# Appendix 1-D

**Pre-Disturbance Assessments** 

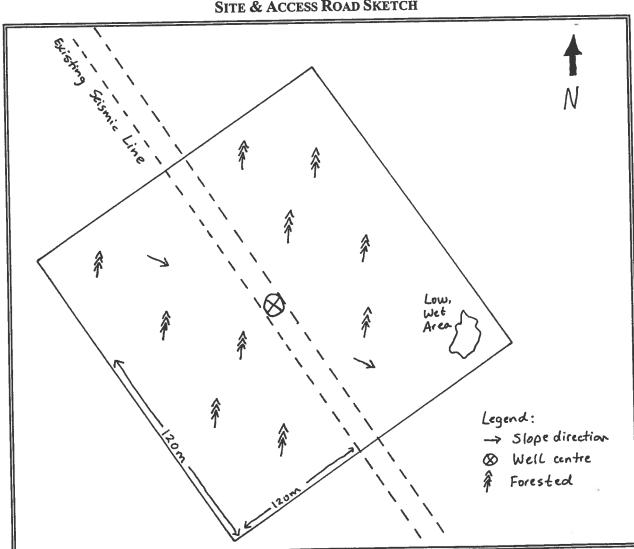




# PRE-DISTRUBANCE ASSESSMENT

Location: P	nica von K	uster pache Nogha nount Resource	B-23 s Ltd.	5	
☐ Oil Well ☐ Battery	☐ Gas Well     ☐ Pipeline	☐ Injection Well ☐ Other:	Compressor	Gas Plant	

#### SITE & ACCESS ROAD SKETCH





# SITE CONDITIONS

Moisture conditions:	Dry	Moist Moist	Frozen		
Current land use:	Cultivated Forest White Peat	Hayland Forest Green Wetland	☐ Pasture ☐ Irrigated	☐ Native ☑ Muskeg	
Adjacent land use:	Cultivated Forest White Peat	Hayland Forest Green Wetland	Pasture Irrigated	☐ Native ☑ Muskeg	
Slope:	2-5% (gent	gently sloping)	☐10-15% (stron☐15-30% (stee]☐>30% (very		
Drainage Direction:	Gentle d	rainage to th	e southeast.		
Topography:	Level Rocks	☐ Rolling ☐ Stones	☐ Hummocky     ☐ Gravel	☐ Inclined ☐ Bare Spots	
Erosion potential:	Low	Medium	High		
Surface roughness:	Flat	⊠ Clods/Humps	Rough		
Stability (tension cracks, slumpage, subsidence, side hill seeps, or springs)  Note and describe:					
Presence of Surface	Water Features	Stream Seasonal Slot	☐ Spring ugh ☐ River	☐ Wet slough ☐ Artesian ☐ Other:	
Location:	None noted.	A low wet	area present	in the	
	boutheast co	orner of site	•		



#### WILDLIFE

Animal sightings:				
Species:		Specie	es:	
Species:		Specie	es:	
Species:		Speci	es:	
Species:		Speci	es:	
Species:		Speci	es:	
Evidence of animal ac Type: Ground mice h	eles Loca	tion: Through o	ut site	Size: 5-10 cm
Type:	Loca	tion:		Size:
Гуре:	Loca	tion:		Size:
Гуре:		tion:		Size:
Гуре:	Loca	tion:		Size:
Type:		tion:		Size:
Type:		tion:		Size:
-	errestrial Upl		Wetland	
% C	over 100	<u> </u>	% Date	
Predominant species o  ☐ Balsam Poplar ☐ V  ☑ Spruce ☐ P	White Birch	r to be removed Balsam Fir Aspen	d: Tamarack  Mixed	Dogwood Other:
Salvageable Timber:		Yes	⊠ No	Type:
Vigor:	Good	Fair	Stunted	Dead
Additional Comments	s: <u>Site av</u>	ad surroundin	ng area hav	e evidence of

W Corner	SOIL ASSESSMENT	N Corner
5.  A	Well centre	4.  A
S Corner	3.  A	E Corner
2.  A /2 cm  B _ 28 cm  C _ 55 cm  Size: A < 2 cm B 75 cm  Texture: A Peat B 5CL  % Rocks/Gravel: A Ø B Ø  % Admixing: A Ø B Ø  Ex-ped Roots: A / B /  X Friable  Firm  Hard  Depth to Permafrost 95 cm		1.  A

