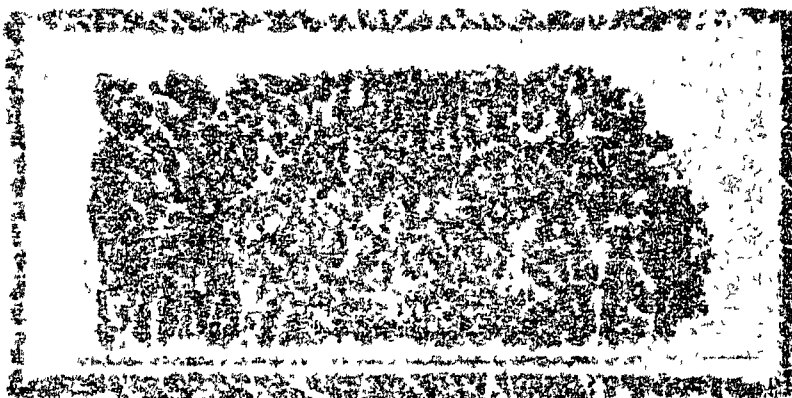


YIP  
93-154  
1993



**Ballarat Creek Property: NTS 115 J14/15  
Yukon Mining Incentive Program  
Crew Natural Resources Ltd.  
Summary Report**

## **LOCATION AND ACCESS**

The Ballarat Creek property consists of a block of 57 placer claims (Tara, TP, P's). The downstream boundary of this block is located one mile from Ballarat's mouth and runs five miles upstream from there. Ballarat, a right limit tributary of the Yukon River, has its confluence located approximately 112 miles upstream of Dawson City and 88 Miles downstream of Minto Landing. It's location relative to other historic placer creeks, is 8 miles downstream of Britannia/Canadian Creeks and 25 miles upstream of Thistle Creek.

Access to Ballarat Creek is by air, or water, from both Dawson City and Minto; two locations that are accessible by all weather road and all weather airstrip. Charter barge and air services are available from both locations.

An all season service road runs along the full extent of the property from the creeks mouth and connects with the airstrip.

## **GEOLOGY**

The property is underlain by steeply dipping schists and gneisses of the Pelly Gneiss Group, comprised of metamorphic volcanics and sediments of Lower Paleozoic age. These highly metamorphosed terrains are traditionally noted as favourable hosts and sources for placer gold in recent times due to the unglaciated terrains (T.E. Hawkins, P.Geol. 1987)

The Ballarat Creek valley stratigraphic section, in the immediate area of testing, is approximately 18 feet deep; consisting of an average depth of 2 to 5 feet of black muck, overlying an average depth of 15 feet of gravels. From the surface, bedrock was encountered at an average depth of 15 to 20 feet, excluding a few holes. The gravel section, visible on the creek cut banks, was relatively coarse compared to that commonly experienced in the Klondike. Boulders of 1 - 2 feet in diameter are quite prevalent. Much of the material proved to be extremely competent, resulting in very slow drilling.

## **WORK DONE**

Access to the property was by way of Minto Landing. A Mobile model B 31 auger drill (powered by a 4 cylinder diesel Lombardini engine) mounted on a Nodwell model FN 110, a D6 wide pad dozer, and all support gear were transported to the Ballarat landing by Jacob Industries barge. Personnel, consisting of a driller/supervisor, driller/welder, drill helper, and sampler arrived by jetboat. Project management and engineering support flew in from Dawson. During a 23 day period, spanning parts of July and August, seven lines for a total of fifty holes, or 1006 linear feet, were drilled. Excluding the black muck, all material was bucketed, measured and processed through a long-tom before being carefully panned by a Professional sampler (Hans Algotsson). On site observations and recommendations were made by R. Clarkson, Peng., while drilling and sample processing. Dried gold samples were subsequently weighed and evaluated by Mr. Clarkson.

