UT 84107
Tel: (801) 261-0090
Fax: (801) 266-1671

May 22, 2018

Mr. Hao Zhu
Utah Department of Environmental Quality
Division of Waste Management and Radiation Control
195 North 1950 West
Salt Lake City, UT 84114

RE: Site Management Plan
Former Varian Facility, 1678 Pioneer Road, Salt Lake City, Utah 84104

Dear Mr. Zhu,

On Behalf of Varian Medical Systems (Varian), Stantec Consulting Services, Inc. (Stantec), has revised the enclosed Site Management Plan (SMP) for the Former Varian Facility property (now Varex Imaging) at 1678 Pioneer Road, Salt Lake City, Utah (the Site). On February 22, 2018 a SMP was submitted to the Utah Department of Environmental Quality, Division of Waste Management and Radiation Control's (DWMRC) for review. The DWMRC provided comments to the SMP in email correspondence dated April 24, 2018. The following SMP has been revised to address DWMRC comments and to better harmonize the SMP with the Environmental Covenant (EC) which has been prepared for he Site

Please note that once executed, the EC for the Site will be attached to the final SMP.

Should you have any questions or comments on this SMP or to set up a conference call following the DWMRC's review of this SMP, please call me at (801) 230-6646.

Sincerely,

Thomas Fendler

Tom Fendler

Senior Geologist
Stantec
3995 South 700 East Suite 300, Salt Lake City UT 84107-2540
Phone: (801) 743-4843
Cell: (801) 230-6646
Tom.Fendler@stantec.com

C:	Scott T. Anderson	UDEQ (2 copies)
	John Buchanan	VMS (by email)
	H. Michael Keller	VanCott. Bagley and McCarthy (by email)
	Angus McGrath	Stantec (by email)

SITE MANAGEMENT PLAN

Former Varian Medical Systems Facility
1678 Pioneer Road
Salt Lake City, UT 84104

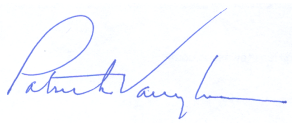
Prepared for:
Varian Medical Systems, Inc
3120 Hansen Way
Palo Alto, CA 94034 Varian Medical

Prepared by:
Stantec Consulting Services, Inc.
3995 South 700 East, #300
Salt Lake City, UT 84107

May 22, 2018

Sign-off Sheet

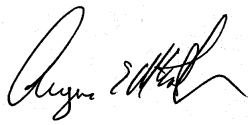
This document entitled SITE MANAGEMENT PLAN was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Varian Medical Systems (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by  _____
(signature)

Patrick H. Vaughan

Reviewed by  _____
(signature)

Thomas Fendler

Approved by  _____
(signature)

Angus McGrath

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LIST OF ATTACHMENTS

Abbreviations

bgs	Below Ground Surface
COPC	Chemical of Potential Concern
DNAPL	Dense Non-Aqueous Phase Liquid
DPE	Dual Phase Extraction
Division	Division of Waste Management and Radiation Control
EC	Environmental Covenant
GWET	Groundwater Extraction and Treatment
HEC	Harza Engineering Company
HI	Hazard Index
IRM	Interim Remedial Measure
IT	International Technology Corporation
J&E	Johnson and Ettinger
Kg	Kilogram
L	Liter
M_3	Cubic Meter
MW	Montgomery Watson
MWH	Montgomery Watson following 2001 merger with HEC
SIP	Site Investigation Plan
SMP	Site Management Plan
SRP	Site Remediation Plan
SVE	Soil Vapor Extraction
TCE	Trichloroethene
UDEQ	Utah Department of Environmental Quality
UPL	Utah Power and Light
UST	Underground Storage Tank
VOC	Volatile Organic Compound
µg	Micrograms

1.0 INTRODUCTION

This Site Management Plan (SMP) prepared on behalf of the former property owner, Varian Medical Systems, Inc. (Varian), describes site management actions for the Former Varian (now Varex) Facility located at 1678 Pioneer Road, in Salt Lake City, Salt Lake County, Utah (**Figure 1**). Varian's EPA ID is UTD00943859. The requirements contained in the SMP apply to current and future property owner(s) or transferee(s).

For the purpose of this SMP, the Site consists of the Former Varian Facility property at 1678 Pioneer Road, in Salt Lake City, Salt Lake County, Utah (Salt Lake County Assessor Parcel No. 15-16-300-022-0000; "Former Varian Facility" and "the Site"). Off-Site properties consist of the portions of the US Construction and Shimizu properties adjacent to the north with identified groundwater impacts from the historic operations on the Site (see **Attachment A – Property Map and Legal Description**).

1.1 PURPOSE

Site management actions are designed to control exposure to chemicals known to be present in soil and groundwater on or below the Former Varian Facility and adjacent properties to the north such that human health risks from these chemicals are within acceptable risks for continued use as industrial facilities.

1.2 SITE BACKGROUND AND PREVIOUS ENVIRONMENTAL INVESTIGATIONS

The Former Varian Facility consists of a 21-acre parcel in an area zoned for light to heavy industrial use and is bounded on the north by the US Construction property (historically referred to as the Jensen Property), on the south by lands occupied by the Utah Power and Light (UPL) right-of-way and Atwood Industries Inc. (formerly Hydro-Flame Corporation), to the east by Pioneer Road, and to the west by UPL right-of-way. The closest industrial operations are in buildings located approximately 100 feet to the north on the US Construction property, at 1624 South Pioneer Road.

