

August 5, 2014

RE:

#### **ALBERTA ENERGY REGULATOR**

Suite 1000, 250 – 5th Street SW Calgary, Alberta T2P 0R4

Routine Application for Reclamation Certificate on a wellsite and access

road:

UWI: 100/13-14-041-28 W4/00

Surface Location: 13-14-041-28 W4M

Well Name: VESTA MORNSIDE 13-14-41-28

Licensee: Vesta Energy Ltd.

License: 337338 Lacombe County

Wellsite: 3.56 acres (120 x 120 metres) Access Road: 0.57 acres (135 x 20 metres)

**Cultivated Land** 

Please be advised that Vesta Energy Ltd. wishes to apply for a Reclamation Certificate on the above referenced land.

The application package includes:

- 2010 Reclamation Certificate Application Form
- Schedule One Attachments
- Schedule Two Phase 1 Environmental Site Assessment (ESA)
- Schedule Three G50 Notification or Equivalent
- Schedule Four Limited Phase 2 ESA
- Schedule Five Detailed Site Assessment

The 100/13-14-041-28 W4/00 well was drilled between September 25, 2005 to October 5, 2005 to a total depth of 1,885 metres. There is no production associated with this well and it was surface abandoned on October 12, 2005. The wellsite is accessed from the west via an east-west running access road off of a high grade gravel road allowance. The landowners and Lacombe County have signed releases to retain the approach.

A Phase 1 ESA was completed on August 11, 2009 by S.N.L. Environmental Consulting Ltd. The disposal of 260 cubic metres of total gel chemical drilling waste on SW-25-041-28 W4M via landspray while drilling was documented in a report by VegTec Inc. dated September 25, 2005. Drilling waste disposal met Compliance Option 1 checklist requirements. The Phase 1 ESA identified a potential cement pit in the northwest corner of the wellsite. The assessors recommended a Phase 2 ESA to confirm a 1 metre cap was present over the cement pit.

A Limited Phase 2 ESA was conducted by S.N.L. Environmental Consulting on June 24, 2010. Boreholes were advanced to investigate potential impacts at well centre and to confirm a 1 metre cap over the cement pit. Analytical results indicated there were values greater than the applicable guidelines. The assessors determined that no cement pit could be identified on-site in the northwest corner.



A Detailed Site Assessment was conducted by Ridgeline on July 3, 2014. The wellsite and adjacent land consist of a tame pasture field. The wellsite and access road passed all applicable 2010 Reclamation Criteria for Wellsites and Associated Facilities on Cultivated land.

The Reclamation Certificate Application, Acknowledgement of Information Disclosure and Complaint form will be hand delivered and signed by the current landowners, Tony and Kathy Kamlah, and Riser Developments Ltd., on August 7, 2014.

Should you have any questions or require additional copies of this report, please contact the undersigned at (403) 806-2380.

Respectfully,

RIDGELINE CANADA INC.

Marnie Hill, B.Sc., P.Ag..

Project Manager

# Wellsite Reclamation Certificate Application Form





1.0 GI	ENERAL INFORMAT	ERAL INFORMATION						
1.1 Cc	ompany Information	any Information						
Applicant Full Name* Vesta Energy Ltd.								
* Full Compai	ny Name that will appear on recl							
1.2 All	berta Energy Regulator	Information	1					
Is the appli	icant the AER licensee for	the site?		Yes				
AER Well	or Facility name			VESTA MC	ORNSIDE 13	-14-41-28		
AER Uniqu	ue Well Identifier (UWI) or	Facility Iden	itifier(s)	100/13-14-	041-28 W4/0	00		
AER Licen	ce No(s)			337338				
Total land	to be certified (in acres)			4.13				
1.3 Sit	te Identification and Phy	sical Locati	ion					
	ation of Site		MD/ID/SA	Lacombe Co	ounty	·		Alberta
1.3.2 Com	plete Surface Legal Lan	d Description	on(s): lease	, access ro	ad, facility,	sump, camp	site, etc	
Add Row					Section	Township	Range	Meridian
Delete	Wellsite		NW	13	14	41	28	4
Delete	Access Road	•	NW	13	14	41	28	4
Addition	nal legal land description	attached		diam.	•	·		
1.4 Site .	Jurisdictions							
Check a	I Public Land bro	vide Crown I	Disposition r	numbers				
	Upon issuance of a public land disposition			do you wan	t your			
	Special Areas							
	Parks and Proter Provincial Parks							
1.5 Activ	vity Type							
Check a		te (not drilled	(t		Disposal We			
that app		idoned (D&A	٠ ١) Wellsite		Other AER I	Facility (desc	ribe):	
	Oil Wellsite					-	-	
	Sweet Gas Well	site						
	— ☐ Sour Gas Wellsi	te			Oilsands Ex	ploration Pro	gram	
	☐ Battery Site ☐ Coal Exploration Program							

1.6 Associa	Associated Facilities and Infrastructure - must be certified or have a signed Release from the landowner						
Check all	☐ No associated facilities tied to this	Ac	tivity	Remote Sump	)		
that apply:	⊠ Access Road			☐ Log Deck/Storage			
•	☐ Temporary Access Road			☐ Land Treatment Area(s)			
	☐ Borrow Site	Borrow Site			oe):		
	☐ Campsite						
1.7 Stakeho							
1.7.1 Applicant							
Company	Vesta Energy Ltd.			Contact Person	Shane Im		
Mailing Address	410, 333 - 5 Avenue Calgary, Alberta			Position	VP - Oper		
	T2P 3B6			Phone No.	403-358-2		
				e-mail	simber@v	estaenergy.com	
				Fax No.			
1.7.2 Application Prepared By (Consultant)							
Company	Ridgeline Canada Inc.			Contact Person	Person Marnie Hill		
Mailing Address 8, 4608 - 62 Street Red Deer, Alberta T4N 6T3				Position	Project M	roject Manager	
				Phone No.	403-342-2	2130	
				e-mail	mhill@rid	gelinecanada.com	
				Fax No.	403-342-2	2005	
1.7.3 Landow	vner(s)						
Add Row	Names			Mailing Address		Phone Number	
Delete	Tony Elmer and Kathy Mae Kamlah		RR3, Site 3, Box 4 Lacombe, Alberta T4L 2N3			403-782-4194	
Delete	Riser Developments Ltd. Contact: Glenn Fraser		#1, 6784 - 65 Avenue Red Deer, Alberta T4P 1A5			403-318-3405	
1.7.4 Occupa	ints	-	⊠ No Occupants				
1.8 Criteria	Category Used						
Cultivated				uction Period	On	or After May 1, 1994	
☐ Peatlands			Constru	uction Period			
☐ Native Gras	slands						
Constructed Bet	fore January 1, 1993	Sit	e Abandone	d and/or Reclaim	ed		
Constructed from	m January 1, 1993 to April 30, 1994	ite Abandoned and/or Reclaimed					
Constructed On	or After April 30, 1994	ite Abandoned and/or Reclaimed					

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1.8 Criteria Category Used		
Forested Lands		
Constructed <b>Before</b> April 30, 1994	Site Abandoned and/or Reclaimed	
Constructed from April 30, 1994 to June 1, 2007	Site Abandoned and/or Reclaimed	
Constructed <b>On or After</b> June 1, 2007		
Have the criteria used to assess the site been change	ed or defaulted to another?	No
2.0 SITE INFORMATION		
2.1 Overlapping Exemptions		
Does this site require an overlap exemption?		No
2.2 End Land Use Change		
Has the end land use for the site changed?		No
2.3 Additional Certificates		
List all other certificates obtained for this site or any a i.e.: remote sump in connection with another wellsite,		No other certificates issued
2.4 Non-Oilfield Waste		
List any non-oilfield waste buried on site. (i.e. concre	te. gravel, debris) 🔀 No waste bu	ried or unknown.
2.5 Facilities or Features to Remain in Place		
Are any facilities or features to remain in place (e.g.,	access road, well pad, fences)?	Yes
If Yes, list what features remain: The approach, the 4 strand barb wire gate and perim	eter fence	
Are facilities or features stable and non-hazardous?		Yes
Include releases from ALL registered landowners for	ALL facilities / features or non-oilfield w	aste to remain in place.
3.0 PARTIAL RECLAMATION (PUBLIC	LANDS ONLY)   Partial C	ertificate Requested

4.0 CONTAMINATION INFORMATION						
4.1 Environmental Site Assessment Work Completed - check off all appropriate boxes						
☐ Phase 1 ESA not done since well was prepared, but not drilled.						
☐ The Phase 1 ESA showed no contamination was likely present, so no Phase 2 ESA or remedi	ation was completed.					
The Phase 1 ESA showed contamination was likely present so a Phase 2 ESA was completed.						
The Phase 1 ESA showed insufficient information to determine if contamination was likely present, so a Phase 2 ESA was completed.						
☑ The Phase 2 ESA showed contamination was not present, or was within acceptable values*.						
☐ The Phase 2 ESA showed contamination was present, so remediation was completed						
☐ The site was known to be contaminated, so remediation was completed, and a Phase 1 ESA v	was completed.					
*Acceptable values are identified in the Alberta Tier I and Tier 2 Soil and Groundwater Remediation Guidelines.						
4.1.1 Confirmatory Sampling						
Was confirmatory testing/sampling done following remediation?	No					
If No, explain: No contamination was identified during the intrusive sampling (SNL, 2010). See Schedule 4 for fu	ırther details.					
4.1.2 Subsoil Guidelines						
Were subsoil guidelines used to address or remediate hydrocarbon contamination as per the <i>Albe Groundwater Remediation Guidelines</i> (ESRD 2007, as amended)?	erta Tier 1 Soil and					
⊠No						
☐Yes, below 3 metres						
Yes, below 1.5 metres within 15 metres of the wellhead (Until June 30, 2007)						
Yes, below 1.5 metres within 5 metres of the wellhead (After June 30, 2007)						

If "Yes" is checked off in any of the following questions, this application will be processed as nonroutine and forwarded to an inspector for review prior to the issuance or refusal of a Reclamation Certificate, as warranted.  C Yes No No Are there unresolved landowner complaints OR a complaint form submitted with this application? (Schedule 1)  C Yes No Were justifications, based on professional judgment, used to explain a "pass"?  If justification were used was it discussed with an inspector?  If yes, indicate who and when.  Inspector's Name:  Does the activity fall within a Park and/or Protected Areas (i.e., Natural Areas, Ecological Parks, Provincial Parks, Provinci							
application? (Schedule 1)  (Yes No Were justifications, based on professional judgment, used to explain a "pass"?  If justification were used was it discussed with an inspector?  If yes, indicate who and when.  Inspector's Name:  Date:  Does the activity fall within a Park and/or Protected Areas (i.e., Natural Areas, Ecological							
☐ Yes ☐ No  If justification were used was it discussed with an inspector?  If yes, indicate who and when.  Inspector's Name:  Date:  Does the activity fall within a Park and/or Protected Areas (i.e., Natural Areas, Ecological							
☐ Yes ☐ No If yes, indicate who and when.  Inspector's Name: Date:  Does the activity fall within a Park and/or Protected Areas (i.e., Natural Areas, Ecological							
Does the activity fall within a Park and/or Protected Areas (i.e., Natural Areas, Ecological							
( Yes ( No Reserves, Provincial Parks, Provincial Recreation Areas, Wildland Provincial Parks)	ı						
Yes No Was this site constructed before 1983, AND was it reclaimed using a management plan? (Schedule 5)							
Yes No Were subsoil criteria used to address or remediate hydrocarbon contamination?							
☐ Below 3 metres	☐ Below 3 metres						
☐ Below 1.5 metres within 15 metres of the wellhead (Until June 30, 2007)	☐ Below 1.5 metres within 15 metres of the wellhead (Until June 30, 2007)						
☐ Below 1.5 metres within 5 metres of the wellhead (After July 1, 2007)	☐ Below 1.5 metres within 5 metres of the wellhead (After July 1, 2007)						
C Yes ♠ No Is this site a coal exploration well?	Is this site a coal exploration well?						
C Yes ♠ No Is this site a oil sands exploration well?							
C Yes No Has a reclamation certificate application for this site been previously refused?							
Yes No Has a reclamation certificate for this site been issued and then cancelled?							
⊠ Routine □ Nonroutine							
* red border indicates the question * no border indicates the answer is calculated from a previous question.							

#### 6.0 PROFESSIONAL ASSURANCE

Professional members who signed off on the reclamation and remediation assessments.

Assessment	Date	Company	Professional's Name(s)	*Professional Designation(s) and Registration No(s).
Phase 1 ESA:	11-Aug-2009	S.N.L. Environmental Consulting Ltd.	Roger Saint-Fort, P.Ag.	Alberta Institute of Agrologists, P.Ag #3289
Drilling Waste Disposal / Compliance Option(s):	11-Aug-2009	S.N.L. Environmental Consulting Ltd.	Roger Saint-Fort, P.Ag.	Alberta Institute of Agrologists, P.Ag #3289
Phase 2 ESA - Site Investigation:	24-Jun-2010	S.N.L. Environmental Consulting Ltd.	Roger Saint-Fort, P.Ag.	Alberta Institute of Agrologists, P.Ag #3289
Remediation and Confirmatory Results:				
Landscape Assessment:	15-Jul-2014	Ridgeline Canada Inc.	Marnie Hill, P.Ag.	Alberta Institute of Agrologists, P.Ag #3639
Vegetation Assessment:	15-Jul-2014	Ridgeline Canada Inc.	Marnie Hill, P.Ag.	Alberta Institute of Agrologists, P.Ag #3639
Soil Assessment Level 1:	15-Jul-2014	Ridgeline Canada Inc.	Marnie Hill, P.Ag.	Alberta Institute of Agrologists, P.Ag #3639
Soil Assessment Level 2:				
Other:				

<sup>\*</sup> This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications that do not strictly adhere to ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).

