



Project No. 10633

Archaeological Impact Assessment (AIA)

1 ADMINISTRATIVE INFORMATION

Permit Holder:	Frank Craig	Date:	October 27, 2014
Report title:	<i>Archaeological Impact Assessment of Boulder East Pit on behalf of the Ministry of Transportation and Infrastructure, Northern Region</i>		
Permit Number	2014-0100	Project Officer	Steven Acheson
Proponent	Ministry of Transportation and Infrastructure (MoTI), Northern Region	Contact	Satish Prasad
First Nation(s)	Office of the Wet'suwet'en Moricetown First Nation	Contact	Chief and Council Chief and Council

2 STUDY AREA INFORMATION

Figure 1

Study Area Name	Boulder East Pit		
Size & Description	<ul style="list-style-type: none">Existing pit expansion8.4 ha in sizeShovel testing of previously identified AOPs		
Site Identified	None	Site Type	n/a
Sites Revisited	GgSu-1	TUS Sites Identified & Type	CMT
Borden Block	GgSu	NTS Map	93M/03
Geographic Location	The study area is located southeast of Boulder Creek, northeast of Highway 16, and 40 km west of Smithers. The study area is specifically located at UTM coordinates Zone 09 E: 603587; N: 6107655.		
Access	From the town of Smithers travel northwest on Highway 16 for 40 km to MoTI 2012 Landmark Kilometre Inventory location description: Segment LKI Segment 1524 New Hazelton to Houston km 24.61. The study area is located NE of the highway.		
Summary	<p>The present study is a continuation of a previous AIA conducted in 2013 on behalf of MoTI (ARCHER 2013a). As a result of this assessment, three areas of subsurface potential were shovel tested. No additional cultural remains protected by the <i>Heritage Conservation Act</i> were identified.</p> <p>During the present assessment 89 additional subsurface tests were placed at two locations previously identified as exhibiting archaeological potential, with negative results. A single CMT representing traditional use (post-1846) was also discovered and recorded.</p> <p>A previously recorded archaeological site, GgSu-1, was revisited and additional shovel testing adjacent to the site was conducted. No additional cultural material was</p>		



identified and site boundaries remain unchanged. This archaeological site is protected under the Heritage Conservation Act (HCA). It is recommended that the Ministry of Transportation and Infrastructure avoid the site through avoidance and project redesign.

All distances reported here represent horizontal measurements; they do not represent dimensional distances reflecting changes in elevation.

3 All Known Archaeological Sites Within 250 m

Site No.	Direction and distance from study area	Type	Impact potential
GgSu-1	Within study area	Subsurface lithic	High

4 Five Closest Known Archaeological Sites Between 250 & 5000 m

Site No.	Direction and distance from study area	Type	Impact potential
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5 METHODOLOGY

Date	Field Director	Crew
01-08-14	Frank Craig (on site)	T. Thorpe, H. Alexis, B. Pritchard

Remarks	<p>Prior to fieldwork, the study area was subject to a previous AOA (ARCHER 2013b) and AIA (ARCHER 2013a), identifying areas of high archaeological potential. During the field assessment the study area was visually assessed by <i>four</i> crew members walking parallel to each other through the study area, spaced in a manner that would enable maximum coverage depending on visibility and archaeological potential of the area (5-10 m spacing). Previously identified areas of archaeological potential (AOPs) of the study area were subject to 100% survey coverage. Existing cultural and natural exposures (eroded banks, tree throws, etc...) bordering the study area areas were also visually examined to facilitate the identification of cultural material remains possibly disturbed or eroding from <i>in situ</i> contexts in, or in the immediate vicinity of, the subject projects.</p> <p>Culturally modified trees (CMTs) in or adjacent to the study area were sought given the presence of mature timber. Where identified, CMTs were recorded, cored and a sample of modifications and/or scars photographed.</p> <p>In areas exhibiting potential to contain archaeological materials, subsurface tests measuring a minimum of 35 x 35 cm in area were excavated. The depths of the tests varied from 30 cm to 62 cm, at which point glacial sediments were encountered and the test was discontinued (refer to <i>Survey Area</i> section of this report for further information). All tests were screened through ¼ inch mesh.</p>
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6 RESULTS

6A Study Area Environment

Description	Expansion of existing gravel pit	Study Area Demarcated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydrology and Terrain	Boulder Creek runs through the NW corner of the study area. Well-defined flat river terraces parallel the stream.		
Vegetation	Vegetation consists of a forest cover of mature trembling aspen, paper birch,		

lodgepole pine and white spruce. Understory consists of alder, beaked hazelnut and black twinberry, with a ground cover of rose, bunchberry, mosses and grasses.