The Former Varian Facility, US Construction property, and the Shimizu property located to the north, were part of the original 5,000-acre land purchase made by the Department of Defense in 1941. The US Construction and Shimizu properties were developed along with the Varian property to form a portion of the Utah Ordnance Plant. Contemporary property use included the manufacture of x-ray tube products by Varian, along with storage of process chemicals and wastes in aboveground and underground storage tanks.

Beginning in the early 1980s, Varian retained JH Kleinfelder and Associates to perform four phases of soil and groundwater investigation at the Site. These investigations occurred between 1983 and 1991. Between 1991 and 1997, Montgomery Watson (MW) was retained to perform additional investigations and a risk assessment for the Site.

According to prior reports, 46 monitoring wells (MW-1 through MW-43, MWD-1, MWD-2, and MWD-3) were installed at the Former Varian Facility and off-Site properties during multiple site investigations conducted between 1983 and 1995.

Varian and the Utah Solid and Hazardous Waste Control Board entered into Stipulation and Consent Order 9309052 in 1994, which was amended in July 1996 to include a stipulation to complete assessments initiated under an approved Site Investigation Plan (SIP), and based upon the findings of the SIP, either recommend no further action or propose a Site Remediation Plan (SRP) including a SMP.

In April 1998, International Technology Corporation (IT) prepared and submitted a final SRP, which included a SMP and was approved by the Utah Department of Environmental Quality (UDEQ) Division of Solid and Hazardous Waste, currently named the Division of Waste Management and Radiation Control (Division). IT concluded that, based on the presence of DNAPL zones located in fine-grained deposits, extraction trenches and wells along with a slurry wall at the west side of the property would most likely achieve long-term groundwater containment and risk management objectives and recommended deed restrictions be imposed on affected properties. In 1999, US Construction granted Varian an access agreement for its off-Site property (known as the Jensen Property) which covered the installation and maintenance of the North Trench and associated monitoring and remedial activities for as long as remediation is required.

The interim remedial measures (IRM) system was installed in 1995 and was incorporated into the full-scale groundwater extraction and treatment (GWET) system in August 2000. According to Utah Administrative Code R315-101-6, risk-based concentrations for groundwater corresponding to the thresholds of one case in ten thousand (10^{-4}) for cancer risk or a hazard quotient of 1 requires corrective action for the 12 chemicals detected in groundwater.

Varian recorded a Deed Notice on the Former Varian Facility property documenting the presence of VOCs in the subsurface, restricting the use of shallow unconfined groundwater, and requiring compliance with applicable municipal, state, and federal regulations when excavating or boring in subsurface areas known or suspected to be contaminated with VOCs (Stantec, 2016). Varian provided a Deed Notice to U.S. Construction Inc. - the owner of two parcels adjoining the Varian property on the north - providing for restriction on the use of the shallow unconfined groundwater under those parcels, with a request that the owner complete the Deed Notice and return it; U.S. Construction Inc. never responded to the request (Shaw, 2005).

In April 2009 and October 2010, vapor intrusion studies were conducted to evaluate the potential risk of vapors from volatile organic compounds (VOCs) to migrate into the Former Varian Facility building as well as five buildings located on the adjacent US Construction property. Section 3.0 of this report further describes vapor intrusion assessments and the results obtained.

During May 2013 and September 2013, Stantec conducted a residual source area investigation of both the Western Plume and the Northern Plume (Stantec 2013a and b). The objective of the residual source area investigation was to collect soil and groundwater samples to further characterize residual VOC concentrations in areas where groundwater concentrations were estimated to exceed 1,000 micrograms per liter (µg/L). The investigation, consisting of the placement of 37 soil borings, identified concentrations of TCE in soil greater than 1,000 micrograms per kilogram (µg/kg) which were restricted to near the existing USTs and the former TCE above ground storage tank (AST) situated in the area of the Western Plume.

Semiannual groundwater monitoring was commenced in 2011 and continues to date. Semiannual groundwater monitoring events include the monitoring and sampling of up to 26 monitoring wells, four piezometers, and the north and west trench sumps and three ditch surface water locations. Groundwater and surface water samples are submitted for laboratory analysis of dissolved VOCs.

1.3 SUMMARY OF POTENTIAL HUMAN HEALTH RISK

In January 1997, a human health risk assessment (HHRA) was prepared for the Former Varian Facility by MW (MW 1997) and approved by the Division. The objective of the HHRA was to evaluate potential current and future human health risks associated with chemicals in soil and groundwater at the facility and provide a basis for no further action, site management, or cleanup actions where necessary.

Potential risks (cancer risk and non-cancer hazards) were evaluated for four areas: 1) Site West Area, 2) Site North Area, 3) off-Site North Area, and, 4) the Drainage Ditch. Potential receptors (exposed populations) considered included current and future on- and off-Site workers, potential future construction workers and hypothetical future residents, but it was noted that future residential use is highly unlikely due to zoning restrictions and proximity to the airport high-noise impact area. Potential future trespassers were also evaluated for the Drainage Ditch.

The HHRA included evaluation of several exposure pathways which varied by Site and off-Site area but included incidental ingestion of soil, dermal contact with soil, inhalation of chemicals that volatilize from soil to outdoor air, and incidental ingestion of groundwater. Ingestion of groundwater as a drinking water source was evaluated for future site workers.