### 7.0 APPLICANT DECLARATION

This Declaration must be signed by the Operator (consultant signatures are NOT acceptable)

I. Shane Imber

of Vesta Energy Ltd.

declare that.

This application was prepared and completed under my direction. Based on my inquiries of the person or persons who managed the application components required to complete this application the information is, to the best of my knowledge and belief, true, accurate and complete;

- We contacted the landowner/occupant and inquired about any outstanding concerns with the site and documented their response in the application;
- We conducted a detailed reclamation assessment (DSA) of the site and all requirements described in the appropriate reclamation certification criteria have been met;
- We have attached a copy of the Notification of Drilling Waste Disposal form or equivalent, the appropriate drilling waste compliance option Checklist, and/or Phase II Environmental Site Assessment that includes sampling of drilling waste disposal areas;
- We carried out a Phase 1, and/or Phase 2 Environmental Site Assessment (copy attached);
- An up to date Record of Site Condition has been submitted with Phase 2 Environmental Site Assessments;
- We identified and remediated all contamination resulting from the use of this site to meet Alberta Environment's requirements
  and there are no soil chemical or physical conditions that resulted from our use of this land that may adversely affect soil,
  vegetation or groundwater on or off the site described in this application package;
- We provided the landowner(s) a complete copy of this application package at least 30 days prior to making this submission.
- We included the listing of people who performed the reclamation and remediation assessments and their professional
  designation, if any. For any work completed after January 1, 2008, we included the AER Professional Declaration Form(s),
  completed and signed by the professional members who conducted or supervised the work;
- We understand that incomplete applications will not be accepted and we will have to reapply including the appropriate fee
  once the missing information has been added.

I also declare that, to the best of my knowledge, all of the information contained within this Application is accurate and includes a complete representation of all the information that is required to be submitted in the Application for a Reclamation Certificate. I am aware that it is an offence under section 227 of the Environmental Protection and Enhancement Act to provide false or misleading information and that there are significant fines for committing an offence of section 227, including the possibility of imprisonment, the relevant sections which read as follows:

- Offences s. 227 A person who
  - (a) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information,
  - (b) provides false or misleading information pursuant to a requirement under this Act to provide information

is guilty of an offence.

Penalties s. 228 (1) A person who commits an offence referred to in section 60, 87, 108(1), 109(1) or 227(a), (d), (f) or (h) is liable to

- (a) in the case of an individual, to a fine of not more than \$100 000 or to imprisonment for a period of not more than 2 years or to both fine and imprisonment, or
- (b) in the case of a corporation, to a fine of not more than \$1 000 000.
- (2) A person who commits an offence referred to in section 61, 67, 75, 76, 79, 88, 108(2), 109(2), 110(1) or (2), 111, 112, 137, 148, 149, 155, 157, 163, 169, 170, 173, 176, 188, 191, 192, 209, 227(b), (c), (e), (g), or (i) or 251 is liable
- (a) in the case of an individual, to a fine of not more than \$50 000, or

(b) in the case of a corporation, to a fine of not more than \$800 000.

Shane Imber

VP Operations

AUG 5/14

NAME

SIGNATURE

POSITION

#### 8.0 APPLICATION SUBMISSION – Private

A complete application package must be submitted and include the following, in order:

- Cover letter
- Application form
- Schedules One through Five as applicable to the site location (see the following sections for the contents of each schedule).

In addition to the reclamation certificate application form, there are a number of additional documents that must be submitted with the application package. These documents must be in the same email as the application and attached as separate documents. The naming convention of these documents must be reflective of the appropriate schedule the document is a requirement of (i.e. Schedule 1, Schedule 2, Schedule 3, Schedule 4 and Schedule 5).

Attachments must be submitted as PDF files, no security applied to the file, electronic signature(s) and last modification(s) are in the file and use the option Reduce File Size.

**Submission on Private Lands:** The application must be submitted by e-mail to <a href="mailto:RecRemCertApplications@aer.ca">RecRemCertApplications@aer.ca</a>, please indicate "Reclamation Application" in the subject of the e-mail.

#### 8.0 APPLICATION SUBMISSION - Public

#### **Electronic Submission of Reclamation Applications on Public Lands**

As of **April 30**, **2009**, on-line application submissions are mandatory, unless the AER's Closure and Liability Branch pre-approves a paper copy application. Applications are submitted through the Electronic Disposition System (EDS).

All application packages must be completed as outlined in the *Upstream Oil and Gas Reclamation Certificate*Application Certificate Application Guidelines. The application and enclosed schedules must be submitted in a zip file, with each schedule saved as a separate file. Note: electronic submission is for public 'specified land' only.

# Electronic Submission Procedure GOA Username and Password

A username and password are required for online submissions. To request a Government of Alberta (GoA) username and password, download the User ID Request Form for EDS and PCS at

http://srd.alberta.ca/MapsFormsPublications/Forms/LandsForms/Default.aspx

#### **EDS Access and Navigation User Manual**

A detailed EDS Access and Navigation User Manual has been created for all EDS applications, including Reclamation Application Submissions. The manual outlines the process for submission and fee payment.

There is also an EDS Frequently Asked Questions document on Reclamation Certificate Application Submissions to assist with the submission process.

http://srd.alberta.ca/MapsFormsPublications/Forms/LandsForms/Default.aspx

#### **Login to EDS**

The web interface for reclamation certificate applications can be securely logged into at:

https://securexnet.env.gov.ab.ca/eds\_login.html

To assist with managing file sizes, please do not submit the following as part of the reclamation application package:

- ~ Drilling /Tour Reports
- ~ Water well logs
- ~ Disposition Approval
- ~ Duplicate Schedules (extra pages)
- ~ Environmental Field Report
- ~ Land Standing Report

9.0 SCHEDULE ONE - Attachments
Please check off the appropriate boxes indicating which documents are included in the Schedule.
☑ Land Titles (private land only)
☐ Special Areas Board Search
Survey Plan (4 copies for private lands; 1 copy for public lands; all copies to be outlined in yellow)
Proof the application package was sent to the landowner(s) (i.e., delivery receipt)
Complaint Form (attach complaint form only when there is a landowner complaint)
Releases - All landowners listed on title must sign all releases
Overlapping Exemption (only required when the Operator of the overlapping activity is different from Operator submitting this application)
Other Certificates
☐ Criteria Change Authorization*
☐ Land Use Change Documentation
Other, describe
Other, describe
*The 2010 Reclamation Criteria for Wellsites and Associated Facilities (ESRD 2010) provides for justification when the reclamation criteria for the appropriate end land use cannot be achieved due to site-specific conditions.

10.0 SCHEDULE TWO - Phase 1 Environmental Site Assessment
Phase 1 ESA not required and NOT submitted with this application
As of June 1, 2011 all Phase 1 ESA information must be entered on the Schedule Two form. Please check off the appropriate boxes indicating which documents are attached.
☑ List of available aerial photographs from Air Photo Distribution
⊠ Aerial or satellite photographs
⊠ Site Visit Photos
⊠ Construction and Operation Sketches
☑ AER Professional Declaration Form* – This must be signed for work completed after January 1, 2008.
* This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications that do not strictly adhere ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).

10.0 PHAS	E 1 ENVIRONMENT	AL SITE AS	SESSMENT			
10.1 Previou	usly Refused Application	ons and Cance	lled Certificates			
Has this site be	en previously refused or	certified and the	e certificate cance	elled?		No
10.2 Drilling	Information					
Add	Well name or UW	/1	Spud Date:	Fina	al Drill Date:	Well Depth: (metres)
Delete	100/13-14-041-28 W	/4/00 2	5-Sept-2005	5-	-Oct-2005	1,885
10.2.1 Re-ent	ry of a Well or Site Re-c	Irilled				
Is this site a re-	entry?					No
Is the site re-dri	illed?					No
10.2.2 Drilling	Waste Disposal Inforn	natiom				
Add Mud	Drilling Mud Type	Volume (m <sup>3</sup> )			Disposal Method	
Delete	Gel Chem	260	Landspray Whil	le Drilling	3	
Add Row	Add Row Sump Type Sump location, if remote Disposal Lo					
Delete	4M					
•	Compliance Option(s) use					
Has this site be	en used for drilling waste	e disposal more	than once?			No
Drilling waste v satisfied Comp	and location(s): vas disposed of via lands liance Option 1. ction, Storage, and Env			SW-25-0	41-28 W4M. The c	Irilling waste disposal
	nt and/or Historical Info					
	storical and/or current infr		ociated with the lo	cation (F	or example: tanks	, pipeline, process
Access road. I	No production is associat	ted with the wel	l.			
10.3.2 Flare F	Pits					
Were there any	associated flare pits du	ring drilling or p	roduction?			No
10.3.3 Storag	je Tanks					
Were there any	storage tanks associated w	ith the site?				Yes
If "Yes", list nur	mber, location, and capa	city of the stora	ge tanks			
Add Row	Type of Tank	Content		Loc	cation(s)	Capacity (m <sup>3</sup> )
Delete	Above ground tank	Flare Tan			st of well centre	
Delete	Above ground tank	Shale Tai	nk	No	rth of well centre	
Were any othe	r underground structure,	such as pipelin	es, removed?			N/A

10.3.4 Fluid Disposal							
How was fluid at produc	ing wells, disposal wells,	and/or battery sites ship	pped to/from the location	ነ?			
⊠ N/A	_	Piped from the site		ked from the site			
☐ Piped to the site	☐ Piped to the site ☐ Trucked to the site ☐ Disposed of on site						
10.3.5 Other Facilities	s or Infrastructure						
Describe any other was Cement pit located in th	te storage, handling, che ne northwest corner	emical storage, buried pi	ts, landfills, etc				
10.3.6 Spills and Rele	eases						
Have there been any Sp	oills/Releases/Complaints	s associated with the site	∍?	No			
10.3.7 Previous Enviro	onmental Site Assessm	ents					
List any previous ESA's	conducted?			None or unknown     None or unknown			
10.4 Phase 1 Enviro	onmental Site Assessm	ent Site Visit					
Date:	28-Aug-2007	Assessor(s)	Wendy Weiss				
Surrounding land use	N: Pasture	S: Pasture	E: Pasture	W: Pasture			
Topography:	Gently rolling						
Vegetation:	Vegetation: Hay mix; alfalfa, clover, brome, timothy						
Provide the proximity of receptors to the site. Fill in distances (m) for all that are within 300 metres of the site boundary.							
Residence: > 300 m	Residence: > 300 m Water well: > 300 m Surface waterbody (e.g., dugout, stream river): north side of access road						
Were equipment or tank	s present, or were there	visual signs of former fa	icilities?	No			
What was observed? N/A							
Were there visual signs	of open or potentially bu	ried earthen pits?		No			
What was observed? N/A							
Was there evidence of palt tolerant vegetation,	past spills (include cumula etc.)?	ative releases, well cent	re impacts,	No			
What was observed? N/A							
Was any adjacent land	affected by operations or	n the site?		No			
What was observed? N/A							
Was any vegetation stre	ess apparent?			No			
Details (location, evider N/A	nce):						
Does the site visit inforr	mation conflict with speci	fic file or the imagery rev	view Information?	No			
If YES, explain N/A							

#### 10.4 Phase 1 Environmental Site Assessment Site Visit

#### 10.5 Aerial and Satellite Imagery Review

pit area.

Aerial or satellite photographs of the site are required. Scales such as 1:5000 or 1:7500 should be used to show detail.

**Producing wells and batteries:** one pre-disturbance; one post-disturbance; one photograph for every 2 to 3 year interval while the site was active.

**Dry and abandoned wells:** one photograph of the active site, if available, is required. If active site photographs are not available, photographs of the pre and post disturbance are required.

Sites with above ground facilities and/or spills: photos of the site before, during (if available), and after the spill cleanup or facility removal are required

Review Date: 18-Jul-2008			Reviewed by:Wendy Weiss			
Add	Photo Id:	Year	Scale:	Evidence of former infrastructure or areas of potential concern		
Delete	4971-1998	1998	1:2,000	Pre-disturbance		
Delete	AS 5408-175	2007	1:2,000	Reclamation completed. No areas of concern observed.		

10.6 Interviews - Phase 1 Environmental	Site Assessment				
Provide details of Interviewee's Comments. Red details of spills, pits, waste storage/handling, an		vious complaints, former	facilities, presence and		
Private Land: Have you performed a site visit in	the presence of the land	downer/occupant?	Yes		
Public Land: Have you performed a site visit in	the presence of the occu	ıpant?			
Date of site visit(s) 28-Aug-2007					
Landowner Interviewed: Tony Kamlah	Date 28-Aug-2007	Interviewed By: Wendy Weiss			
Landowner had no environmental concerns with He feels that location is holding water more so the slough was by natural swale running from the s	han prior to lease constru	uction. He stated that the	e original drainage of the		
Occupant Interview: Date Interviewed By:					
Operator Interview:	Position:	Date	Interviewed By:		
			<u></u>		
Additional Notes/Comments/Information No Phase II ESA required according to the DW Notification of Drilling Waste Disposal forms, a	D checklist and calculation Phase II ESA is required	ons. An onsite cement pi to confirm that 1 m is pr	t is noted in the esent over the cement		

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	Conclusions and Recommendations								
10.7.1	Did the Phase 1 ESA indicate that a Phase 2 ESA is required to evaluate the site for contamination?								
,									

11.0 SCHEDULE THREE - Drilling Waste Documentation
Please check off the appropriate boxes indicating which documents are included in this Schedule
Not required because well not drilled or application is for other AER facility
Guide 50 Notification Form ( <i>Directive 050: Drilling Waste Management</i> , AER 1996) or form with equivalent information used for reporting under <i>Guide G-50: Drilling Waste Management</i> (AER 1993)
☐ Other, describe
* This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications that do not strictly adhere to ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).

