APR 7 2003

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April 4, 2003

Chris/Drew,

As part of STC's long range planning, we have begun to search for a new Log Storage Area in Tolstoi Bay. On March 26 2003, Steve Haggitt of Haggitt Consulting was performing a dive survey for the LTF drive down ramp at our Tolstoi Bay sort yard. At the same time Steve surveyed a site on the other side of the bay where Ketchikan Pulp Company formerly had a Log Storage Area. The former KPA site is currently listed on the 303D list for impaired water bodies due to over an acre of continuous bark coverage.

Enclosed with this letter is a copy of the 2003 dive report that Haggitt Consulting prepared for STC. It shows that the area of continuous bark coverage is now at .48 acres. Our hope is that the DEC will find the methods of this dive survey as adequate evidence to remove this water body from the 303D list.

Please review the dive survey and contact me directly with any questions.

Regards,

Brian Kleinhenz

Brian Kleinhenz
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Sealaska Timber Corporation
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HAGGITT CONSULTING

2003 Bark Monitoring Survey Report

Tolstoi Bay LSA

FEBRUARY 24, 2003 SURVEY

Tolstoi Bay Log Storage Area

Submitted to:
Sealaska Timber Corporation
2030 Sealevel Dr., Suite 202
Ketchikan, Alaska 99901

Prepared By:
Haggitt Consulting
15912 14th Ave NW
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Submitted On:

March 26, 2003

Abstract

An underwater reconnaissance was conducted on February 24, 2003 at the Tolstoi Bay Log Storage Area (LSA). The survey was to determine the suitability of the site for renewed activity by quantifying the extent and type of bark debris accumulation in the previously permitted log storage area. The site surveyed is located in Tolstoi Bay, Prince of Wales Island, Alaska.

The parallel pattern used to survey the site consisted of four transects at 200 foot intervals. The sampling frequency used the standard method of 15 foot intervals. The transect lengths were limited to the area being evaluated for renewed activity. The remainder of the survey methods are in compliance with the standard methods that can be found in **"Required Method for Bark Monitoring Surveys under the LTF General Permits".**

The survey documented that the Log Storage Area contained both continuous and discontinuous bark debris. The survey using the parallel transect pattern quantified the extent and type of coverage as 0.48 acres continuous bark debris and 1.45 acres of discontinuous bark debris in a survey area of 3.21 acres.

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Introduction

The Tolstoi Bay LSA was not operational at the time of the survey. The bathymetric conditions consist of a rock reef and a low-angle silt and sand grade.

The survey was conducted on February 24, 2003 under fair weather and sea conditions. This assessment survey to determine the current condition of a former log storage area included a parallel transect pattern with a 200 foot interval distance. The prior site surveys were not available so a transect pattern was selected that best suited the site conditions.

A summary of the approach and techniques used in the LSA survey are provided below in the Methods Section. The result of the survey is then presented together with estimates of the spatial extent and depth of bark on the seafloor

Methods

Standard methods were used to survey the Tolstoi Bay Log Storage Area. The scope of this survey was to determine the sites current condition and suitability for future use, as such the transects were terminated when enough information had been collected to assure a fair representation of the existing site conditions.

Parallel Transects

The fixed hub reference points for the transects emanating from the shoreline of Prince of Wales Island were selected by observing the site conditions and positioning the hubs in a location that would provide the best survey coverage of the area used as a Log Storage Area. Additionally, DGPS coordinates were acquired at the hub of each transect to facilitate relocation.

Four transects were established at 200 foot intervals. Each transect repeated the 065 degree bearing. Two separate magnetic compasses were compared to determine the bearings. Vessel based personal monitored the diver's progress and used radio/diver-telephone communications for course adjustments.

Sample Points

Samples were taken at intervals of 15 linear feet along each parallel transect. This interval distance was established with the use of a rolling tape measure, the accuracy is reported as +/- 3 inches at 1000 feet. At each sample point observations were noted on the abundance and type of marine organisms present, the native vegetation, and composition of the substrate. Data including the water depth, current direction, and estimated current velocity also were incorporated into the field notes. Each of the sample points also included relevant observations on operational debris and existing bark debris. Photographic documentation was used at representative sample locations to record algal life, animal life, substrate, and debris present. Sample location depth notations are based on readings from a Cochran Consulting Nemeses IIA dive computer calibrated for saltwater and altitude.

Area of Bark Cover

For each survey, the percentage of bark coverage was determined by using the protocol for operating a bark-monitoring program given in the EPA General Permit. The area calculation used in this report is outlined in the ADEC publication "Required Method for Bark Monitoring Surveys under the LTF General Permits". Area calculations were accomplished by drafting scaled transect diagrams from the sample point tables in TurboCAD Professional V6. The TurboCAD program then accomplished the area calculations. ADEC has approved the use of AutoCAD programs for area calculations

Chapter 1

Tolstoi Bay LSA Dive Survey

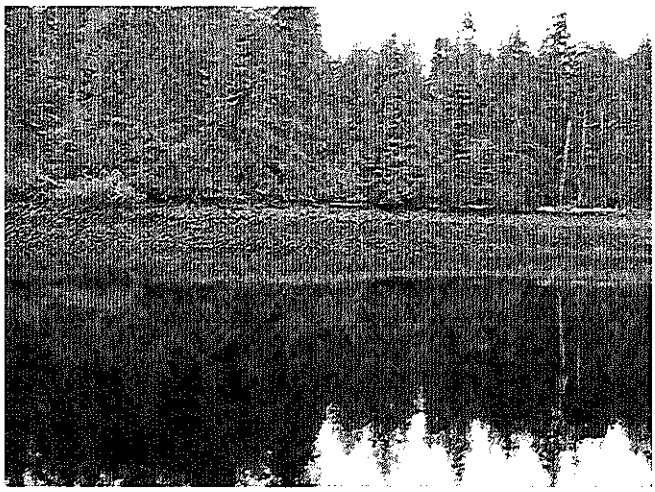
Surveyed on February 24, 2003

The survey was conducted at the request of Sealaska Timber Corporation. An underwater reconnaissance was requested to determine the representative condition of an area formerly operating as a Log Storage Area (LSA). The survey dive was conducted on February 24, 2003. The site surveyed is located in Tolstoi Bay, Prince of Wales Island, Alaska.

The percentage of bark coverage was determined by using the protocol for operating a bark-monitoring program given in the EPA General Permit. The area calculation used in this report is outlined in the ADEC publication **"Required Method for Bark Monitoring Surveys under the LTF General Permits".**

Findings

Continuous Coverage	Discontinuous Coverage	Total Survey Area
0.48 Acres / 1,507 M_2	1.45 Acres / 4,553 M_2	3.21 Acres / 10,079 M_2



Log Storage Area
The reference point hub positions, located along the shore line of Prince of Wales Island were recorded using a Raytheon DGPS. The coordinates for these hubs are:

1. N 55° 39. 393 by W 132° 26. 981.
2. N 55° 39. 359 by W 132° 26. 992.
3. N 55° 39. 327 by W 132° 26. 969.
4. N 55° 39. 293 by W 132° 26. 966.

Weather conditions during the survey consisted of overcast skies with winds at less than 5 knots. Diving commenced at 1 p.m. on February 24, 2003 during low water. The tidal station (subordinate station #1461) was used to correct depths to MLLW. The station reported a tide level of 2.5 ft at 1 p.m. The current conditions remained negligible. Seawater temperature was recorded at 43 degrees F. The horizontal visibility was estimated to be 25 feet.

Four transects, perpendicular to the beach traversed the bottom on bearings labeled $T^1 - T^4$ at 065°. A total of 65 sample locations at 15-foot interval distance were assessed.