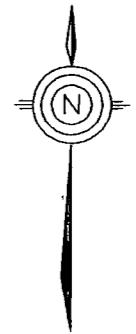
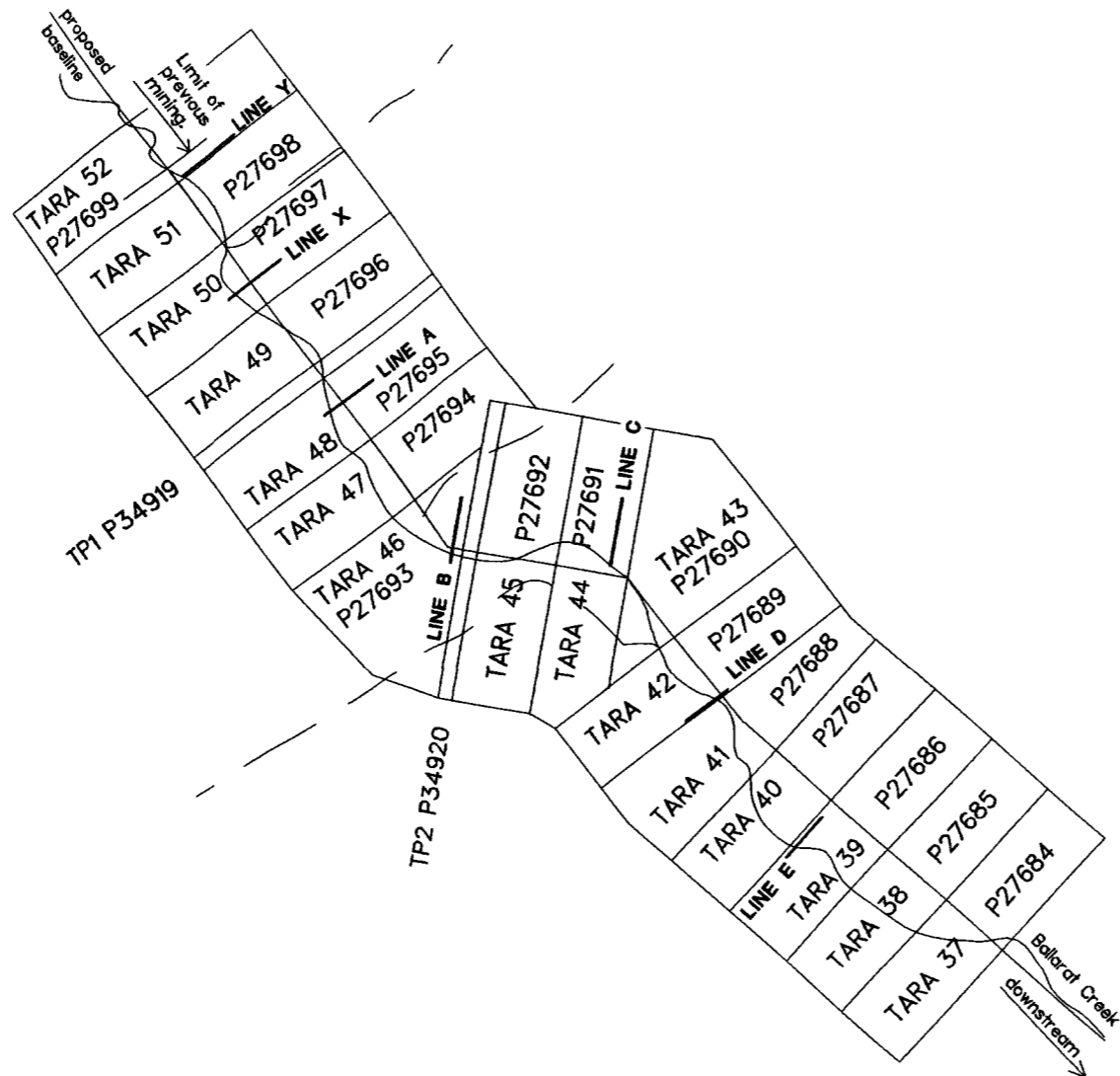
Drill lines, at right angles to the valley direction, were spaced 300 metres apart and drill holes were spaced along the lines approximately 15 metres apart, terrain permitting. Generally the ground was frozen with some thawed sections encountered.

All drill lines were well cut out and the hole locations marked with metal tagged wooden posts and flagged.

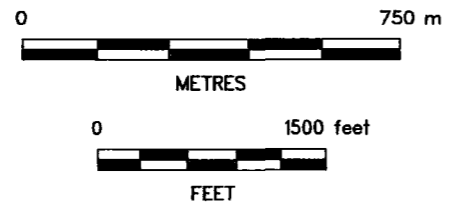
Demobilization was by way of barge and jetboat.

