Gunnedah Basin – Cultural Heritage Assessment

Request Details

Asset Type:	Well, Tank Farm, Road and Waterline
Asset Name:	Glasserton – Georges Island
Description of activity, including location and machinery involved:	Dozer, excavator and grader to construct leases for Glasserton 2, 3 4, water storage facility and to upgrade and re-align existing access tracks. Dozer, excavator and grader to prepare shallow aquifer monitoring bore area within Glasserton 3 lease area. A short buried water line will connect the Glasserton 2 location with the Water Storage Facility. Construction of leases will include importing fill material. A PCP will be installed in Glasserton 2 and the well operated on test for 60 days minimum. Downhole monitoring gauges will be installed in Glasserton 3, 4 and Georges Island 3 with a wireline unit. Trucking of water from the water storage facility to an offsite disposal location will occur during the test.
Activity start date:	1/06/2011
Activity end date:	30/09/2011
Tenement:	PEL 1

Request Contact Details	**Requestor Contact Detail Type**
Peter Clark	**07 3838 3160**

The Investigation Area

The **Investigation Area** means the land described below.

Please input the latitude and longitude for the location of the Investigation Area, which may involve multiple points, for example if the site is a large evaporation pond or excavation area. You can also put in the sequence for a set of points or points in a line, and a description for each of them. Please use degrees, minutes and seconds.

Seq	**Latitude**			**Longitude**			**Description**
	Deg	**Min**	**Sec**	**Deg**	**Min**	**Sec**	
1	-31	21	24.755	150	19	42.236	Glasserton 2, Well Centre, Lease Per Attachment
2	-31	21	21.70	150	19	30.12	Glasserton 3, Well Centre, Lease

Seq	Latitude			Longitude			Description
							Per Attachment
3	-31	21	35.541	150	19	23.052	Glasserton 4, Well Centre, Lease Per Attachment
4							Access Road Per Attachment
5	-31	21	37.34	150	19	40.52	Water Storage Facility
6	-31	21	18.37	150	19	48.31	Georges Island (N/E Corner)
7	-31	21	14.89	150	19	18.96	Georges Island (N/W Corner)
8	-31	21	39.13	150	19	13.69	Georges Island (S/W Corner)
9	-31	21	42.65	150	19	44.00	Georges Island (S/E Corner)
10	-31	21	43.22	150	20	0.66	Georges Island 3 (existing well)

Please also provide the GPS Datum from the GPS, which will usually be GDA94.

GPS Datum:	GDA94

Property details	**Landholder details**
Lot 1 on 1099622	Carbon Minerals NL

Action taken to comply with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales published by DECCW in September 2010.

Action taken	**Results**
1. Records Search	
A search of the Aboriginal Heritage Information Management System was undertaken on 28 day of March 2011.	Search results are attached: Evidence found of: □ cultural heritage objects ☐ Yes ☒ No □ cultural heritage sites ☐ Yes ☒ No [Attach search results to report].
A search of other readily available resources [eg Santos GSI] was undertaken on: 28 day of March 2011. [These sources can include previous studies, surveys or reports of which you may be aware]	Results are attached [attach search results to report]. Evidence found of: □ prior cultural heritage investigations ☐ Yes ☒ No □ cultural heritage objects ☐ Yes ☒ No □ cultural heritage sites ☐ Yes ☒ No

