Nunavut Regional Office (NRO) P.O. Box 2200

August 5, 2015

Igaluit, NU, X0A 0H0

Mr. Thomas Kabloona The Chair, Nunavut Water Board P.O. Box 119, Gjoa Haven, NU X0B 1J0

Dear Mr. Kabloona:

RE: Durban Island and Padloping Island Remediation Project: 2014
Annual Report for Water Licence No: 1BR-DPI217

Please find attached the 2014 annual report for the Water licence No: 1BR-DPI217 issued for the remediation of the Durban Island and Padloping Island sites.

If you have any questions or comments, please contact the undersigned or the Project Manager, Dele Morakinyo at dele.morakinyo@aandc-aadnc.gc.ca, or by telephone at (819) 934-9224

Sincerely,

Charlotte Lamontagne

A/Director, Lands & Contaminated Sites (NRO)

Tel: (867) 975-4578 Fax: (867) 975-4736

Email: charlotte.lamontagne@aandc-aadnc.gc.ca

CC: Nunavut Impact Review Board (NIRB), Cambridge Bay, Nunavut



NWB Annual Report	Year being reported: 2014 ▼						
License No: 1BR-DPI217	Issued Date: October 18, 2012						
	Expiry Date: October 31, 2017						
Project Name:	Durban and Padloping Island Remediation Project						
Licensee: Aborgnial Affairs and Northern Development Canada							
Mailing Address:	PO Box 2200 Iqaluit, NU X0A 0H0						
	filing Annual Report (if different from Name of Licensee please clarify						
NA	e two entities, if applicable):						
General Background Information	on the Project (*optional):						
This project consists of 2 sites:	Durban Island and Padloping Islands.						
and the land later transferred to various debris remain. A remede Padloping Island was the site of contaminated soil and various of the site of the soil and various of the site of the si	former intermediate DEW-Line site installation. The site closed in 1963 o DIAND. Buildings, fuel storgae tanks (empty), contaminated soil and diation program was started on-site in 2012. If a former weather station and settlement. Remnants of buildings, debris remain. A remediation program was started on-site in 2012. 20 km of each other and are being remediated at the same time by the						
Same contractor.							
with	see must provide the following information in accodance						
the state of the s	and waste disposal activities, including, but not limited to: methods of eywater management; drill waste management; solid and hazardous						
Water Source(s): Water Quantity:	Fresh water Lake (Padloping); Streams (Durban) 36/day						
Waste Management Solid Waste D Sewage Drill Waste Greywater	·						

IQALUIT#626538 - v1 1/4

	Hazardous
	Other:
	Additional Details:
A list of una	authorized discharges and a summary of follow-up actions taken.
	Spill No.: (as reported to the Spill Hot-line)
	Date of Spill:
	Date of Notification to an Inspector:
	Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)
Revisions t	o the Spill Contingency Plan
	SCP submitted and approved - no revision required or proposed
	Additional Details:
	Additional Details.
Davisiana t	o the Abandonment and Restoration Plan
Revisions	
	No Abandonment and Restoration (AR) Plan submitted or approved
	Additional Details:
	Additional Details.
Progressive	Reclamation Work Undertaken
i logicasive	Additional Details (i.e., work completed and future works proposed)
	Additional Details (i.e., work completed and lattile works proposed)

IQALUIT#626538 - v1 2/4

Works Completed:

The contractor mobilized to both Padloping and Durban Islands in the first week of September 2012. Installation of camp facilities, including sewage treatment ponds started on Padloping and Durban Islands. Access road upgrades were undertaken on Durban Island. Camps were winterized and site activites ended on September 21, 2012. The local HTO were contracted to conduct periodic checks on the site over the winter.

Works completed at both sites during the 2013 and 2014 construction season includes camp opening and operation, road upgrades, landfarm development, debris removal, contaminated soil removal, regrading, building demolition, camp winterization, packaging and containerization of wastes and materials, soil treatment and collecting, packaging and containerization of surface and dugged out debris.