Archaeological Potential

High based on proximity to the Boulder Creek, terracing along creek and a documented aboriginal trail corridor (ARCHER 2013a).

6B Survey Area(s)

Survey Area 1: Boulder East Pit AOPs

Figure 1

GPS loc name	TL 6	TL 7
Landform	Terrace	Terrace
Test area size	300 x 5 m	100 x 3 m
Hydrology (m)	10 m W	50 m NW
Method (S/J)	Systematic	Systematic
# Lines x spacing x interval	2 x 2 m x 5 m	2 x 2 m x 10 m
# STs	52	37
Soil profile (cm)	0-10 duff; 10-23 grey brown silt; 23-60 light grey silt 10% pea gravel or glacial till	0-4 duff; 4-35 tan sand and glacial till
Impact Depth	n/a	n/a
Comments	Corresponds to AOPs 1 & 2 (ARCHER 2013a)	Corresponds to AOP 3 (ARCHER 2013a)

Reconnaissance Level Survey Coverage

Transect Spacing: 5-10 m
Transect Strip Width: 15-30 m (3 people)
Transect Type: following landforms, hydrology, and compass bearings.

Previous Disturbances

Previous logging and existing right-of-way are present within the study area.

In-field Archaeological Potential

High along Boulder Creek stream terraces.

Survey Results

All subsurface tests proved negative and there are no changes to the site boundaries of GgSu-1 as illustrated in Figure 2. A single additional post-1846 CMT was identified, recorded, and marked with yellow CMT flagging. Thirty post-1846 CMTs had been previously identified throughout the study area (ARCHER 2013a).

7 DISCUSSION AND RECOMMENDATIONS

Our visual inspection and subsurface testing program of the proposed MoTI Boulder East Pit did not result in the identification of additional archaeological features or remains within the proposed study area. As a result, no further archaeological work is recommended for the study area, as illustrated in Figure 1 of this report. Recommendations for revisited archaeological site GgSu-1 remains the same as outlined in the previous AIA report (ARCHER 2013a), and as presented below:

GgSu-1:

1. Avoidance through project redesign. The site is located in the proposed study boundaries as assessed, and will be impacted by construction activities. Avoidance can be achieved by excluding the entire site from the study area and leaving a wind-firm buffer (minimum 30 m) of standing trees around the boundary of the site area.
2. Avoidance through modified operations. The site is located in the proposed study area boundary as assessed, and may be impacted by standard construction activities. To protect the location, it is recommended that the site area (flagged with No Work Zone tape) be declared a Machine-Free-Zone, and that trees in this area would be felled by mechanical stubbing or chainsaw felling only. These techniques will avoid the potential for disturbing cultural material bearing soils and the potential for post-harvest blow down of trees.

The following *study area-specific* management recommendations are presented for consideration regarding MoTI Boulder East Pit:

- It is recommended that no further archaeological work is required provided that the boundaries of the study area are not extended beyond the areas included in the archaeological assessment.
- It is recommended that if any further development activities are to occur beyond the assessed area, within moderate to high potential archaeological zones, additional archaeological assessment should take place.

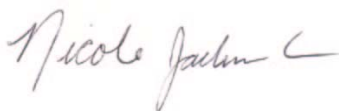
*To address the prospect of unanticipated archaeological remains being discovered, it is recommended that the proponent inform its employees and contractors of this possibility. If archaeological materials or other heritage remains are uncovered during construction, work in the area of the find must immediately cease and the **project supervisor is to be notified**, followed by Archer CRM and/or the Archaeology Branch. It is recommended that the proponent also promptly inform the relevant First Nations concerning any unanticipated archaeological findings.*

Persons or organizations failing to provide adequate protection to archaeological and Heritage remains may be subject to prosecution under the Heritage Conservation Act.