## **RESULTS AND RECOMMENDATIONS**

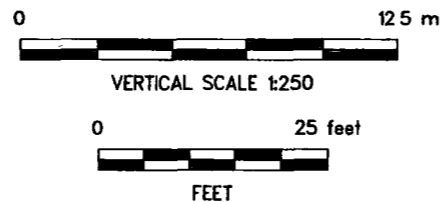
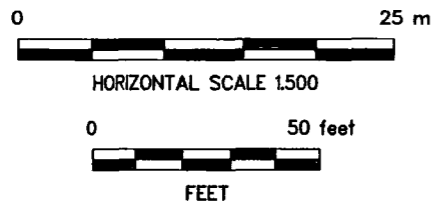
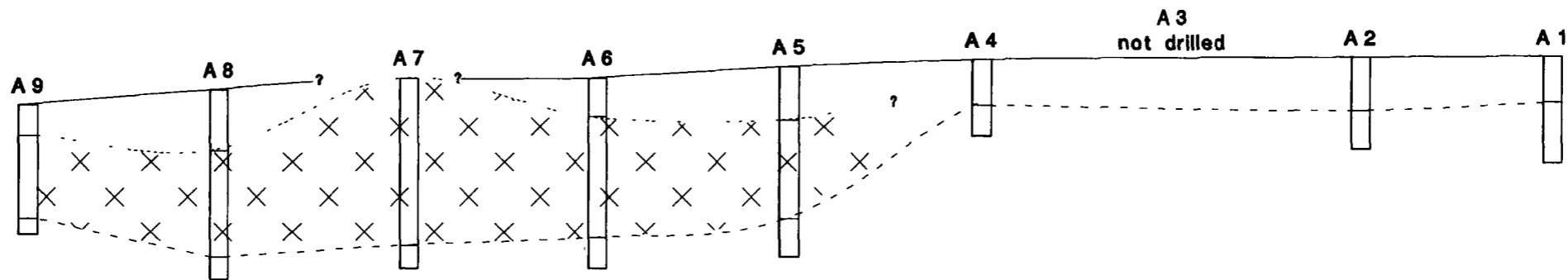
Placer gold was recovered from approximately half of the drill holes. The values recovered from some of the holes were of economic grade needed to support mining. The value of others indicated a need for further testing, prior to a recommendation to mine. Due to poor sample integrity in thawed ground and the overall constraints associated with drill evaluating ground, it is recommended that further testing be done with an excavator in the thawed ground and hand shafting methods in the frozen sections. It is further recommended that the work be carried out over specific individual drill holes so that the results can be correlated and used to interpolate values of the remaining drill holes.



NOTE: Claim locations and topography are from government claim maps. The drill lines have been located on this map from distances measured to claim posts in the field.



<b>LOKEY MINING SERVICES LTD. for Crew Natural Resources</b>				
SCALE: 1	15,000	DATE: 16 Aug 93	DWN: Geological Drafting Services	
<b>BALLARAT CREEK PROPERTY TARA CLAIMS</b>				
<b>LOCATION MAP, AUGER DRILL HOLE LINES</b>				
NTS	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEK			



**LEGEND**

- BLACK MUCK
- - - - SAND & GRAVEL
- - - - BEDROCK
- x x x x SAND & GRAVEL SECTION

Section Looking Upstream

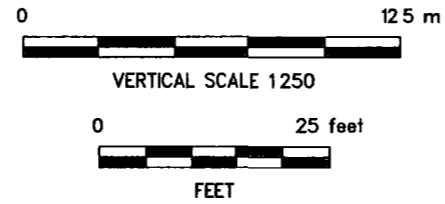
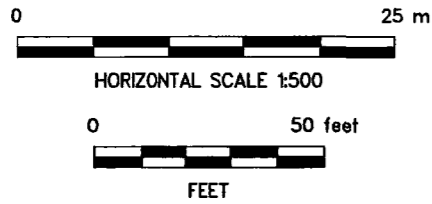
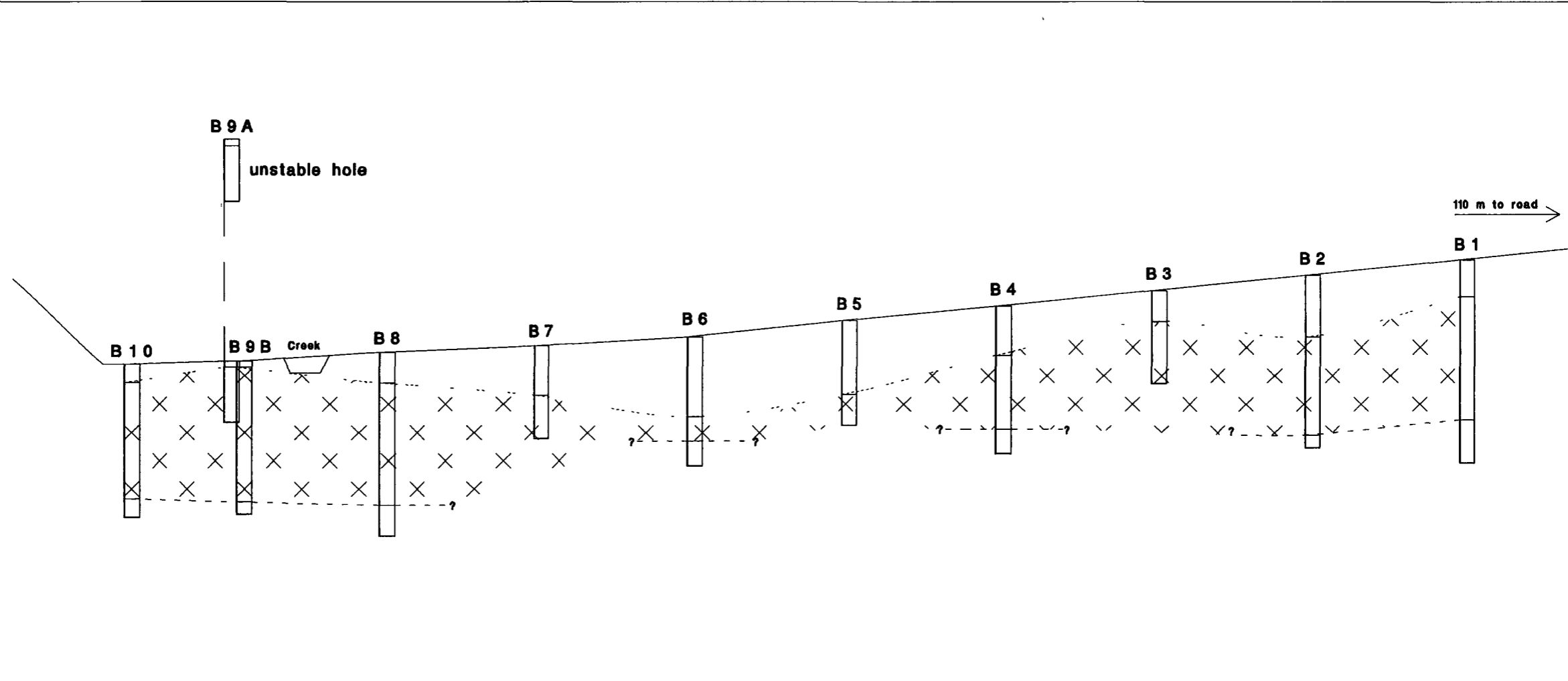
**LOKEY MINING SERVICES LTD.  
for Crew Natural Resources**

