(Old powder magazine)
west of Oro Hondo)

Date **1/21/2015**   Station **4100 A**   1

INSTALL SHEET (Q330 Surface Site with Wilan Telemetry)

Local Date/Time: **11:00 AM   MST**   GMT Date/Time: **18:00**

Field Team: **Tanner, Gary, Daniel, Tom, Tamey**

GPS Location of Site: _____

Equipment

Sensor S/N: **9037**   Sensor Type: **STS-2**

~~Q330 DAS~~ S/N: **Ø1ØØØØØB699DAØ82**   Q330 TagID: **1405**

~~Wilan S/N:~~ Q330 IP: **204.114.29.15**   Wilan IP: _____

Clock S/N: _____   Balor tag: **Ø5228**
~~Breakout Box:~~
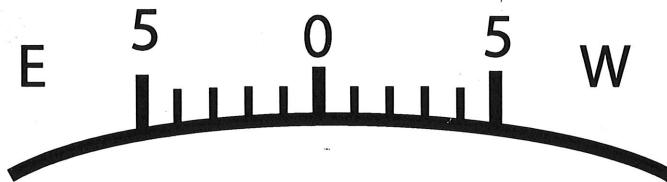~~Baler S/N:~~ → **1001385**   GPS transceiver: **DYSA16127**

                                                              Switch Label: **4100 SW2**

INSTALL SENSOR

__Check that compass declination is set to 8° E

Place an arrow on the figure below showing where the declination marks is position on this compass (cross check against above to avoid sign errors)

Aligned based on drift + map
see photo with map in frame

Guralp 3T

N/A {
___Add layers of landscaping timber to provide clearance for this larger sensor
___Sweep any dirt from the top of the concrete base
___Attach the alignment jig and use it to simultaneously level and orient the sensor
___Lock feet of sensor
___Connect the sensor cable to the sensor and then to the DAS (leave enough slack to allow you to reattach the alignment jig)
___Reattach the alignment jig and fill out the alignment table below (4 measurements).   If initial orientation is off by more than 1 degree align and relevel before making final measurements.

Trillium or STS2
X Sweep any dirt from the top of the concrete pad
X Use a ruler and sharpie to scribe an alignment line on the concrete base for this sensor
___Connect the sensor cable to control box and sensor
___Align the sensor using the mark and the alignment rod, level, repeat until level and aligned (fill out table below)

ALL SENSORS
N/A {
___Cut a length of 2" fire hose to run from sensor vault to DAS enclosure
___Use a fish tape to pull the DAS to control box cable through the fire hose and connect both ends
X Unlock masses
X Center masses
X Working with your partner verify the sensor is functional with a stomp test
N/A {
___Install vault cover with screws
___Cover vault with at least 2 layers of black plastic
___Bury sensor using sandbags filled with dirt, mound dirt ton top of vault cover, and add mulch to top

Use Brunton compass adjacent to sensor measurement jig, measuring North (N) and South (S). Reverse the jig and repeat recording the 4 measurements below. Record to your best guess of the nearest 0.1 degree.   If orientation is more than 1 degree away from NS try to realign. For Trillium and STS2 sensors use left and right side of alignment rod

Brunton Left (N)	Brunton Left (S)	Brunton Right (N)	Brunton Right (S)

Q330 Hardware Setup

N/A {
___Install solar panels on post using brackets and wood screws.
___Reconfigure guy wires if necessary
___Place the dog house near the solar panel pole with the door facing downhill to allow water to drain
___Install GPS on top of pole (must see the sky)
___Install Wilan radio on the pole (make sure the antenna is on the side facing Yates)

_X_ Run GPS and network cables and connect to Q330 (do not bundle up until testing is finished)
_X_ Connect the baler to the Q330

Power system tests:
Initial battery voltage (V)__12.74__
Solar panel output test:
     Sun condition when tested (circle one):   (a) sun on panels, (b) cloudy, (c) sun on panels at low angle
     Panel 1 output (V)__N/A__
     Panel 2 output (V)__N/A__
Equipment power up:
N/A Make sure power box is set for sealed battery mode
N/A Plug battery into power box.   Record voltage showing on LCD display (V) ___X___
N/A Connect both solar panels to power box. Record voltage on display (V)___X___
_X_ If all looks ok, connect the Q330 to power (Note with Guralp unlock cannot happen till now)
___Check here when the GPS LED goes yellow

Q330 Operations with the Clie (program Q330B147 on the SONY Clie PDA)
☒ Clone the program into the Q330
     Commands->Cloning
                    >*Select file to clone based on sensor type*
                    >Station names
                         >Palm overrides 330
                         >"Check" Edit/Verify
          >IP Addresses
                         >Palm overrides 330
                         >"Un-Check" Edit/Verify
          !Send
                    >Station Names
                         >DP4 >New
                                   !*Enter current station name (All CAPS and up to 5 letter/number characters)*
                                   !Ok
          !Save/Reboot   , Telemetry
          !Ok
☒ **Views ->Data Recording ->DP4** *Station name__A4100__   (SENSOR TYPE)

                    Note: DP4 station name should correspond to sensor type.