Site West Area

The highest potential risks in this area are associated with exposure of future workers through ingestion of groundwater used as a drinking water source. As noted in the HHRA, this is not a likely exposure scenario due to the availability of a municipal water supply, low well yield, and the presence of high levels of dissolved solids. For all other receptors, the greatest risks are associated with exposure to VOCs, most notably TCE in soil, which volatilizes to outdoor air.

Site North Area

Potential risks above acceptable thresholds (one case in one million or 10^{-6} for carcinogens and a hazard index (HI) of 1 for non-carcinogens) were identified for future workers via incidental ingestion, dermal contact, and inhalation of VOCs from groundwater; future construction workers who may be exposed to non-cancer-causing chemicals in outdoor air within a trench; and, future hypothetical residents breathing VOCs in outdoor air which have volatilized from surface soil.

Off-Site North Area

Potential unacceptable risks in this area were identified only for a future worker resulting from direct contact (ingestion, dermal contact, and inhalation) of groundwater used as a source of drinking water.

Drainage Ditch

No potential risks above acceptable thresholds were estimated for a teenage trespasser exposed to surface soil/sediment or surface water in the drainage ditch

Potential cumulative risks as estimated in the 1997 HHRA are summarized in the following table. Potential vapor intrusion risks are not included in the table but are addressed separately in Section 3.0 of this report.

Summary of 1997 Cumulative Cancer Risk and HI by Exposure Area

On-Site West Area		
Receptor	Cancer Risk	Non-Cancer Hazard
Current Worker	10^{-5}	1
Future Worker*	$3x\ 10^{-3}$	90
Construction Worker	$1x\ 10^{-5}$	20
Hypothetical Future Resident	$4x\ 10^{-5}$	6
On-Site North Area		
Current Worker	$1x\ 10^{-6}$	0.1
Future Worker*	$2x\ 10^{-1}$	400
Construction Worker	$9x\ 10^{-7}$	2
Hypothetical Future Resident	$4x\ 10^{-6}$	0.6
Off-Site North Area		
Future Worker*	$1x\ 10^{-3}$	40
Future Construction Worker	$7x\ 10^{-8}$	0.1
Drainage Ditch		
Teenage Trespasser	$3x\ 10^{-7}$	0.03

*Future worker was assumed to ingest groundwater which resulted in a higher potential excess cancer risk than current worker.

2.0 SUMMARY OF CURRENT IMPACTS AND KNOWN PLUME BOUNDARIES

Discussion of remaining impacts is restricted to groundwater concentration limits established as part of the 1998 SRP pursuant to the July 1996 First Amendment to Stipulation and Consent Order No. 9309052. IT noted following review of the 1998 HHRA, that then current risks from soil exposure were minimal and that future receptor risks would be controlled most effectively by institutional controls and adherence to the requirements of 40 CFR §1910.120 (OSHA Hazardous Waste Operations and Emergency Response Standard).

Contaminants of potential concern (COPCs) are present in shallow groundwater west and north of the Former Varian Facility building; US Construction (north); and, Shimizu properties (north of US Construction). The primary impacts to groundwater are found on the Former Varian Facility and US Construction properties with minor impacts extending farther down-gradient to the southern boundary of the Shimizu property. The most current groundwater sampling and analysis conducted in June 2017 indicate that groundwater impacts above one or more SRP concentration limits are present in three Site and three off-Site groundwater monitoring wells (MWH 2016). TCE is the primary contributor to exceedance of risk-based concentrations in these wells. **Figure 2** shows the potential extent of groundwater with COPC concentrations exceeding 1 microgram per liter (µg/L).

Hydraulic control of the groundwater plumes has been achieved to the west and north through pumping from the North Trench and the West Trench as evidenced by the infrequent detections of COPCs in MW-34 and MW-35 (off-Site wells to the west), potentiometric measurements indicating that groundwater flows toward extraction wells and trenches, minimal detections of COPCs in the Lee Drain, and concentration reductions in wells located down gradient of the Northern and Western trenches. Further evidence of successful plume containment is the downward-trending concentration of TCE in well PZ-3 located immediately down gradient of the Northern trench.

3.0 EVALUATION OF POTENTIAL VAPOR INTRUSION RISK

Vapor intrusion evaluations at the Former Varian Facility commenced in March 2009 and were based on indoor air sampling results collected in 1996 by MW (also identified as Montgomery, Watson, Harza or MWH). The Division requested an evaluation of migration of volatile organic substances in the subsurface to indoor air (the vapor intrusion pathway). MWH used previously collected soil gas results from 2005 and groundwater concentrations between 2004 and 2008 (MWH2009) as inputs to the U.S. EPA Johnson & Ettinger vapor intrusion models to evaluate potential inhalation risks to building occupants. The results identified an estimated excess lifetime cancer risk of 10^{-6} which EPA considers as an acceptable risk level. Non-cancer hazards expressed as a HI were estimated to be 0.003, well below the target HI of 1. It should be noted that the modeling results were based on a Site-specific indoor air exchange rate of 1.4 air changes per hour (ACH) versus the U.S. EPA default rate of 1 ACH.

In 2010, in response to a request from the Division, Varian evaluated potential vapor intrusion risk at five off-Site buildings on the US Construction Property located adjacent to the Former Varian Facility. Buildings were selected for evaluation based on their proximity to documented VOCs in the groundwater. The Shimizu Truck Maintenance Building (**Figure 1**) was also inspected but found to have permanent openings (20-foot-high by 50-foot wide) in the eastern and western side walls. Because potential soil vapors entering this structure from the underlying plume would be readily diluted by atmospheric air, no formal evaluation of the vapor intrusion pathway was necessary for this building.