Site conditions remained steady with winds less than 5 knots and overcast skies. Diving concluded at 4:30 p.m. on February 24, 2003 during mid tide. The tidal station (subordinate station #1461) was used for depth corrections, reporting a 6.4 ft tide level at 4:30 p.m. The tidal current velocity was estimated by the diver to be 0.0 knots. The horizontal visibility remained constant and was estimated to be 25 feet. The grade for these transects averaged 5:1.

Observations

The Tolstoi Bay LSA was not operational at the time of the survey. The substrate was primarily rock reef near-shore that changed to sand at about 20 feet MLLW. The sand substrate progressively changed to silt with increased depth.

The rock reef area was free of bark deposits. At the base of this reef, which formed a wall that ranged in height from 2 to 15 feet, discontinuous debris coverage was observed. This coverage gradually increased to continuous and then back to discontinuous as the sample points moved away from the original hub.

The transects follow a gradual grade after the rock reef, that was observed to be approximately 5:1. The continuous coverage area appeared to be thinning, with areas of discontinuous coverage located within the continuous areas.

Transect four contained areas observed to be 100 percent cover, an additional transect was not added south of this because of the proximity of the rock reef that followed transect four in a parallel direction.

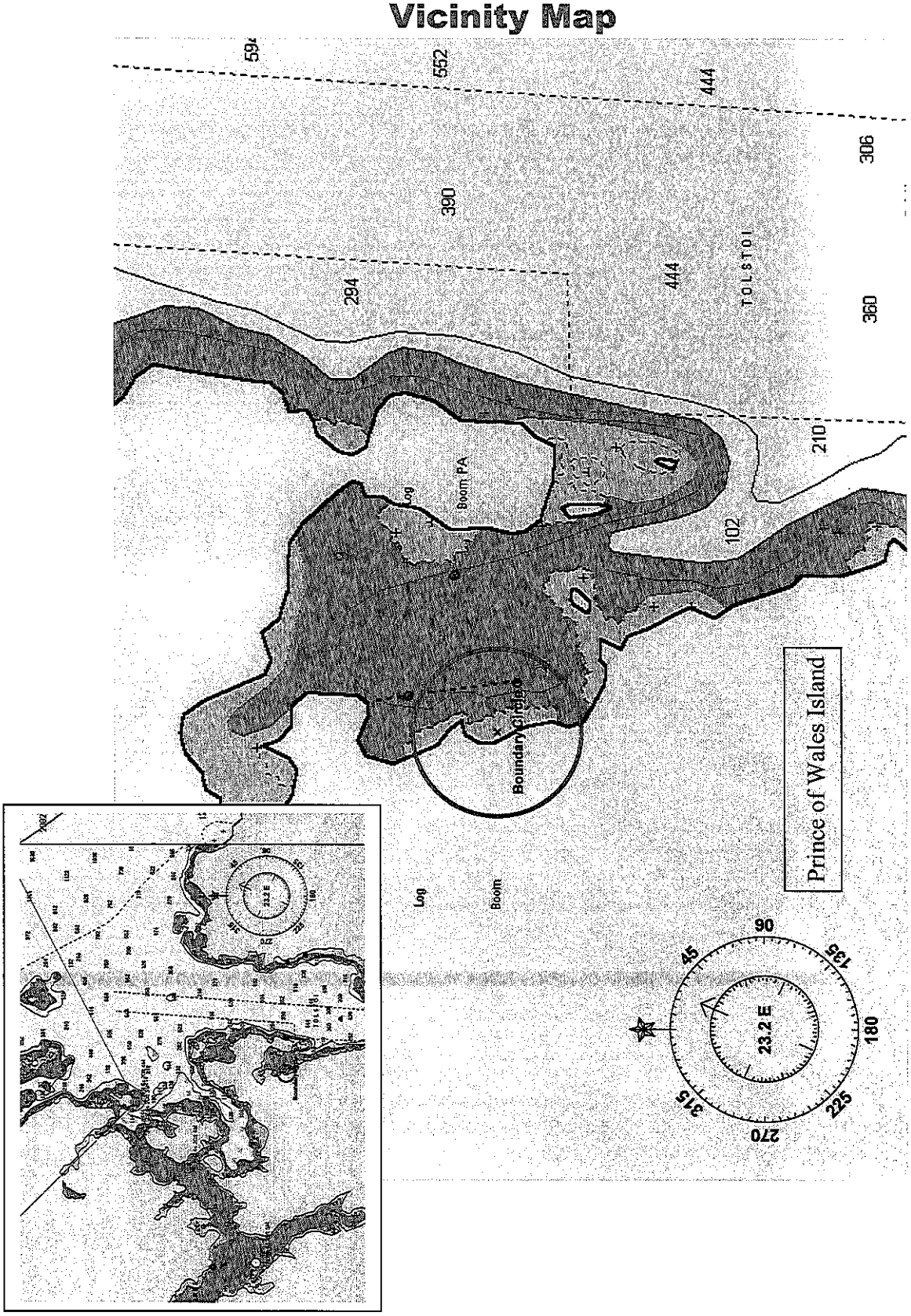
The debris is generally characterized as small chunks and pieces. Minimal operational debris was observed, and consisted of a few scattered logs, boom chains and binding cables.

This determination is based on the calculations derived from the transect data collected for this report only. For further service regarding this report, please direct inquiries to (253) 209-9380 or e-mail at Haggitt1@juno.com.

