

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smart Troll</i>	Manufacturer: <i>insitu</i>
Serial Number: <i>512733</i>	Last Service Date: <i>7/10/19</i>
Parameter(s):	Calibration Gas: <i>see below</i>
Calibration Procedure: <i>100% saturation DO = 102.3%, 7.56 mg/L, 31.3°C ORP: 228 mV = 206.3 mV (Lot# C842257, exp 11/2019)</i> <i>pH 7.00 (Lot# C819546 C819546 exp. 11/2019) = 7.11</i> <i>pH 10.00 (Lot# C830367, exp. 11/2019) = 9.67</i> <i>pH 4.00 (Lot# C828641, exp 11/2019) = 4.41</i> <i>sp. conductance 4.49 ms/cm = 4.43 ms/cm</i>	
Daily Calibration Results	
Date: <i>7/10/2019</i>	Calibration Result: <i>pH 7.11 → 7 sp. cond. 4.43 → 4.49</i> <i>9.07 → 10 ORP 200.3 → 228</i> <i>4.41 → 4 DO 102.320 → 100%</i>
Name: <i>Ellie</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>7/15/19</i>	Calibration Result: <i>pH 6.76 → 7.0 sp. cond. 4.41 → 4.49</i> <i>9.89 → 10.0 ORP 204.1 → 228</i> <i>4.91 → 4.0 DO 95.4 → 100%</i>
Name: <i>Mark Higley</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>07/23/19</i>	Calibration Result: <i>DO 95.9 → 100% pH 4.4 → 4.0</i> <i>sp cond. 4.37 → 4.49 7.19 → 7.0</i> <i>ORP 194.2 → 228 mV 9.82 → 10.0</i>
Name: <i>Estelle BONNY</i>	Signature:
Notes:	
Date: <i>7/24/19</i>	Calibration Result: <i>DO = 109.8%, 7.87 mg/L spcond = 430 4.25/cm</i> <i>pH = 4.44; 7.22; 9.79; ORP: 285.3 mV → 228 mV</i>
Name: <i>Ellie</i>	Signature: <i>[Signature]</i>
Notes:	


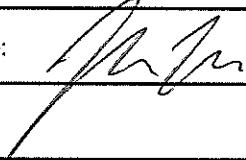
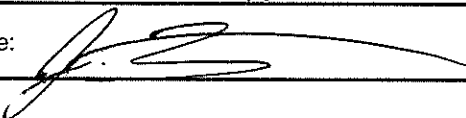
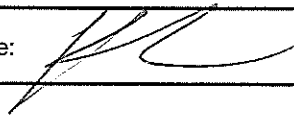
Project: *Red Hill*
 Date: *7/15/19*
 Instrument: *water quality meter*

Job No.: *60571032*
 Operator: *Mark Higley*
 Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MULTIRAE	Manufacturer: RAE
Serial Number: NBB 32423	Last Service Date: 7/10/19 Lot No: 211957
Parameter(s): zero cal w/ fresh air	Calibration Gas: zero air/fresh air, isobutylene,
Calibration Procedure: 100ppm isobutylene 25ppm H₂S, 50ppm CO, 50% O₂ 1990	Hydrogen Sulfide, Carbon monoxide, Methane, oxygen, nitrogen balance Lot No: 225129
Daily Calibration Results	
Date: 7/10/19	Calibration Result: zero = 0 ✓ multi = O₂ ✓ LEL ✓ VOC = ✓ CO ✓ H₂S ✓
Name: Ellie Huang	Signature: 
Notes:	
Date: 7/15/19	Calibration Result: passed
Name: Mark Higley	Signature: 
Notes:	
Date: 7/18/19	Calibration Result: zero = ✓ LEL = ✓ VOC = ✓ O₂ = ✓ CO = ✓ H₂S = ✓
Name: Jack Fleherky	Signature: 
Notes:	
Date: 7/18/19 1210	Calibration Result: PAS
Name: Kevin Lee	Signature: 
Notes:	