The human health risk for workers in the five enclosed buildings on the US Construction property was evaluated using the U.S. EPA Johnson & Ettinger advanced groundwater model (ADV-GW). The modeling was conducted using average groundwater VOC concentrations based on both 2008 and 2010 groundwater sampling and analysis. The maximum cancer risk of 10^{-7} (one-in-ten million) and HI of 0.00032 was estimated for Building 5 which are well below UDEQ "No Further Action" thresholds of 10^{-6} for cancer risk and a HI of 1. No additional corrective actions were recommended to address potential vapor intrusion risk on the off-Site properties north of the Former Varian Facility.

In March 2016, potential vapor intrusion risk was evaluated as part of the Third Five-Year Review Report for the Former Varian Facility. Re-evaluation considered changes in inhalation toxicity values, most notably for TCE, made by the EPA since 2009 and 2010. Based on:

1. the results of the 1996 indoor air sampling where no chemicals except methylene chloride were detected in indoor air;
2. greatly reduced levels of contaminants, including TCE, in groundwater; and,
3. operation of the dual phase extraction/soil vapor extraction (DPE/SVE) system.

It was concluded that further evaluation of the vapor intrusion pathway was not warranted.

4.0 SITE MANAGEMENT REQUIREMENTS

The following site management actions are designed to control Site risks by minimizing the potential for exposure to chemical constituents that may remain above risk-based concentrations established for groundwater in the SRP. Any proposed modification to the requirements of this SMP will require Division approval. Activity and use restrictions and limitations described in the following sections are set forth in an Environmental Covenant (EC), included as **Attachment B**) to be entered into by Varex Imaging Corporation, Inc, Varian Medical Systems, Inc., and the Director of the Division. The EC will be recorded against the Site, will run with the land and supersede the January 9, 2001 Deed Notice. The same restrictions will apply to future owners and/or lessees of the Site until the EC is terminated.

4.1 LAND USE LIMITATIONS

The Site is located in an area zoned M-1 for light to heavy industrial land use. As such, the current zoning prohibits residential land use. As provided in the EC, the Site shall only be used for commercial or industrial uses. Residential uses of the Site are prohibited. New enclosed structures may be constructed over areas with COPCs in soil or groundwater; however, installation and maintenance of vapor mitigation systems may be required if the vapor intrusion risk is deemed above regulatory standards. The placement of soil borings and or excavation in areas with COPC impacts (**Figure 2**) requires compliance with applicable municipal, state, and federal regulations. Any soil or water removed from impacted areas will be properly treated and or disposed in accordance with applicable regulations.

4.2 GROUNDWATER USE LIMITATIONS

Groundwater in the shallow, unconfined, aquifer beneath the Site contains elevated concentrations of COPCs. In the future, if groundwater from the shallow aquifer beneath the Site is extracted for use without suitable treatment, undesired exposure to contaminants could occur. Therefore, a groundwater restriction will be put in place as part of the EC to prevent the use of groundwater from the shallow aquifer beneath the Site for culinary purposes, and for irrigation or other beneficial uses without suitable prior treatment.

4.3 VAPOR INTRUSION RISK EVALUATION AND MITIGATION

As provided in the EC, the property owner of the Site (Varex or Transferee) shall assess the potential for vapor intrusion from the impacted subsurface soil and groundwater into enclosed structures on the Site that have not been previously evaluated (e.g., future enclosed structures constructed on the Site during the term of the SMP). Where a potential vapor intrusion risk exists as determined by the Division, the property owner of the Site shall install and maintain a vapor mitigation system in or beneath any such enclosed structures to be occupied by humans as determined by the Division.

4.4 ADDITIONAL CONTINGENT EXPOSURE CONTROLS

A possible future exposure pathway at the Site may include exposure of workers to Site contaminants during construction activities involving excavation or borings on the Site. Such exposure may include inhalation of chemicals in trench air from volatilization of COPCs from the shallow groundwater; incidental ingestion of groundwater; and, direct contact with groundwater. As provided in the EC, in the event that construction activities involving excavation or borings are planned on the Site, workers shall be required to comply with Occupational Safety and Health Administration ("OSHA") training for hazardous materials facilities (29 CFR 1910.120).

As provided in the EC, in order to address the risk of potential vapor intrusion into enclosed structures on the Site that have not been previously evaluated (e.g., future enclosed structures

constructed on the Site during the term of the SMP), the property owner of the Site (Varex or Transferee) shall install and maintain a vapor mitigation system in or beneath any such enclosed structures to be occupied by humans, unless vapor intrusion is assessed or a vapor intrusion risk assessment is conducted and shows that there is no vapor intrusion risk, as determined by the Division. Prior to construction of any new buildings, Owner, or if the Site has been transferred, the Transferee, shall notify the Division of its construction plans and document how it will achieve compliance with the construction limitations, including providing the Division with copies of its application for a building permit with its vapor mitigation system plans, and a report and photos documenting installation of the vapor mitigation system, if a vapor mitigation system is required.

5.0 PROPERTY ACCESS

The property owner of the Site (Varex or Transferee), shall provide Varian and UDEQ representatives with access to the facility at reasonable times for the purpose of implementing and observing activities carried out under the SMP. These individuals shall conduct themselves in a safe and prudent manner in accordance with the health and safety standards of UDEQ and with any additional protocols as required by the property owner's operations.