It was not the intent of this study to identify, evaluate, or comment on the presence or absence of Aboriginal Rights in the study area. Completion of this study does not "abrogate or derogate from aboriginal treaty rights" (Heritage Conservation Act Sec. 8). The study was conducted without prejudice to First Nations Treaty Negotiations, aboriginal rights or aboriginal title.

It is my opinion that the reported fieldwork and this corresponding report were completed in agreement with the requirements of the relevant Heritage Inspection Permit issued by the Archaeology Branch. I concur that the above information is true given available information.

Sincerely,



Nicole Jackman, M.A., RPCA
Branch Manager



Review date: October 27, 2014
Reviewer: Frank Craig, B.A., RPCA
Director

8 References Cited

ARCHER CRM Partnership

2013a *Archaeological Impact Assessment of Boulder East Pit on behalf of the Ministry of Transportation and Infrastructure, Northern Region*. ARCHER CRM Project #10089, HCA Permit 2010-0133. Report on File with the Archaeology Branch, Victoria, BC.

2013b *Archaeological Overview Assessment of Boulder East Pit on behalf of the Ministry of Transportation and Infrastructure, Northern Region*. ARCHER CRM Project #9961. Report on File with the Archaeology Branch, Victoria, BC.

Subject Report Citation:

ARCHER CRM Partnership

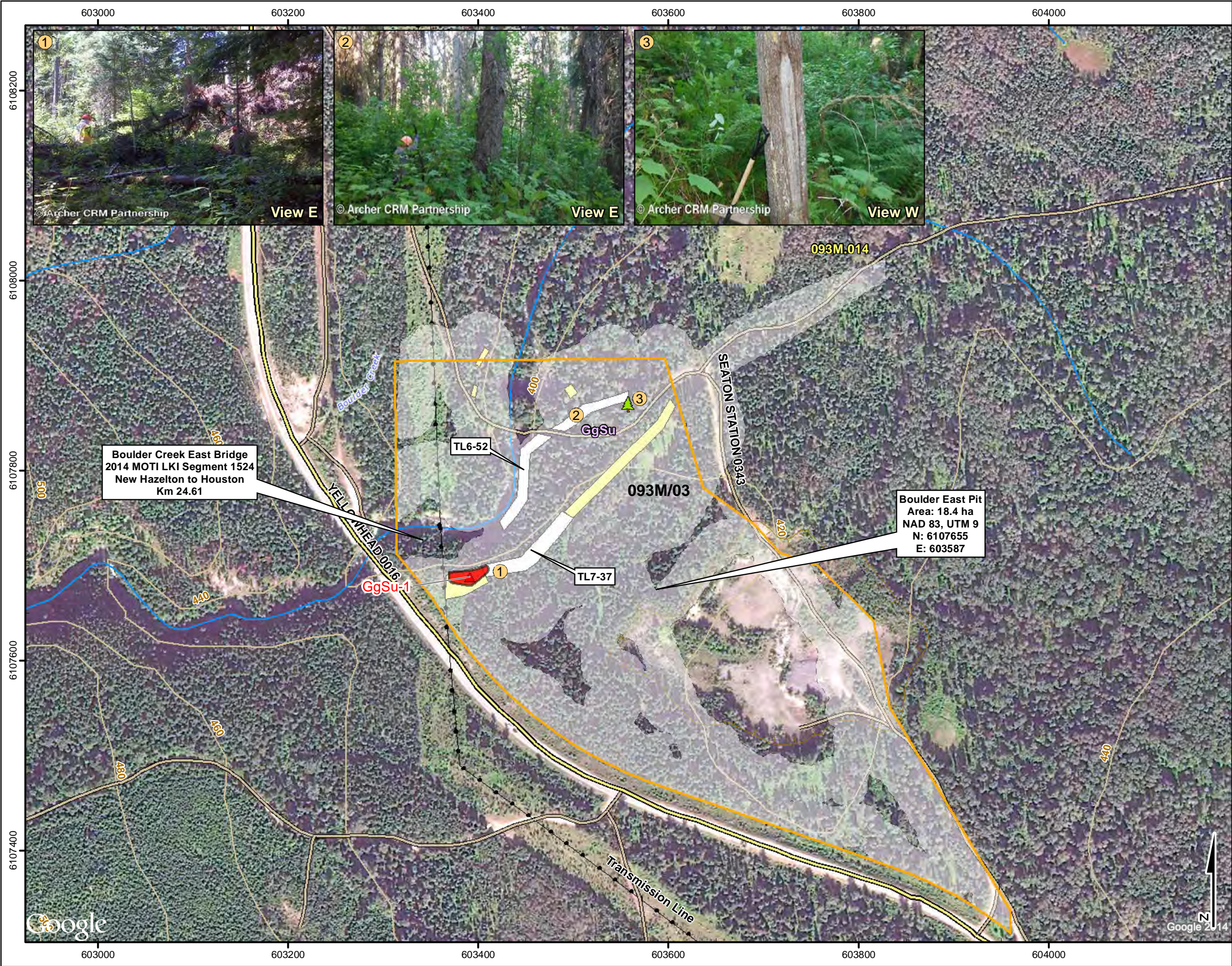
2014 *Archaeological Impact Assessment of Boulder East Pit on behalf of the Ministry of Transportation and Infrastructure, Northern Region*. ARCHER CRM Project #10633, HCA Permit 2014-0100. Report on File with the Archaeology Branch, Victoria, BC.