Action taken	Results
A search of Aboriginal Places was undertaken on 30 March 2011. [see list of Aboriginal Places on http://www.environment.nsw.gov.au/conservation/AboriginalPlacesNSW.htm]	Investigation Area is not an "Aboriginal Place".
The landholder was consulted as to whether they are aware of any sites or reports of Aboriginal objects in the area on: 30 March 2011.	The landholder is aware of any sites or reports of Aboriginal objects in the area ☐ Yes ☒ No
2. Status of Investigation Area	
Consideration of whether the Investigation Area is "disturbed land". 'Disturbed land' is defined in the Due Diligence Code as: *Land is disturbed land if it has been the subject of human activity that has changed the land's surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure), substantial grazing involving the construction of rural infrastructure, and construction of earthworks associated with anything referred to above.*	[Insert description of disturbances within Investigation Area, eg evidence of cultivation, ploughing, grazing, infrastructure, construction or utility developments] The Investigation Areas is situated within an agricultural property called Glasserton. It is located on a part of the property known as Georges Island, which is a small area of sparsely vegetated land rising above agricultural plains. The Investigation Areas was once used for grazing. It contains two abandoned quarries (constructed by the landholder) previously used for gravel extraction. These quarries have since formed two small ephemeral water bodies. The Investigation Area contains a number of access tracks. It does not contain any water courses. The three proposed pilot well sites and the proposed water storage site are located on land consisting of two disused gravel pits (Glasserton 2) that occur on either side of an existing access track, an area historically cleared for agricultural purposes (Glasserton 3), and a site that has been previously cleared (Glasserton 4). Photographs of Investigation Area are attached. The area of the lease sites have been heavily disturbed through agricultural activities
3. Landscape features	