HORIZ SCALE 1:500 DATE 15 Aug 93 DWN: Geological Drafting Services  
VERT SCALE 1:250

**BALLARAT CREEK PROPERTY  
TARA CLAIMS**

**AUGER DRILL HOLES A1 to A9,  
DRILL LINE A, TARA 48, P27695**

NTS	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEH			



**LEGEND**

- BLACK MUCK
  - - SAND & GRAVEL
  - · · · · BEDROCK
  - ⊠ SAND & GRAVEL SECTION
- Section Looking Upstream

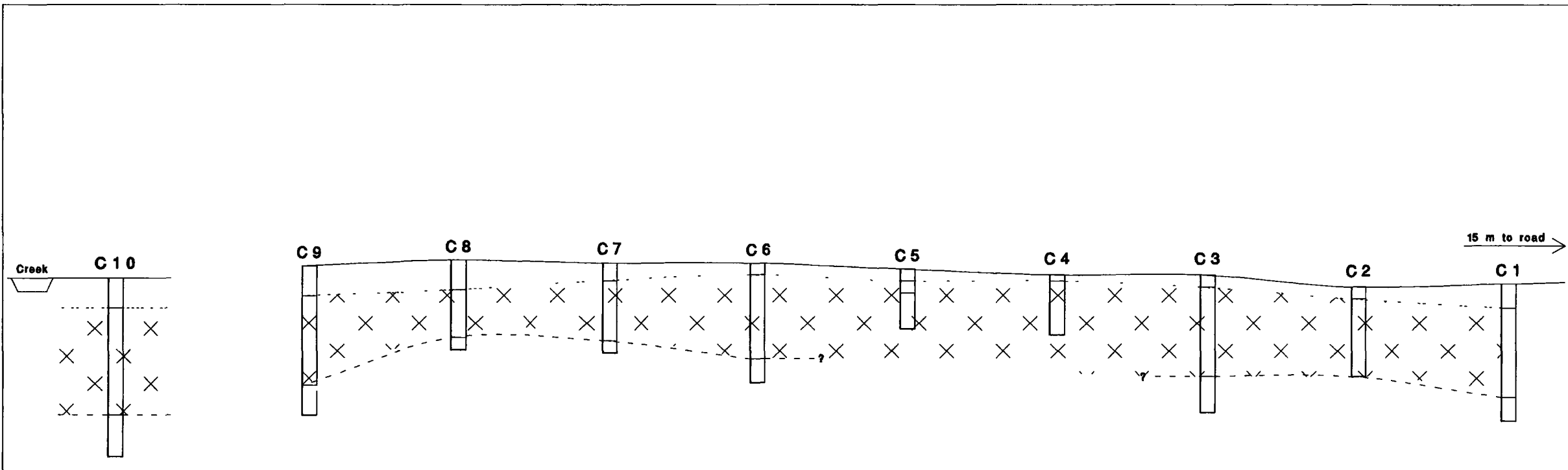
**LOKEY MINING SERVICES LTD.  
for Crew Natural Resources**

HORIZ SCALE 1:500    DATE 15 Aug 93    DWN: Geological Drafting Services  
VERT SCALE 1:250