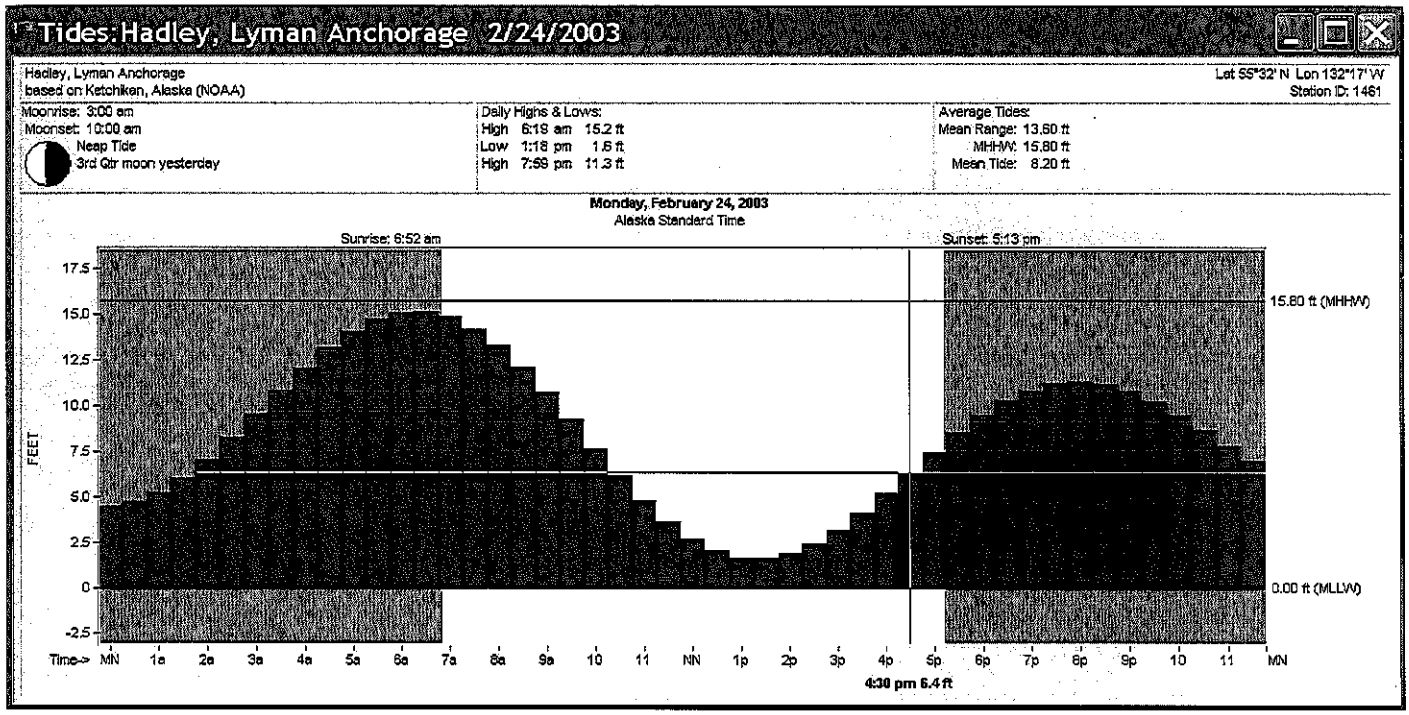
Respectfully submitted,

Stephen Haggitt
March 26, 2003

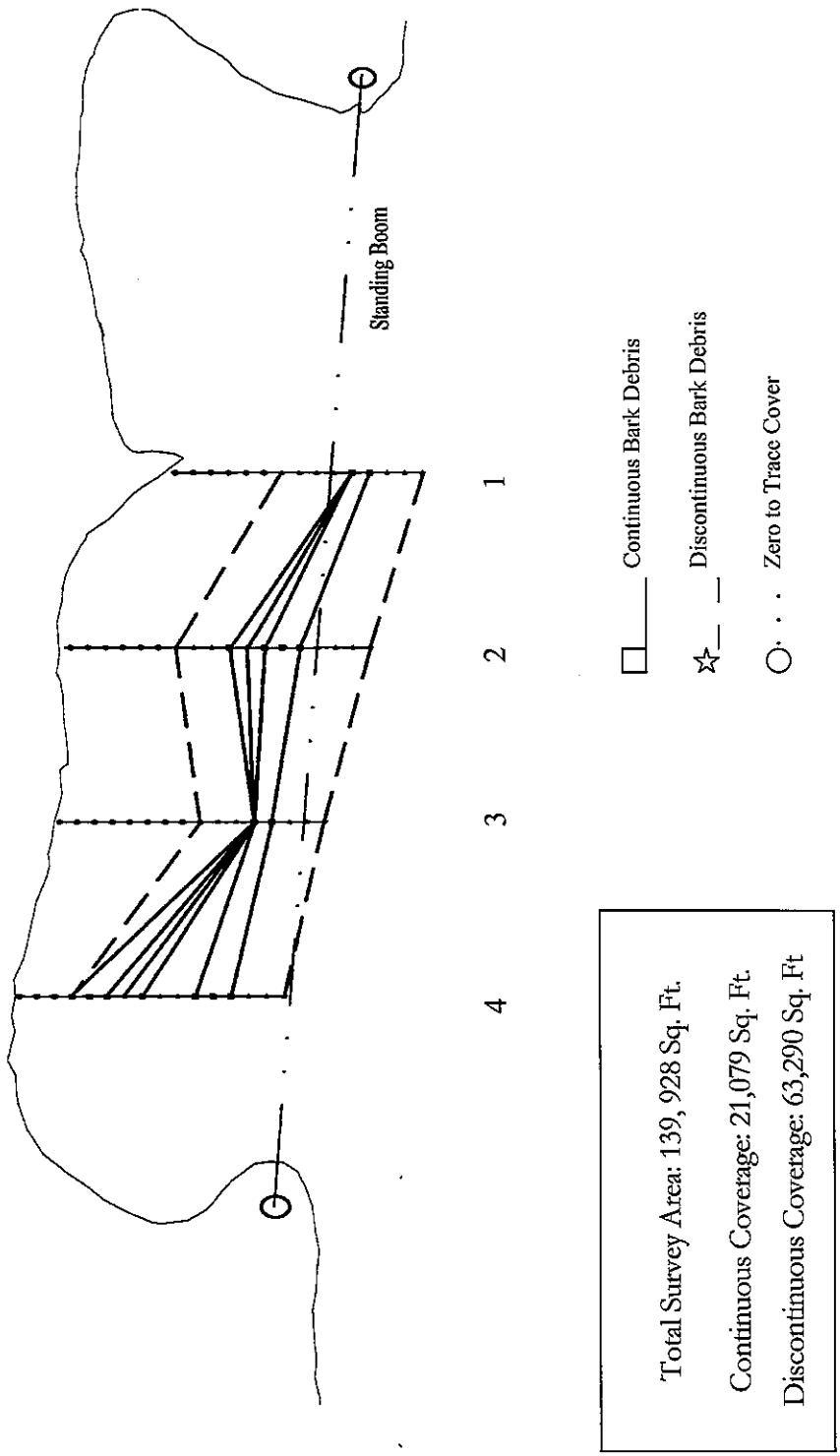
Vicinity Map



Tidal Chart


Tides:Hadley, Lyman Anchorage 2/24/2003
Hadley, Lyman Anchorage
based on Ketchikan, Alaska (NOAA)
Lat 55°32' N Lon 132°17' W
Station ID: 1461
Moonrise: 3:00 am
Moonset: 10:00 am
Neap Tide
3rd Qtr moon yesterday
Daily Highs & Lows:
High 6:19 am 15.2 ft
Low 1:18 pm 1.6 ft
High 7:59 pm 11.3 ft
Average Tides:
Mean Range: 13.60 ft
MHHW: 15.80 ft
Mean Tide: 8.20 ft
Monday, February 24, 2003
Alaska Standard Time
Sunrise: 6:52 am
Sunset: 5:13 pm
FEET
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0
-2.5
15.80 ft (MHHW)
0.00 ft (MLLW)
Time-> MN 1a 2a 3a 4a 5a 6a 7a 8a 9a 10 11 NN 1p 2p 3p 4p 5p 6p 7p 8p 9p 10 11 MN
4:30 pm 6.4 ft

Calculation Diagram



Data Tables

Transect 1 065 Degrees

Sample Point	Depth at MLLW	Bark Depth *(Inches)*	% of Cover	Substrate Type
1	10	TRACE	TRACE	R
2	6	0	0	R
3	3	0	0	R
4	10	0	0	R
5	25	0	0	S, C
6	33	0	0	S, SH
7	35	<1	10	S, SH
8	40	<1	20	SL, SH
9	41	<1	20	SL
10	42	2	60	SL
11	44	2	100	SL
12	45	2	100	SL
13	45	1	80	SL
14	46	1	50	SL, SH
15	46	<1	20	SL
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Key:
SH=Shell, S=Sand, M=Mud, SL=Silt, R=Rock, C=Cobble, G=Gravel
Bark Depth Recorded in Inches

Transect 2 065 Degrees

Sample Point	Depth at MLLW	Bark Depth *(Inches)*	% of Cover	Substrate Type
1	3	0	0	S, C
2	3	0	0	R
3	10	0	0	R
4	18	0	0	C
5	26	0	0	C
6	32	TRACE	TRACE	S, C
7	36	<1	50	S, C
8	38	<1	70	S, SH
9	39	<1	80	SL
10	41	3	100	SL
11	41	2	90	SL
12	42	3	100	SL
13	43	3	100	SL
14	46	2	100	SL
15	46	<2	80	SL
16	46	<2	80	SL
17	46	<2	80	SL
18	46	<2	80	SL, SH
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34				

Key:
SH=Shell, S=Sand, M=Mud, SL=Silt, R=Rock, C=Cobble, G=Gravel
Bark Depth Recorded in Inches