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12.0 SCHE	DULE FOUR	- Phase 2 Environmental Site Assessment								
Please list all Er (e.g. Phase 2 er environmental s	No ESA reports included									
Delete Report	Report Date									
	☐ Attached Record of Site Condition*									
	☐ Not required	AER Professional Declaration Form**								
Add Report										
* On April 6, 2009, ESRD released a new version of the Record of Site Condition form. The 2009 version is required for any new information being submitted to the department and for any reports submitted between May 1, 2008 and April 6, 2009 without a Record of Site Condition form.										
** This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications that do not strictly adhere to ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).										

13.0 SCHEDULE FIVE - Reclamation Information	
Please check off the appropriate boxes indicating which documents are included in this Schedule.	
⊠ Reclamation Information section completed (next pages)	
□ Landscape Assessment Tool	
∇egetation Assessment Tool (include Record of Observation Data sheets)	
☑ AER Professional Declaration Form for Vegetation*	
Soil Assessment Level 1 Tool (include Record of Observation Data sheets)	
Soil Assessment Level 2 Tool (include Record of Observation Data sheets)	
☐ AER Professional Declaration Form for Level 2 Soil*	
⊠ Site, Lease and Access Sketches	
⊠ Site Visit Photos	
☐ Exemption Justification Form**	
Management Plan***	
☐ Other	
* This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate application do not strictly adhere to ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).	ıs that
** The 2010 Reclamation Criteria for Wellsites and Associated Facilities (ESRD 2010) provides for justification when the reclamation triteria for the appropriate end land use cannot be achieved due to site specific conditions.	ation
*** A Management Plan can be used for sites constructed prior to 1983 that do not have sufficient soil salvaged to meet the Reclamation Criteria for Wellsites and Associated Facilities - 1995 Update (AENV 1995). The Management Plan must be agree by the landowner and the Inspector.	∍d to

100/13-14-041-28 W4/00

13.1	Reclamatio	n Site Iı	nformation									
13.1.1	Dates											
S	Date: Date: Occupied de la Complete								inal	Assessment		
[	Date:	1	Date:		Date:	Comple	eted	Soil:		Vegetation:		
25-	Jul-2005	25-S	ept-2005	12-0	Oct-2005	Spring 2	2008	3-Jul-2014		3-Jul-2014		
13.1.2	13.1.2 Global Positioning System (GPS) Coordinates											
GPS Co	GPS Co-ordinates (list all decimal places):											
Add	Descrip	tion	Locati	ion i		n Used D 83)		Latitude:		Longitude		
Delete	Well Ce	ntre	13-14-41-2	8 W4M	NAI	O 83	582453	6	030	0796		
13.1.3	13.1.3 Pre-construction Assessment											
Was a F	Pre-Construc	tion Ass	essment do	ne?						No		
If Yes,	provide the	date and	d by whom		Date			Consultant				
13.1.4	Access Ro	ad and	Trails									
Was so	il salvaged o	n the ac	cess?									
	Yes	1	If No	Exis	sting trail was	sused		Access was	undi	sturbed		
Was the	e access roa	d develo	ped?									
	Yes	lf	Yes,	Low	/ Profile	☐ High Pro	ofile	Pit Run		Crush		
13.1.5	Seeding											
Ac	dd Row		ng/Planting Date			Speci	es mix lis	st (if available)				
	Delete	Α	nnual	Annual	cultivation							
13.1.6	Fertilizer									Not Used		
13.1.7	Herbicide(s	s) and S	terilant(s) -	Used F	Pre & Post R	eclamation				Not Used		
13.1.8	Soil Amend	dments	and Additio	ns						☐ Not Used		
Were a	mendments	accepted	d by the land	downer:								
Add	Amendme	nt Type	Location Application		Date of Application	Rate of App	olication	Remedial Action	on	Incorporation Method		
Delete	Recontour		Onsite	S	Spring 2008			Recontoured sit to better match preconstruction drainage conditions.	e			

#### 13.2 Interviews - Reclamation Information Provide details of Interviewee's comments regarding satisfaction with remediation and reclamation work. Private Land: Has the landowner/occupant been given the opportunity to provide comments? Yes Public Land: Has the occupant been given the opportunity to provide comments? Public Land: Have all disposition conditions been met? 3-Jul-2014 Date of site visit(s) Date Interviewed By Comments Interviews Name Tony Kamlah 11-Jul-2014 Kristen Cockle, Mr. Kamlah confirmed that the drilling Ridgeline Canada waste was disposed of off-site via LWD and had no knowledge of a cement pit Inc. being utilized on-site during drilling. He explained that following the initial reclamation he complained of more water ponding in the northwest corner than previous years. As a result, the site was recontoured in the Spring of 2008. Mr. Kamlah stated he is now satisfied with the soil, vegetation, Landowner: landscape and all reclamation efforts at the site. As per the Land Title, on July 5, 2014, a 1/2 interest of the land was sold to Riser Developments Ltd. Mr. Glenn Fraser is a representative of Riser Developments and signed the release for the approach July 30, 2014, he did not know any history of the site. Occupant: Operator: Position: Additional Notes/Comments/Information:

#### 13.3 Additional Site History/Comments/Clarification

The 100/13-14-041-28 W4/00 well was drilled between September 25, 2005 to October 5, 2005 to a total depth of 1,885 metres. There is no production associated with this well and it was surface abandoned on October 12, 2005. The wellsite is accessed from the west via an east-west running access road off of a high grade gravel road allowance. The landowners and Lacombe County have signed releases to retain the approach.

A Phase 1 ESA was completed on August 11, 2009 by S.N.L. Environmental Consulting Ltd. The disposal of 260 cubic metres of total gel chemical drilling waste on SW-25-041-28 W4M via landspray while drilling was documented in a report by VegTec Inc. dated September 25, 2005. Drilling waste disposal met Compliance Option 1 checklist requirements. The Phase 1 ESA identified a potential cement pit in the northwest corner of the wellsite. The assessors recommended a Phase 2 ESA to confirm a 1 metre cap was present over the cement pit.

A Limited Phase 2 ESA was conducted by S.N.L. Environmental Consulting on June 24, 2010. Boreholes were advanced to investigate potential impacts at well centre and to confirm a 1 metre cap over the cement pit. Analytical

100/13-14-041-28 W4/00

results indicated there were values greater than the applicable guidelines. The assessors determined that no cement pit could be identified on-site in the northwest corner.

A Detailed Site Assessment was conducted by Ridgeline on July 3, 2014. The wellsite and adjacent land consist of a tame pasture field. The wellsite and access road passed all applicable 2010 Reclamation Criteria for Wellsites and Associated Facilities on Cultivated land.

#### **Public Disclosure and Privacy Notification**

The Reclamation Certificate Application form is a public record that is disclosed in accordance with section 35 of the Environmental Protection and Enhancement Act, Disclosure of Information Regulation, and Ministerial Order 23/2004. Reasonable efforts have been made to minimize collection of personal information where possible. Personal information on the form is collected under the authority of the Environmental Protection and Enhancement Act and is in compliance with section 33(c) of the Freedom of Information and Protection of Privacy Act (FOIP). Personal information collected on this form will be used by Alberta Energy Regulator for the purposes of administering its programs.

#### Accuracy of Information

The information in this document has been submitted by persons other than the AER. The AER cannot and does not warrant that the information in this document is current, accurate, complete, or free of errors. Persons accessing the information provided should not rely on it, and any reliance on the information provided is taken at the sole risk of the user. Users of this information are advised to conduct their own due diligence to satisfy themselves of the environmental condition of the property of interest.

Protect Form



# VESTA ENERGY LTD.

Schedule 1 Land Title



#### LAND TITLE CERTIFICATE

S

LINC SHORT LEGAL 0026 533 969 4;28;41;14;NW

TITLE NUMBER

142 131 916

LEGAL DESCRIPTION

MERIDIAN 4 RANGE 28 TOWNSHIP 41

SECTION 14

QUARTER NORTH WEST

CONTAINING 64.7 HECTARES ( 160 ACRES) MORE OR LESS

EXCEPTING THEREOUT:

HECTARES (ACRES) MORE OR LESS

A) PLAN 9524452 SUBDIVISION

1.97 4.87

EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE

MUNICIPALITY: LACOMBE COUNTY

REFERENCE NUMBER: 082 327 610

REGISTERED OWNER(S)

REGISTRATION DATE (DMY) DOCUMENT TYPE VALUE CONSIDERATION

142 131 916 07/05/2014 TRANSFER OF LAND \$1,000,000 \$500,000

OWNERS

TONY ELMER KAMLAH

AND

KATHY MAE KAMLAH

BOTH OF:

RR 3, SITE 3, BOX 4

LACOMBE

ALBERTA T4L 2N3

AS JOINT TENANTS AS TO AN UNDIVIDED 1/2 INTEREST

RISER DEVELOPMENTS LTD.

OF 6784-65 AVE

RED DEER

ALBERTA T4P 1A5

AS TO AN UNDIVIDED 1/2 INTEREST

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION

NUMBER DATE (D/M/Y) PARTICULARS

# 142 131 916

PAGE 2

762 013 151 23/01/1976 UTILITY RIGHT OF WAY

GRANTEE - ATCO GAS AND PIPELINES LTD.

10035-105 ST

EDMONTON

ALBERTA T5J2V6

(DATA UPDATED BY: TRANSFER OF UTILITY RIGHT

OF WAY 012027323)

952 048 977 23/02/1995 UTILITY RIGHT OF WAY

GRANTEE - PENGROWTH CORPORATION.

2900,111-5TH AVENUE SW

CALGARY

ALBERTA T2P3Y6

(DATA UPDATED BY: CHANGE OF NAME 042186308)

(DATA UPDATED BY: TRANSFER OF UTILITY RIGHT

OF WAY 042562308)

952 296 164 03/11/1995 CAVEAT

RE : RIGHT OF WAY AGREEMENT

CAVEATOR - KEYERA ENERGY LTD.

SUITE 600 SUN LIFE PLAZA WEST TOWER

144-4TH AVE SW

CALGARY

ALBERTA T1Y4R3

AGENT - NOEL SMYTH

(DATA UPDATED BY: CHANGE OF ADDRESS 962340519)

(DATA UPDATED BY: TRANSFER OF CAVEAT

022173267)

(DATA UPDATED BY: TRANSFER OF CAVEAT

022363644)

(DATA UPDATED BY: CHANGE OF NAME 122099981)

052 370 967 31/08/2005 CAVEAT

RE : SURFACE LEASE UNDER 20 ACRES

CAVEATOR - VESTA ENERGY LTD.

325, 300-5 AVE SW

CALGARY

ALBERTA T2P3C4

AGENT - CURTIS COOK

(DATA UPDATED BY: CHANGE OF ADDRESS 062224814)

(DATA UPDATED BY: TRANSFER OF CAVEAT

112194521)

TOTAL INSTRUMENTS: 004

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 9 DAY OF JULY, 2014 AT 10:22 A.M.

ORDER NUMBER: 26379645

CUSTOMER FILE NUMBER:



#### \*END OF CERTIFICATE\*

THIS ELECTRONICALLY TRANSMITTED LAND TITLES PRODUCT IS INTENDED FOR THE SOLE USE OF THE ORIGINAL PURCHASER, AND NONE OTHER, SUBJECT TO WHAT IS SET OUT IN THE PARAGRAPH BELOW.

THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM INCLUDING THIS UNMODIFIED PRODUCT IN ANY REPORT, OPINION, APPRAISAL OR OTHER ADVICE PREPARED BY THE ORIGINAL PURCHASER AS PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).