Project: **Red Hill**
 Date: **7/15/19**
 Instrument: **MULTIRAE**

Job No.: **60571032**
 Operator: **Mark Higley**
 Calibration: **passed**

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>MULTIRAE</i> <i>OH #12219</i>	Manufacturer: <i>RAE</i>
Serial Number: <i>M0120099 Q8</i> <i>M0120099 Q8</i>	Last Service Date: <i>7/10/19</i>
Parameter(s): <i>zero cal w/ fresh air</i>	Calibration Gas: <i>zero air, isobutylene, (H₂S; CH₄; O₂; CO)</i>
Calibration Procedure: <i>100 ppm isobutylene lot # 211952 exp 02/2021</i> <i>25 ppm H₂S; 50 ppm CO; 50% CH₄; 19% O₂ lot # 225129 exp 01/2021</i>	
Daily Calibration Results	
Date: <i>7/22/19, Monday</i>	Calibration Result: <i>Multi: pass</i> <i>zero/fresh air: pass</i> <i>VOC: pass</i>
Name: <i>Ellie</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>7/23/19, Tuesday</i>	Calibration Result: <i>Multi = pass</i> <i>zero / fresh air = pass</i> <i>LEL = fail</i> <i>VOC = pass</i>
Name: <i>Estelle</i>	Signature:
Notes:	
Date: <i>7/24/19</i>	Calibration Result: <i>multi = pass all</i> <i>zero / fresh air = pass</i> <i>VOC = pass</i>
Name: <i>Kevin Mura</i>	Signature: <i>[Signature]</i>
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

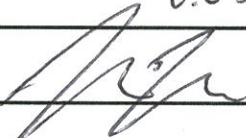
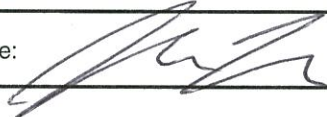


Project: *Red Hill*
 Date: *7/24/19*
 Instrument: *Multirae*

Job No.: *60571 032*
 Operator: *GM*
 Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Turbidimeter</i>	Manufacturer: <i>HF scient. Sic</i>
Serial Number: <i>N/A</i>	Last Service Date: <i>N/A</i>
Parameter(s): <i>Turbidity</i>	Calibration Gas: <i>0.02 NTU standard</i>
Calibration Procedure: <i>0.02 NTU</i>	
Daily Calibration Results	
Date: <i>7/10/19</i>	Calibration Result: <i>0.02 NTU</i>
Name: <i>mark Higby</i>	Signature: 
Notes:	
Date: <i>7/15/19</i>	Calibration Result: <i>0.02 NTU</i>
Name: <i>mark Higby</i>	Signature: 
Notes:	
Date: <i>7/22/19, Monday</i>	Calibration Result: <i>0.02 NTU</i>
Name: <i>Ellie</i>	Signature: 
Notes: <i>7/23/19, Tuesday</i>	
Date: <i>7/23/19, Tuesday</i>	Calibration Result: <i>0.02 NTU</i>
Name: <i>Estelle</i>	Signature: 
Notes:	

Project: *Red Hill*
 Date: *7/15/19*
 Instrument: *Turbidimeter*

Job No.: *60571032*
 Operator: *mark Higby*
 Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Turbidimeter (Tunnel)</i>	Manufacturer: <i>HF Scientific</i>
Serial Number: <i>N/A</i>	Last Service Date: <i>N/A</i>
Parameter(s): <i>Turbidity</i>	Calibration Gas: <i>0.02 NTU Standard</i>
Calibration Procedure:	
Daily Calibration Results	
Date: <i>7/22/19 Monday</i>	Calibration Result: <i>0.02 NTU</i>
Name: <i>Ellie</i>	Signature: <i>[Signature]</i>
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

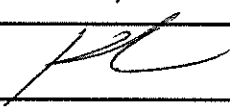
Project: *Red Hill*
 Date: *7/22/19*
 Instrument: *Turbidimeter*

Job No.: *60571032*
 Operator: *Ellie*
 Calibration: *Passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>MULTIPAE</i>	Manufacturer: <i>PAE</i>
Serial Number: <i>M0120983Q7</i>	Last Service Date: <i>07/23/19</i> <i>211752</i>
Parameter(s): <i>ZERO cal w/ fresh air</i>	Calibration Gas: <i>150 butylene lot # 226984 exp 3/22</i> <i>KK 7/23</i>
Calibration Procedure: <i>100 ppm Isobutylene 25 ppm H₂S, 50 ppm CO, 50% CH₄ O₂ 19%</i>	<i>⊆ H₂S, carbon monoxide, methane, O₂ nitrogen balance lot # 225129</i>
Daily Calibration Results	
Date: <i>07/23/19</i>	Calibration Result: <i>Pass</i>
Name: <i>Kevin Lee</i>	Signature: 
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: *Red Hill*
 Date: *07/23/2019*
 Instrument: *MULTIPAE*