9 Distribution List

<i>Individual</i>	<i>Association</i>	<i>Phone</i>	<i>Fax</i>	<i>E-mail</i>
Chief and Council	Moricetown Band	250.847.2133	250.847.9291	--
Chief and Council	Office of the Wet'suwet'en	250.847.3630	250.847.5381	--
Satish Prasad	Ministry of Transportation and Infrastructure	250.565.6691	250.565.6065	Satish.Prasad@gov.bc.ca
Steven Acheson	Archaeology Branch	250.953.3306	250.953.3340	Steve.Acheson@gov.bc.ca

10 Archaeology Branch Information

MAIL: Archaeology Branch Ministry of Natural Resource Operations PO Box 9816 Stn Prov Govt Victoria BC, V8W 9W3	LOCATION: #3 - 1250 Quadra Street, Victoria, BC V8W 2K7	CONTACT: Reception (250) 953-3334 Fax (250) 953-3340
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Archaeological Impact Assessment
Ministry of Transportation and Infrastructure
Bulkley Stikine Business Area
Boulder East Pit 2014 Survey

Figure: 1 Page: 6

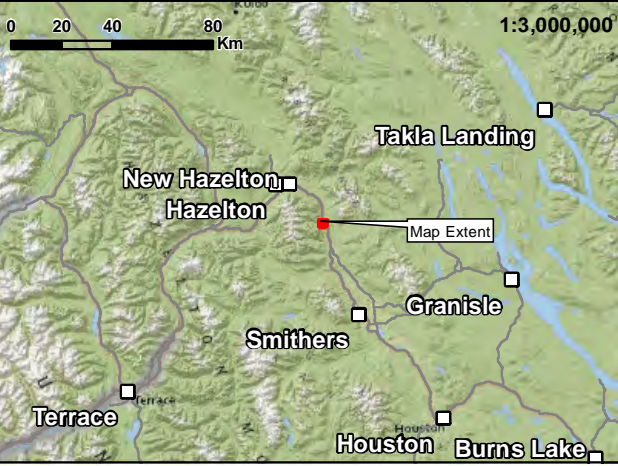
Archer Project:	10633
Proponent:	BC Ministry of Transportation and Infrastructure, Northern Region
HCA Permit:	2014-0100
Client File:	NA
Surveyor's File:	N/A
NTS Map Reference:	93M/03
BCGS Map Reference:	93M.014

- ① Photo Location
- 🌲 Post 1846 CMT
- 🔴 Verified Archaeological Site Area
- 🟠 Study Area
- 📏 2013 Archer Survey Area
- 🟡 BCGS Grid
- 🟠 Borden Grid
- 🟢 NTS Grid
- 🛣 Gravel Road
- 🛣 Paved Road
- 🚂 Railway
- 🏠 Existing Gravel Pit
- ⚡ Transmission Line
- 🌊 Lake/River
- 🌊 Intermittant Lake/River
- 🌿 Wetland
- 🏖 Sandbar
- 📏 Contour 20 m
- 🟡 2013 Subsurface Testing
- 🟢 2014 Subsurface Testing