Consideration of whether there are any landscape features within the Investigation Area or nearby which suggest the presence of Aboriginal sites, objects or places. The Due Diligence Code provides examples of landscape features including rock shelters, sand dunes, waterways, waterholes and	Visual inspection / photographs / environmental studies / etc [refer to source of conclusions] reveal that: □ landscape features **were** identified within the Investigation Area ☐ Yes ☒ No

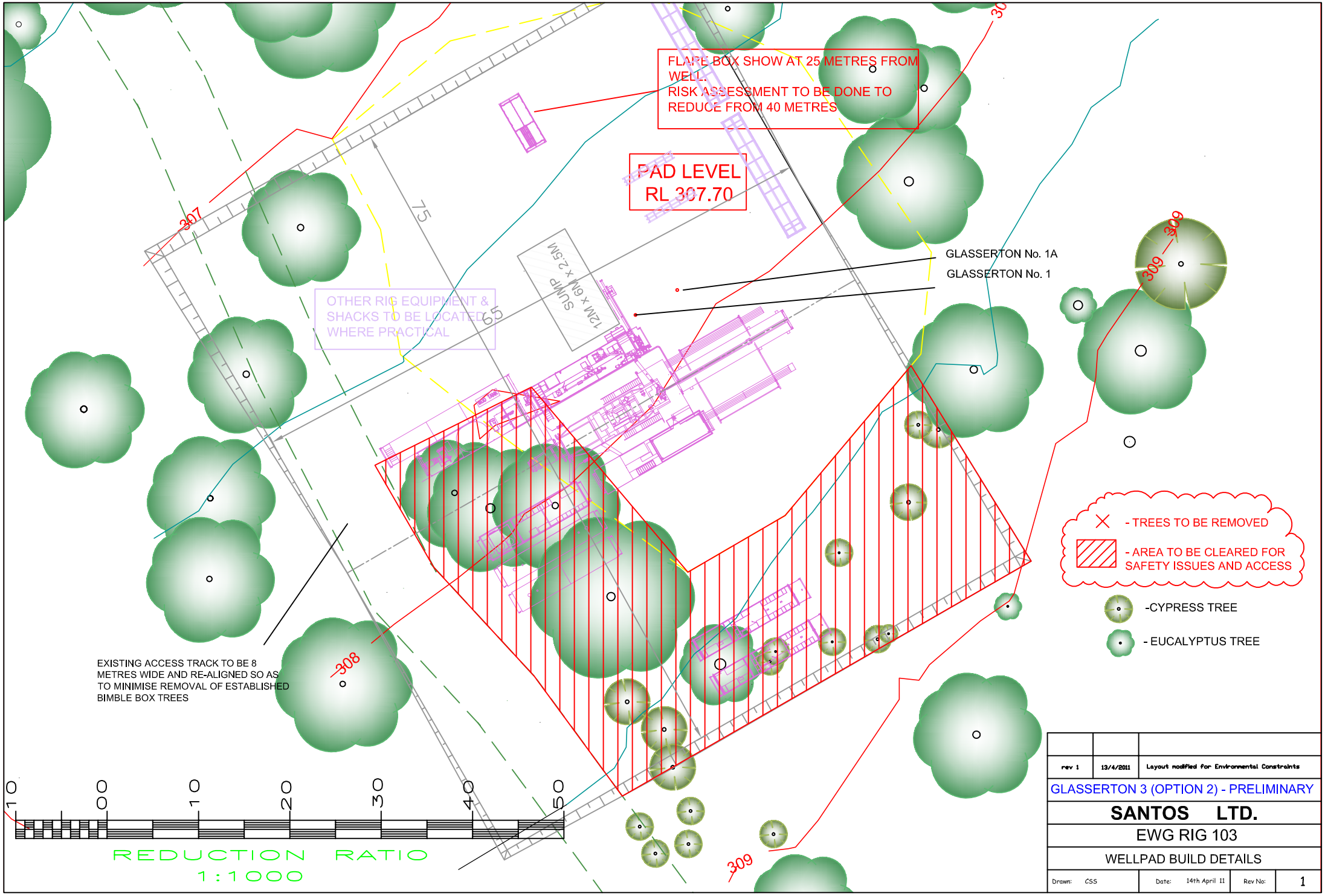
Action taken	Results
wetlands. Is Investigation Area: • within 200m of waters; • within a sand dune system; • on a ridgetop, ridge line or headland; • within 200m below or above a cliff face; or • within 20m of or in a cave, rock shelter or cave mouth?	□ landscape features were identified **nearby** the Investigation Area ☐ Yes ☒ No □ **no** waterways were identified within 200 metres of the Investigation Area ☐ Yes ☒ No □ **no** sand dune systems were identified within/nearby [delete where inapplicable] the Investigation Area ☐ Yes ☒ No □ **no** /ridgetops, ridge lines or headlands were identified within/nearby the Investigation Area ☐ Yes ☒ No □ **no** /cliff faces were identified within 200m above or below the Investigation Area ☐ Yes ☒ No □ no /caves, rock shelters or cave mouths were identified within 20 metres of the Investigation Area ☐ Yes ☒ No
4. Results of visual inspection of Investigation Area	
On 30 day of March 2011 a visual inspection of the Investigation Area was undertaken by Name of assessor: Steven Coghill The purpose of the visual inspection was to: (a) Confirm the extent of land disturbance (if any); (b) Confirm the extent of landscape features (if any). If: • any of the Investigation Area is undisturbed land (see Section 2 above); **and** • the Investigation Area contains landscape features or is near landscape features (see Section 3 above), then the purpose of the visual inspection is also to determine whether Aboriginal objects can be identified or are likely to be present below the surface of the Investigation Area. Did an archaeologist inspect ☒ Yes ☐ No Name of archaeologist: Roark Muhlen Schuler	[Insert reasons for concluding that the visual inspection indicates that Aboriginal objects **are/ are not** likely to exist within the Investigation Area]. A visual inspection of the Investigation Area confirmed that there are no landscape features within the Investigation Area or the vicinity of the Investigation Area which suggests the presence of Aboriginal Sites Objects or places.