# VESTA ENERGY LTD.

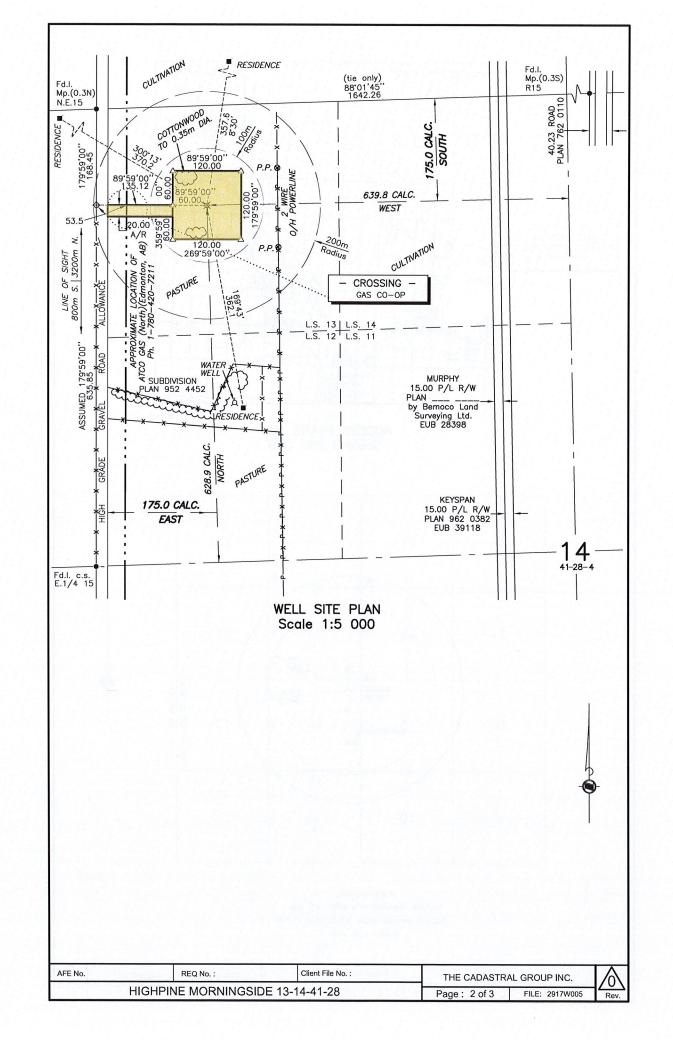
Schedule 1 Survey Plan

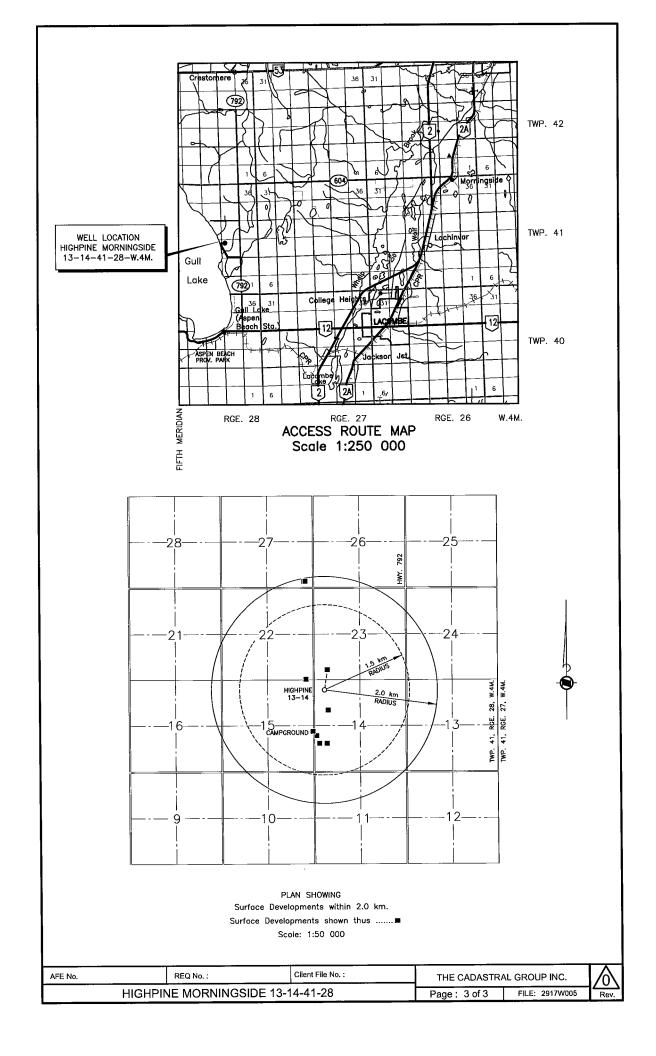
## Plan Showing Location of Well Site and Access Road for

## HIGHPINE MORNINGSIDE 13-14-41-28

IN L.S. 13 - Sec. 14 - Twp. 41 - Rge. 28 - W.4M. LACOMBE COUNTY, ALBERTA

		WE	ELL S	SITE C	001	RDINA	ATE	TABLE						
Location	Local Coords	.T.S.	VER. 2	.6Q)		N.A.D. 1927 (A.T.S. VER. 2.6Q)								
Location	Geographical						$\perp$	U.T.M.				Geographical U.T.M.		
SURFACE	175.0 S. of N. 175.0 E. of W.	Decimal Degree. 52.534415° N. Latit	ude	l	gree Mi 3.9" N	in. Sec. . Latitud	e	C.M. = 11 5 824 532			Degree Mir 52°32'03.7" N		1	111° W. 05.8 N.
SURFACE	BDY. OF SEC. 14	113.936478° W. Long		113°56'1				300 84		1	13°56'07.7" W		300 9	02.3 E.
	Sh	(ID INFORMAT	TION						El	.E\	/ATION T	ABLE (G	ROUN	) (m)
Location	Requested	Placed		Diffe	erence	e I		erred To			Well Co	entre 9		
SURFACE	175.0 S. of N.	175.0 S. of N.			0.0		s	ec. 14	-	N.W		-		913.1
	175.0 E. of W.	175.0 E. of W.		00	0.0		41-2	8-W,4M.	ļ	S.W				911.7
		··· ·· ·· ·· ·· ·· ·· ··										SCM 171124		
	AREA	ABLE				Atco G			RFAC	E II	MPACT CON	SIDERAT	IONS	
	Hectares		res		B	ALCO G	ias C	.о-ор						
Well Site	1.440	3.	.56			l								
Access Road	0.230	0.	.57											
Total	1.670	4.	.13											
LEGEND Survey Monument Found: Iron Spike Placed: △ Found: ▲ Temporary point: ♦ Wooden hub Placed: □ Found: ■ Portions referred to Distances are in metres and decimals thereof.						Their Tony As Jo LANDO	Num! ma H Elmio Dint T OWN pree to	, ber: 962 03 lope Kamla er Kamlah enants NER AGR o the locati	h EEMI on of t	ENT	Vellsite / Acces suing a licence			
The Proposed Is at least 1.5 km	The closest Urban Centre is Gull Lake 7.9km W. from Well Centre. The closest Surface Development is 0.4km N from Well Centre.  The Proposed Well:  Yes No Is at least 1.5 km from an Urban Centre.							e Kamlah Kamlah				rate		- -
Is at least 5.0 km Is at least 1.6km Is at least 100m Is at least 40m f	otential Coal Developme in from a Lighted Aerodro in from an Unlighted Aero from any Surface Impro from any surveyed road	ome drome, vements				-			EEN	IEF	RGY LTD.		IPVEVO	
Is within Cariboons is located in an as defined by A	from any water body.  u Protection Area  Environmentally Sensitive iberta Environment criter ical Resources Act clean	ia	. 🗵			Certify of my k Surveyor 25th da	ikinne that t nowle ors' A uy of	er, Alberta the survey i edge, has i Association July, AD 20	repres been o Manu 005.	ente carrie al of	eyor, of The C d by this plan i d out in accor Standard Prac	GR GR Glagan, is true and co dance with the	orrect to the ne Alberta I	e best
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<b>L</b> <sup>7</sup>	Calgary, AB. T2P 2V6 Ph.: (403) 263-8200 Fax			ave Lake, n.: (780) 8				849-5221	Surve			File No.: 29		Rev
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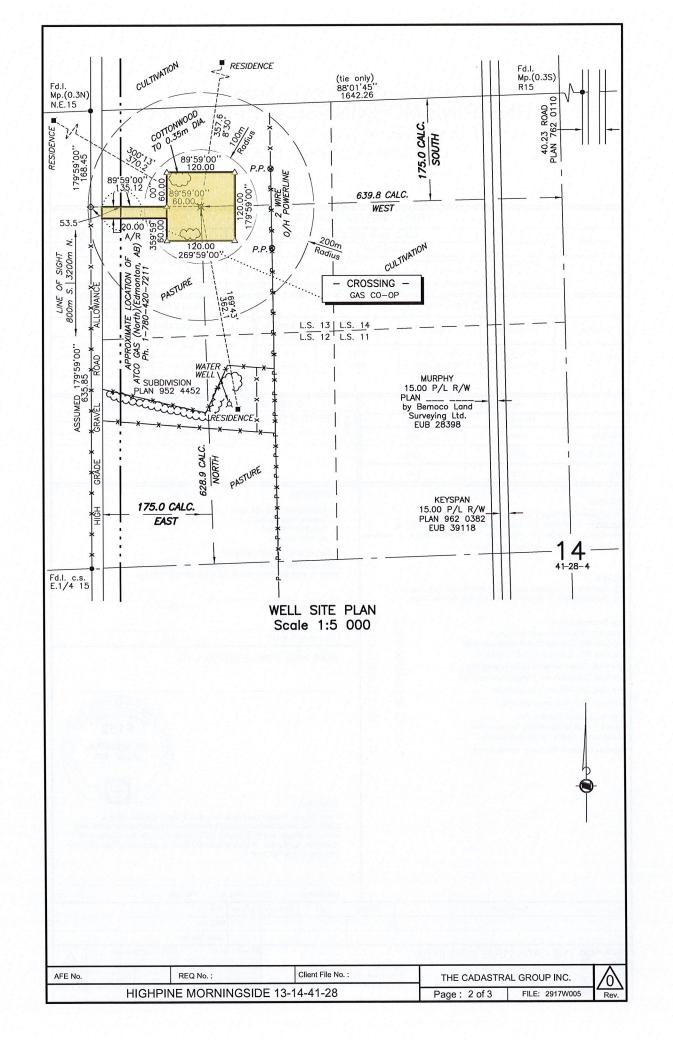


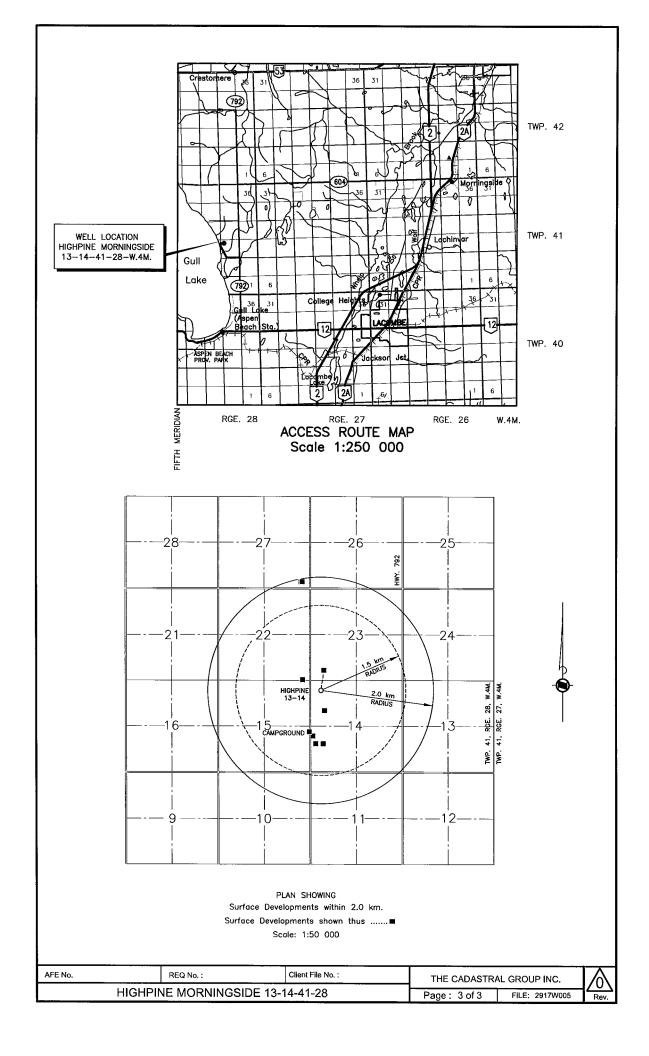
## Plan Showing Location of Well Site and Access Road for

## **HIGHPINE MORNINGSIDE 13-14-41-28**

IN L.S. 13 - Sec. 14 - Twp. 41 - Rge. 28 - W.4M. LACOMBE COUNTY, ALBERTA

			-																
		WELL	SITE C	000	RDIN	ATE	TABL	E											
Location Local Coords						A.T.S. VER. 2.6Q)				N.A.D. 192	1927 (A.T.S. VER. 2.6Q)								
		graphical				U.T.M	• •		Geographic			M.(m)							
SURFACE	175.0 S. of N. 175.0 E. of W.	Decimal Degree. 52.534415° N. Latitude		_	Min, Sec. N. Latitu	de	C.M. = 1 5 824 53		52	Degree Min. Se 32'03.7" N. L			= 111° W. 305.8 N.						
OON AGE		113.936478° W. Longitude			W. Longit		300 84		ŀ	56'07.7" W. L			902.3 E.						
-					ELE	EVA.	TION TAE	BLE (G	ROUNI	D) (m)									
Location	Requested	Placed	Diff	eren	Ce		erred To			Well Cent	re 9	12.0							
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SURFACE	175.0 S. of N. 175.0 E. of W.	175.0 S. of N. 175.0 E. of W.		0.00		-	ec. 14 8-W.4M.	s	.W.	911.4		S.E.	911.7						
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Well Site	1.440	3.56		В															
Access Road	0.230	0.57																	
Total	1.670	4.13																	
LECEND			··	╚	OWNE	ER(S)	)												
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Iron Spike	Placed: △ Found: ▲	Temporary point:	<b>,</b>				ope Kamla er Kamlah	ah .											
	Placed: ☐ Found: ■ metres and decimals the	Portions referred to ereof.	<b>⊸</b>		As Joint Tenants														
							IER AGR			site / Access F	oad and								
NOTES				I/We agree to the location of the Wellsite / Access Road and have no objection to the E.U.B. issuing a licence for same.															
	oan Centre is Gull Lake 7. face Development is 0.4k	9km W. from Well Centre,																	
The closest out	Tace Development is 0.4%	an iv nom vven centre.			Thelma	а Нор	e Kamlah			Date			_						
The Proposed		Ye	-	Tony Elmer Kamlah Date								_							
	m from an Urban Centre. Potential Coal Developme	ntarea																	
	m from a Lighted Aerodro				FOR:	: HIC	GHPINI	E ENE	RG	Y LTD.									
	n from an Unlighted Aeroo n from any Surface Improv			ŀ															
	from any surveyed road								_										
Is at least 100m	from any water body	🗵									(SU	RVEYOR	12						
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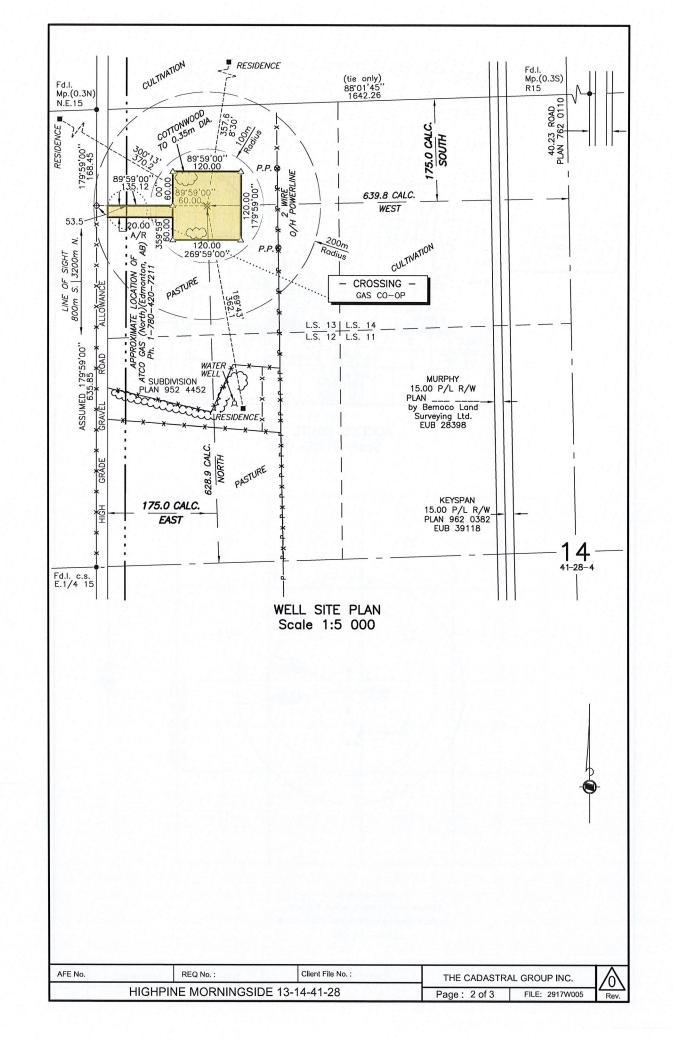