☒ **Views ->Data Recording ->DP4** *Station __A4100__   (STATION NAME) *Net __X-b__   (NETWORK CODE)

☒ Connect sensor to Q330 AFTER Cloning the Q330 for correct sensor type

☒ *SENSOR Unlock Procedure*

    CMG-3T: Attach extra power to 3T BOB. Use the BOB to test if the sensor is locked. Press and hold both the _Lock_ and _Enable_ Buttons for about 10 seconds. Watch the LED light (4-6 blinks in ~3 sec = Locked: indicates OK to use.)

    Next, unlock the sensor. Press and hold both the _Unlock_ and _Enable_ Buttons for about 10 seconds. Release buttons when the LED light illuminates (2 blinks and solid red indicates unlocking.)

TURN OVER

    STS-2: Use an STS-2 screwdriver to smoothly unlock all 3 elements. Give the STS-2 and initial centering pulse using the button on the host box.

    Views >Sensor: !Center A (STS-2)

☒ **Views->System:** *Main Current: _58 mA_ *Input Volts: _12.15 V_ (>12.5 full sun, >11.5 no sun)
        *Ant. Current: _N/A_   *Temp: _20°C_
        *Q330 SW Vers: _1.145_ *Last Boot: _1/21/2015 18:36_ *Last Resync: _1/21/2015 18:38_

(handwritten left margin: 1/21/2015 No GPS time)

☐ **Views -> Clock:** *Last Lock: _____ *Phase error: _____
        *Clock Quality: _____

☐ **Status ->GPS** *GPS Time: _____ *GPS Date: _____ (given in DD/MM/YYYY)
        *Height: _____ *Latitude: _____ *Longitude: _____

☒ **Views ->Sensors** !Refresh *Boom Positions (within +/-15, i.e. within +/-1.5 volts)
    1 _50_   2 _40_   3 _-12_
    ** If the Boom Positions are out – recenter sensor: **Views ->Sensors** !Center A

☒ **Views ->Quickview ->chan 1,2,3 -> !Start** Stomp test:
ch 1: ☒ OK
ch 2: ☒ OK
ch 3: ☒ OK (stomp seen?) -> **!Stop**
Write values:
ch 1: max____ min____ RMS____
ch 2: max____ min____ RMS____
ch3 max____ min____ RMS____
    (Values should be ~10,000 counts)

☒ **Status ->Data Port Txfr ->Data4** *Packet buffer used (increasing?) (YES) NO

☒ **Commands ->Baler Cmds** Turn on baler power control
    ☒ **!Send Baler Command** (Baler should turn on) Do NOT use ATTN button to power baler
        Note: If the baler times out BEFORE finishing REPEAT

☒ **Status ->Data Port Txfr ->Data4** *Packet Buffer (Decreases to zero) (YES) NO
        *Data packets sent _339_

NOTE: If the Q330 does not transfer data to the Baler try clearing the Baler "association" by holding in the baler Attention button in until the light turns solid red (~5 sec). Release the button and then, after the light begins to flash green, press the Attention button once to shut down the Baler. Repeat the process once more and then try to transfer data to the Baler.

☒ **Status->General** *Total ReSyncs _298_

☒ **Views ->Sensor:** *Boom Positions (less than +/-15, i.e. less than +/-1.5 volts)
    1 _~9_   2 _1_   3 _-12_

☐ **App ->Make Docfile** !OK to default filename Conf-YrMoDy-Q330 _____

SITE NOTES (Anything strange or notable)

Checklist

Paperwork
ｘ Completed pages 1-3
Sensor
ｎᵃ ___ Compass declination set and recorded
✓ Oriented
___ Level
___ Feet locked

orientation poor. Based on rough orientation from drift direction

Power system
✗ Battery terminals tight

N/A {
___ All power box connection tight
___ Any external power cables to box secured from rodent damage
___ Cables in the air have drip lines
___ No cables are on the ground without protection
___ SOLAR: panel boxes closed

ｘ AC: battery minder plugged in powered
Q330
✗ Completed paperwork on pages 1-2
✗ Acquiring data
✗ All unused connectors capped
Site

N/A {
___ Multiple layers of plastic on top of vault
___ Plastic configured to not collect water around sensor vault
___ Vault well covered with sandbags and dirt (6 inches minimum)
___ Cables all secured
___ Dog house door is secured
___ Cable entry plugged with plumber's putty

Inventory

STS-2, 2x orange cables, breakout box
Q330 + QNET power & ethernet cable
Baler + serial power & Q330 cable
Battery + battery tender + power cables
GPS transceiver + cable + power wires
TTL → RS-232 converter + power cable + converter
2x terminal blocks + jumpers
small tub + lid
Network switch

Infra sound microphone