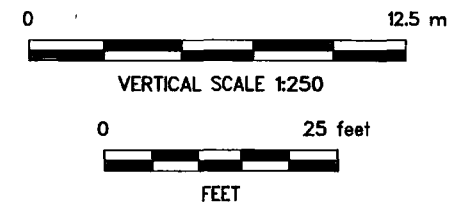
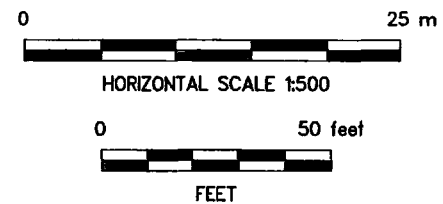
**BALLARAT CREEK PROPERTY  
TARA CLAIMS**

AUGER DRILL HOLES B1 to B10,  
DRILL LINE B, TARA 46, P27693

NTS	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEH			



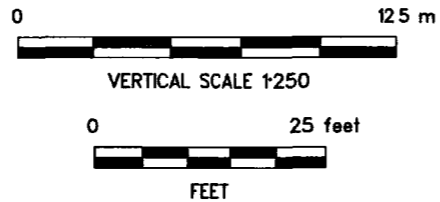
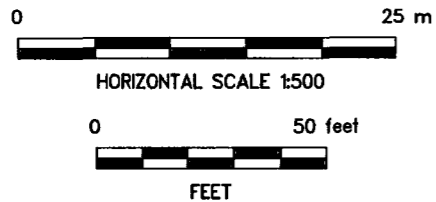
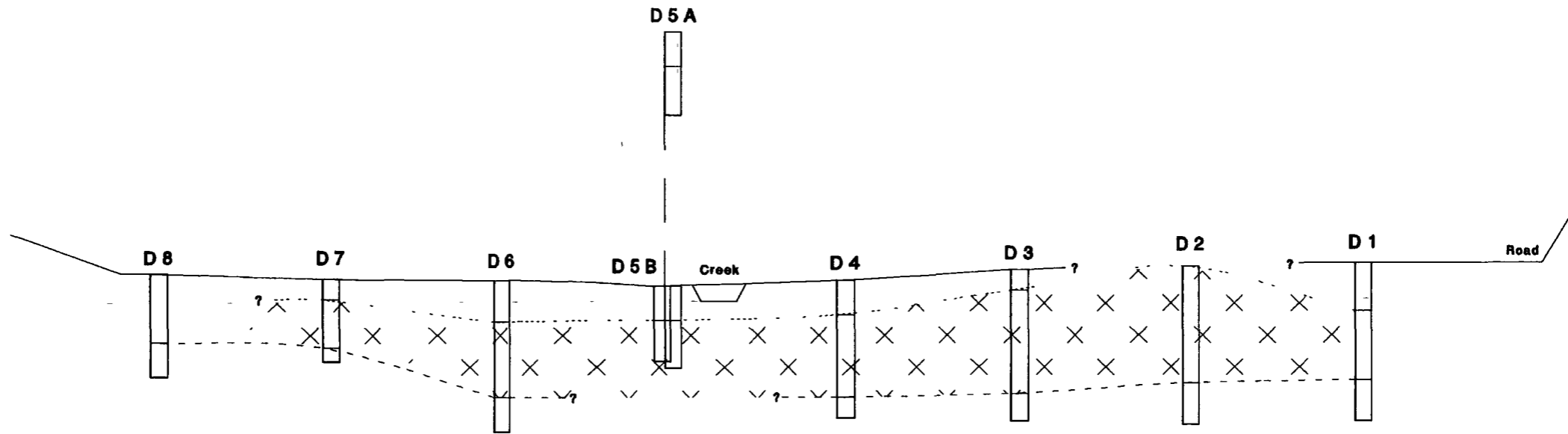
Hole C10 is 10 m downstream of section.



- LEGEND**
- BLACK MUCK
  - - - SAND & GRAVEL
  - - - BEDROCK
  - ⊗ SAND & GRAVEL SECTION
- Section Looking Upstream

**LOKEY MINING SERVICES LTD.**  
for Crew Natural Resources

HORIZ SCALE 1:500	DATE 15 Aug 93	DWN: Geological Drafting Services		
<p><b>BALLARAT CREEK PROPERTY</b> <b>TARA CLAIMS</b></p> <p><b>AUGER DRILL HOLES C1 to C10</b> <b>DRILL LINE C, TARA 44, P27691</b></p>				
N T S	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEH			