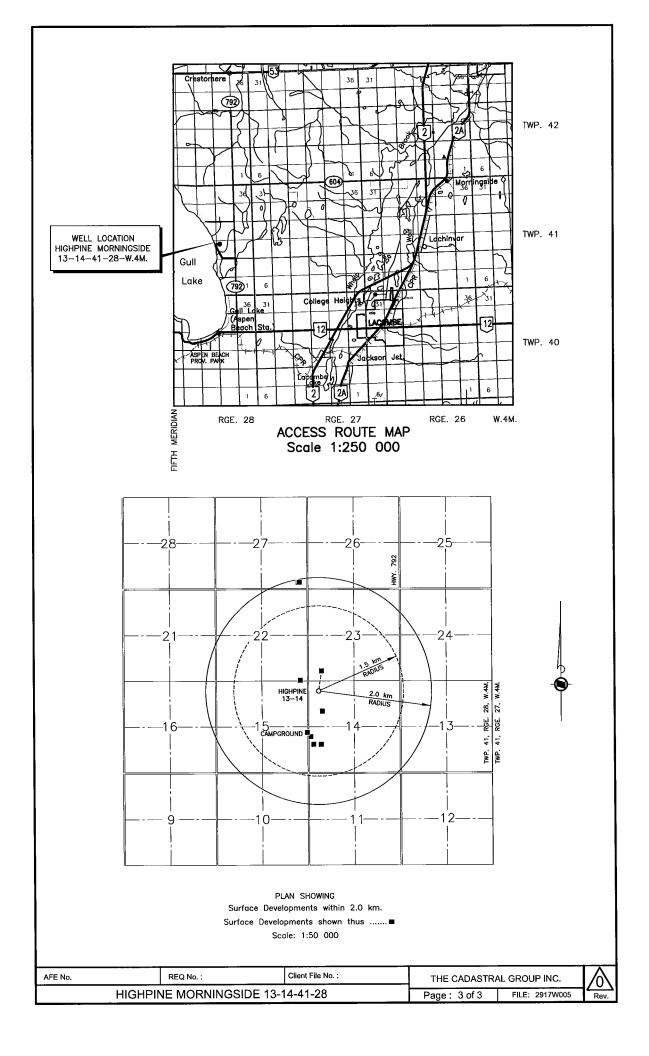
### Plan Showing Location of Well Site and Access Road for

## **HIGHPINE MORNINGSIDE 13-14-41-28**

IN L.S. 13 - Sec. 14 - Twp. 41 - Rge. 28 - W.4M. LACOMBE COUNTY, ALBERTA

		WELL	SITE C	000	RDINA	ΙTΕ	TABLE					
Location	A.T.S. VER. 2.6Q)					S. VER. 2.6						
Location	Local Coords		graphical			U.T.M.(		` '		Geographical  Degree Min. Sec.		(m)
SURFACE	175.0 S. of N. 175.0 E. of W. BDY. OF SEC. 14	Decimal Degree, 52.534415° N. Latitude 113.936478° W. Longitude	1 "9.80	gree Min. Sec. C.M. = 1: 3.9" N. Latitude 5 824 53 1.3" W. Longitude 300 84			2.4 N.	52°32'03.7" N 113°56'07.7" W	l. Latitude 5 824 305		5.8 N.	
		(ID INFORMATIO	N					ELE	VATION T	ABLE (G	ROUND	) (m)
Location	Requested	Placed	Diff	erenc	e i		erred To		12.0			
SURFACE	175.0 S. of N.	175.0 S. of N.		0.00			ec. 14		W. 911.1			13.1
	175.0 E. of W.	175.0 E. of W.	Oi	0.00		41-2	8-W.4M.	8.	W. 911.4			11.7
	ABEA	FABLE		i—			CUED CU	DEAGE		SCM 171124		
	AREA			⊩	Atco Ga			KFACE	IMPACT CON	13IDERAT	IONS	
Well Site	Hectares 1,440	Acres 3.56		В			<u>`</u>					
Access Road	0.230	0.57		╟─	l							
Total	1.670	4.13										
LEGEND Survey Monume Iron Spike Wooden hub Distances are in  NOTES The closest Urb The closest Sur The Proposed Is at least 1.5 kr Is outside any F Is at least 5.0 kr Is at least 1.0km Is at least 100m Is at least 40m Is at least 100m Is within Caribo Is located in an as defined by A Requires Histor		Thelm Tony As Jo LANDC I/We agri have no Thelma Tony El FOR:	AVI Hope	ber: 962 03 ope Kamlah er Kamlah enants NER AGR o the location to the e Kamlah GHPINE	EEMEN on of the e E.U.B.	Wellsite / Acce	Date  Date  Date  THE GR  Structure and codance with the	P152 CADASTRA ROUP INC.  y, Alberta, orrect to the he Alberta La	best			
B	Barrel of		1-1-1	L No	lain Ski	nner	Checked	A.l Drawn	L.S. Witne	ss		
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	THE CADASTO	AL GROUP INC.			L.——		l	Drawn :		Date: 2005	5-07-29	Τ_
	400, 500-4th Avenue S.V	V.,	Box 2358					Checker	d: TJB	Job No.: 29	917-05	1/6\
[ T ]	Calgary, AB. T2P 2V6 Ph.: (403) 263-8200 Fax		Slave Lake Ph.: (780) 8				849-5221	Surveye	d: BF	File No.: 2	917W005	Rev
	Email: mailroom@cadas		,/ ,			/		Layout:	Layout	Page	1 of 3	J. 100



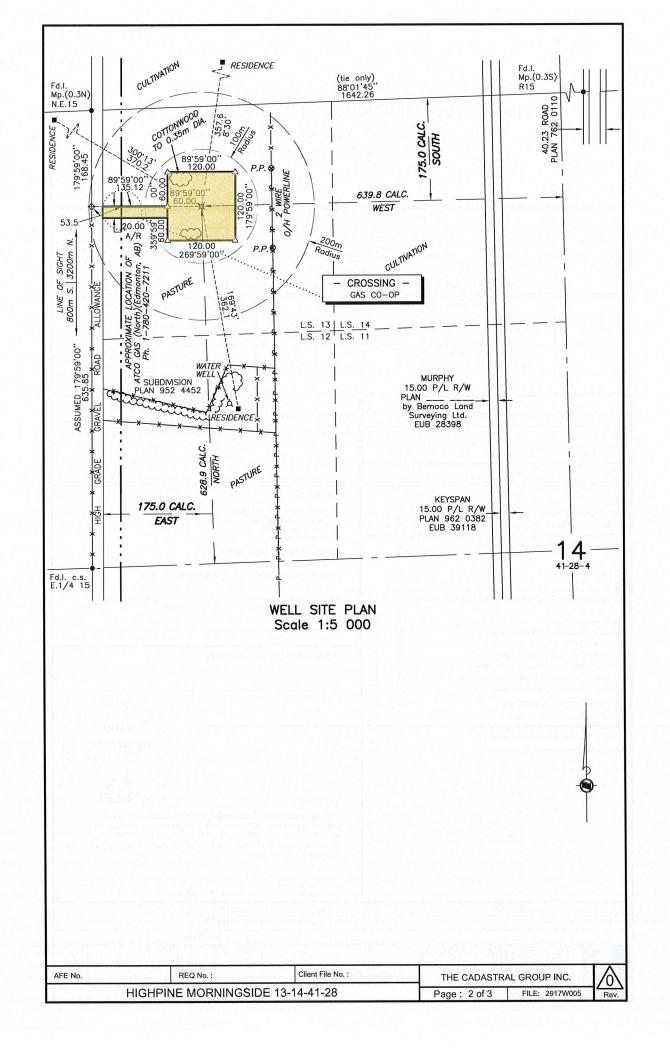


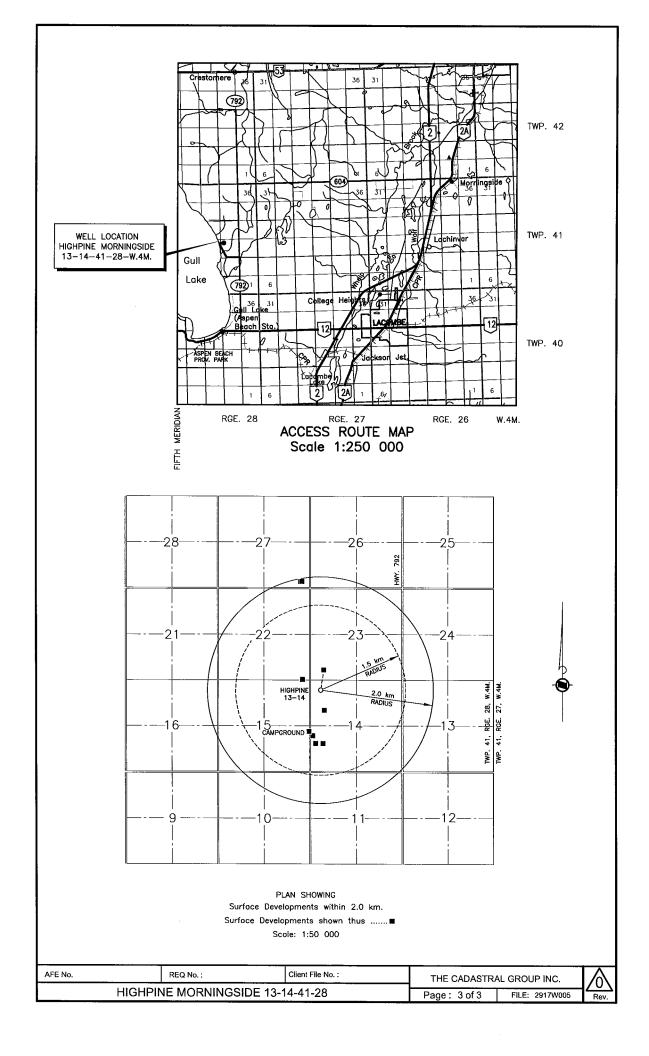
### Plan Showing Location of Well Site and Access Road for