5.1 WELLS AND REMEDIATION EQUIPMENT

Future construction activities on the Site will be conducted in a manner which does not destroy or damage existing wells and remediation equipment. New wells or remediation equipment may be installed on the Site by Varian to meet regulatory requirements.

6.0 FUTURE ACTIONS

The following actions are reasonably anticipated to control exposure to Site-related chemicals following approval and implementation of this SMP.

6.1 CONTINUED REMEDIATION MEASURES

The IRM system was incorporated into the full-scale groundwater extraction and treatment (GWET) system in August 2000. The full scale GWET system consists of two groundwater recovery trenches, one groundwater recovery well, and an air stripper system for treatment of extracted groundwater. The water treatment plant, located on the north side of the Former Varian Facility, receives groundwater pumped from the North Trench sump, the West Trench sump (including water from the DPE/SVE system, and monitoring well MW-33 **(Figure 1)**.

In late 2007, a DPE/SVE) system was installed immediately adjacent to the west side of the former Varian building to address a trichloroethene (TCE) "hot spot". The DPE/SVE system consists of four extraction wells (SVE-1 through SVE-4) and related equipment (**Figure 1**).

The GWET and DPE/SVE systems will continue to operate until risk-based concentrations for groundwater are achieved and will be discontinued only with approval by UDEQ.

6.2 GROUNDWATER MONITORING

Varian will be responsible for annual groundwater monitoring which will continue at Site monitoring wells MW-4, MW-5, MW-14, MW-17, MW-18, MW-19, MW-33, and MW-36, and off-Site wells MW-28, MW-30, MW-31, MW-40, MW-41 located on the US Construction property, and MW-42 located on the Shimizu property. Additional wells may be included in or omitted from annual monitoring at the discretion of Varian with concurrence from UDEQ. Documentation of compliance with these Site management requirements will be in the form of groundwater monitoring reports submitted semi-annually to UDEQ.

6.3 FIVE-YEAR REVIEW PROCESS

Five-Year reports are prepared in accordance with a written request from UDEQ (February 10, 2003) to review the past five years of remediation progress in relation to the overall objectives of the SRP. The prior Five-Year Review Report covering Site activities from July 2010 through June 2015 (Stantec 2016) was submitted to UDEQ on March 23, 2016. The next review (Fourth-Five Year Report) will be prepared and submitted to UDEQ in 2021. Future five-year reviews will include re-evaluation of contaminant vapor intrusion risk based on changes in toxicity data for the COPCs made during the five-year review period and/or changes to the USEPA Johnson & Ettinger models previously used to evaluate potential vapor intrusion risk.

7.0 PROCEDURES FOR SMP NON-COMPLIANCE

The site management requirements contained within this SMP (land use limitations, groundwater use limitations, construction limitations, vapor intrusion limitations, and site remediation measures and monitoring) are consistent with the provisions of the EC and provide for continued land use of the Site as an industrial facility within the acceptable risk range for such use. If the Site owner becomes aware of a deviation from SMP requirements, the Site owner shall notify UDEQ within five calendar days of the Site owner becoming aware of the deviation. The Site owner will submit a written report to UDEQ within 25-days detailing the deviation and the owner's evaluation. The Site owner and UDEQ will jointly evaluate if the deviation compromises protective measures of the original SMP and if so, whether alternate site management requirements are required. Proposed modifications to this SMP require the approval of UDEQ.

8.0 REFERENCES

IT 1998. Site Remediation Plan, Varian Associates, Inc., Salt Lake City, Utah. IT Corporation, Englewood, Colorado. April 1998.

MWH 2017. Semiannual Groundwater Monitoring Report, Varian Medical Systems, Inc. MWH (now Stantec), July 2017.

MWH 2015. Semiannual Groundwater Monitoring Report, Varian Medical Systems, Inc. MWH November 2015.

MWH 2010. Evaluation of the Vapor Intrusion Pathway for Adjacent Properties, Varian Medical Systems Facility, Salt Lake City, Utah. MWH. October 2010.

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MW 1997. Human Health Risk Assessment, Varian Associates, In., Salt Lake City, Utah. Montgomery Watson. January 1997.

Shaw 2005. Five-Year Review Report, Varian Medical Systems, Inc. Shaw Environmental, Inc. August 2005.

Stantec 2013a. Residual Source Area Investigation Report, Varian Medical Systems. Stantec Consulting Services, Inc. July 12, 2013.

Stantec 2013b. Step-Out Borings Report, 1678 Pioneer Road, Salt Lake City, UT-UTD009438359. Stantec Consulting Services, Inc. October 28, 2013.

Stantec 2016. Third Five-Year Review Report, July 2010-June 2015, Varian Medical Systems Inc. Stantec Consulting Services, Inc. March 23, 2016.

Varian 2001. Deed Notice, dated January 9, 2001, and recorded January 29, 2001 as Entry No. 7807755 in Book 8418 at Pages 7329-7330 of the real property records of the Recorder of Salt Lake County, Utah.