Job No.: *60571032*
 Operator: *Kevin Lee*
 Calibration: *Passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>MINIRAE 3060</i>	Manufacturer: <i>RAE</i>
Serial Number: <i>592-908165</i>	Last Service Date: 7/10/19 <i>7/10/19</i>
Parameter(s): <i>zero cal w/ fresh air</i>	Calibration Gas: <i>isobutylene lot # 226984 exp 3/2022</i>
Calibration Procedure: <i>100ppm isobutylene</i> <i>25ppm H₂S, 50ppm CO, 5% CH₄, 1% O₂ 7/22/19 DH</i> <i>Fresh air</i>	
Daily Calibration Results	
Date: <i>7/22/19</i>	Calibration Result: <i>zero = 0.0 ppm</i> <i>ISO = 100.0 ppm</i>
Name: <i>Ellie</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>7/23/19</i>	Calibration Result: <i>zero = 0.0 ppm</i> <i>ISO = 100.1 ppm</i>
Name: <i>Estelle</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>7/24/19</i>	Calibration Result: <i>Passed, 101.1 ppm</i>
Name: <i>Gavin Mun</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>7/25/19</i>	Calibration Result: <i>Passed 0.0 / 100.0 ppm</i>
Name: <i>mark Higby</i>	Signature: <i>[Signature]</i>
Notes:	

Project: *Reed Hill*
 Date: *7/25/19*
 Instrument: *Mini RAE*

Job No.: *60571032*
 Operator: *MH*
 Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll</i>	Manufacturer: <i>insitu</i>
Serial Number: <i>512733</i>	Last Service Date: <i>7/10/19</i>
Parameter(s): <i>pH, DO, Con, ORP</i>	Calibration Gas: <i>see below</i>
Calibration Procedure: <i>100% saturation RDO = 102.3%, 7.56 mg/L, 31.3°C</i> <i>pH 7.00 (lot # C819546, exp 11/2019) = 7.11</i> <i>pH 10.00 (lot # C830367, exp 11/2019) = 9.67</i> <i>pH 4.00 (lot # C825641, exp 11/2019) = 4.41</i> <i>sp. conductance 4.49 mS/cm = 4.43 mS/cm</i>	
Daily Calibration Results	
Date: <i>07/22/19</i>	Calibration Result: <i>CON (4421 → 4490 μS/cm), pH 4.00 (4.35 → 4.01), pH 7.00 (7.15 → 7.00), pH 10.00 (9.78 → 10.0)</i> <i>ORP (191.9 → 228 mV), RDO (96.1% → 100%)</i>
Name: <i>Estelle BONNY</i>	Signature:
Notes:	
Date: <i>07/23/19</i>	Calibration Result:
Name:	Signature:
Notes:	
Date: <i>08/01/19</i>	Calibration Result: <i>DO: 91.9%, 7.18 mg/L</i> <i>pH: 4.49, 7.30, 9.45</i> <i>CON: 4321</i> <i>ORP: 229.0 199.0</i>
Name: <i>Gavin Mura</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>08/07/19</i>	Calibration Result: <i>pH 4.96, 6.99, 9.85</i> <i>CON (4370)</i> <i>ORP: 203.4; RDO 97.9%</i>
Name: <i>Caitlin Ellis</i>	Signature: <i>[Signature]</i>
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *8/7/19*

Operator: *ck*

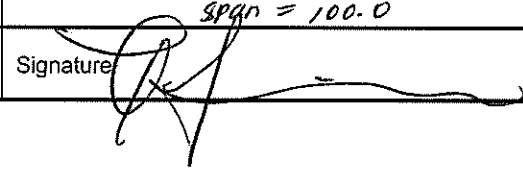
Instrument: *Smartroll*

Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>MiniRAE 3000</i>	Manufacturer: <i>RAE</i>
Serial Number: <i>592-902229</i>	Last Service Date: <i>08/05/19</i>
Parameter(s): <i>zero cal w/ fresh air.</i>	Calibration Gas: <i>isobutylene lot# 225112 exp 1/22</i>
Calibration Procedure: <i>100 ppm isobutylene → span Fresh air → zero</i>	
Daily Calibration Results	
Date: <i>8/7/19</i>	Calibration Result: <i>zero = 0.0 ppm span = 100.0</i>
Name: <i>Caitlin Ellis</i>	Signature: 
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *8/7/19*