Future Works Planned: Works planned to be completed in the year 2015 include:

Upcoming work (2015) at Durban:

- ② Complete dismantling of Barrel Processing Area (BPA)
- Complete water treatment of barrel process water and sample for discharge
- Discharge treated water following receipt of sample results
- Reshape berms in the BPA
- Camp closure
- Collect samples of treated soil in landfarm
- Collect confirmatory samples from base of landfarm
- Reshape treated soil in landfarm
- Reshape TSAs, camp area and roadways as required
- Remove bridges on road to upper site
- Demobilize waste, camp and equipment
- Pinal southern disposal of all wastes

Upcoming work (2015) at Padloping:

- Camp closure
- Collect samples of treated soil in landfarm
- Collect confirmatory samples from base of landfarm
- Reshape treated soil in landfarm
- Reshape TSAs, camp area and roadways as required
- Demobilize waste, camp and equipment
- Pinal southern disposal of all wastes

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

	Details attached	•
,	Additional Details:	

IQALUIT#626538 - v1 3/4

		ordinates (in de n where wastes	_		of latitude and are deposited;	longitude) of
	Details attached					•
	Additional Det	ails:				
	Results of an	y additional sa	mpling and/or	analysis that v	vas requested b	y an Inspector
	No additional sar	mpling requested by	an Inspector or th	ne Board		•
r	Additional Det	ails: (date of req	uest, analysis	of results, data a	attached, etc)	
Any other de being reporte		use or waste d	lisposal reque	ested by the Bo	ard by Novembe	r 1 of the year
	No additional sar	npling requested by	an Inspector or th	ne Board		
	Additional Det	ails: (Attached o	r provided belo	ow)		
Any respons	es or follow-u	p actions on in	spection/com	pliance reports		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Select					•
_	Additional Det	ails: (Dates of R	eport, Follow-u	ıp by the License	ee)	
Any addition	al comments	or information	for the Board	to consider		
Date Submitt Submitted/Pi Contact Infoi	repared by:	Fax: (819) 93	34-9224 34-9229 prakinyo@aano	lc-aadnc.gc.ca		

IQALUIT#626538 - v1 4/4

GPS Coordinates for water sources utilized

		Latitude	е	Longitude		
Source Description	o Deg	, Min	, Sec	o Deg	, Min	, Sec
Freshwater Lake (Padloping)	67	2	42	62	45	35
Stream (Durban)	67	4	37	62	10	37

GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude			
	o Deg	, Min	sec ,	o Deg	, Min	sec ,	
Sewage Pond (Padloping)	67	2	25	62	43	50	
Sewage Pond (Durban)	67	4	39	62	10	50	

Appendix A:

DURBAN ISLAND & PADLOPING ISLAND REMEDIATION PROJECT

EXECUTIVE SUMMARY



DURBAN ISLAND & PADLOPING ISLAND REMEDIATION PROJECT

EXECUTIVE SUMMARY

1. **BACKGROUND**

The Government of Canada has implemented the Federal Contaminated Sites Action Plan (FCSAP) to clean up federally owned contaminated sites which pose risks to human health or the environment. Aboriginal Affairs and Northern Development Canada (AANDC) has applied for, and received funding approval, for the investigation and remediation of the abandoned Dew-Line site at Durban Island and weather station and settlement at Padloping Island. The islands are located within 20 km of each other and are being remediated at the same time by the same contractor.

In 1943, the United States Air Force (USAF) built a weather station on Padloping Island. The weather station operated later under the Canadian Department of Transport and closed in 1956. Inuit settlement on Padloping Island site predates the weather station. A written history of an Inuit community dates back to 1884. The remains of a hamlet, abandoned in the 1960s, are nearby the remains of the weather station.

Durban Island (FOX-E) was an Intermediate DEW Line site constructed in 1956 and operated until 1963. The site was abandoned and became the responsibility of the AANDC in 1965.

2. SITE LOCATION/ACCESS

Durban and Padloping Islands are located about 100 km and 75 km southeast of Qikiqtarjuag. There are no landing strips at either site. Access is via sea or by helicopter.

The former weather station and settlement area at Padloping Island is on a coastal plain approximately 400 metres from the bay. It is bordered by a steep cliff beyond two shallow lakes to the west and undulating hills to the east.