### **HIGHPINE MORNINGSIDE 13-14-41-28**

IN L.S. 13 - Sec. 14 - Twp. 41 - Rge. 28 - W.4M. LACOMBE COUNTY, ALBERTA

		WELL	SITE C	000	ORDIN	IATE	E TABL	E				
Location	Local Coords	N.A.D. 1983 (A.T.S. VER. 2.60					)	N.A.D. 1927 (A.T.S. V			S. VER. 2	.6Q)
	Local Cooles	Geographical				_	U.T.M	• •		Geographical		M.(m)
SURFACE	175.0 S. of N. 175.0 E. of W.	52.534415° N. Latitude			Min. Sec. N. Latitu	ıde	C.M. = 1 5 824 53		_	Win. Sec. N. Latitude		: 111° W. 305.8 N.
GON AGE		113.936478° W. Longitude	1		W. Longi	- 1	300 84			W. Longitude		902.3 E.
	SK	ID INFORMATION	D INFORMATION					ELE	VATION	TABLE (G	ROUNI	 D) (m)
Location	Requested	Placed	Placed Differe			Ref	erred To		Well Centre 912.0			
200011071							undary of	N	.W. 911.	1	M.E.	913.1
SURFACE	175.0 S. of N. 175.0 E. of W.	175.0 S. of N. 175.0 E. of W.		000.0 Sec. 14 000.0 41-28-W.4M.			s	.W. 911.	4	S.E.	911.7	
		<del></del>						╟		ASCM 171124		
	AREA T	ABI F				0	THER SL	RFACE	IMPACT CO	NSIDERAT	IONS	
	Hectares	Acres		A	_							
Well Site	1.440	3.56		В	-							
Access Road	0.230	0.57										
Total	1.670	4.13										
LEGEND		<del> </del>			OWN	ER(S	S)					
Survey Monume	ent Found: •						ber: 962 0					
Iron Spike	Placed: △ Found: ▲	Temporary point:	<b>,</b>				łope Kamia ner Kamlah	an				
	Placed: ☐ Found: ■ n metres and decimals the	Portions referred to ereof.	<del></del>				Tenants		_			
							NER AGF to the locat		Ti : Wellsite / Acc	ess Road and		
NOTES									issuing a licen			
	oan Centre is Gull Lake 7.5 face Development is 0.4k	9km W. from Well Centre, m N from Well Centre.		ŀ								
1110 0100001 041	Tage 2010/0pmont to 01 m	Train train control		l	Theim	a Ho	pe Kamlah			Date		_
The Proposed		Ye										_
	m from an Urban Centre <sub>.</sub> Potential Coal Developmer	ntarea		匚	Tony (	Elmer	Kamiah			Date		
	m from a Lighted Aerodro				FOR	: HI	GHPIN	E ENE	RGY LTD			
	n from an Unlighted Aeroc n from any Surface Improv											
Is at least 40m f	from any surveyed road	X										
ł	from any water body	🗵		•						1051	RVEYOR	12
	u Protection Area Environmentally Sensitive		] 🛛							A RER	11 NUMBE	1384
	lberta Environment criteri		]	]						A77 212	~ 13Z	
Requires Histori	ical Resources Act cleara	ince								Im I	CADASTRA OUP INC.	- 1-1
										\ <u>4</u>		/2/
				İ						1/9	<b></b>	//
					AFFIC	DAVI	Т			$\vee$		/
									veyor, of The			
					of my l	knowl	ledge, has	been can	ted by this plan ried out in acco	rdance with th	ne Alberta L	₋and
							Association July, AD 20		of Standard Pra	actice, and wa	s complete	d on the
				1								
					lain Sk	rinner	<del></del>	Λ.	S. Witn			
Rev.	Description	<del></del>	Job N	lo.	Date		Checked	Drawn	AFE No. :	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
			<b></b>						REQ No. :			
									Client File No	.:		
	THE CADASTRA							Drawn:	WLG	Date: 2005	-07-29	
	400, 500-4th Avenue S.W. Calgary, AB. T2P 2V6		iox 2358 lave Lake,	AR	TOG 2Ar	1		Checked		Job No. : 29		<u> </u>
	Ph.: (403) 263-8200 Fax: Email: mailroom@cadastra	(403) 263-8210 P	h.: (780) 8				849-5221	Surveye		File No.: 29	17W005	Rev.
	Linear manipoliticacaciti	argroup.ca						Lavout:	Lavoui	<ul> <li>Laue</li> </ul>	1.013	





# VESTA ENERGY LTD.

Schedule 1 Releases



### **FACILITIES & FEATURES RELEASE**

I/WE,	LACOMBE	COUNTY	of	Lac	combe, AB	
	(Title holder nar	nes(s))			ress)	
in the Provin	nce of Alberta					
DO HEREB	Y REMISE, REL	EASE AND FOREV	ER DISCHARG	E Vesta Energy Ltd	. , its	
servants, ag causes of a under me (u from, or in a	gents, employee ctions, suits, del us), or on my (o ny way connecte	s, contractors, succepts, claims and demour) behalf by my (or	essors and ass ands, both nov ur) heirs, exect whatsoever of	(Client) signs of and from all v and henceforth, cla utors, administrators Vesta Energy Ltd. (Client)	manner of actions, imed by, through or	
the approa	ch along the e	ast side of Rge F	Rd 28-2 that i	s associated with	Vesta Energy Ltd.	
wellsite &	access road	VESTA MORNSI	DE 13-14-41	-28, UWI: 100/13	-14-041-28W4/00,	
License# 03						
and against be made, be incidental to This release Company on	all loss, costs, a rought or claime the matters, or a does not cove the above land	, its servants, agents ictions, claims and d ed by any person w iny of them herein be r any damages that after the date hereof.	employees, cemands whatso thomsoever for fore mentioned may be cause	ed by any operations	rs and assigns from er nature which may or arising out of, or	
ACCEPTED at Lacom	AND AGREED	TO this <u>25<sup>th</sup></u> day of in the Province of _	of <u>June</u> Alberta.	_, 20 <u>14</u> ,		
In the presen	nce of:					
- phiatl	76					
Mr. Alice				Degoes for -	James Pendin	Lospections
Witness: Print Name	Marnie Hill (via	əmail)	Owner: Print Nam	Diane Jegou James F	officer ruden, Inspect	Lacombelounions Officer
		100 M 100 M			Lacomb	e county
Owner (if app Print Name	olicable):		Owner ( Print Nam	if applicable):		



### **FACILITIES & FEATURES RELEASE**

Tony Elmer Kamlah & Kathy Mae Kamlah (Title holder names(s))	of RR#3, Site 3, Box 4, Lacombe, AB T4L 2N3, (Address)					
in the Province of Alberta						
DO HEREBY REMISE, RELEASE AND FOREVER DIS	(Client)					
servants, agents, employees, contractors, successors causes of actions, suits, debts, claims and demands, under me (us), or on my (our) behalf by my (our) hei from, or in any way connected with, all operations what	both now and henceforth, claimed by, through or rs, executors, administrators or assigns, resulting					
respect of the following described lands and/or features	Alexandra en al la companya de la co					
the approach, and 4-strand barb wire gate along w	vith the perimeter fence that is associated with					
Vesta Energy Ltd. wellsite & access road VEST	A MORNSIDE 13-14-41-28, UWI: 100/13-14-					
041-28W4/00, License# 0337338.						
liwe)hereby covenant, promise and agree to and with the harmless the said Company, its servants, agents, empand against all loss, costs, actions, claims and deman be made, brought or claimed by any person whoms incidental to the matters, or any of them herein before respectively.	ployees, contractors, successors and assigns from ds whatsoever and of whatever nature which may soever for, or in respect of, or arising out of, or					
This release does not cover any damages that may Company on the above land after the date hereof.	be caused by any operations conducted by the					
ACCEPTED AND AGREED TO this17day of _ atRed Deer, in the Province ofAlbe	<u>June</u> , 20 <u>14</u> , rta.					
In the presence of:	do conservo ant al-					
Maria H' 00	Long Romleh					
Witness:						
Print Name Marnie Hill	Print Name 10 Ng nam care					
	Vastus Kamlah					
Owner (if applicable): Print Name	Owner (if applicable): Kathy (amlab					
Finit Name	7 (					



### **FACILITIES & FEATURES RELEASE**

I/WE, (Title holder names(s)) of Riser Developments Ltd. of 6784 65 <sup>th</sup> Avenue Red Deer T4P 1A5, (Address)
in the Province of Alberta
DO HEREBY REMISE, RELEASE AND FOREVER DISCHARGE Vesta Energy Ltd., its (Client) servants, agents, employees, contractors, successors and assigns of and from all manner of actions, servants agents, employees, contractors, successors and assigns of and from all manner of actions, servants agents, employees, contractors, successors and assigns of and from all manner of actions, servants agents, employees, contractors, successors and assigns of and from all manner of actions, servants agents, employees, contractors, successors and assigns of and from all manner of actions, servants agents, employees, contractors, successors and assigns of and from all manner of actions, servants agents, employees, contractors, successors and assigns of and from all manner of actions, servants, agents, employees, contractors, successors and assigns of and from all manner of actions, servants, agents, employees, contractors, successors and assigns of and from all manner of actions, servants, agents, employees, contractors, successors and assigns of and from all manner of actions, and the servants are all the servants and servants are all the servants and servants are all the servants are a
causes of actions, suits, debts, claims and demands, both now and henceforth, claimed by, through or under me (us), or on my (our) behalf by my (our) heirs, executors, administrators or assigns, resulting from, or in any way connected with, all operations whatsoever of <a href="Vesta Energy Ltd.">Vesta Energy Ltd.</a> in (Client)
respect of the following described lands and/or features:
the approach along the east side of Rge Rd 28-2 that is associated with Vesta Energy Ltd.
wellsite & access road VESTA MORNSIDE 13-14-41-28, UWI: 100/13-14-041-28W4/00,
<u>License# 0337338.</u>
I/We hereby covenant, promise and agree to and with the said company that I/We will indemnify and save harmless the said Company, its servants, agents, employees, contractors, successors and assigns from and against all loss, costs, actions, claims and demands whatsoever and of whatever nature which may be made, brought or claimed by any person whomsoever for, or in respect of, or arising out of, or incidental to the matters, or any of them herein before mentioned.
This release does not cover any damages that may be caused by any operations conducted by the Company on the above land after the date hereof.
ACCEPTED AND AGREED TO this 30 day of July, 2014, at Red Deer, in the Province of Alberta.
In the presence of:
Witness: Print Name Marnie Hill
Signature of Owner: Print Name



# VESTA ENERGY LTD.

Schedule 1
Acknowledgement of Information Disclosure



# Acknowledgement of Information Disclosure<sup>1</sup> For Upstream Oil and Gas Facilities

Completing this Acknowledgement does not indicate any acceptance or responsibility by the landowner (or designate) for any work done on the land by either the oil and gas operator, consultants used by the operator or any other party.

This is an acknowledgement that the landowner (or designate) has been provided the opportunities described below.

The landowner (or designate) had an opportunity to discuss with the operator or designate:

<ul> <li>Remediation and reclamation activities planned land</li> <li>The results of remediation and reclamation wo conducted on their land</li> </ul>	res □ No
The landowner (or designate), by signing this Ackno have received copies of the application for reclamati to Alberta Environment.	
Wellsite	100/13-14-041-28 W4/00
Type of Facility (wellsite, battery, pipeline, etc.)	Legal Land Location
Vesta Energy Ltd.	
Oil and Gas Operator or Designate (who provided the	e information)
Toy Doubl Cothy Kanloh	
Landowner	Designate <sup>2</sup>
Aug 7/14	Date
V	Date
Manie Hill	
Witness	Witness

<sup>&</sup>lt;sup>1</sup> This is a voluntary action for the landowner (or designate). A landowner (or designate) has 30 calendar days to sign and return the form to the operator. If you have any questions, please call Wendy Jones, Alberta Environment, at (780) 427-7271.

<sup>&</sup>lt;sup>2</sup> Complete attached Schedule A



# Acknowledgement of Information Disclosure Schedule A

Attach such applicable documentation which demonstrates the authority of the designate to deal with the operator, i.e., letter from registered landowner, power of attorney, lease documents or any other document which demonstrates such authority.

# Wellsite Reclamation Certificate Application Form





1.0	GE	NERAL IN	NFORMAT	ION		<del></del>					
1.1 (	Con	pany Infor	mation								
Applican	nt Fu	ll Name*	Vesta Energ	gy Ltd.							
* Full Com	pany	Name that wil	appear on recl	amation certific	ate						
1.2	Albe	erta Energy	Regulator	nformation							
Is the ap	plica	ant the AER	licensee for	the site?				Yes			
AER We	ll or	Facility nar	ne			VESTA M	ORNSIDE 13	-14-41-28			
AER Uni	ique	Well Identi	fier (UWI) or	Facility Iden	tifier(s)	100/13-14	-041-28 W4/(	00			
AER Lice	ence	No(s)				337338					
Total lan	d to	be certified	(in acres)			4.13					
1.3	Site	Identificati	ion and Phy	sical Locati	on						
1.3.1 Lo	ocat	ion of Site		County/N	1D/ID/SA	Lacombe C	ounty			Alberta	
1.3.2 Co	mpl	ete Surfac	e Legal Lan	d Descriptio	n(s): lease	, access ro	ad, facility,	sump, camp	site, etc	J	
Add Ro	w	Fac	Facility Description		Quarter	LSD	Section	Township	Range	Meridian	
Delete	•	Vellsite		NW	13	14	41	28	4		
Delete	9	Access Roa	ad	•	NW	13	14	41	28	4	
☐ Addit	tiona	al legal land	description	attached							
1.4 Sit	te Ju	risdictions	3								
Chec that a		I I PIIN	lic Land, pro	vide Crown I	Disposition r	numbers					
	ריא	Upon is	suance of a and disposition			do you wa	nt your				
		⊠ Priv	ate Land								
		☐ Spe	cial Areas								
	Parks and Protected Areas (i.e., Natural Areas, Ecological Reserves, Provincial Parks, Provincial Recreation Areas, Wildland Provincial Parks)										
1.5 Ac	tivit	у Туре									
Chec	Check all Prepared Wellsite (not drilled)			l)	☐ Disposal Well						
l	that apply:   Drilled and Abandoned (D&A) Wellsite		Other AER Facility (describe):								
		☐ Oil \	Vellsite								
		☐ Swe	et Gas Wells	site							
		☐ Sou	r Gas Wellsi	te			Oilsands Ex	ploration Pro	gram		
		☐ Batt	ery Site			☐ Coal Exploration Program					