Action taken	Results
The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales has been followed	
5. Conclusion	
Consider what the likely impact of the activity will be on the Aboriginal objects.	Based on my inspection of the Investigation Area, the extent of land disturbance, the extent of landscape features (if any) and the various search results: • further detailed investigation and impact assessment: ☐ Is ☒ Is not necessary. • an AHIP application: ☐ Is ☒ Is not necessary. Work can proceed with caution.

Assessor's Certification

Assessed by:	Santos assessor: Steven Coghill Archaeologist ☒ Yes ☐ No If yes name of archaeologist: Roark Muhlen Schuler
Assessment date:	30 March 2011

Glasserton 3
NW
NE
Glasserton 2
Water Storage Facility
Glasserton 4
SW
SE
Acm Georges Island 3
Acm Georges Island 2
Georges Island 3
Acm George



rev 1	13/4/2011	Layout modified for Environmental Constraints

GLASSERTON 3 (OPTION 2) - PRELIMINARY

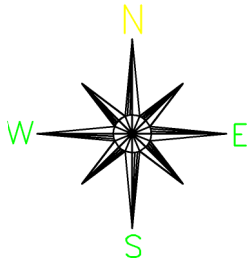
SANTOS LTD.

EWG RIG 103

WELLPAD BUILD DETAILS

Drawn: CSS	Date: 14th April 11	Rev No: 1

SITE PLAN



WATER TO BE REMOVED FROM WATER HOLE AND BACKFILLED.

OTHER RIG EQUIPMENT & SHACKS TO BE LOCATED WHERE PRACTICAL

WATERHOLE

PAD AREA
6,300 m2 approx.