Prior to the commencement of site remediation, the site was characterized by abandoned buildings in various states of advanced disrepair, fuel tanks, barrels, contaminated soil, hazardous materials (such a batteries and asbestos), and scattered debris. Near the shoreline in the ocean are two partially submerged remains of barges. Almost all areas requiring remediation are on Crown Land. Durban Island is composed mainly of deep glacial valleys and high plateaus. The site consists of three main areas; the Station Area, Beach Area and Old Construction Camp. The Station area, on a high plateau, has various Dew-line buildings remaining, two large fuel tanks as well as a fallen communication tower. A large number of barrels and other debris were discarded over the cliff edges from the Station. The Beach area, located at the barge landing, has old barrels, debris and two large empty fuel storage tanks. Near the shore are two partially submerged remains of barges. The Old Construction Camp is located near the Beach area and has various scattered debris. In general the site has scattered debris, barrels and small quantities of contaminated soil, as well as hazardous and nonhazardous waste. A 6.6 km road, with very steep sections, runs between from the Beach Area to the Main Station. The steep section of road is on Inuit Owned land.

3. PROJECT ACTIVITIES & SCHEDULE

AANDC conducted an environmental site assessment program at both sites in 2010 and prepared Remedial Action Plans (RAPs) to clean up the sites. A community consultation was held in Qikiqtarjuag in February 2011 to present the draft RAP to the community members and other stakeholders before finalizing the RAP.

During the FY 2012-13, AANDC applied for and obtained the necessary licences and permits required for the completion of the remediation works at Durban and Padloping Islands. Site Remediation began on the Islands during the FY 2013-14 and it is planned to be completed during the FY 2015-16.

The site remediation activities completed to date (i.e. to the end of FY 2014-15) are as follows:

- Mobilization of equipment and supplies to the Padloping and Durban Islands sites by sealift and helicopter.
- Construction of a main camp on Durban Island and a secondary camp on Padloping Island.
- Construction of a sewage lagoon at both sites.
- Excavation of borrow materials for road construction and site grading.
- Upgrades to the steep road at Durban Island and smaller access roads on Padloping
- Collection, sorting and crushing of barrels and debris from both sites.
- Packaging and stockpiling of hazardous and non-hazardous waste for removal by sealift.
- Removal of the remains of two barges near the shoreline on Padloping Island.
- Removal of various buried debris from Padloping Island and regrading of excavated
- Construction of a petroleum hydrocarbon soil treatment 'landfarms' on Durban Island and Padloping Islands.

The site remediation activities remaining to be completed at both Durban Island and Padloping Island for the FY 2015-16 include:

 Collection and packaging for off-site disposal of previously unidentify hazardous and non-hazardous wastes.



- Confirmatory sampling and decommissioning, after obtaining satisfactory results, of site facilities (e.g. sewage lagoon, landfarm)
- Reshaping of treated soil in the landfarms
- Regrading of the borrow areas, landfarm locations, and other locations on the site
- Camp closure activities
- Final site inspection
- Final demobilization of equipment and materials from the site to the south.

AANDC is adopting a walk-away solution for this site meaning that no materials, waste or postremediation structure (e.g. landfill, as is the case with some completed sites) will be left at the site, post-remediation. Consequently there will not be any need for long-term post-remediation monitoring at this site.

SOCIAL IMPACT OF THE PROJECT 4.

As much as possible, the project has been adopting solutions tailored to the northern environment and its inhabitants by using local knowledge and including the unique needs of northerners and their environments in the remediation work plan.

Community meetings are being held in Qikiqtarjuaq to share the project plans, employment and subcontracting opportunities, and project's progress with the community members, the local Inuit organizations, the hunters and trappers' association and other stakeholders. Feedbacks and responses were also obtained from the attendees of these meetings. A community meeting held in Qikiqtarjuag on February, 2010 presented the draft copy of the proposed Remediation Action Plan (RAP). AANDC shared her strategies for cleaning up the site and obtained feedbacks from the stakeholders. These feedbacks were useful in finalizing the RAP.

Additional consultations were held prior to the start of the site remediation in summer of 2013, before the start of summer works in 2014 and at the start of the FY 2015-16 (May 2015). These consultations were used to introduce the contractor and subcontractors to the community; inform the community of upcoming employment opportunities and potential subcontracting opportunities; and update the community on the project progress and plans for the upcoming construction year.

A final community meeting will be held in Qikiqtarjuaq, upon completion of the project, to inform people on the results of the project.