FIGURES

C:\Data\MWH\VARIAN\VARIAN SITE MANAGEMENT PLAN\FIGURES\Fig 1_SiteMap_22Dec2017.mxd 22 Dec 2017 DRAWN BY D. Severson

Shimizu Property
MW-43
MW-42
MW-44
North Extraction Trench
Shimizu Truck Maintenance Building
North Trench Sump
PZ-03
PZ-05
D-1
US Construction Properties
PZ-01
MW-28
MW-27
MW-26R
PZ-06
MW-31
Building 3
Building 5
Building 2
Building 4
D-D
MW-41
MW-30
MW-29
MW-32
MW-40
Building 1
MW-25
D-C
MW-33
PZ-07
MW-04
MW-24
MW-02R
MW-13
MW-05
PZ-16
MW-14
MW-06
MW-10
MW-12
MW-34
MW-36
Slurry Wall
Environmental Treatment System
PZ-08
PZ-09
PZ-10
West Trench Sump
D-3
MW-17
MW-37
MW-20
MW-35
EW-39R
SVE-3
PZ-11
MWD-2
SVE-2
Varian Medical Salt Lake City Facility
MW-18
MW-19
MW-38
SVE-1
SVE-4
Environmental Treatment System
West Extraction Trench
PZ-17
PZ-12
MW-16
Pioneer Road
BM
1700 South
Varian Property
D-2
N
W
E
S
0 70 140
Scale in Feet
D-B
D-A
MW-15A

EXPLANATION

- Ditch sample
- Piezometer
- SVE well
- Slurry wall
- Monitoring well
- Extraction well
- Trench sump
- Extraction trench

Aerial Photography: 16 June 2015

VARIAN medical systems

SITE MANAGEMENT PLAN

SITE MAP

FIGURE 1

C:\Data\MWH\VARIAN\VARIAN SITE MANAGEMENT PLAN\FIGURES\Fig 2_Known Extent of Onandoff Site GW Impacts_3May2018.mxd 3 May 2018 DRAWN BY D. Severson

Shimizu Property
MW-43
MW-42
MW-44
North Extraction Trench
Shimizu Truck Maintenance Building
North Trench Sump
PZ-03
D-1
US Construction Properties
PZ-05
PZ-06
MW-26R
MW-31
PZ-01
MW-28
MW-27
D-D
MW-41
MW-30
MW-29
MW-32
MW-40
MW-25
D-C
MW-33
PZ-07
MW-04
MW-24
MW-02R
MW-13
MW-05
PZ-16
MW-14
MW-06
MW-10
MW-12
MW-34
MW-36
AREA WITH POTENTIAL FOR VOCs IN GROUNDWATER AT CONCENTRATIONS AT OR ABOVE 1 µg/L
Slurry Wall
PZ-08
PZ-09
PZ-10
West Trench Sump
D-3
MW-17
MW-37
MW-20
Varian Medical Salt Lake City Facility
MW-35
EW-39R
PZ-11
MWD-2
SVE-3
SVE-2
MW-18
Pioneer Road
MW-19
Inferred extent of VOCs in groundwater beneath building
MW-38
SVE-1
1700 South
West Extraction Trench
SVE-4
PZ-17
PZ-12
MW-16
Varian Property
D-2
N
W
E
S
0 70 140
Scale in Feet
MW-15A
D-B
D-A

EXPLANATION

Ditch sample		Monitoring well	
Piezometer		Extraction well	
SVE well		Trench sump	
Slurry wall	VOCs	Volatile Organic Compounds	
Extraction trench	µg/L	Micrograms per liter	

Aerial Photography: 16 June 2015

varian

SITE MANAGEMENT PLAN

KNOWN EXTENT OF ON-AND OFFSITE GROUNDWATER IMPACTS

FIGURE 2

ATTACHMENT A

PROPERTY LEGAL DESCRIPTION

ATTACHMENT A

THE PROPERTY

Commencing at a point South 0 03’ 08” West 328.35 feet and South 89 56’ 52” W 25 feet from a Salt Lake City monument locate at the intersection of 17th South Street and Pioneer Road, said monument being N 89 45’ 30” East 19.442 feet and North 0 03’ 08” West 2767.244 feet from the South ¼ corner Section 16, Township 1 South, Range 1 West, Salt Lake Meridian; and running thence South 89 56’ 52” West 1240.20 feet; thence North 741.59 feet; thence North 89 56’ 52” East 1239.52 feet; thence South 0 03’ 08” West 741.59 feet to the point of beginning, containing 21.108 acres.

ATTACHMENT B
ENVIRONMENTAL COVENANT
(Executed EC to be attached to final SMP)

To be recorded with County Recorder – Utah Code Ann § 57-25-108

When Recorded Return To:
Varex Imaging Corporation, Inc.
1678 S. Pioneer Road
Salt Lake City, Utah

With Copy To:
Scott T. Anderson, Director
Utah Division of Waste Management and Radiation Control
P.O. Box 144880
Salt Lake City, UT 84114-4880

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is entered into by **Varex Imaging Corporation, Inc.** ("Owner" or "Varex"), **Varian Medical Systems, Inc.** ("Holder" or Varian") and the **Director of the Utah Division of Waste Management and Radiation Control** ("Director"), pursuant to Utah Code Ann. §§ 57-25-101 et seq. for the purpose of subjecting the real property described in paragraph ¶6, below ("Property"), to the activity and use limitations set forth herein.