Operator: *C Ellis*

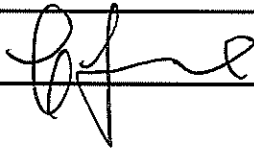
Instrument: *mini rae*

Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Turbidimeter</i>	Manufacturer: <i>HF Scientific inc.</i>
Serial Number: <i>DRT-15CE</i>	Last Service Date:
Parameter(s): <i>Turbidity</i>	Calibration Gas: <i>0.02 NTU VIAL</i>
Calibration Procedure: <i>spin 0.02 NTU vial until display reads 0.02 NTU adjust accordingly</i>	
Daily Calibration Results	
Date: <i>08/7/19</i>	Calibration Result: <i>passed</i>
Name: <i>Caitlin Ellis</i>	Signature: 
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *8/7/19*

Operator: *C Ellis*

Instrument: *Turbidimeter*

Calibration: *passed*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll</i>	Manufacturer: <i>INSI 12</i>
Serial Number: <i>5859? (partially faded)</i>	Last Service Date: <i>7/26/19</i>
Parameter(s): <i>see below</i>	Calibration Gas: <i>N/A</i>
Calibration Procedure: <i>pH 7.00 → Lot# C819546 exp 11/2019 R00 → sponge</i> <i>pH 10.00 → Lot# C830367, exp 11/2019</i> <i>pH 4.00, SPC 4.49ms/cm → Lot# C825641 exp 11/2019</i> <i>ORP +228mV → Lot# C842257 exp 11/2019</i>	
Daily Calibration Results	
Date: <i>7/29/19</i>	Calibration Result: <i>pH 7.51, 10.15, 4.63</i> <i>SPC → 4284 μS/cm, 186.4 mV R00 → 100.3%</i>
Name: <i>Bianca Mintz</i>	Signature: <i>Bianca Mintz</i>
Notes:	
Date: <i>7/30/19</i>	Calibration Result: <i>pH 7.35, 10.15, 4.62</i> <i>SPC → 4267 μS/cm ORP → 182.1 mV R00 → 78%</i>
Name: <i>Bianca Mintz</i>	Signature: <i>Bianca Mintz</i>
Notes:	
Date: <i>7/31/19</i>	Calibration Result: <i>pH → 4.07, 7.55, 10.16 R00 → 109.0, 8.6</i> <i>SPC → 4219 μS/cm</i> <i>ORP → 182.4 mV</i>
Name: <i>SIDNEY MAHANAY</i>	Signature: <i>Sidney Mahanay</i>
Notes:	
Date: <i>8/1/19</i>	Calibration Result: <i>pH → 4.69, 7.54, 10.16 ORP → 182.9</i> <i>SPC → 4218 μS/cm R00 → 109.0% 8.64</i>
Name: <i>SIDNEY MAHANAY</i>	Signature:
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *7/29/19*