The construction contractor undertaking the work committed to meet some targets for Inuit employment as well as Inuit sub-contracting. The contractor is hiring personnel from the local community of Qikiqtarjuaq as well as other Nunavut communities to be able to meet these targets.

Appendix B:

DURBAN ISLAND & PADLOPING ISLAND REMEDIATION PROJECT

EXECUTIVE SUMMARY (INUKTITUT)



¿bbipCqr\p qrr <_>iV 'bΔΔϲ∿ႱσልσϽʹϧ;Ϳϲ ϷΠͽ·ΠϷςΔσ;Ϳϲ ΛϲתΦϧͽ

$\sigma \nabla \varphi_{\alpha} \nabla \Gamma_{\alpha} \nabla \varphi_{\alpha} \nabla \Gamma_{\alpha} \nabla \varphi_{\alpha} \nabla \Gamma_{\alpha} \nabla$

ᡐ᠘ᠸᡲ᠘ᠳ᠔ᡏ 1.

 $\rho\sigma$ ርኦ< $\rho\sigma$ ርኦ< $\rho\sigma$ ርኦ< $\rho\sigma$ ርኦ< $\rho\sigma$ ርኦ< $\rho\sigma$ ርኦ</br> ᢣ᠋ᢇ᠋ᡰ᠘ᡊ᠘ᡆᢗᢇᠲ᠙᠘ᠫᡲᡉᢥᢗ᠂ᠴᡆᠻᡆᡣᡥᡎᡉᢛ᠘ᠫᢛ᠒ᠻᢛᢕᢣ᠘ᢣᠣᢛ᠂ᡐᢗᠻᡈ᠄ᠹᢛᡆᢛᠫᠣᢛ᠘ᠴᢐᠴᢈ ነት የተፈፀተ ነው የተፈፀተ 'b교᠘ᠸᠲ᠘ᠪᠫᡝᢐᢥ᠘᠘ᡩ᠘᠈ᠺᠬᡥᠬᠬ᠘ᢣᠻᢐᡃᠳᡝ᠘᠘᠘ᡩ᠘ᢏ᠘ᢥ᠒᠘ᢣ᠒ᠵᡀᢥᡳ $^{\circ}$ $^{\circ}$

1943F, F<=UΔና በ°F/ישל >aC%)>\^C /c=\^{&<>c>%/L>ና <^_^&\F. P\Jσ^\U/-ᠴᡆ᠋᠋ᡃᢐᠮᠦᠬᢣᡲ᠋ᠮ᠂ᠺ᠆᠘ᡩᢐᢆᠮ᠕ᡴ᠑ᢞᡠᡥᡟ᠘ᠫᡥ᠈᠘ᠸᢇᠧᡭ᠍᠍ᡭᢡ᠋ᡥᡣᡎᢕᠸ᠌᠌ᠵᡥᡟ᠘ᢏᡥᠾ᠂ᠪᠴ᠘ᡩᠦᢣ᠙ᢞᠨ᠘ᢞ በበና $^{\circ}$ CP/L σ° የበJ $^{\circ}$ Δ $^{\circ}$ $^{\circ}$ Δ $^{\circ}$ $^{$

 $\mathsf{APCCP}^{\mathfrak{p}}$ $\mathsf{APCP}^{\mathfrak{p}}$ $\mathsf{APCP}^{\mathfrak{p}}$ $\mathsf{APCP}^{\mathfrak{p}}$ $\mathsf{APCCP}^{\mathfrak{p}}$ $\mathsf{APCCP}^{\mathfrak{p}}$ $\mathsf{APCCP}^{\mathfrak{p}}$ $\mathsf{APCCP}^{\mathfrak{p}}$

2.

'የዖጭርďነረ⁶ ላ¹L <'ጔናል⁶ ▷⁶ሁ/⁶ውናኒ⁶ነ⁵ 100 የ፫፫ርው ላ¹L 75 የ፫፫ርው 'የዖጭርናዚላ' ውቦላር ba~a~</doc. CLiTo Teach Time. UbCorbin DeCorbin Decorbin de identification

ᡏ᠙ᢖᢣ᠙᠘ᡷᠣ᠘ᡩᡈᢓᠻ᠋᠘᠖᠙ᠳᢐᠽᠬᡠ᠘ᢣᢗᡠᡃᠫ᠘ᢗᡩᠻᠫ᠘᠙᠘ᡧᡆᢝᢤᡫᠣ᠘ᠳ᠘ᡶ᠘ᢐᡆᡥᡆᢥᢥᡫᠳ 56566405°→06.