Environmental Response Project

2. The Property located at 1678 South Pioneer Drive, Salt Lake City, Utah, is owned by Varex, successor in interest to Varian, and operated as a manufacturing facility. The Property is situated within Salt Lake City Zoning District M-1: Light Manufacturing. The Property is subject to a Deed Notice dated January 9, 2001, executed on behalf of Varian and recorded January 29, 2001, as entry no. 7807755 at Book 8418, Pages 7328-7330 of the real property records of the Recorder of Salt Lake County, Utah ("Deed Notice"), and given in accordance with a Site Remediation Plan ("Remediation Plan") implemented by Varian under the regulatory direction of the Utah Solid and Hazardous Waste Control Board ("Board") pursuant to Stipulation and Consent Order No. 9309052, as amended, ("Consent Order") to address the presence of certain hazardous volatile organic compounds ("Hazardous Constituents") in the groundwater in the shallow unconfined zone underlying the Property and in soils in certain areas of the Property. This Environmental Covenant supersedes the Deed

Notice.

3. The environmental response project that is the basis of this Environmental Covenant is the Remediation Plan with respect to the Property. Investigations have been conducted at the site by Varian to delineate the extent of soil, groundwater and soil vapor contamination and the Remediation Plan has been approved by the Director, and is being implemented by Varian under the regulatory direction of the Director, pursuant to the Consent Order. The Remediation Plan administrative records are maintained and managed by the Utah Department of Environmental Quality, Division of Waste Management and Radiation Control ("Division").

Covenant

4. Now therefore, Owner, Holder and the Director agree to the following:

5. Environmental Covenant. This instrument is an environmental covenant developed and executed pursuant to Utah Code Ann. §§ 57-25-101 et seq.

6. Property. This Environmental Covenant concerns *[an approximately ____ acre tract of real property, tax parcels numbered _____]* owned by Varex and located at 1678 S. Pioneer Road, Salt Lake City, Utah, in _____ County, Utah, and more particularly described in Exhibit A attached hereto and hereby incorporated by reference herein ("Property").

7. Owner. Varex Imaging Corporation, Inc., a Delaware corporation ("Owner") is the owner of the Property. Consistent with Paragraph 11 of this Environmental Covenant, the obligations of the Owner under this Environmental Covenant are imposed on any assigns and successors in interest, including any Transferee. The term "Transferee" as used in this Environmental Covenant, means the future owner(s) of any interest in the Property or any portion thereof, including, but not limited to, owners of an interest in fee simple, mortgagees, easement holders, or lessees.

8. Holder. Varian Medical Systems, Inc. is the holder of this Environmental Covenant.

9. Activity and Use Limitations. As part of an environmental response project, as defined at Utah Code Ann. § 57-25-102(5), in the form of the Remedial Plan, Owner hereby impose*s* and agree*s* to comply with the following activity and use limitations:

A. **Land Use Limitations** The Property shall be used only for commercial, industrial land uses. Uses requiring remediation to residential standards are prohibited.

B. **Ground Water Limitations** The groundwater in the shallow unconfined aquifer underlying the Property shall not be used for culinary purposes and shall not be used for irrigation or other beneficial uses without prior treatment to meet all applicable water quality standards governing the intended uses.

C. **Wells and Remediation Facilities** Holder and permittees under the Remediation Plan have the right of access to the Property without payment of rent or fees to comply with the Remediation Plan or other governmental remediation requirements and the right to install, develop repair, maintain and replace groundwater monitoring wells or other facilities at the Property for purposes of monitoring groundwater and soil vapor and for remediation action activities. To the extent reasonably possible, any such wells or facilities will be placed in areas that will allow for construction of improvements, allow any existing improvements structurally to remain undisturbed, permit reasonable use of the Property and avoid disruption of the use of the Property. All construction and land development activities on the Property shall not damage any wells or remediation facilities. Owner, or if the Property has been transferred the Transferee, shall promptly report to the Holder any damage to wells or remediation facilities and shall pay all costs of repairing or moving all wells and remediation facilities affected by their activities or by construction and land development activities.

D. **Construction Limitations** In the event that construction activities involving excavation or borings are planned on the Property, workers shall be required to comply with the Occupational Safety and Health Administration ("OSHA") training for hazardous materials facilities (29 CFR 1910.120). Prior to construction, Owner, or if the Property has been transferred the Transferee, shall notify the Division of its construction plans and document how it will achieve compliance with the construction limitations, including providing the Division with copies of its application for a building permit with its vapor mitigation system plans, and a report and photos documenting installation of the vapor mitigation system, if a vapor mitigation system is required.

E. **Soil Excavation and Groundwater Removal** Soil or water contaminated with Hazardous Constituents that is excavated or removed from the Property shall be properly treated and/or disposed in accordance with applicable law.

F. **Vapor Intrusion Limitations** In order to address potential vapor intrusion issues, if enclosed structures are placed above areas of the Property contaminated with Hazardous Constituents, Owner, or if the Property has been transferred the Transferee, shall install and maintain a vapor mitigation system in or beneath any such enclosed structures to be occupied by humans, unless a vapor intrusion risk assessment is

conducted and shows that there is no vapor intrusion risk, as determined by the Division.

10. Breach. If any event or action constitutes a breach of the activity and use limitations, Owner, or if the Property has been transferred the Transferee, shall notify the Director and Holder within [30] days of becoming aware of the event or action.

11. Running with the Land. This Environmental Covenant shall be binding upon the Owner and all assigns and successors in interest, including any Transferee, and shall run with the land, pursuant to Utah Code Ann. § 57-25-105, subject to amendment or termination as set forth herein..

12. Compliance Enforcement. Compliance with this Environmental Covenant may be enforced pursuant to Utah Code Ann. § 57-25-111. Failure to timely enforce compliance with this Environmental Covenant or the activity and use limitations contained herein by any party shall not bar subsequent enforcement by such party and shall not be deemed a waiver of the party's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict the Director from exercising any authority under applicable law.