Transect 3 065 Degrees

Sample Point	Depth at MLLW	Bark Depth *(Inches)*	% of Cover	Substrate Type
1	2	0	0	R
2	5	0	0	R
3	9	0	0	R
4	12	0	0	R
5	18	TRACE	TRACE	R
6	23	0	0	C, R, SL
7	27	0	0	S, C
8	31	TRACE	TRACE	S, SH
9	34	<1	20	SL, SH
10	35	<1	25	SL
11	37	1	80	SL
12	40	2	100	SL
13	40	1	100	SL
14	41	2	80	SL
15	45	1	80	SL, SH
16	45	1	80	SL
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Key:
SH=Shell, S=Sand, M=Mud, SL=Silt, R=Rock, C=Cobble, G=Gravel
Bark Depth Recorded in Inches

Transect 4 065 Degrees

Sample Point	Depth at MLLW	Bark Depth *(Inches)*	% of Cover	Substrate Type
1	4	0	0	R
2	12	0	0	C, S
3	17	0	0	C, S
4	21	2	100	SL
5	27	4	100	SL
6	28	3	100	SL
7	31	1	90	SL
8	33	2	100	SL
9	35	3	80	SL
10	37	3	80	SL
11	39	2	100	SL
12	41	2	100	SL
13	41	2	100	SL
14	43	2	50	SL
15	43	1	80	SL
16	44	1	70	SL, SH
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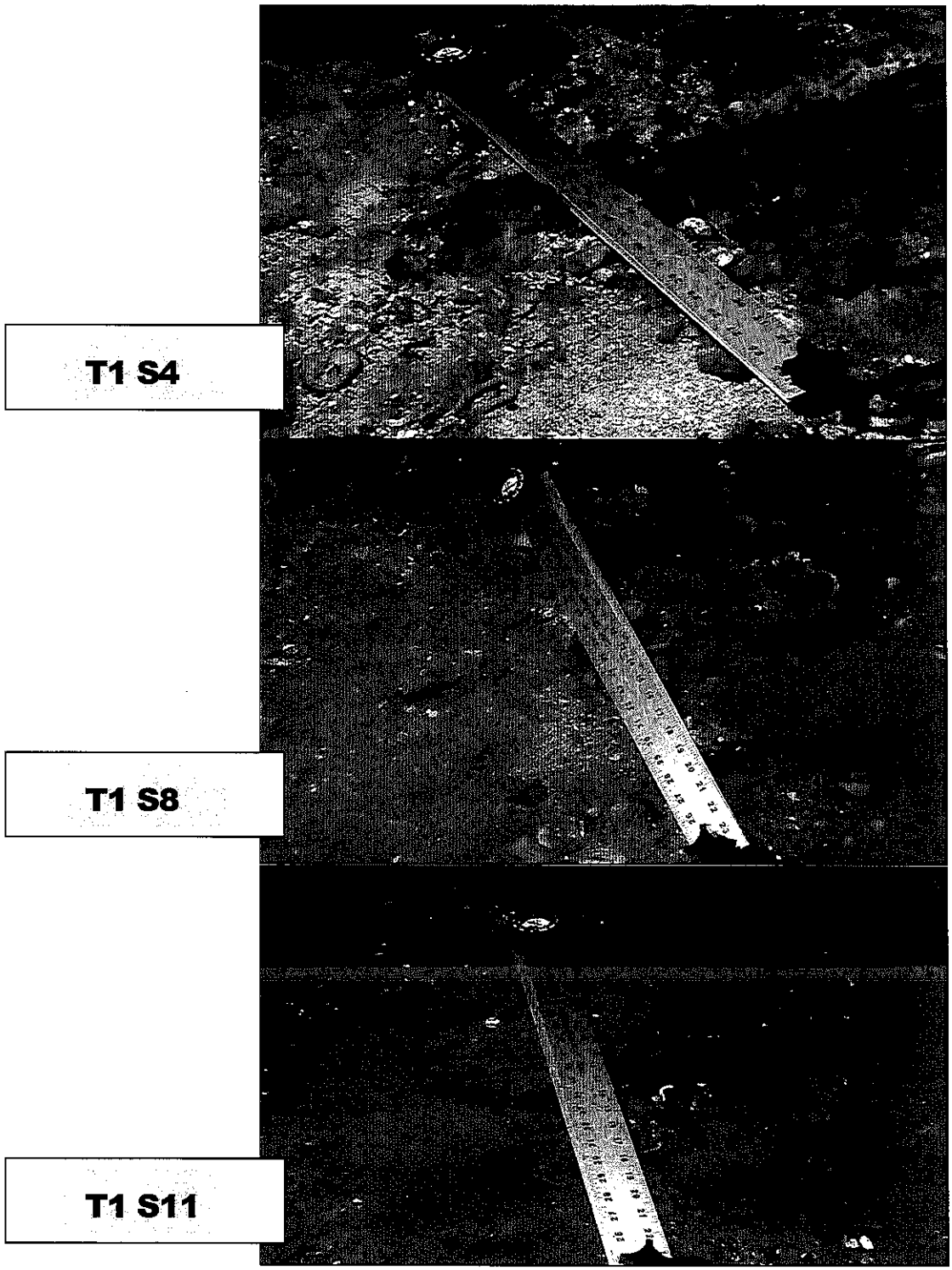
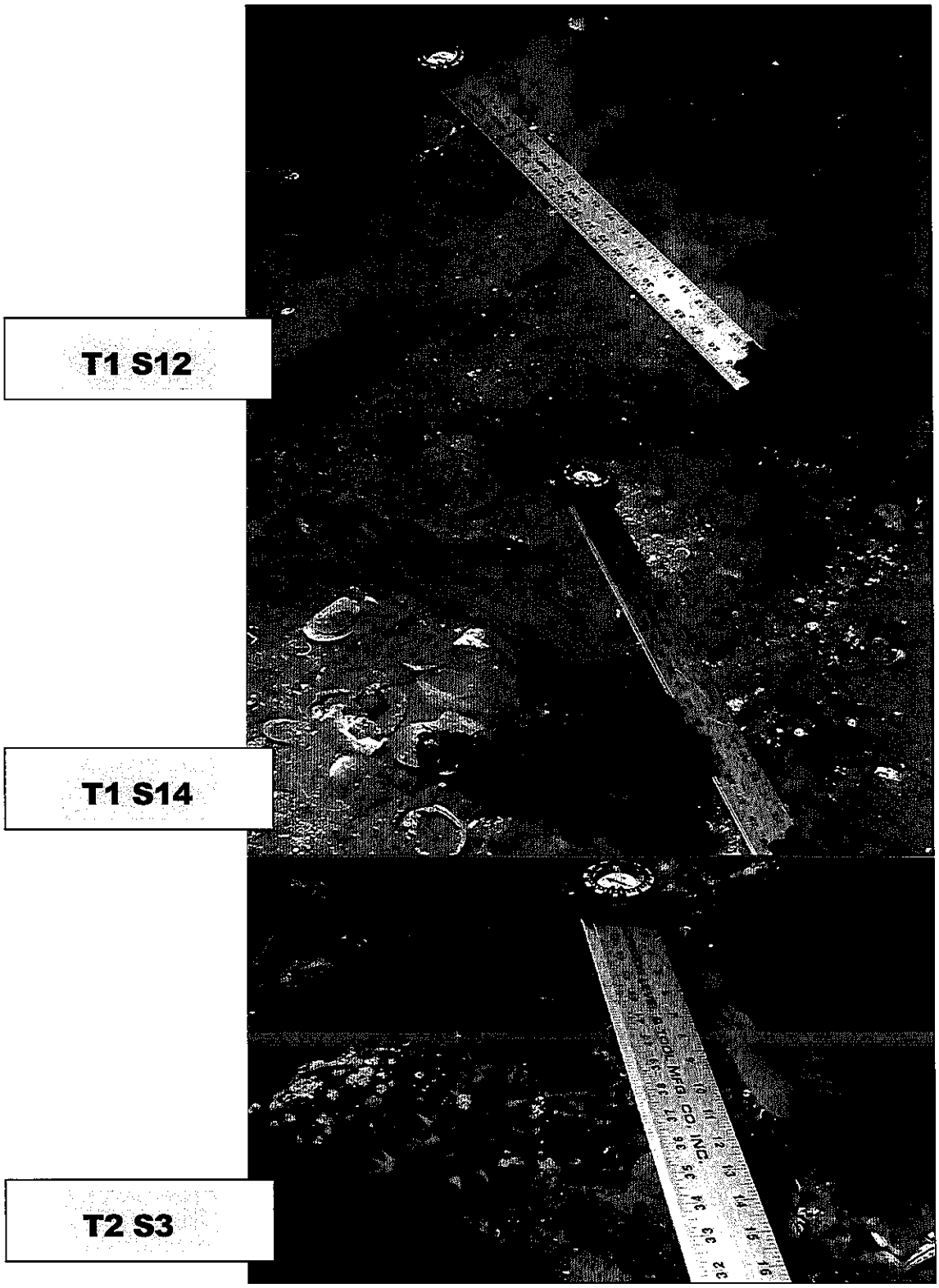
Key:
SH=Shell, S=Sand, M=Mud, SL=Silt, R=Rock, C=Cobble, G=Gravel
Bark Depth Recorded in Inches