W Corner	VEGETATION ASSESSMENT	N Corner
5.		4.
Species: B1. Specce, Tamparack Lab. tea, Willow, Moss, Green Alder, Bog birch, lichen Density: N/A Height: N/A Health: Grood % Live: 600 % Litter: - % Bare: - Comments: Additional: Kinnickinnick, Blueberry. Snow cover	Well Centre	Species: B1. Spruce, Tamorock, Lab. tea, Willow, Green Alder Bog birch, Moss, Lichen Density: N/A Height: N/A Health: Good % Live: 100 % Litter: - % Bare: - Comments: Additional: Kinnickinnick, Low bush Cranberry, Blueberry. Snow cover
E Corner	Species: B1. Spruce, Tamarack,  Lab. tea, Willow, Green Alder,  Bog birch, Moss, Lichen,  Density: N/A  Height: N/A  Health: Cood  % Live: 100  % Litter: -  % Bare: -  Comments:  Additional: Kinnickinnick,  Low bush cranberry, Blueberry	
Species: B1. Spruce, Tomarack, Lab. tea, Willow, Green Alder, Bog birch, Moss, Lichen Density: N/A Height: N/A Health: 100 % Live: - % Litter: - % Bare: Comments: Additional: Kinnickinnick, Blue berry, Snow cover		Species: B1. Spruce. Temarack  Lab. tea., Willow. Green Alder,  Bog birch., Moss, Lichen  Density: N/A  Height: N/A  Health: Good  % Live: 100  % Litter:  % Bare: -  Comments:  Addifficual: Kinnickinnick,  Low bush cranberry, Blue berry.  Snow cover



Photo 1: Looking southeast from well centre along access road on proposed Nogha B-23 wellsite.



Photo 2: Aerial view of wellsite looking north. Well centre marked by red arrow.

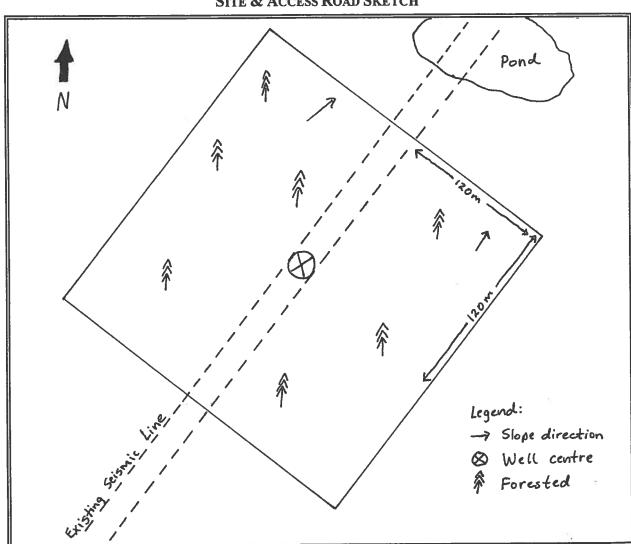




#### PRE-DISTRUBANCE ASSESSMENT

Date: Sept. 22, 2003  Assessor: Jenica von Kuster and Natolie Albert  Location: Paramount Apache West Nogha K-14  Client Information: Paramount Resources Ltd.						
☐ Oil Well ☐ Battery		☐ Injection Well	Compressor	Gas Plant		

# SITE & ACCESS ROAD SKETCH





#### **SITE CONDITIONS**

Moisture conditions:	Dry	Moist	Frozen	
Current land use:	Cultivated Forest White Peat	Hayland Forest Green Wetland	Pasture Irrigated	☐ Native ☑ Muskeg
Adjacent land use:	Cultivated Forest White Peat	Hayland Forest Green Wetland	Pasture Irrigated	☐ Native ☑ Muskeg
Slope:	2-5% (gent	gently sloping)	☐10-15% (stron ☐15-30% (stee ☐>30% (very	
Drainage Direction:	Site is p	oorly drained	but gently slop	ed to the northeast
Topography:	Level Rocks	Rolling Stones	☐ Hummocky	☐ Inclined ☐ Bare Spots
Erosion potential:	Low	Medium	High	
Surface roughness:	Flat	⊠ Clods/Humps	Rough	
Stability (tension cra Note and desc	ncks, slumpage, ribe: <u>None</u> v		ill seeps, or spri	ngs)
Presence of Surface	Water Features	: Stream Seasonal Slou Lake	Spring ugh River	Wet slough     Artesian     Other:
Location:	mall pend nu pproximately	ear northeast 75m) acros		