SUMP
12M x 6M x 2.5M

FLARE BOX SHOW AT 25 METRES FROM WELL.
RISK ASSESSMENT TO BE DONE TO REDUCE FROM 40 METRES

ACCESS ROUTE TO BE 6 METRES WIDE AND POSITIONED SO AS NOT TO REMOVE BIMBLE BOX TREES

GLASSERTON No. 2
MGA 94 E 245 865.01
N 6 527 761.56
GDA 94 S 31°21'24".755
E 150°19'42".236
AHD 71 RL 319.29 Ground

PEG

RIG SHACKS TO BE LOCATED SO AS TO AVOID REMOVAL OF BIMBLE BOX TREES

PAD LEVEL
RL 319.00

EXISTING ACCESS TRACK TO BE 8 METRES WIDE AND RE-ALIGNED SO AS TO MINIMISE REMOVAL OF ESTABLISHED TREES

Access

322

EXCAVATE MATERIAL FROM EXISTING TRACK TO BALANCE CUT/FILL REQUIREMENTS IN EXIST. BORROW PIT

Track

324

GLASSERTON RECOVERY No. 2
(Peg)
MGA 94 E 245 802.239
N 6 527 703.422
AHD 71 RL 322.802

AREA TO BE UTILISED FOR STORAGE AND OTHER RIG SHACKS

321

322

323

Trees

REDUCTION RATIO
1:1000

X - TREES TO BE REMOVED

-CYPRESS TREE

- EUCALYPTUS TREE

rev 1	13/4/2011	Layout modified for Environmental Constraints

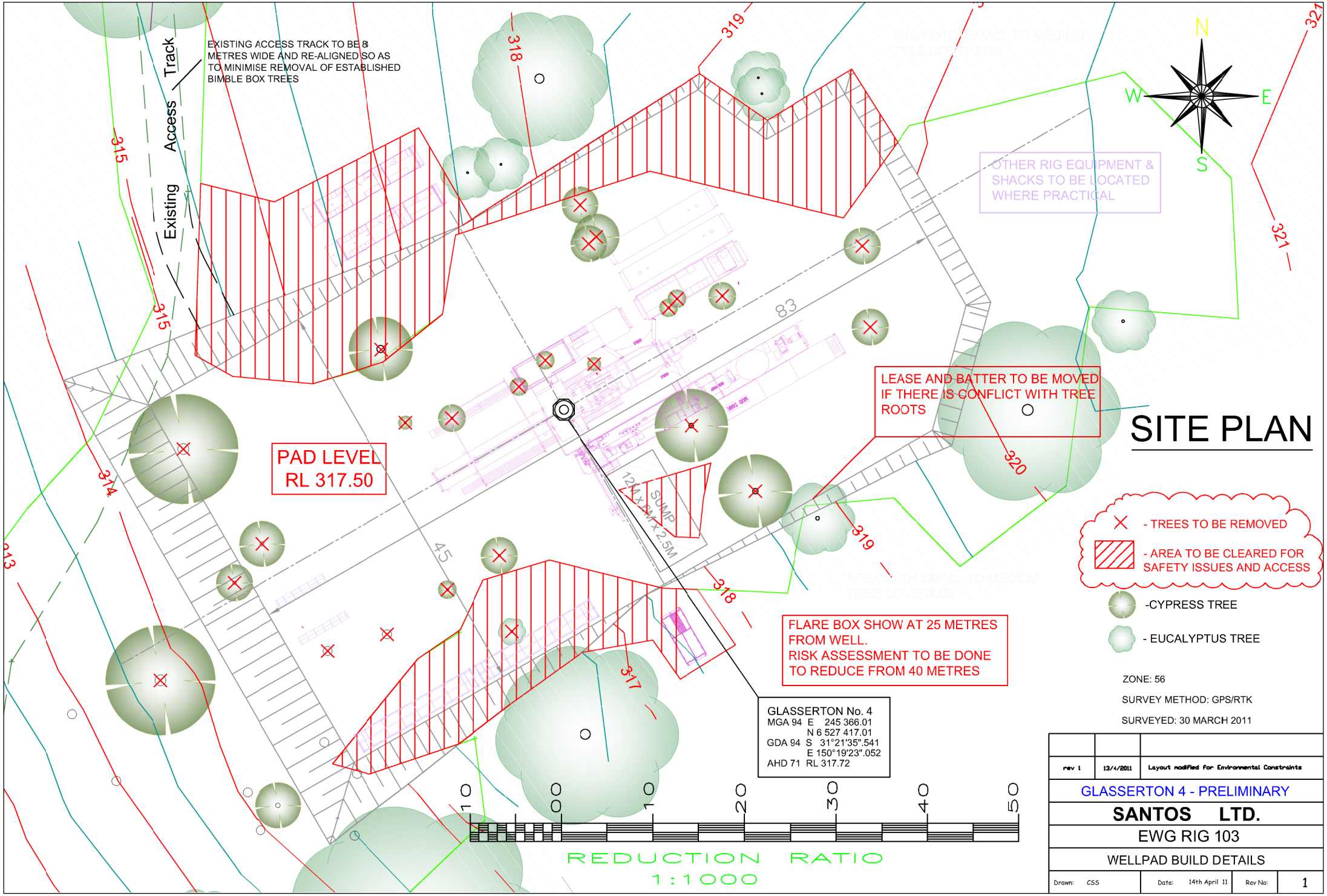
GLASSERTON 2 - PRELIMINARY

SANTOS LTD.

EWG RIG 103

WELLPAD BUILD DETAILS

Drawn: CSS	Date: 14th April 11	Rev No: 1



SITE PLAN

ZONE: 56

SURVEY METHOD: GPS/RTK

SURVEYED: 30 MARCH 2011

rev 1	13/4/2011	Layout modified for Environmental Constraints

GLASSERTON 4 - PRELIMINARY

SANTOS LTD.

EWG RIG 103

WELLPAD BUILD DETAILS

Drawn: CSS	Date: 14th April 11	Rev No: 1

AHIMS Web Services (AWS)
Cover Letter

Your Ref Number : Glasserton 01

Santos - Spatial Information & Drafting - Brisbane

Date: 27 April 2011

Queensland 0

Attention: Tahlita Ahwang

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 245438 - 245439, Northings : 6527907 - 6527908 with a Buffer of 50 meters. Additional Info : conducted by Tahlita Ahwang on 27 April 2011

A search of the DECCW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from DECCW's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- AHIMS records information about Aboriginal sites that have been provided to DECCW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

PO BOX 1967 Hurstville NSW 2220
43 BridgeStreet HURSTVILLE NSW 2220
Tel: (02)9585 6094. Fax: (02)9585 6094

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

MGA NORTH

W E S

245250.00 245375.00 245500.00 245625.00 245750.00 245875.00

6528125.00

6528000.00

6527875.00

6527750.00

6527625.00

6527500.00

6527375.00

6527250.00

1
DP 414577

Fence Line

Fence Line

GLASSERTON No. 3

GLASSERTON No. 1A
EXISTING WELLHEAD

106
DP 755494

Track

GLASSERTON No. 2

Trees

LOT 1
DP 1099622

105
DP 755494

GLASSERTON No. 4

Fence Line

Trees

Trees

Gate

Fence Line

PT 29
DP 755494

Reference:

- Ironbark Tree
- Box Tree
- Pine Tree
- Track
- Spot Heights (320.83)

Survey Datums: MGA94/AHD71-Zone 56
GLASSERTON RECOVERY
E 246028.000
N 6527490.071
RL 336.19

00 20 40 60 80 100

REDUCTION RATIO
1:1250

DESCRIPTION:

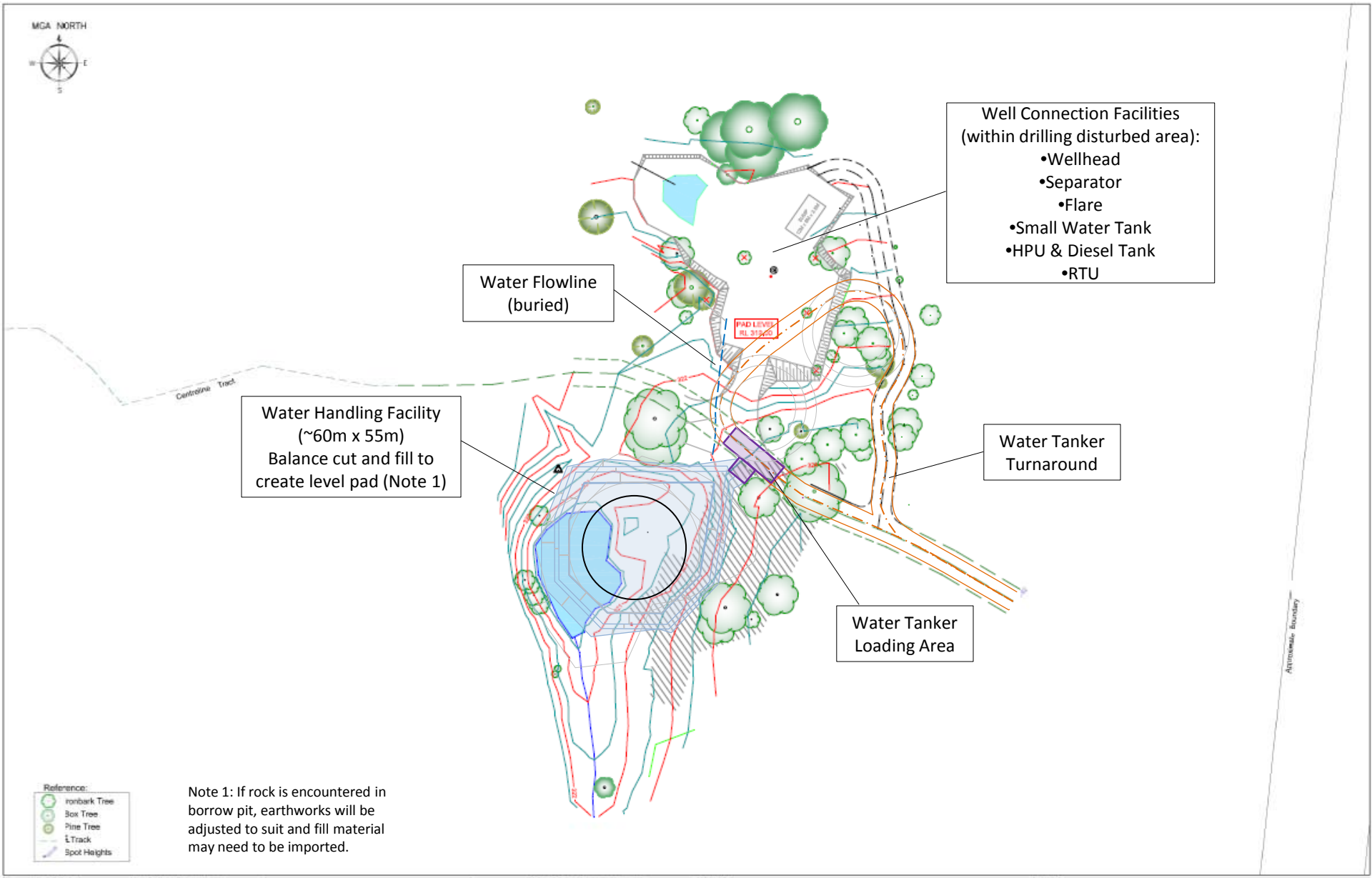
SANTOS LTD
GLASSERTON PEL 1 - GUNNEDAH
PLAN SHOWING LEVELS & EXISTING DETAIL

STEWART SURVEYS
Pty Ltd Inc in NSW
ABN 65 002 886 508
SURVEYORS
109 Conadilly Street
P.O. Box 592
GUNNEDAH NSW 2380
Ph: 02-67422966 Fax: 02-67420684

Notes:
Survey method RTK/GPS
Contour interval 0.5m

Date:	File Ref:	Scale:	Sheet:
8th March 2011	3549welldetails	1:1250@ A1	1 of 4

Option 5



Note 1: If rock is encountered in borrow pit, earthworks will be adjusted to suit and fill material may need to be imported.

No.	DATE	APPROVED	AMENDMENT
1	16.03.2011		Additional Survey Areas

STEWART SURVEYS
SURVEYORS
GUNNEDAH NSW 2380

CLIENT:	SANTOS LTD
PROJECT:	GLASSERTON 2 - PEL 1 - GUNNEDAH
DRAWN BY:	CRS
OUR REFERENCE:	3540web/details
DATE:	8th March 2011
TITLE:	SITE SURVEY
REDUCTN RATIO:	1:500 @A1
DRAWING:	2 OF 4