Abundance Tables

Scientific Name	Common Name	Abundance
Plants		
Ulva / Monstroma spp.	Sea lettuce	L
Lithothamnion spp.	Crustose red algae	L
Agarum clathratum	Sieve Kelp	L
Laminaria saccharina	Suger kelp	L
Invertebrates		
Mediaster aequalis	Red star	C
Luidia foliolata	Sand star	L
Pycnopodia helianthoides	Sunflower star	L
Pisaster ochraceus	Ochre star	L
Pododesmus macrochisma	Jingle	L
Cucumaria miniata	Orange sea cucumber	L
Dermasterias imbricata	Leather star	L
Solaster sp.	Sun star	L
Ophiuroidea spp.	Brittle star	L
Chionoecetes bairdi	Tanner crab	L
Cancer products	Red rock crab	L
Pandalus spp.	Shrimp	L
Pagurus spp.	Hermit crab	L
Bankia setacea	Shipworm	L
Protothaca staminea	Littleneck clam	C
Beggiatoa sp.	Bacteria	L
Polyplacophora spp.	Chiton	L
Unidentified Benthic Infauna	Benthic Infauna	L
Metridium senile	Anemone	C
Parastichopus californicus	Sea cucumber	A
Invertebrates		
Cottidae spp.	Sculpin	L
Hexagrammos decagrammus	Kelp greenling	L

Photographic Representation

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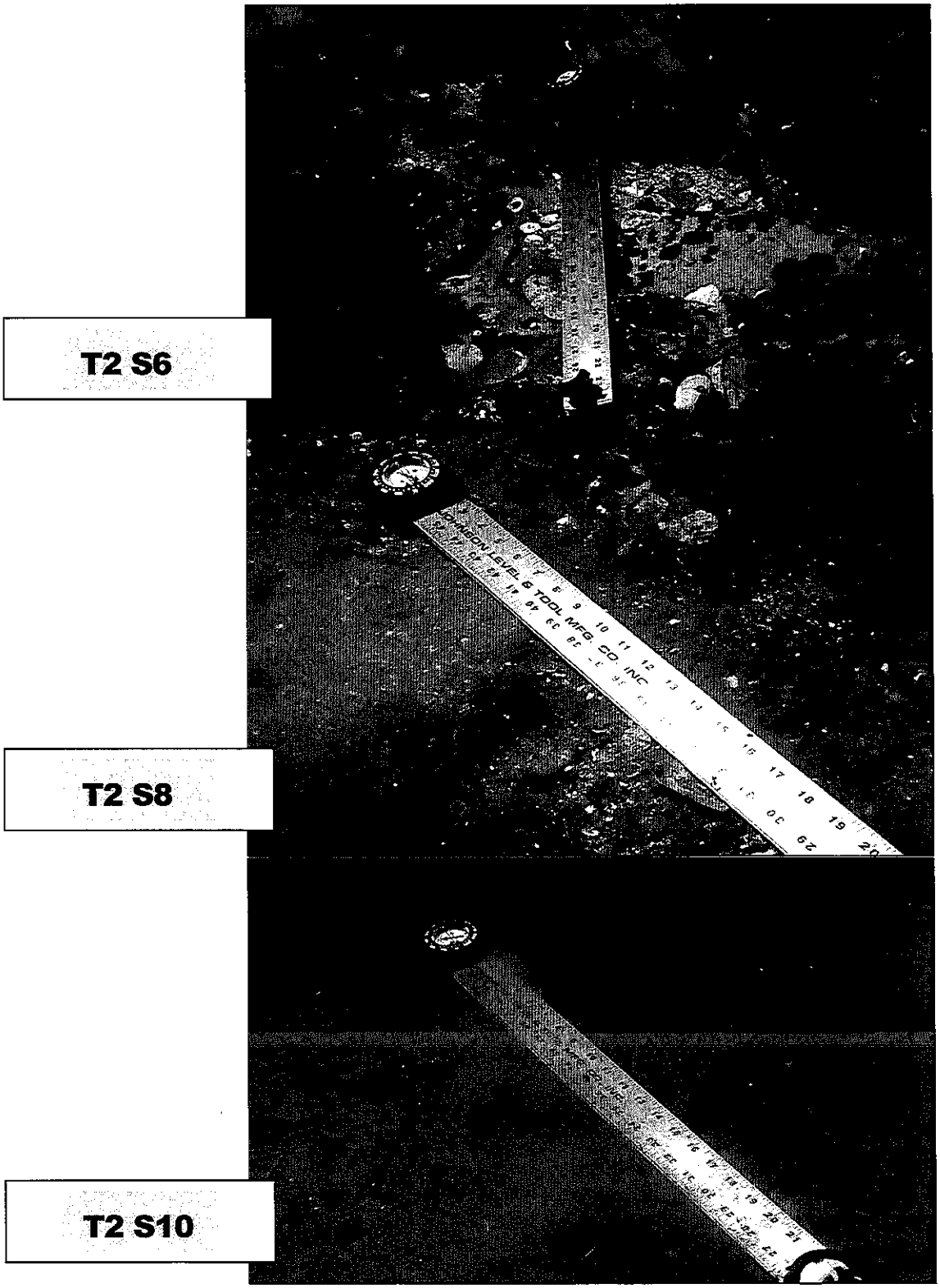
T1 S14
T2 S3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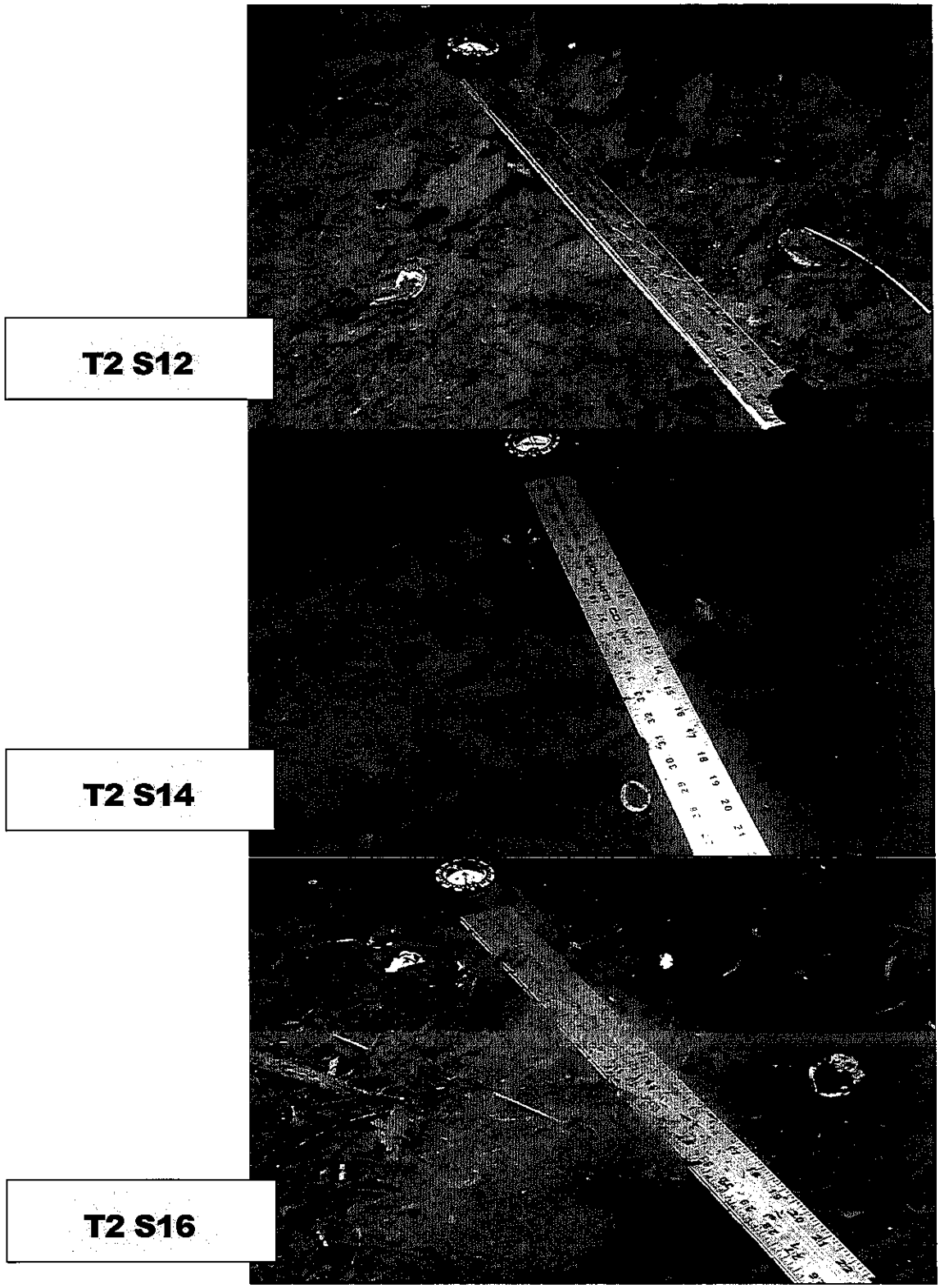