 Δ^{1} Δ^{2} Δ^{3} Δ^{3} Δ^{4} Δ^{5} Δ^{5 Δ^{\prime} C'a'5'6'0) Δ^{\prime} C' Δ^{\prime} D Δ^{\prime} C' Δ^{\prime} Db Δ^{\prime} C' Δ^{\prime} Db Δ^{\prime} C' Δ^{\prime} DDC. Δ^{\prime} D' Δ^{\prime} DDC. Δ^{\prime} DD P&56P5C6D5P56>56 Ĺ⁴Ż∿σ₽ ᠘᠙ᠺᡩᢐᠳ $CL^{q}\Gamma b + c \cap d^{q}$ ᠤ᠘ᠸᢥᡰᡉ᠗ᡊ᠑ᡠᢥ᠘᠘᠘ ᡩ᠙᠙ᢞ᠑᠋ᠮ᠋ᠴ᠂ᡆᡥᡃᡳᢀᠵᡦᢐᢛᢩᢖᠦ. ᠘ᠣ᠋ᡴ᠋ᢣᢛ᠂ᠬᡥ᠘᠘ᠸᢛ᠋ᢐᠲᠾᢀᢛ᠂ᡠᡄᠨ᠋᠕ᡩ᠙ᡬᢐᢛ,᠈ᡎᢣᢛᡃᠵᠰ᠂ᡏ᠘᠘᠘ᢣᠻᠪᠻᢐᡑ.

 $\dot{\alpha}$ C $^{\iota}$ A $^{\varsigma}$ b $^{\varsigma}$ A $^{\iota}$ ᠵᡥᢞᢐᢦ᠋᠆ᢞᢗᠻᢐᢛᢖᠦ ᡏᡰ᠘᠂ᠵᢪᢥᠾᡄᡥᠫᠮ᠉᠂ᡆᡄᡃᢨᡑ᠋᠆ᡆ᠂ᠵᠻᡥᡆᡣᠻᢐᢛᢖᠦ᠂ᡩᢗᠺᢣᠫᡳ᠘ᡩ ᢣᠣ᠌ᢇᠫᢣ᠘ᡩ᠘᠖ᡮ᠙ᢗᡳᠳᠿ᠙᠘᠘᠙ᢆᡠᠫᠵ **ላበናበ**ላ∿ሁውና ሲር^ነልና**b**ናል∿Γና. 70754P< ᠣᢄᠫ᠘᠙᠗᠕ᠳᠻᡤᢗ᠑ᢣ᠗ᠳ᠙ᢗ᠔ᢣᢀᡊᢛᢗᡤ᠐᠈ᢛ᠈ᢣᢛᢗ᠇ᡠᢛᢩᠴᠦᠴ ᡧ᠘᠘᠄ᡠᢥᠣ᠍ ᠘᠘ᡃᢐᡥᡳᡤᠫᢥᠣᡰ ᠵᡥ᠘ᠮᠪᠵᢕᢀᢅᢐᡐᡆᡥᢗᠻᢐᡥ᠋ᠴᠦ. ᠘ᠰᢧᠵ᠂ᠪᡉᢕᡃᠵᠦ ᠘᠄ᡠᢥᠦᡰ ᡩ᠙᠗᠄ᢛᠪᠻᡄᢑᠫᡥᠦᡰ ᠘ᠪᠵᡧᠣᡥᢗᠻᢐᢛᢅᠫᡥ. ᡃ᠋ᡳᡆ°ᢐᢐᡉ᠋ᠫᡝᢐᢛ᠂᠘ᡃᢞᠬ<ᠵᡟ᠑ᡤᡃᢗᠵᢆ᠂ᡋᡉ᠒ᡃᡠ<ᡔᢛ᠂ᡆᠣᢃ᠘ᡠᢐᠣ᠘ᢕᢐᢛᢖᠦ᠂ᡆᠣ᠐ᡐᡠᠴᢀ ᡃᡳᠣᢐᠣ᠌ᢀᠵ᠂ᡃ᠙ᢗ᠐ᢣᢐᡠᡕ᠂ᡧ᠋᠘ᢣᢆᡕᢛ᠈ᢣᡝᡆ᠄ᠣ᠌ᠣ᠘ᢣ᠋\ᠰᠬᡥᢣ᠘᠌᠌ᠪᡥᠴᠦ᠂ᡏᢗᡎᡆᡥ᠑ᠳ᠘᠂ᢗᡎ᠋ᡥᡥᡗᠫᠥᡰ ᢦᡥᢗdᢗᡃᢐ᠌ᠦᡊ᠊᠋ᠴᠦ. 6.6 ᠙ᡄᡤᢗᠣ᠍ᢀ ᢗ᠙ᠣᠸᡥᠮᢀ᠂ᡏᡥᡈᠬᢗᡃᢐᢐᡃ>ᢛ, ᠘ᡄᡥ᠋᠘᠂᠘ᡥᡶᡳ᠘ᡱ᠋ᠫ᠇ᠵ, ᢅ᠘ᡥᡈᠻ