**LEGEND**

- BLACK MUCK
- - - - SAND & GRAVEL
- - - - BEDROCK
- xxxxx SAND & GRAVEL SECTION

Section Looking Upstream

**LOKEY MINING SERVICES LTD.  
for Crew Natural Resources**

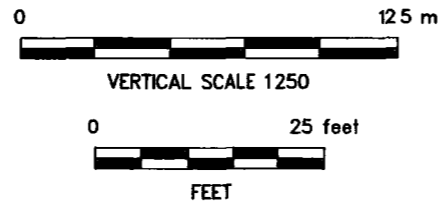
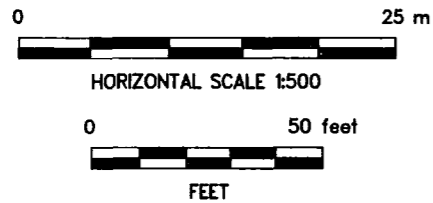
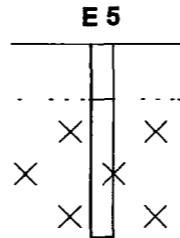
HORIZ SCALE 1:500 DATE: 15 Aug 93 DWN: Geological Drafting Services  
VERT SCALE 1:250

**BALLARAT CREEK PROPERTY  
TARA CLAIMS**

**AUGER DRILL HOLES D1 to D8,  
DRILL LINE D, TARA 42, P27689**

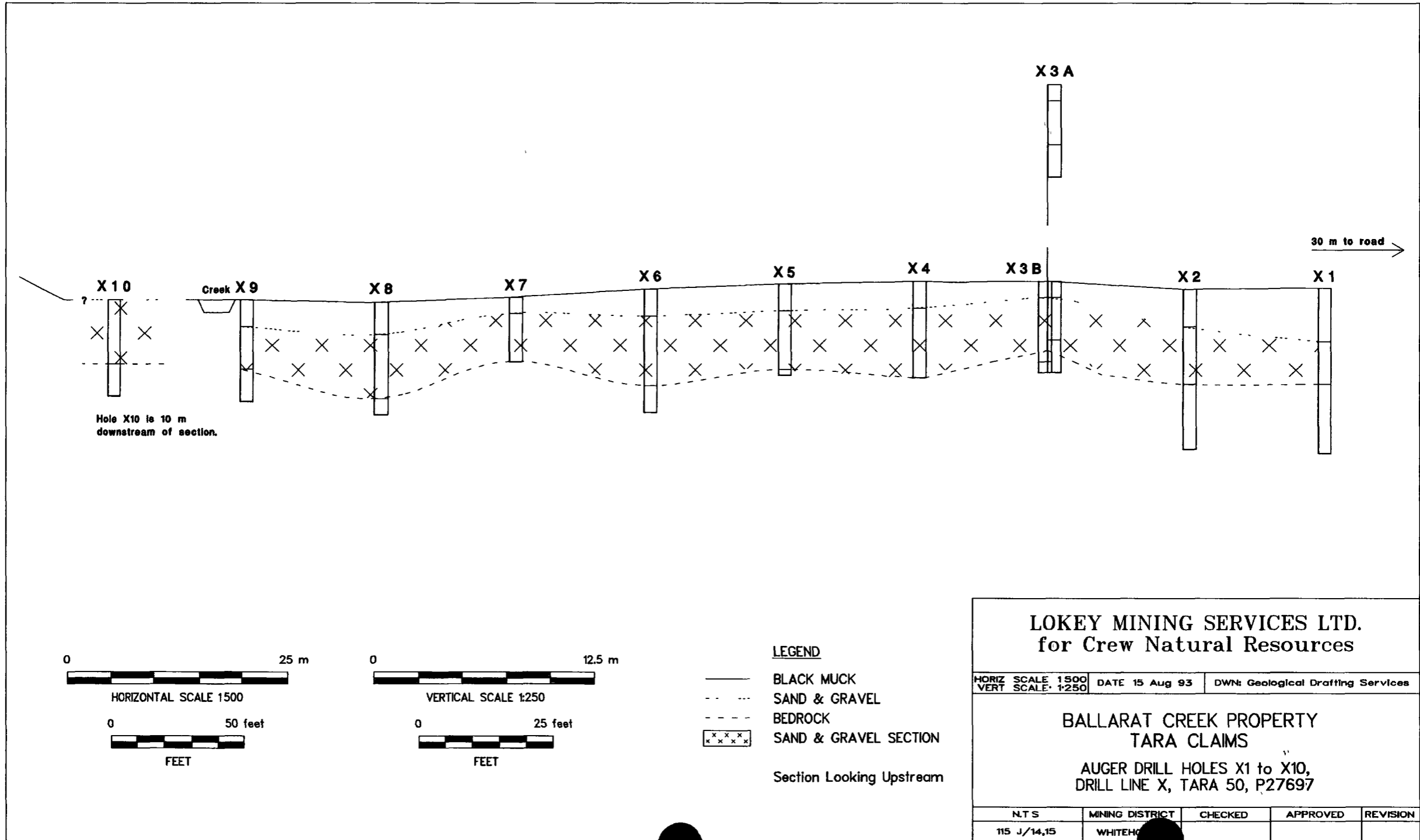
N.T.S	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEHC			