Operator: *Bianca Mintz*

Instrument: *Smartroll*

Calibration: *pass*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll MP</i>	Manufacturer: <i>In-Situ</i>
Serial Number: <i>589</i>	Last Service Date: <i>7/10/19</i>
Parameter(s): <i>pH, conductivity, ORP, DO%, TDO</i>	Calibration Gas: <i>(pH10: C830361, 11/19) (ORP: C842257 11/19) (pH7: C819546, 11/19) (Auto cal, pH4, 4.49 mS/cm C825641 11/19)</i>
Calibration Procedure: <i>pH 3pt 7,10,4 Specific cond. 4.49 mS/cm ORP 228 mV DO 100% saturation</i>	
Daily Calibration Results	
Date: <i>07/22/19</i>	Calibration Result: <i>Sat: 101.1%, 8.04 mg/L, pH: 4.52, 7.43, 10.08 Con: 4310 mS/cm, ORP: 190.6 → 225 mV</i>
Name: <i>Garvin Munn</i>	Signature: <i>Garvin M</i>
Notes:	
Date: <i>7/23/19</i>	Calibration Result: <i>Sat: 101.0%, 7.87 mg/L; Cond: 4388 mS/cm pH: 4.45, 7.41, 10.13 ORP: 187.1 → 228 mV</i>
Name: <i>Ellie</i>	Signature: <i>Ellie H</i>
Notes:	
Date: <i>7/24/19</i>	Calibration Result: <i>DO: 106.3%, 8.33 mg/L, SP Cond: 4379 mS/cm pH: 4.54; 7.44; 10.10 ORP 188.3 → 228</i>
Name: <i>Ellie</i>	Signature: <i>Ellie H</i>
Notes:	
Date: <i>7/25/19</i>	Calibration Result: <i>pH 7.49 → 7.0 sp. cond. 4.43 → 4.49 9.34 → 10.0 ORP 186.1 → 228 4.59 → 4.0 DO 99.5% → 100%</i>
Name: <i>Mark Higley</i>	Signature: <i>Mark Higley</i>
Notes:	

Project: *Red Hill*
Date: *7/25/19*
Instrument: *Smartroll*

Job No.: *60571032*
Operator: *Mark Higley*
Calibration: *passed.*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Maffire</i>	Manufacturer: <i>Rae</i>
Serial Number: <i>PGM6228</i>	Last Service Date:
Parameter(s): <i>see below</i>	Calibration Gas: <i>see below</i>
Calibration Procedure: <i>fresh air</i> <i>isobutylene</i> → Lot # <i>211953</i> , exp Feb 2021 <i>hydrogen sulfide</i> } <i>carbon monoxide</i> } Lot # <i>225129</i> , exp Jan 2021 <i>methane</i> <i>oxygen</i>	
Daily Calibration Results	
Date: <i>7/29/19</i>	Calibration Result: <i>pass</i>
Name: <i>Bianca Mintz</i>	Signature: <i>Bianca Mintz</i>
Notes:	
Date: <i>7/30/19</i>	Calibration Result: <i>pass</i>
Name: <i>Estelle BONNY</i>	Signature: <i>Bonny</i>
Notes: <i>VOCs empty. use Lot# THB-J-248-100-6 exp 07/2023</i>	
Date: <i>7/31/19</i>	Calibration Result: <i>Pass</i>
Name: <i>Garvin Mura</i>	Signature: <i>GM</i>
Notes:	
Date: <i>8/1/19</i>	Calibration Result: <i>Pass</i>
Name: <i>Garvin Mura</i>	Signature: <i>GM</i>
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *7/29/19*

Operator: *Bianca Mintz*




Instrument: *Maffire*

Calibration: *pass*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: Mini RAE	Manufacturer: RAE Systems
Serial Number: 592-910651	Last Service Date: 7/30/19
Parameter(s): Fresh Air, VOCs	Calibration Gas: Isobutylene 100ppm
Calibration Procedure: Lot # THBJ-248-100-6 First calibrate to zero using fresh air. Then use 100ppm isobutylene bottle to calibrate VOCs. Let sit for 30 sec and should either pass or fail	
Daily Calibration Results	
Date: 08/01/19	Calibration Result: Passed
Name: Garin Mora	Signature: 
Notes:	
Date: 8/5/19	Calibration Result: pass
Name: Bianca Mintz	Signature: 
Notes:	
Date: 8/6/19	Calibration Result: pass 0.0 100.0
Name: Bianca Mintz	Signature: 
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO18F0126