1.6 Associa	ated	Facilities and Infrastructure - m	iusi	t be certified	or have a signed	Release fr	rom the landowner	
Check all	Check all  No associated facilities tied to this			tivity	Remote Sump	) 		
that apply:	$\boxtimes$	Access Road			☐ Log Deck/Sto	rage		
		Temporary Access Road			☐ Land Treatme	ent Area(s)		
☐ Borrow Site			Other (describe			oe):		
	☐ Campsite							
						-		
1.7 Stakeh		ers						
1.7.1 Applica	int					<del> </del>		
Company		Vesta Energy Ltd.	-		Contact Person	Shane Imi		
Mailing Address	3	410, 333 - 5 Avenue Calgary, Alberta		ļ	Position	VP - Oper	<del></del>	
		T2P 3B6		i	Phone No.	403-358-2	2518	
					e-mail	simber@v	estaenergy.com	
					Fax No.	<u></u>	· · · · · · · · · · · · · · · · · · ·	
1.7.2 Applica	ation	n Prepared By (Consultant)						
Company		Ridgeline Canada Inc.			Contact Person	Marnie Hill		
Mailing Address	3	8, 4608 - 62 Street		Position	Project Manager			
		Red Deer, Alberta T4N 6T3			Phone No.	403-342-2	03-342-2130	
					e-mail	mhill@ridgelinecanada.com		
					Fax No.	403-342-2	2005	
1.7.3 Landov	vne	r(s)						
Add Row		Names		Mailing Address			Phone Number	
Delete	Тоі	ny Elmer and Kathy Mae Kamlah		RR3, Site 3, Box 4 Lacombe, Alberta T4L 2N3			403-782-4194	
Delete	Riser Developments Ltd. lete Contact: Glenn Fraser			#1, 6784 - 65 Avenue Red Deer, Alberta T4P 1A5			403-318-3405	
1.7.4 Occup	ants	}		No Occu	upants			
			-					
1.8 Criteria	a Ca	tegory Used						
□ Cultivated			Construction Period On o			or After May 1, 1994		
☐ Peatlands				Constru	uction Period			
☐ Native Gra	ssla	nds						
Constructed Be	fore	<b>a</b> January 1, 1993	Site Abandoned and/or Reclaimed					
Constructed from January 1, 1993 to April 30, 1994				Site Abandoned and/or Reclaimed				
Constructed Or	ı or	After April 30, 1994	Sit	e Abandone	d and/or Reclaim	ed		

100/13-14-041-28 W4/00

1.8 Criteria Category Used				
☐ Forested Lands				
Constructed <b>Before</b> April 30, 1994	Site Abandoned and/or Reclaimed			
Constructed from April 30, 1994 to June 1, 2007				
Constructed <b>On or After</b> June 1, 2007	Site Abandoned and/or Reclaimed			
Have the criteria used to assess the site been char	nged or defaulted to another?	No		
2.0 SITE INFORMATION				
2.1 Overlapping Exemptions				
Does this site require an overlap exemption?		No		
2.2 End Land Use Change				
Has the end land use for the site changed?		No		
2.3 Additional Certificates				
List all other certificates obtained for this site or an i.e.: remote sump in connection with another wellsi		No other certificates issued		
2.4 Non-Oilfield Waste				
List any non-oilfield waste buried on site. (i.e. cond	crete. gravel, debris)    No waste bu	ried or unknown.		
2.5 Facilities or Features to Remain in Place	9			
Are any facilities or features to remain in place (e.g	,, access road, well pad, fences)?	Yes		
If Yes, list what features remain: The approach, the 4 strand barb wire gate and per	imeter fence			
re facilities or features stable and non-hazardous?				
Include releases from ALL registered landowners f	or ALL facilities / features or non-oilfield w	aste to remain in place.		
3.0 PARTIAL RECLAMATION (PUBLI	C LANDS ONLY)   Partial C	ertificate Requested		

4.0 CONTAMINATION INFORMATION					
4.1 Environmental Site Assessment Work Completed - check off all appropriate boxes					
Phase 1 ESA not done since well was prepared, but not drilled.					
☐ The Phase 1 ESA showed no contamination was likely present, so no Phase 2 ESA or remedi	iation was completed.				
☐ The Phase 1 ESA showed contamination was likely present so a Phase 2 ESA was completed	d.				
The Phase 1 ESA showed insufficient information to determine if contamination was likely preson so a Phase 2 ESA was completed.	sent,				
☑ The Phase 2 ESA showed contamination was not present, or was within acceptable values*.					
☐ The Phase 2 ESA showed contamination was present, so remediation was completed					
☐ The site was known to be contaminated, so remediation was completed, and a Phase 1 ESA	was completed.				
*Acceptable values are identified in the Alberta Tier I and Tier 2 Soil and Groundwater Remediation	on Guidelines.				
4.1.1 Confirmatory Sampling					
Was confirmatory testing/sampling done following remediation?	No				
If No, explain: No contamination was identified during the intrusive sampling (SNL, 2010). See Schedule 4 for fu	ırther details.				
4.1.2 Subsoil Guidelines					
Were subsoil guidelines used to address or remediate hydrocarbon contamination as per the Albertal Groundwater Remediation Guidelines (ESRD 2007, as amended)?	erta Tier 1 Soil and				
⊠No					
☐Yes, below 3 metres					
☐Yes, below 1.5 metres within 15 metres of the wellhead (Until June 30, 2007)					
☐Yes, below 1.5 metres within 5 metres of the wellhead (After June 30, 2007)					

5.0 ROUTINE vs	NONROUTINE APPLICATIONS	
	off in any of the following questions, this application will be processed as nonroutine and pector for review prior to the issuance or refusal of a Reclamation Certificate, as warranted.	
C Yes	Are there unresolved landowner complaints OR a complaint form submitted with this application? (Schedule 1)	
C Yes	Were justifications, based on professional judgment, used to explain a "pass"?	
☐ Yes ☐ No	If justification were used was it discussed with an inspector? If yes, indicate who and when.	
	Inspector's Name: Date:	
← Yes ← No	Does the activity fall within a Park and/or Protected Areas (i.e., Natural Areas, Ecologic Reserves, Provincial Parks, Provincial Recreation Areas, Wildland Provincial Parks)	al
C Yes	Was this site constructed before 1983, AND was it reclaimed using a management plar (Schedule 5)	1?
← Yes ← No	Were subsoil criteria used to address or remediate hydrocarbon contamination?	
	Below 3 metres	
	☐ Below 1.5 metres within 15 metres of the wellhead (Until June 30, 2007)	
	☐ Below 1.5 metres within 5 metres of the wellhead (After July 1, 2007)	
← Yes ← No	Is this site a coal exploration well?	
C Yes	Is this site a oil sands exploration well?	
C Yes	Has a reclamation certificate application for this site been previously refused?	
C Yes	Has a reclamation certificate for this site been issued and then cancelled?	
	⊠ Routine	
* red border indicates the quineeds to be answered	stion * no border indicates the answer is calculated from a previous question.	

### 6.0 PROFESSIONAL ASSURANCE

Professional members who signed off on the reclamation and remediation assessments.

Assessment	Date	Company	Professional's Name(s)	*Professional Designation(s) and Registration No(s).
Phase 1 ESA:	11-Aug-2009	S.N.L. Environmental Consulting Ltd.	Roger Saint-Fort, P.Ag.	Alberta Institute of Agrologists, P.Ag #3289
Drilling Waste Disposal / Compliance Option(s):	11-Aug-2009	S.N.L. Environmental Consulting Ltd.	Roger Saint-Fort, P.Ag.	Alberta Institute of Agrologists, P.Ag #3289
Phase 2 ESA - Site Investigation:	24-Jun-2010	S.N.L. Environmental Consulting Ltd.	Roger Saint-Fort, P.Ag.	Alberta Institute of Agrologists, P.Ag #3289
Remediation and Confirmatory Results:				
Landscape Assessment:	15-Jul-2014	Ridgeline Canada Inc.	Marnie Hill, P.Ag.	Alberta Institute of Agrologists, P.Ag #3639
Vegetation Assessment:	15-Jul-2014	Ridgeline Canada Inc.	Marnie Hill, P.Ag.	Alberta Institute of Agrologists, P.Ag #3639
Soil Assessment Level 1:	15-Jul-2014	Ridgeline Canada Inc.	Marnie Hill, P.Ag.	Alberta Institute of Agrologists, P.Ag #3639
Soil Assessment Level 2:				
Other:				

<sup>\*</sup> This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications that do not strictly adhere to ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).

#### 7.0 APPLICANT DECLARATION

This Declaration must be signed by the Operator (consultant signatures are NOT acceptable)

I, Shane Imber

of Vesta Energy Ltd.

declare that.

This application was prepared and completed under my direction. Based on my inquiries of the person or persons who managed the application components required to complete this application the information is, to the best of my knowledge and belief, true, accurate and complete;

- We contacted the landowner/occupant and inquired about any outstanding concerns with the site and documented their response in the application;
- We conducted a detailed reclamation assessment (DSA) of the site and all requirements described in the appropriate reclamation certification criteria have been met;
- We have attached a copy of the Notification of Drilling Waste Disposal form or equivalent, the appropriate drilling waste compliance option Checklist, and/or Phase II Environmental Site Assessment that includes sampling of drilling waste disposal areas:
- We carried out a Phase 1, and/or Phase 2 Environmental Site Assessment (copy attached);
- An up to date Record of Site Condition has been submitted with Phase 2 Environmental Site Assessments;
- We identified and remediated all contamination resulting from the use of this site to meet Alberta Environment's requirements
  and there are no soil chemical or physical conditions that resulted from our use of this land that may adversely affect soil,
  vegetation or groundwater on or off the site described in this application package;
- We provided the landowner(s) a complete copy of this application package at least 30 days prior to making this submission.
- We included the listing of people who performed the reclamation and remediation assessments and their professional
  designation, if any. For any work completed after January 1, 2008, we included the AER Professional Declaration Form(s),
  completed and signed by the professional members who conducted or supervised the work;
- We understand that incomplete applications will not be accepted and we will have to reapply including the appropriate fee
  once the missing information has been added.

I also declare that, to the best of my knowledge, all of the information contained within this Application is accurate and includes a complete representation of all the information that is required to be submitted in the Application for a Reclamation Certificate. I am aware that it is an offence under section 227 of the Environmental Protection and Enhancement Act to provide false or misleading information and that there are significant fines for committing an offence of section 227, including the possibility of imprisonment, the relevant sections which read as follows:

- Offences s. 227 A person who
- (a) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information,
- (b) provides false or misleading information pursuant to a requirement under this Act to provide information

is guilty of an offence.

Penalties s. 228 (1) A person who commits an offence referred to in section 60, 87, 108(1), 109(1) or 227(a), (d), (f) or (h) is liable to

- (a) in the case of an individual, to a fine of not more than \$100 000 or to imprisonment for a period of not more than 2 years or to both fine and imprisonment, or
- (b) in the case of a corporation, to a fine of not more than \$1 000 000.
- (2) A person who commits an offence referred to in section 61, 67, 75, 76, 79, 88, 108(2), 109(2), 110(1) or (2), 111, 112, 137, 148, 149, 155, 157, 163, 169, 170, 173, 176, 188, 191, 192, 209, 227(b), (c), (e), (g), or (i) or 251 is liable
- (a) in the case of an individual, to a fine of not more than \$50 000, or
- (b) in the case of a corporation, to a fine of not more than \$500 000.

Shane Imber

VP Operations

AUG 5/14

NAME

SIGNATURE

POSITION

Version 3.0

March 29, 2014

Page 7 of 21

#### 8.0 APPLICATION SUBMISSION – Private

A complete application package must be submitted and include the following, in order:

- Cover letter
- Application form
- Schedules One through Five as applicable to the site location (see the following sections for the contents of each schedule).

In addition to the reclamation certificate application form, there are a number of additional documents that must be submitted with the application package. These documents must be in the same email as the application and attached as separate documents. The naming convention of these documents must be reflective of the appropriate schedule the document is a requirement of (i.e. Schedule 1, Schedule 2, Schedule 3, Schedule 4 and Schedule 5).

Attachments must be submitted as PDF files, no security applied to the file, electronic signature(s) and last modification(s) are in the file and use the option Reduce File Size.

**Submission on Private Lands:** The application must be submitted by e-mail to <a href="mailto:RecRemCertApplications@aer.ca">RecRemCertApplications@aer.ca</a>, please indicate "Reclamation Application" in the subject of the e-mail.

#### 8.0 APPLICATION SUBMISSION – Public

#### **Electronic Submission of Reclamation Applications on Public Lands**

As of **April 30**, **2009**, on-line application submissions are mandatory, unless the AER's Closure and Liability Branch pre-approves a paper copy application. Applications are submitted through the Electronic Disposition System (EDS).

All application packages must be completed as outlined in the *Upstream Oil and Gas Reclamation Certificate Application Certificate Application Guidelines*. The application and enclosed schedules must be submitted in a zip file, with each schedule saved as a separate file. Note: electronic submission is for public 'specified land' only.

### Electronic Submission Procedure GOA Username and Password

A username and password are required for online submissions. To request a Government of Alberta (GoA) username and password, download the User ID Request Form for EDS and PCS at

http://srd.alberta.ca/MapsFormsPublications/Forms/LandsForms/Default.aspx

#### **EDS Access and Navigation User Manual**

A detailed EDS Access and Navigation User Manual has been created for all EDS applications, including Reclamation Application Submissions. The manual outlines the process for submission and fee payment.