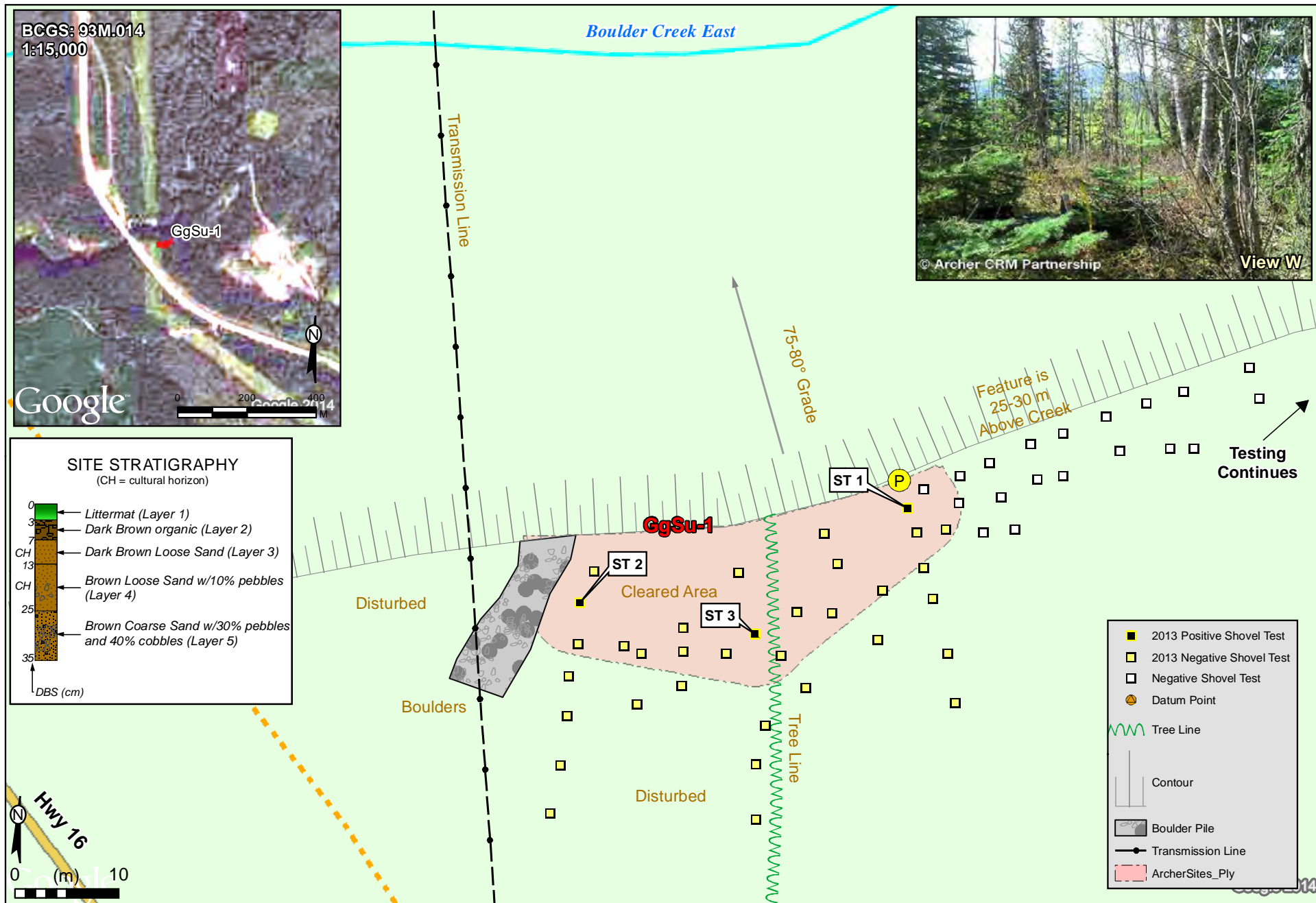
0 50 100 200 (m)

1:4,000

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983, Units: Meter



Version	Detail	Date
0	Original	18-Sep-2014



ARCHER	Figure No.	Title	HCA Permit	NTS	Project no.	NAD 83, UTM 9	7
	2	Archaeological site GgSu-1 Update	2010-0133	93M/03	10633	N: 6107683, E: 603390	