Date: **8/1/19**

Instrument: **MiniRae**

Job No.: 60571032

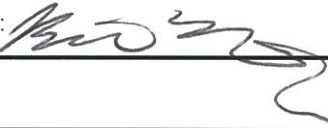

Operator: **MINTZ**

Calibration: **pass**

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll</i>	Manufacturer: <i>InSity</i>
Serial Number: <i>5859? (partially faded)</i>	Last Service Date: <i>7/26/19</i>
Parameter(s): <i>see below</i>	Calibration Gas: <i>NA</i>
Calibration Procedure: <i>pH 7.00 → lot# C819546 exp 11/2019</i> <i>pH 10.00 → lot# C830367 exp 11/2019</i> <i>pH 4.00, SPL 4.49 mS/cm → lot# C825641 exp 11/2019</i> <i>ORP +228 mV → lot# C825641 exp 11/2019</i> <i>RO → sponge</i>	
Daily Calibration Results	
Date: <i>8/5/19</i>	Calibration Result: <i>pH → 7.55, pH → 10.15, pH → 4.74</i> <i>RO → 100.1%, SPL → 4.156 mS/cm, ORP → 179.7</i>
Name: <i>Bianca Mintz</i>	Signature: 
Notes:	
Date: <i>8/6/19</i>	Calibration Result: <i>pH → 7.54, 10.21, 4.75</i> <i>SPL → 4.36 mS/cm, ORP → 179</i> <i>RO → 99.8%</i>
Name: <i>Bianca Mintz</i>	Signature: 
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *8/5/19*

Operator: *Mintz*

Instrument: *smartroll*

Calibration: *pas*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Maffire</i>	Manufacturer: <i>Rae</i>
Serial Number: <i>PGM6228 / 1201</i>	Last Service Date:
Parameter(s): <i>see below</i>	Calibration Gas: <i>see below</i>
Calibration Procedure: <i>freshair</i> <i>isobutylene</i> → Lot # <i>211953</i> , exp Feb 2021 <i>hydrogen sulfide</i> } <i>carbon monoxide</i> } Lot # <i>225129</i> , exp Jan 2021 <i>methane</i> } <i>oxygen</i> }	
Daily Calibration Results	
Date: <i>7/29/19</i>	Calibration Result: <i>pass</i>
Name: <i>Bianca Mintz</i>	Signature: <i>Bianca Mintz</i>
Notes:	
Date: <i>7/30/19</i>	Calibration Result: <i>pass</i>
Name: <i>Estelle BONNY</i>	Signature: <i>Bonny</i>
Notes: <i>VOCs empty. use Lot# THB-J-248-100-6 exp 07/2023</i>	
Date: <i>7/31/19</i>	Calibration Result: <i>Pass</i>
Name: <i>Kevin Mura</i>	Signature: <i>Kevin Mura</i>
Notes:	
Date: <i>8/1/19</i>	Calibration Result: <i>Pass</i>
Name: <i>Kevin Mura</i>	Signature: <i>Kevin Mura</i>
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *7/29/19*

Operator: *Bianca Mintz*

Instrument: *Maffire*

Calibration: *pass*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll MP</i>	Manufacturer: <i>In-Situ</i>
Serial Number: <i>589972</i>	Last Service Date: <i>7/10/19</i>
Parameter(s): <i>pH, conductivity, ORP, DO%, TDO,</i>	Calibration Gas: <i>(pH10: C830367, 11/19) (GRP: C842257 11/19) (pH7: C819546, 11/19) (Actual, pH4, 4.49 mS/cm C825641 11/19)</i>
Calibration Procedure: <i>pH 3pt 7,10,4 Specific Cond. 4.49 mS/cm ORP 228 mV DO 100% saturation</i>	
Daily Calibration Results	
Date: <i>07/22/19</i>	Calibration Result: <i>Sat: 101.1%, 8.04 mg/L, pH: 4.52, 7.43, 10.08 Con: 4380 mS/cm, ORP: 190.6 → 225 mV</i>
Name: <i>Garin Mura</i>	Signature: <i>Garin M</i>
Notes:	
Date: <i>7/23/19</i>	Calibration Result: <i>Sat: 101.0%, 7.87 mg/L; Cond: 4386 mS/cm pH: 4.45, 7.41, 10.13 ORP: 187.1 → 228 mV</i>
Name: <i>Ellie</i>	Signature: <i>Ellie H</i>
Notes:	
Date: <i>7/24/19</i>	Calibration Result: <i>DO: 106.3%, 8.33 mg/L, sp Cond: 4379 mS/cm pH: 4.54; 7.44; 10.10 ORP 188.3 → 228 mV</i>
Name: <i>Ellie</i>	Signature: <i>Ellie H</i>
Notes:	
Date: <i>7/25/19</i>	Calibration Result: <i>pH 7.49 → 7.0 sp. cond. 4.43 → 4.49 9.34 → 10.0 ORP 186.1 → 228 4.59 → 4.0 DO 99.5% → 100%</i>
Name: <i>Mark Higley</i>	Signature: <i>Mark Higley</i>
Notes:	