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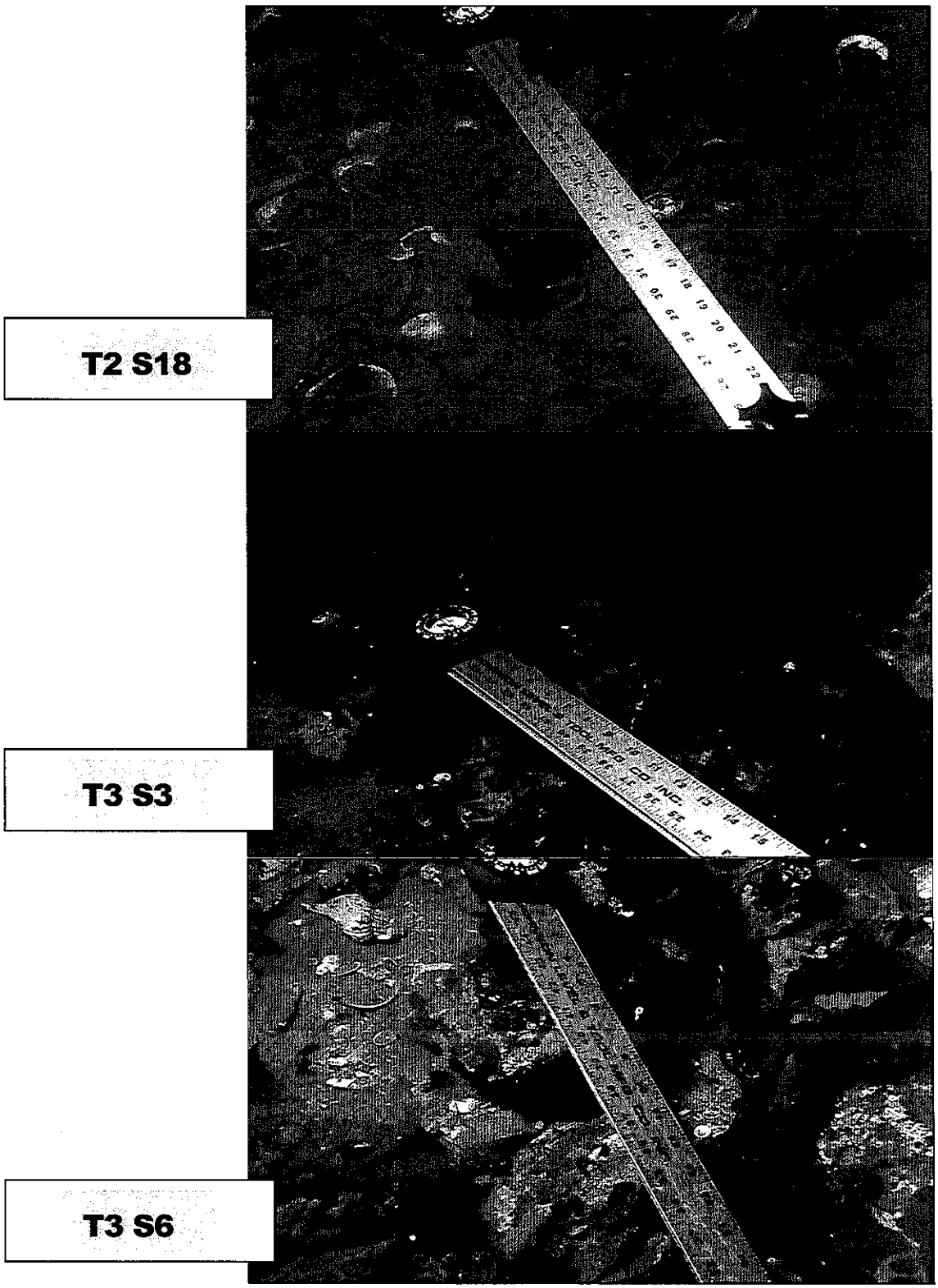
T2 S14