$\Lambda \subset \Lambda^{0} \setminus \{1^{C} \cap \Delta \subset D^{C} \cap A^{C} \cap A^{$ 3.

ውልሮችው bበናbበናbናውርናbርbት>% ል>ላሊ 2011 Γ ጋጎ%C>ቦናበ Δ ተLና የbው Δ ር%Lታልውጋናb%Lውና Δ^{fib} $\Delta^{$

'₽₽ጐርďነሥና ሩዜ <՟ጔ፞፞፞፞፞፞፞፞፞፞፞፞፞ዾኯ፟ዾዀፚ፞ዀጜፙፚጛ፞ዀ፞ዀዾ ዾበዀበዾናዀበናበσዀ ር፟ፙ፞፞፞፞፞፞፞፞፞፞ዹዀኇ 'የዖጭር'ত ለቦላር እጭንጭ 2013-14 የፈውሃበሆ ላናጎታሁው Δ ጭይ Δ ጭር እማላገዜ' ጋታጋ 2015-16 Paphnu disjuto.

 P^{\prime} P^{\prime

- 40%CP4%5% NPP5A5% <53%%15 PP%Cd54%15 PF454%45 14CFjc-653.
- dA^ςbC^ςACD^ςσ^ςb CL^bPσ ΔσD[†]c.
- $\sqrt{3600}$
- ዻ፞ኈዖቦላሊσኈ /ልጐሁናፈላጐጋቦ ላጐዕበቦ ናዖዖኈርዕንሥናፈት ላጐዕበናሩ ህσጐኣσ <ናጔናልጐቦ.
- ᡖ᠐ᡥ᠘ᢖᢛ᠘᠘ᠸᡎ᠆ᡥᢣ᠘ᠸᡥ᠘᠆ᡩ᠘᠘᠘᠙᠙᠘᠂᠙ᢗ᠐ᢣᠣᢛ᠘ᢞ᠘ᡥ᠒ᡙᠣᡥ᠘ᡛᡭᠣᢛ᠂ᠻ᠙ᡥᢗᢥᠦ
- >%0ДФ% PLA(4ДФ)
 >%0ДФ% PLA(4ДФ)
 >%0ДФ% PLA(4ДФ) 4P5C60C67.60C66.
- Å5%CD>0% ZbD&&* ZV5%
- \α\forall \ofensight\forall \ofens >>>>
 >>
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >

 <



PaphΠJc ላናናህ∿υው 2015-16 pdσ∿υ Δcናbና>ና6:

- $^{\circ}$ bbbbcb $^{\circ}$ rcd $^{\circ}$ d $^{\circ}$ d
- Prancharte
 Prancharte
- $\Delta \subset \mathcal{C}^{0}$
- \cJibCbbbciac\bibCbbciac\bibCiabadi, Dd<bciabadi d/\bibCbbciac
- Φ'CPL®AP5Tb 5PLΔσb4Jc 45bPb2Δσ5b
- P¹U⁻C¹⁶
 L⁻L⁻J (P⁻L⁻P⁻
- ዮህ՟፫ჼ፥<\n`⊃J ዾ³በ%CÞσ∿ቦና \αናንበና bበ%ራ%CÞσσ6 ΔσΓγΓና ነቴ' ב\α.