#### WILDLIFE

Animal sightings	:			
		Specie	es:	
Species: Whiskey Jack Species: Spruce Grouse		Specie	es:	
Species: Warblers		Specie	es:	
Species:		Specie	es:	
Species:		Specie	es:	
Evidence of anim	nal activity (tracks	s. dens. burrows	droppings, tra	ils, nests, etc):
Type: Moose to		ation: <u>South en</u>		Size: - 20 cm length
Type: Rabbit +		ation: Througho		Size: 10 cm leng to
Type:	Loca	ation:	<u> </u>	Size:
Type:	Loca	ation:		Size:
Type:	Loca	ation:		Size:
Type:		ation:		Size:
Type:		ation:		Size:
Type:				
		VEGETATIO	ON	
		VEGETATIO	211	
Vegetation:	☐ Terrestrial Up	land	X Wetland	
vegetation:	% Cover 100			
	76 COVEL		70 Bate	
Durdaminant an	acies of forest core	or to be removed	I•	
Predominant spe	ecies of forest cove	Poloom Fir	Tamarack	Dogwood
Balsam Poplar	White Birch	Daisaili Fii	Mixed	Other:
X Spruce	Pine	Aspen	whixed	
Salvageable Tim	iber:	Yes	<b>⋈</b> No	Type:
Vigor:	Good	☐ Fair	X Stunted	Dead
Additional Com	ments: <u>Timber</u> ers between	predominantl 3 and 8 cm	y black spr , very few l	uce Majority orger than 8cm

N

N Corner	SOIL ASSESSMENT	E Corner
5.  A	Well Centre	4.  A
W Corner	3. A 10 cm B 53 cm C 5C - 8 cm Size: A 2 cm B 2 cm Texture: A Peat B L % Rocks/Gravel: A B B % Admixing: A B B Ex-ped Roots: A B Ex-ped Roots: A B Friable Firm Hard Depth to Permafrost 71 cm	5 Corner
2.  A		1.  A



N Corner	VEGETATION ASSESSMENT	E Corner
Species: B(. Spruce, bog hiveh,  Labrador tea, Lichen, Moss,  Kinnickinick, Tamarack, Willow  Density: N/A  Height: N/A  Health: Gzood  % Live: 90  % Litter: 10  % Bare: —  Comments:  Snow cover		Species: B1. Spruce, bog birch Labrador tea, Lichen, Mass Kinnickinnick, Tamprack, Willow Density: N/A Height: N/A Health: Grand % Live: 90 % Litter: 10 % Bare: — Comments: Show cover
W Corner	3. Species: BI. Speuse, Bog birch, Labrador tea, Lichen, Moss, Kinnickinnick, Tanarak, Willow Density: N/A Height: N/A Health: Good % Live: 90 % Litter: 10 % Bare: Comments: On existing seismic line- cut vegetation. Snow cover	5 Corner
Species: B1. Spruce, Bog hisch Labrador tea, Lichen, Moss Kimickinaick, Tamerak, Willow Density: N/A Height: N/A Health: Good % Live: 90 % Litter: 10 % Bare: Comments: Snows cover		Species: B1. Speuck, Bog birch Labrador tea, Lichen, Moss, Kinnickinnick, Tamarack, Willew Density: NIA Height: NIA Health: Good % Live: 90 % Litter: 10 % Bare: Comments: Snow cover



Photo 1: Looking northwest from well centre across proposed West Nogha K-14 wellsite.



Photo 2: Aerial view of wellsite looking north. Well centre marked by red arrow. Note small lake approximately 75m from northeast boundary of lease.

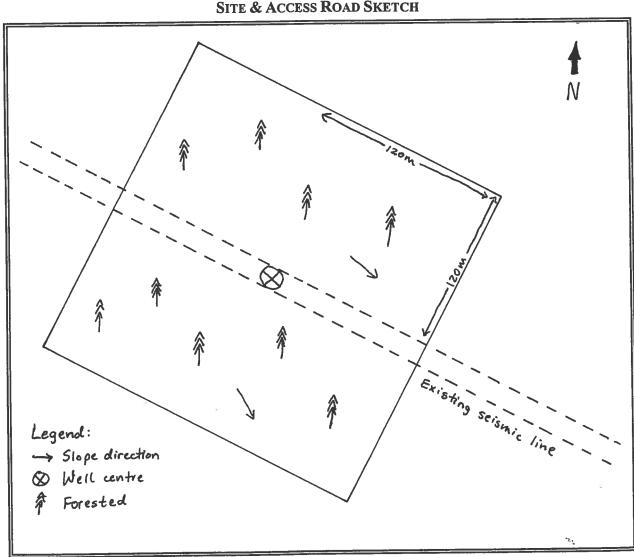




# PRE-DISTRUBANCE ASSESSMENT

Assessor:	Paramount 1	ester and Natal Apache North Tur Mount Resource	20 E-44	2	
Oil Well	☐ Gas Well ☐ Pipeline	☐ Injection Well	Compressor	Gas Plant	