T2 S16



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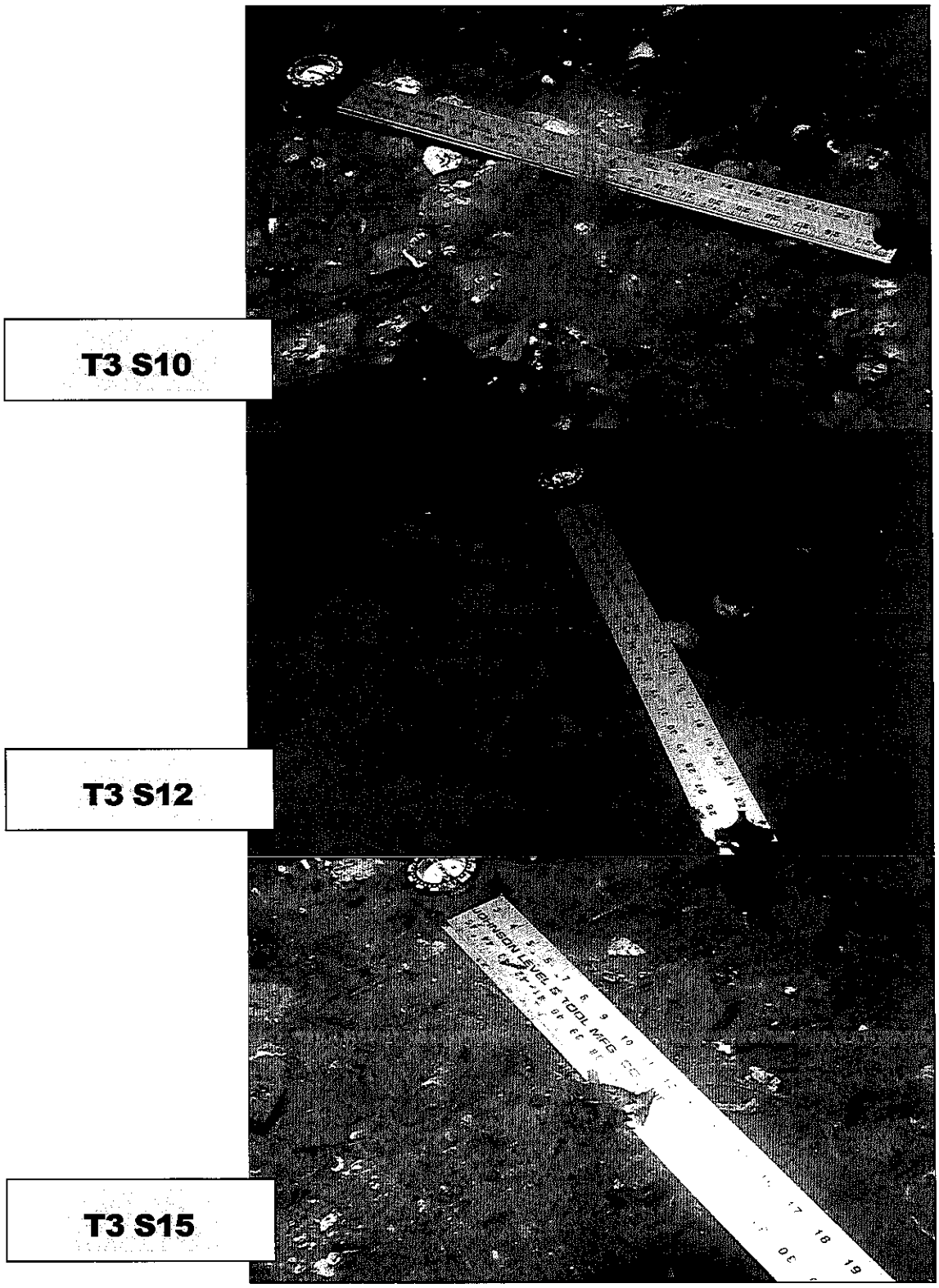
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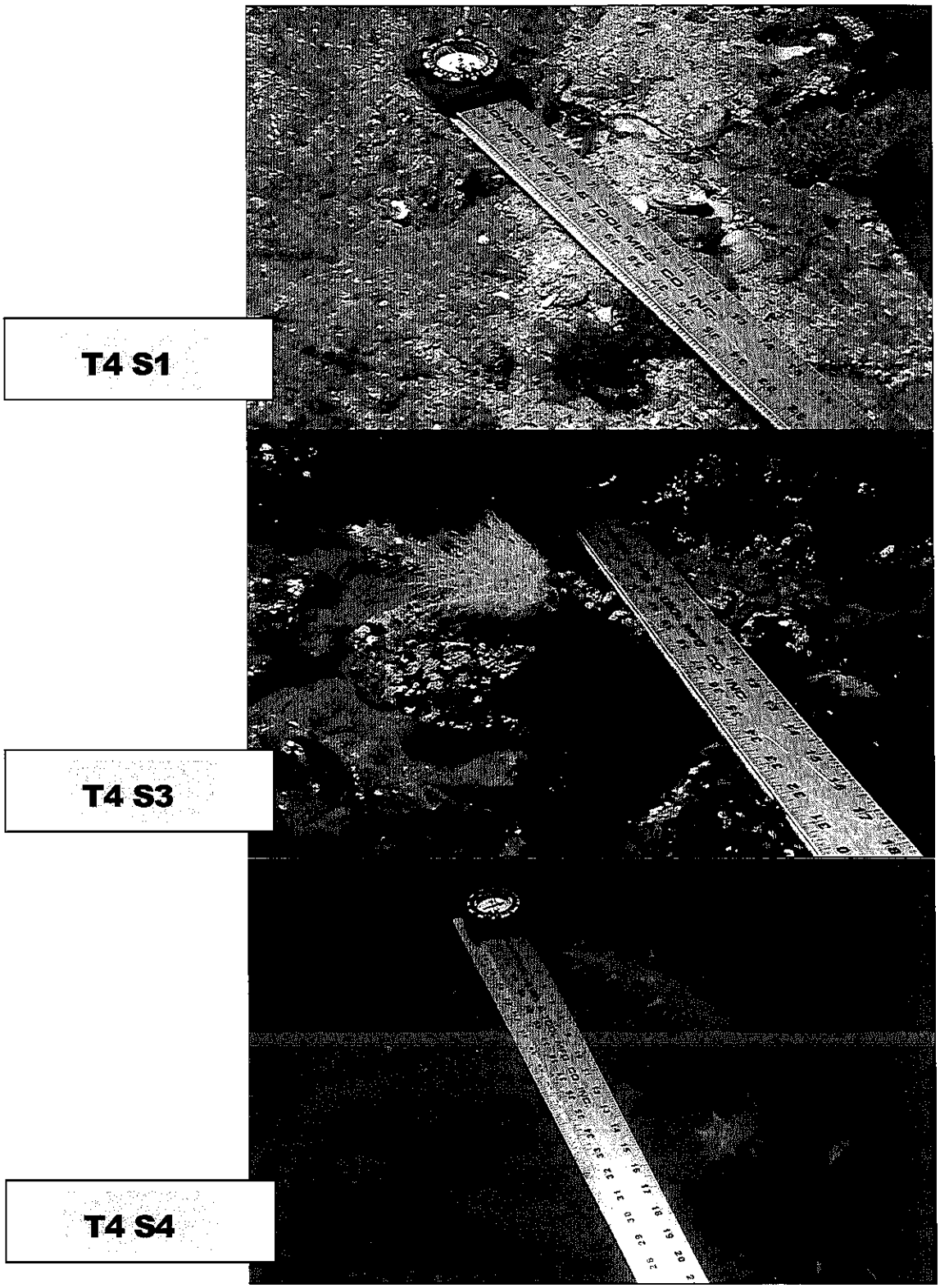