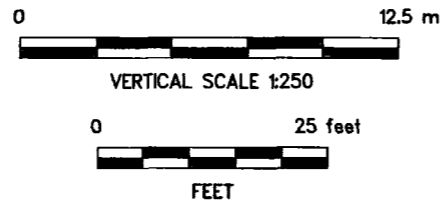
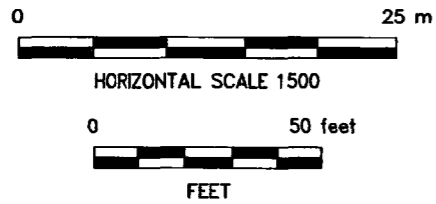


- LEGEND**
- BLACK MUCK
  - SAND & GRAVEL
  - - - - - BEDROCK
  - ⊠ SAND & GRAVEL SECTION
- Section Looking Upstream

<b>LOKEY MINING SERVICES LTD.</b> for Crew Natural Resources				
HORIZ SCALE 1:500	DATE 16 Aug 93	DWN: Geological Drafting Services		
VERT SCALE 1:250				
<b>BALLARAT CREEK PROPERTY</b> <b>TARA CLAIMS</b> <b>AUGER DRILL HOLE E5</b> <b>DRILL LINE E, TARA 39, P27686</b>				
N T S	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEHO			



Hole X10 is 10 m downstream of section.



**LEGEND**  
 ——— BLACK MUCK  
 - - - - SAND & GRAVEL  
 - - - - BEDROCK  
 [x x x x] SAND & GRAVEL SECTION  
 Section Looking Upstream

<b>LOKEY MINING SERVICES LTD. for Crew Natural Resources</b>				
HORIZ SCALE 1500 VERT SCALE 1:250	DATE 15 Aug 93	DWN: Geological Drafting Services		
<b>BALLARAT CREEK PROPERTY TARA CLAIMS</b> AUGER DRILL HOLES X1 to X10, DRILL LINE X, TARA 50, P27697				
N.T.S	MINING DISTRICT	CHECKED	APPROVED	REVISION
115 J/14,15	WHITEH			



# **NEW ERA Engineering Corporation**

**Placer Mining and Small Hydro Specialists**

Box 4491, Whitehorse, Yukon, Canada Y1A 2R8 Phone/Fax 403-668-3978

September 3, 1993

Gerry Wright  
President  
Crew Natural Resources  
Suite 615 - 800 West Pender St. Vancouver, B.C.  
V6C 2V6

Dear Mr. Wright:

RE: Ballarat Creek Drilling Project Update

I met with Don MacDonald regarding the missing information in the placer data sheets and he was able to fill in the blanks. I have enclosed a copy of a completed spreadsheet, pages 5 and 6 of the previous short report.

I have recommended the use of a hydraulic excavator for any further testwork. I have enjoyed working with you and Lee Olynk on this project. Please call me if you have any questions or comments.

Randy Clarkson P.Eng.  
President

encl - revised data sheets

BALLARAT CREEK AUGER DRILLING PROGRAM

Table 1 uses an average of 0.04/bcy/hole and a fineness of 850 for all holes. This grade estimate is approximate and should be calibrated with bulk sample testwork before any mining decisions are made. On the Sixty Mile and Indian Rivers mining of drilled ground has recovered gold grades from 200 to 240% of those estimated with auger drilling.

Table 1 also displays the following data summarised from records provided by Don MacDonald of Whitehorse, Yukon: approximate depth of various soils; the depth to bedrock; the bottom of the hole; recovery of drill sample; comments regarding whether the hole was frozen, thawed or wet; the weight of raw gold in the sample in mg; the date the hole was drilled; and the approximated grade for comparison purposes only. Blank underlined areas indicated gaps in the information.