#### SITE & ACCESS ROAD SKETCH





#### SITE CONDITIONS

Moisture conditions:	Dry	Moist	Frozen	
Current land use:	Cultivated Forest White Peat	Hayland Forest Green Wetland	Pasture Irrigated	☐ Native ☑ Muskeg
Adjacent land use:	Cultivated Forest White Peat	Hayland Forest Green Wetland	Pasture Irrigated	☐ Native ☑ Muskeg
Slope:	2-5% (gent	gently sloping)	15-30% (stee	ngly sloping) - ply sloping) v steeply sloping)
Drainage Direction:	Site is poo	rly drained wi	th slight to	indency to southeast
Topography:	Level Rocks	Rolling Stones		☐ Inclined ☐ Bare Spots
Erosion potential:	Low	Medium	High	
Surface roughness:	Flat	☑ Clods/Humps	Rough	
Stability (tension cra Note and desc	acks, slumpage, cribe: <u>None</u> n		nill seeps, or spr	ings)
Presence of Surface  Location:		s: Stream Seasonal Slot Lake	Spring ugh River	Wet slough Artesian Other:



# WILDLIFE

Animal sightings	S:			
		Speci	es:	
Species:			es:	
Species:				
Species:		Speci	es:	
Species:			es:	
	nal activity (track		droppings tra	ile nests etc):
	nai activity (track	eation: <u>Throughou</u>	, droppings, tra	Size: 5-10 cm
Type: Ground mi		eation:	TSITE	Size:
Type:		eation:		Size:
Type:	Loc	cation:		Size:
Type:	Loc	eation:eation:		Size:
Type:		cation:		Size:
Type:	Loc	cation:		Size:
		VEGETATI	ON	
Vegetation:	Terrestrial Up		✓ Wetland  ✓ Bare	
Balsam Popla	ecies of forest cov r White Birch	ver to be removed Balsam Fir Aspen	d: Tamarack Mixed	Dogwood Other:
Salvageable Tin		Yes	X No	Туре:
Vigor:	Good	☐ Fair	∑ Stunted	Dead
Additional Con	nments:			
				3

W Corner	SOIL ASSESSMENT	N Corner
5.  A 10 cm  B 8 cm  C SC - 68 cm  Size: A 2-5 cm B 2-5 cm  Texture: A Peat B L  % Rocks/Gravel: A Ø B Ø  % Admixing: A Ø B Ø  Ex-ped Roots: A B /  X Friable Firm Hard  Depth to Permafrost 86 cm	Well Centre   3.   A	4.  A
E Corner	Depth to Permafrost 96 cm	S Corner
2.  A		1.  A

W Corner	VEGETATION ASSESSMENT	70 (317) (21
5.		4.
Species: B1. Spruce, Tamarack,  Moss, Lichen, Kinnickinnick  (abrador tea, Willow  Density: N/A  Height: N/A  Health: Czorol  % Live: 90  % Litter: 10  % Bare: —  Comments:  Snow cover on ground		Species: B1. Spruse, Tamarack,  Moss, Lichen, Kinnidinnick,  Labrador fea, Willow  Density: N/A  Height: N/A  Health: Good  % Live: 90  % Litter: 10  % Bare:  Comments:  Snow cover on ground
	Well Centre	
E Corner	Species: B1. Spruce, Tamarack,  Moss, Lichan, Kinnickinnick,  Labrador tea, Willow  Density: NIA  Height: NIA  Health: Good  % Live: 90  % Litter: 100  % Bare: -  Comments:  On seismic line- cut  vegetation. Snow Cover	5 Corner
2.  Species: BI. Spruce, Tamarack,  Moss, Lichen, Kinnickinnick,  Labrador tea, Willow  Density: NIA  Height: NIA  Health: Good  % Live: 90  % Litter: 10  % Bare:  Comments:  Snow cover on ground		Species: B1- Spruce, Tamarack,  Moss. Lichen, Kimnickinnick,  Labrador tea, Willow  Density: N/A  Height: N/A  Health: Good  % Live: 90  % Litter: 10  % Bare:  Comments:  Snow cover anground



Photo 1: Aerial view of proposed wellsite North Tunago E-44 facing southeast.

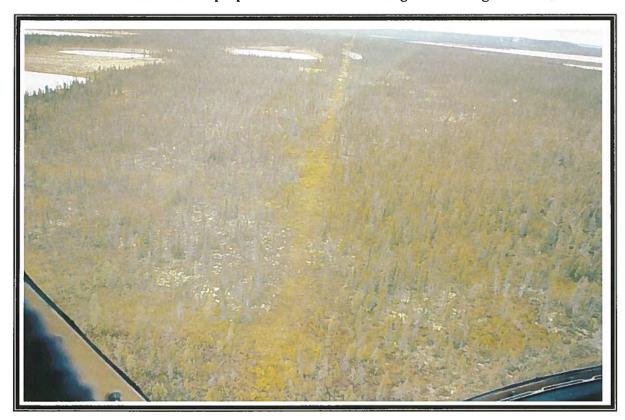


Photo 2: Aerial view of wellsite looking northwest along existing seismic line.