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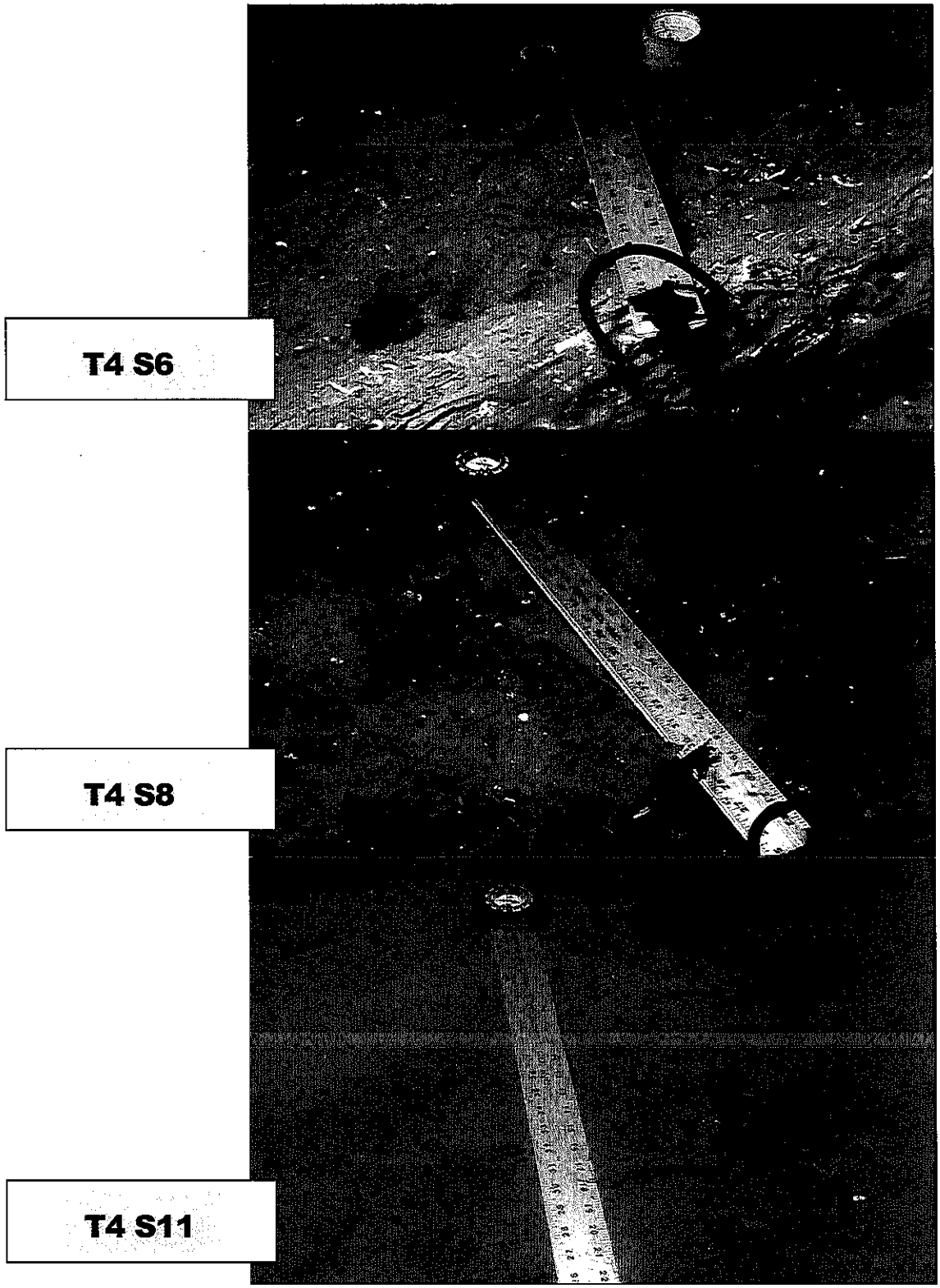
T4 S3

T4 S4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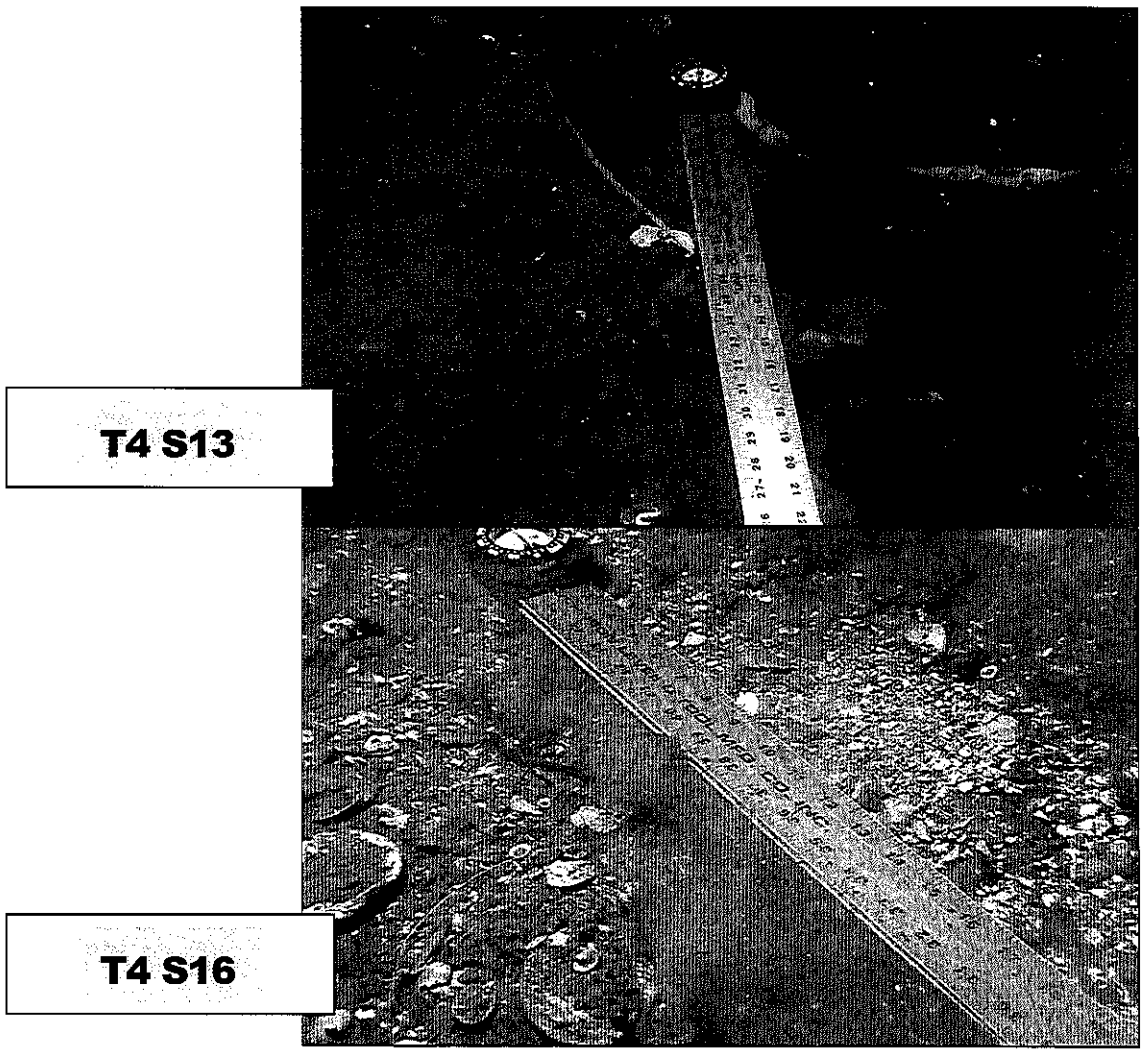
T4 S13
T4 S16

Chapter 2

Survey Summary

The log storage area appears to be in recovery transition, the debris that once covered the area in a continuous fashion is thinning and converting to discontinuous areas of coverage. At the present time, much of the discontinuous area has percents of coverage that are still high, ranging between 70 to 90 percent.

The area of continuous bark debris is fairly represented in this assessment survey; however the area calculation of discontinuous bark debris does not contain the additional sample point information that would normally be associated with a full bark monitoring survey.

Measurements of bark depth did not exceed four inches at any sample point, the average however was one inch or less.

A comparison of surveys and complete review of the changes to the amounts of continuous bark debris cover and discontinuous bark debris cover was not done for the reason that previous survey reports were not available and the log storage area has had no recent history known at the time of this report.