TABLE 1  
A SUMMARY OF THE AUGER DRILL RESULTS

Hole No	Black Muck	Sand	Gravel	Bedrock	Recover	Comment	Weight mg	Date	Approx Grade	Approx Grade
A1	0-6			6-14	Good	Frozen	0	07/23/93	0.000	\$0.30
A2	0-7			7-12	Good	Frozen	0	07/23/93	0.000	\$0.00
A3	Not Drilled									
A4	0-6			6-10	Good	Frozen	0	07/27/93	0.000	\$0.00
A5	0-7	7-15	15-20	20-25	Good	Frozen	2	07/26/93	0.001	\$0.60
A6	0-5	5-10	10-21	21-25	Poor	Thawed	<1	07/26/93	0.001	\$0.30
A7			0-22	22-25	Poor	Thawed	0	07/26/93	0.000	\$0.00
A8	1-8		8-22	22-25	Poor	Thawed	0	07/27/93	0.000	\$0.00
A9	0-4	4-6	6-15	15-17	Poor	Water	6	07/27/93	0.004	\$1.80
B1	0-6	6-8	8-26	26-33	Fair	Frozen	0	08/06/93	0.000	\$0.00
B2	0-10	10-14	14-26	26-28	Good	Stripped	0	08/06/93	0.000	\$0.00
B3	0-5	5-12	12-15		Good	Stripped	0	07/27/93	0.000	\$0.00
B4	0-8	8-13	13-20	20-24	Good	Frozen	0	08/07/93	0.000	\$0.00
B5	0-12	12-14	14-17		Good	Frozen	0	07/28/93	0.000	\$0.00
B6	0-13		13-17	17-21	Good	Frozen	0	08/07/93	0.000	\$0.00
B7	0-8		8-15		Good	Frozen	0	07/28/93	0.000	\$0.00
B8	0-5		5-25	25-30	Good	Frozen	2	07/28/93	0.001	\$0.60
B9A	0-1		1-10	Unstable Hole		Thawed	2	07/29/93	0.001	\$0.60
B9B	0-1		1-22	22-25	Poor	Water	0	07/29/93	0.000	\$0.00
B10	0-3		3-22	22-25	Poor	Water	0	07/29/93	0.000	\$0.00
C1	0-4	4-7	7-19	19-23	Fair	Frozen	22	08/01/93	0.015	\$6.60
C2	0-2	2-7	7-15	15	Good	Frozen	17	07/30/93	0.012	\$5.10
C3	0-2		2-17	17-23	Good	Frozen	<1	07/31/93	0.001	\$0.30
C4	0-1	1-6	6-10		Good	Frozen	0	07/30/93	0.000	\$0.00
C5	0-2	2-4	4-10		Good	Frozen	0	07/30/93	0.000	\$0.00
C6	0-2	2-4	4-16	16-20	Good	Frozen	19	07/30/93	0.013	\$5.70
C7	0-3	3-5	5-13	13-15	Good	Frozen	0	07/30/93	0.000	\$0.00
C8	1-5		5-13	13-15	Good	Frozen	<1	07/31/93	0.001	\$0.30
C9		0-5	5-20	20-25	Poor	Water	0	07/31/93	0.000	\$0.00
C10	0-5		5-23	23-30	Fair	Water	8	07/31/93	0.005	\$2.40

BALLARAT CREEK AUGER DRILLING PROGRAM

TABLE 1 (Continued)  
A SUMMARY OF THE AUGER DRILL RESULTS

Hole No	Black Muck	Sand	Gravel	Bedrock	Recover	Comment	Weight mg	Date	Approx Grade	
X1	0-10		10-18	18-31	Good	Thawed	0	08/02/93	0.000	\$0.00
X2	1-7		7-24	24-30	Good	Frozen	12	08/03/93	0.008	\$3.60
X3A	0-3	3-9	9-11	11-17	Good	Frozen	0	08/03/93	0.000	\$0.00
X3B	0-3	3-9	9-15	15-17	Good	Frozen	0	08/03/93	0.000	\$0.00
X4	0-5	5-6	6-18	18	Good	Frozen	0	08/03/93	0.000	\$0.00
X5	0-5		5-16	16-17	Poor	Frozen	0	08/04/93	0.000	\$0.00
X6	1-5		5-18	18-23	Good		<1	08/04/93	0.001	\$0.30
X7	0-3	3-5	5-12	12?	Poor	Thawed?	0	08/05/93	0.000	\$0.00
X8	0-6		6-18	18-21	Fair	Water	0	08/05/93	0.000	\$0.00
X9	1-5		5-13	13-19	Poor	Thawed	0	08/05/93	0.000	\$0.00
X10			0-12	12-18	Poor	Thawed	0	08/06/93	0.000	\$0.00
Y1			0-10	10-15	Poor	Stripped	0	08/06/93	0.000	\$0.00
Y2			0-5		Poor	Stripped	0	08/06/93	0.000	\$0.00
D1	0-7		7-17	17-23	Good	Frozen	<1	08/02/93	0.001	\$0.30
D2		0-9	9-17	17-23	Good	Frozen	0	08/07/93	0.000	\$0.00
D3	0-3	3-8	8-18	18-22	Good	Frozen	<1	08/07/93	0.001	\$0.30
D4	0-5	5-10	10-17	17-20	Fair	Frozen	<1	08/08/93	0.001	\$0.30
D5A	0-5	5-10	10-12		Fair	Frozen	<1	08/08/93	0.001	\$0.30
D5B	0-5	5-10	10-11		Fair	Frozen	<1	08/08/93	0.001	\$0.30
D6	0-6		6-17	17-22	Good	Frozen	4	08/08/93	0.003	\$1.20
D7	0-3		3-10	10-12	Fair	Frozen	0	08/08/93	0.000	\$0.00
D8	0-10			10-15	Good	Frozen	<1	08/08/93	0.001	\$0.30
E5	0-6	6-8	8-16	16-21	Good	Frozen	5	08/09/93	0.003	\$1.50