13. Rights of Access. Owner hereby grant*s* to the Director, its agents, contractors, and employees, and to Holder and local government officials the right of reasonable access to the Property for implementation or enforcement of this Environmental Covenant. Nothing in this Environmental Covenant shall be construed as limiting any access and inspection authorities of the Board and the Director under State law.

14. Compliance Reporting. Owner, or if the Property has been transferred the Transferee, shall submit to the Director and Holder on *an annual* basis written documentation verifying that the activity and use limitations remain in place and are being complied with.

15. Notice upon Conveyance. Each instrument hereafter conveying any interest in the Property or any portion of the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant, and provide the recorded location of this Environmental Covenant. The notice shall be substantially in the following form:

> THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED_____, 20__, RECORDED IN THE DEED OR OFFICIAL RECORDS OF THE _____COUNTY RECORDER ON _____, 20__, IN [DOCUMENT ____, *or* BOOK___, PAGE ____,]. THE ENVIRONMENTAL COVENANT

CONTAINS THE FOLLOWING ACTIVITY AND USE LIMITATIONS: The language of paragraph 9 of the Environmental Covenant, Activity and Use Limitations, is incorporated herein verbatim by reference.]

16. Conveyance Notice. Owner, or if the Property has been transferred the Transferee, shall notify the Director and the Holder within thirty (30) days after each conveyance of an interest in any portion of the Property. Such notice shall include the name, address, and telephone number of the Transferee, a copy of the deed or other documentation evidencing the conveyance, and an un-surveyed plat that shows the boundaries of the property being transferred.

17. Representations and Warranties. Owner hereby represents and warrants to the other signatories hereto:

A. that the Owner is the sole owner of the Property;

B. that the Owner holds fee simple title to the Property which is subject to the interests or encumbrances identified in Exhibit B attached hereto and incorporated by reference herein*;*

C. that the Owner has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

D. that the Owner has identified all other persons that own an interest in or hold an encumbrance on the Property and notified such persons of the Owner's intention to enter into this Environmental Covenant; and,

E. that this Environmental Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Owner is a party or by which Owner may be bound or affected.

[F. *to the extent that any other interests in or encumbrances on the Property conflict with the activity and use limitations set forth in this Environmental Covenant, the persons who own such interests or hold such encumbrances have agreed to subordinate such interests or encumbrances to the Environmental Covenant, pursuant to* Utah Code Ann. §§ 57-25-103(4) (a) *and the subordination agreement(s) (attached hereto as Exhibit C; [or] recorded at _____).* (NOTE: The need for this provision is being assessed.)]

18. Amendment or Termination. This Environmental Covenant may be amended or terminated by written consent of all of the following: the Owner, or if the property has been transferred the Transferee in possession of the affected Property at the time of the amendment or termination; the Holder; and, the Director, pursuant to Utah Code Ann. § 57-25-110 and other applicable law. The term, "Amendment," as used in this Environmental Covenant, shall mean any changes to the Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term, "Termination," as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant.

19. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

20. Governing Law. This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the State of Utah.

21. Recordation. Within 30 days after the date of the final required signature upon this Environmental Covenant, Owner*s* shall file this Environmental Covenant for recording, in the same manner as a deed to the Property, with the _____ County Recorder's Office.

22. Effective Date. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded as a document of record for the Property with the _____ County Recorder.

23. Distribution of Environmental Covenant. The Owner shall distribute a file-and date-stamped copy of the recorded Environmental Covenant to: the Director; the [*City, County, Township, Village*] of _____; and, the Holder. (*See* Utah Code Ann. §§ 57-25-107).

24. Notice. Unless otherwise notified in writing by or on behalf of the current owner, the Holder or the Director, any document or communication required by this Environmental Covenant shall be submitted to:

On behalf of the Division:

Mr. Scott T. Anderson, Director

Utah Division of Waste Management and Radiation Control
P.O. Box 144880
Salt Lake City, Utah 84114-4880

On behalf of the Owner:

On behalf of the Holder:

The undersigned representative of Owner, Holder and Division represents and certifies that *[he/she] is* authorized to execute this Environmental Covenant.

IT IS SO AGREED:

Varex Imaging Corporation, Inc.

_____
Signature of Owner

_____ _____
Printed Name and Title Date

State of _____)
) ss:
County of _____)

Before me, a notary public, in and for said county and state, personally appeared _____, a duly authorized representative of _____, who acknowledged to me that *[he/she]* did execute the foregoing instrument on behalf of _____.

IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this _____day of _____, 20__.

_____
Notary Public

Utah Division of Waste Management and Radiation Control

_____ _____

Scott T. Anderson, Director Date

State of Utah)

) ss:

County of Salt Lake)

Before me, a notary public, in and for said county and state, personally appeared Scott T. Anderson, Director of the Utah Division of Waste Management and Radiation Control, who acknowledged to me that he did execute the foregoing instrument.

IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this _____day of _____, 20__.

_____

Notary Public

Varian Medical Systems, Inc.

_____
Signature of Holder
_____

_____
_____

Printed Name and Title Date

State of _____)
) ss:
County of_____)

Before me, a notary public, in and for said county and state, personally appeared _____, a duly authorized representative of _____, who acknowledged to me that *[he/she]* did execute the foregoing instrument on behalf of _____.

IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this _____day of _____, 20__.

_____
Notary Public

This instrument prepared by:

[Name, address]