᠈ᡩ᠘ᠫᢀᡐ ᡉ᠘ᠸᢥᡰᡉ᠍ᢙᠦ᠐ᡥᡶ᠘᠘ᡆᠻ ₫°CdCʻb2°&ʻjor. (ڪ^{ام}) $\Delta \rightarrow C^{\circ} \cap C^{\circ} \cap$ $P^{*}U\sigma^{*}UU^{c} = D^{c}\Pi^{5}e^{15}CD\sigma^{5}C^{5}D^{c}U^{5}e^{*}\Gamma^{c}U^{5}$

4.

᠘ᢨᠳᡥ᠘᠘᠘᠙ᡥᢕ᠙ᢞᢗᡏ᠙᠙᠙᠙᠙᠙᠙ᡧ᠘ᢞᡳ᠘ᢘᡤ᠘ᢘ᠙ᡫᠳᡶᠬᠻ᠘ᢘ᠘ᠰ᠘ᠳ᠘᠘ᡧ᠘ᠰ $\lambda C A^{\dagger} B^{\dagger} A A B^{\dagger} A B A B^{\dagger} A B B^{\dagger} A B^{\dagger} A B B^{\dagger} A B^{\dagger} A B B^{\dagger} A B^{\dagger} A B B^{\dagger} A B B^{\dagger} A B^{\dagger}$ PU

ρας[®]σ βηγιβηίνη το βριβημένη το μετικό το μ $\Delta^{\text{fib}}\Delta\Delta^{\text{j}}$ for an all bodies are according to the second of ᠊᠋᠋᠘ᢣ᠙ᡥ᠘ᠳ᠘᠘ᠳ᠘᠘ᠳ᠙᠘ᠳᡶ᠘ᢣᢛᢗᠻᢐᡲᡠᡕ ᡖᠩᠲᡲᡄᠴ ᠘ᢣᡖᠵᠲᠣ᠕ᡥᡳᠲᠧᢕᡑᠵᡕ Cᠮᠨᠳᡨᠬ $b \cap L + b \cap U + v \cap$ $2^{49}C^{10}C^{1$ PU_{0}^{0}

2013 ላቦታ∿ሀơ, 2014 ላቦታ∿ሀơ ኣሲሮሲላፎዖኈበ°ሲቦና ላዛL ቮሲቦታበJና ላናናህ ለቦላሮኒጭ/Lበ℃JJ 2015-16 (LA 2015). CLbdNjab PbbbNhrobd bracbbrNPtb bracbrNPtb bracbrNPtb ᢀᡰ᠘ᢞ᠈ᠳᢕᡐᡠᡳᡠᠧ᠘᠘᠘᠘ᠳ᠘᠘᠘᠘᠘ᠳ᠙ᠰᢖ᠘᠘ᢣᠳᢗ᠘ᡩᢐᠽ᠘ᠵ᠘ᡙ᠘ᡧ᠘ᡧ᠘ᡧ



ᡠᠲ᠋᠌ᠫᡄᡟ᠋ᢗᠻᡑ᠒ᢉᢨᡆᢩᡏᠦᡏᢐ᠋ᢐᡀᠳᡃ᠘ᠮ᠘᠘ᡆᠸᡥᠦᡟ᠐ᢣᡥᠺᡳ᠒᠘ᡮᢐᠲ᠕ᠸ᠒᠕ᡰᢣᢂ $^{\circ}$ $^{\circ}$

 $\Lambda \subset \Lambda^{6} \hookrightarrow ^{6} \hookrightarrow \Lambda \subset \Lambda^{5} \hookrightarrow \Lambda^{5}$

 $\ \Delta + b^5 + b^5 + b^6 + b^6$ $^{\circ}$ የትሎር፣ፈላ፣Γና $^{\circ}$ ላ/ጐውና ውሲሎና ውሲሎና ውሲሎና $^{\circ}$ ውር ርቀላላ $^{\circ}$ ላውር $^{\circ}$ ላላ፣ $^{\circ}$