Project: *Red Hill*
 Date: *7/25/19*
 Instrument: *Smartroll*

Job No.: *60571032*
 Operator: *Mark Higley*
 Calibration: *passed.*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll</i>	Manufacturer: <i>INSi</i>
Serial Number: <i>58597, (partially faded)</i>	Last Service Date: <i>7/26/19</i>
Parameter(s): <i>see below</i>	Calibration Gas: <i>N/A</i>
Calibration Procedure: <i>pH 7.00 → Lot# C819546 exp 11/2019 R00 → sponge</i> <i>pH 10.00 → Lot# C830367, exp 11/2019</i> <i>pH 4.00, SPC 4.49ms/cm → Lot# C825641 exp 11/2019</i> <i>ORP +228mV → Lot# C842257 exp 11/2019</i>	
Daily Calibration Results	
Date: <i>7/29/19</i>	Calibration Result: <i>pH 7.51, 10.15, 4.63</i> <i>SPC → 4284 μS/cm, 186.4 mV R00 → 100.3%</i>
Name: <i>Bianca Mintz</i>	Signature: <i>Bianca Mintz</i>
Notes:	
Date: <i>7/30/19</i>	Calibration Result: <i>pH 7.35, 10.15, 4.62</i> <i>SPC → 4267 μS/cm ORP → 1221.1 mV R00 → 78.9</i>
Name: <i>Bianca Mintz</i>	Signature: <i>Bianca Mintz</i>
Notes:	
Date: <i>7/31/19</i>	Calibration Result: <i>pH → 4.62, 7.55, 10.16 DO → 109.0, 8.61</i> <i>SPC → 4219 μS/cm</i> <i>ORP → 182.4 mV</i>
Name: <i>SIDNEY MAHANAY</i>	Signature: <i>Sidney Mahanay</i>
Notes:	
Date: <i>8/1/19</i>	Calibration Result: <i>pH → 4.69, 7.54, 10.16 ORP → 182.9</i> <i>SPC → 4268 μS/cm DO → 109.0% 8.66</i>
Name: <i>SIDNEY MAHANAY</i>	Signature:
Notes:	

Project: Red Hill CTO18F0126

Job No.: 60571032

Date: *7/29/19*

Operator: *Bianca Mintz*

Instrument: *Smartroll*

Calibration: *pass*

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: <i>Smartroll</i>	Manufacturer: <i>InSitu</i>
Serial Number: <i>6M 589972</i> 85971	Last Service Date: <i>7/26/19</i>
Parameter(s): <i>see below</i>	Calibration Gas: <i>NA</i>
Calibration Procedure: <i>pH 7.00 → lot# C819546 exp 11/2019</i> <i>pH 10.00 → lot# C830367 exp 11/2019</i> <i>pH 4.00, SPL 4.49 mS/cm → lot# C825641 exp 11/2019</i> <i>ORP +228 mV → lot# C825641 exp 11/2019</i> <i>RDO → 90%</i>	
Daily Calibration Results	
Date: <i>8/5/19</i>	Calibration Result: <i>pH → 7.55, 10.15, 4.74</i> <i>SPL → 4.15 mS/cm, ORP → 179.7</i> <i>RDO → 10.1%</i>
Name: <i>Bianca Mintz</i>	Signature: <i>[Signature]</i>
Notes:	
Date: <i>8/6/19</i>	Calibration Result: <i>pH → 7.54, 10.21, 4.75</i> <i>SPL → 4.36 mS/cm, ORP → 179</i> <i>RDO → 9.8%</i>
Name: <i>Bianca Mintz</i>	Signature: <i>[Signature]</i>
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO18F0126
 Date: *8/5/19*
 Instrument: *Smartroll*

Job No.: 60571032
 Operator: *Mintz*
 Calibration: *pass*

Calibration Report: Conductivity Calibration Report
2019-07-12 11:18:37
Probe: 512733
Cell Constant: 1.1087
Stability: Full

Calibration Report: Conductivity Calibration Report
2019-08-05 11:30:41
Probe: 646770
Cell Constant: 1.1322
Stability: Full

Calibration Report: ORP Calibration Report
2019-07-12 11:23:30
Probe: 512733
ZoBell's
Offset: 19.4 mV
Stability: Full

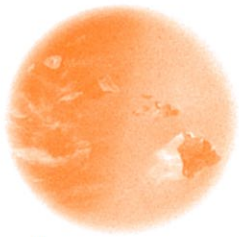
Calibration Report: ORP Calibration Report
2019-08-05 11:25:17
Probe: 646770
ZoBell's
Offset: 18.1 mV
Stability: Full

Calibration Report: pH Calibration Report
2019-08-05 11:32:01
Probe: 646770
4.01 pH
Slope: -59.16 mV/pH
Offset: 6.54 pH

Stability: Full

Calibration Report: RDO Calibration Report
2019-07-12 11:21:21
Probe: 512733
Slope: 0.9560
Offset: -0.0000
Stability: Full

Calibration Report: RDO Calibration Report
2019-08-05 11:28:54
Probe: 646770
Slope: 0.9590
Offset: -0.0000
Stability: Full

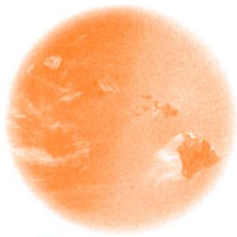


Certificate of Calibration

Instrument Type: **MINIRAE RAE 3000** Serial Number: 908165

Calibration Gas	Lot Number	Result
Isobutylene 100 ppm	987369	100ppm

Calibrated by:  Calibration Date: 07/05/19

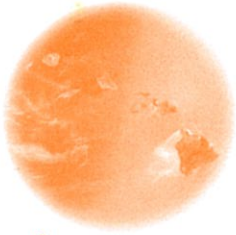


Certificate of Calibration

Instrument Type: MINIRAE RAE 3000 Serial Number: 910651

Calibration Gas	Lot Number	Result
Isobutylene 100 ppm	987369	100ppm

Calibrated by:  Calibration Date: 07/30/19




Certificate of Calibration

Instrument Type: **MultiRae**

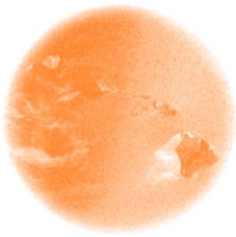
Serial Number: 46Q3

Calibration Gas Lot #: **998688 exp. 09/2021**

Calibration Gas	Result
CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

Calibrated by: 

Calibration Date: 06/21/19



Certificate of Calibration

Instrument Type: **MultiRae**


Serial Number: 0309

Calibration Gas Lot #: **998688 exp. 09/2021**

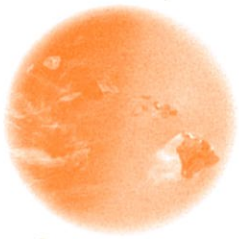
Calibration Gas

Result

CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

Calibrated by: 

Calibration Date: 07/23/19



Certificate of Calibration

Instrument Type: **MultiRae**

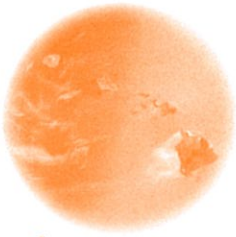
Serial Number: 4623

Calibration Gas Lot #: **998688 exp. 09/2021**

Calibration Gas	Result
CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

Calibrated by: 

Calibration Date: 07/12/19



Certificate of Calibration

Instrument Type: **MultiRae**

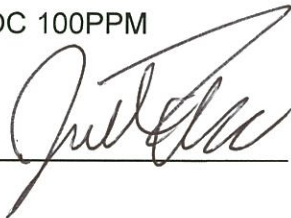
Serial Number: 46Q3

Calibration Gas Lot #: **998688 exp. 09/2021**

Calibration Gas

Result

CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

Calibrated by: 


Calibration Date: 07/10/19



Certificate of Calibration

Instrument Type: MINIRAE RAE 3000 Serial Number: 902229

Calibration Gas	Lot Number	Result
Isobutylene 100 ppm	987369	100ppm

Calibrated by:  Calibration Date: 05/09/19



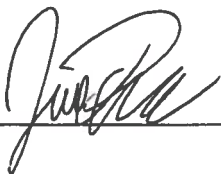
Certificate of Calibration

Instrument Type: **MultiRae**

Serial Number: 1201

Calibration Gas Lot #: **998688 exp. 09/2021**

Calibration Gas	Result
CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

Calibrated by: 

Calibration Date: 04/05/19