There is also an EDS Frequently Asked Questions document on Reclamation Certificate Application Submissions to assist with the submission process.

http://srd.alberta.ca/MapsFormsPublications/Forms/LandsForms/Default.aspx

#### Login to EDS

The web interface for reclamation certificate applications can be securely logged into at:

https://securexnet.env.gov.ab.ca/eds\_login.html

To assist with managing file sizes, please do not submit the following as part of the reclamation application package:

- ~ Drilling /Tour Reports
- ~ Water well logs
- ~ Disposition Approval
- ~ Duplicate Schedules (extra pages)
- ~ Environmental Field Report
- ~ Land Standing Report

9.0 SCHEDULE ONE - Attachments
Please check off the appropriate boxes indicating which documents are included in the Schedule.
☑ Land Titles (private land only)
Special Areas Board Search
Survey Plan (4 copies for private lands; 1 copy for public lands; all copies to be outlined in yellow)
Proof the application package was sent to the landowner(s) (i.e., delivery receipt)
Complaint Form (attach complaint form only when there is a landowner complaint)
Releases - All landowners listed on title must sign all releases
Overlapping Exemption (only required when the Operator of the overlapping activity is different from Operator submitting this application)
Other Certificates
☐ Criteria Change Authorization*
Land Use Change Documentation
Other, describe
Other, describe
*The 2010 Reclamation Criteria for Wellsites and Associated Facilities (ESRD 2010) provides for justification when the reclamation criteria for the appropriate end land use cannot be achieved due to site-specific conditions.

10.0 SCHEDULE TWO - Phase 1 Environmental Site Assessment
☐ Phase 1 ESA not required and NOT submitted with this application
As of June 1, 2011 all Phase 1 ESA information must be entered on the Schedule Two form. Please check off the appropriate boxes indicating which documents are attached.
∐ List of available aerial photographs from Air Photo Distribution
⊠ Aerial or satellite photographs
⊠ Site Visit Photos
☑ Construction and Operation Sketches
☑ AER Professional Declaration Form* – This must be signed for work completed after January 1, 2008.
* This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications that do not strictly adhere ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).

10.0 PHAS	E 1 ENVIRONMENT	AL SITE	EASS	SESSMENT				
10.1 Previou	usly Refused Application	ons and C	ancell	ed Certificates				
Has this site be	No							
						· · · · · · · · · · · · · · · · · · ·		
10.2 Drilling	Information							
Add	Well name or UW	/1	S	pud Date:	Fina	al Drill Date:	Well Depth: (metres)	
Delete	100/13-14-041-28 W	/4/00	25	-Sept-2005	5	-Oct-2005	1,885	
10.2.1 Re-enti	ry of a Well or Site Re-d	Irilled						
Is this site a re-	entry?						No	
Is the site re-dri	lled?						No	
10.2.2 Drilling	Waste Disposal Inforn	natiom						
Add Mud	Drilling Mud Type	Volume	(m <sup>3</sup> )			Disposal Method		
Delete	Gel Chem	260	)	Landspray While	e Drilling	g		
Add Row	Sump Type	S	Sump lo	cation, if remote		Disposal	Location(s)	
Delete	None					SW-25-041-28 W	łM	
Drilling Waste 0	Compliance Option(s) use	ed and atta	ached	to Schedule 3.				
Has this site be	en used for drilling waste	e disposal	more t	han once?			No	
Drilling waste v	and location(s): vas disposed of via lands liance Option 1.	spray while	e drillin	g off-site within S	:W-25-0	041-28 W4M. The d	rilling waste dispo	osal
10.3 Produc	ction, Storage, and Env	ironment	al Info	rmation				
10.3.1 Curren	nt and/or Historical Info	rmation						
Describe all his skids, access re	storical and/or current infroads etc.)	rastructure	e assoc	iated with the loc	ation (F	For example: tanks,	pipeline, process	\$
Access road.	No production is associat	ted with th	ne well.					
10.3.2 Flare F	Pits							
Were there any	associated flare pits du	ring drilling	g or pro	oduction?			No	
10.3.3 Storag	je Tanks							
Were there any	storage tanks associated w	vith the site	e?				Yes	
If "Yes", list nur	mber, location, and capa	city of the	storag	e tanks				
Add Row	Type of Tank	Cont	tent		Lo	cation(s)	Capacity	(m <sup>3</sup> )
Delete	Above ground tank	Flar	e Tank		Ea	st of well centre		
Delete	Above ground tank	Sha	le Tanl	k	No	orth of well centre		
Were any othe	r underground structure.	such as p	pipeline	s. removed?			N/A	

10.3.4 Fluid Disposal						
How was fluid at produc	cing wells, disposal wells	, and/or battery sites s	shipped to/from the	location?		
⊠ N/A	ı	Piped from the site		☐ Trucked from the site		
Piped to the site		Trucked to the site		Disposed	of on site	
10.3.5 Other Facilities	s or Infrastructure					
Describe any other was Cement pit located in th	ste storage, handling, che ne northwest corner	emical storage, buried	pits, landfills, etc			
10.3.6 Spills and Rele	eases					
Have there been any Sp	oills/Releases/Complaint	s associated with the s	site?		No	
10.3.7 Previous Enviro	onmental Site Assessm	ents				
List any previous ESA's	conducted?			$\boxtimes$	None or unknown	
10.4 Phase 1 Enviro	onmental Site Assessm	ent Site Visit				
Date:	28-Aug-2007	Assessor(s)	Wendy Weiss			
Surrounding land use	N: Pasture	S: Pasture	E: Pasture	W:	Pasture	
Topography:	Gently rolling					
Vegetation:	Hay mix; alfalfa, clover, b	rome, timothy				
Provide the proximity of	receptors to the site. Fill	in distances (m) for a	II that are within 30	00 metres of	the site boundary.	
Residence: > 300 m	Water well: > 300 m	Surface waterbody	(e.g., dugout, strea			
Were equipment or tank	s present, or were there	visual signs of former	facilities?		No	
What was observed? N/A						
Were there visual signs	of open or potentially bu	ried earthen pits?			No	
What was observed? N/A						
salt tolerant vegetation,	past spills (include cumul etc.)?	ative releases, well ce	ntre impacts,		No	
What was observed? N/A						
Was any adjacent land	affected by operations or	n the site?			No	
What was observed? N/A						
Was any vegetation stre	ess apparent?				No	
Details (location, evider N/A	nce):					
Does the site visit inforr	nation conflict with speci	fic file or the imagery r	eview Information	?	No	
If YES, explain N/A						

#### 10.4 Phase 1 Environmental Site Assessment Site Visit

#### 10.5 Aerial and Satellite Imagery Review

Aerial or satellite photographs of the site are required. Scales such as 1:5000 or 1:7500 should be used to show detail.

**Producing wells and batteries:** one pre-disturbance; one post-disturbance; one photograph for every 2 to 3 year interval while the site was active.

**Dry and abandoned wells:** one photograph of the active site, if available, is required. If active site photographs are not available, photographs of the pre and post disturbance are required.

Sites with above ground facilities and/or spills: photos of the site before, during (if available), and after the spill cleanup or facility removal are required

Review Date: 18-Jul-2008			Reviewed by:Wendy Weiss					
Add	Photo Id:	Year	Scale:	Evidence of former infrastructure or areas of potential concern				
Delete	4971-1998	1998	1:2,000	Pre-disturbance				
Delete	AS 5408-175	2007	1:2,000	Reclamation completed. No areas of concern observed.				

10.6 Interviews - Phase 1 Environmental S	ite Assessment		
Provide details of Interviewee's Comments. Requestials of spills, pits, waste storage/handling, and		ious complaints, former i	facilities, presence and
Private Land: Have you performed a site visit in	the presence of the land	lowner/occupant?	Yes
Public Land: Have you performed a site visit in t	he presence of the occu	pant?	
Date of site visit(s) 28-Aug-2007			
Landowner Interviewed: Tony Kamlah	Date 28-Aug-2007	Interviewed By: Wendy Weiss	
Landowner had no environmental concerns with He feels that location is holding water more so the slough was by natural swale running from the slo	nan prior to lease constru	iction. He stated that the	original drainage of the
Occupant Interview: Date Interviewed By:			
Operator Interview:	Position:	Date	Interviewed By:
		· · · · · · · · · · · · · · · · · · ·	
Additional Notes/Comments/Information No Phase II ESA required according to the DWD Notification of Drilling Waste Disposal forms, a F pit area.	Checklist and calculation of the contract of t	ns. An onsite cement pit to confirm that 1 m is pre	is noted in the esent over the cement

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10.7	Conclusions and Recommendations							
10.7.1	Did the Phase 1 ESA indicate that a Phase 2 ESA is required to evaluate the site for contamination?							
	Yes							
If YES,	attach Phase 2 ESA report (see Schedule 4)							

11.0 SCHEDULE THREE - Drilling Waste Documentation	
Please check off the appropriate boxes indicating which documents are included in this Sc	hedule
☐ Not required because well not drilled or application is for other AER facility	
Guide 50 Notification Form ( <i>Directive 050: Drilling Waste Management</i> , AER 1996) or f information used for reporting under <i>Guide G-50: Drilling Waste Management</i> (AER 1996).	orm with equivalent 93)
Assessing Drilling Waste Disposal Areas: Compliance Option Checklist.	
☑ Assessing Drilling Waste Disposal Areas: Compliance Option Calculations.	
☐ Other, describe	· · · · · · · · · · · · · · · · · · ·
* This form must be signed for work completed after January 1, 2008. The AER will refuse applications that do not strictly adhere to ESRD's professional declaration requirements, or (R&R/10-01).	

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		The state of the s							
12.0 SCHE	DULE FOUR	- Phase 2 Environmental Site Assessment							
Please list all Environmental Site Assessment Reports included in this schedule.  (e.g. Phase 2 environmental site assessments, site remediation reports, Phase 3 reports included reports included									
Delete Report	Report Date								
	6-Jul-2010								
⊠ Attached	Attached Not required AER Professional Declaration Form**								
Add Report	Add Report								
any new informa		ed a new version of the Record of Site Condition form. The itted to the department and for any reports submitted between and form.							
		ork completed after January 1, 2008. The AER will refuse a there to ESRD's professional declaration requirements, outli							
any new informa 2009 without a F ** This form mus applications that	ation being submi Record of Site Co st be signed for w	itted to the department and for any reports submitted between andition form. Fork completed after January 1, 2008. The AER will refuse a	en May 1, 2008 and Apr ny reclamation certifica						

13.0 SCHEDULE FIVE - Reclamation Information	
Please check off the appropriate boxes indicating which documents are included in this Schedule.	
Reclamation Information section completed (next pages)	
□ Landscape Assessment Tool	
∇egetation Assessment Tool (include Record of Observation Data sheets)	
☑ AER Professional Declaration Form for Vegetation*	
Soil Assessment Level 1 Tool (include Record of Observation Data sheets)	
☐ AER Professional Declaration Form for Level 1 Soil*	
Soil Assessment Level 2 Tool (include Record of Observation Data sheets)	
☐ AER Professional Declaration Form for Level 2 Soil*	
⊠ Site, Lease and Access Sketches	
⊠ Site Visit Photos	
Exemption Justification Form**	
Management Plan***	
☐ Other	
* This form must be signed for work completed after January 1, 2008. The AER will refuse any reclamation certificate applications t do not strictly adhere to ESRD's professional declaration requirements, outlined in Fact Sheet (R&R/10-01).	hat
** The 2010 Reclamation Criteria for Wellsites and Associated Facilities (ESRD 2010) provides for justification when the reclamation criteria for the appropriate end land use cannot be achieved due to site specific conditions.	'n
*** A Management Plan can be used for sites constructed prior to 1983 that do not have sufficient soil salvaged to meet the Reclamation Criteria for Wellsites and Associated Facilities - 1995 Update (AENV 1995). The Management Plan must be agreed by the landowner and the Inspector.	to

13.1	Reclamation	n Site I	nformation								
13.1.1	Dates							· · · · · · · · · · · · · · · · · · ·			
S	Survey Construction			Abandonment		Date Reclamation		Date of Fina		Assessment	
	Date: Date:		Date:	Date:		Completed		Soil:		Vegetation:	
25-,	Jul-2005	25-S	ept-2005	12-0	Oct-2005	Spring 2	2008	3-Jul-2014		3-Jul-2014	
13.1.2	Global Posi	tioning	System (G	PS) Cod	ordinates						
GPS Co	o-ordinates (li	st all de	ecimal place	s):					_		
Add	Descript	ion	Locati	ann i		n Used D 83)		Latitude:		Longitude	
Delete	Well Cer	ntre	13-14-41-2	8 W4M	NAI	D 83	582453	36	0300	796	
13.1.3	Pre-constru	ction A	ssessment								
Was a I	Pre-Construct	tion Ass	essment do	ne?						No	
If Yes,	provide the	date and	d by whom		Date			Consultant			
13.1.4	Access Roa	d and	Trails								
Was so	il salvaged or	n the ac	cess?								
	Yes		lf No	Exis	sting trail was	s used		Access was	undis	turbed	
Was the	e access road	develo	ped?								
	Yes	If	Yes,				Pit Run		Crush		
13.1.5	Seeding			<b>.</b>							
Ac	ld Row		ng/Planting Date			Speci	es mix li:	st (if available)			
ــــــــــــــــــــــــــــــــــــــ	Delete	Α	nnual	Annual	cultivation						
13.1.6	Fertilizer									⊠ Not Used	
13.1.7	Herbicide(s	and S	terilant(s) -	Used F	Pre & Post R	eclamation				⊠ Not Used	
13.1.8	Soil Amend	ments	and Additio	ns					[	Not Used	
Were a	mendments a	ccepted									
Add	Amendmen	t Type	Location Application		Date of Application	Rate of App	olication	Remedial Actio	on	Incorporation Method	
Delete	Recontour		Onsite					Recontoured site to better match preconstruction drainage conditions.	е		

#### Interviews - Reclamation Information 13.2 Provide details of Interviewee's comments regarding satisfaction with remediation and reclamation work. Private Land: Has the landowner/occupant been given the opportunity to provide comments? Yes Public Land: Has the occupant been given the opportunity to provide comments? Public Land: Have all disposition conditions been met? 3-Jul-2014 Date of site visit(s) Comments Interviewed By Name Date Interviews 11-Jul-2014 Mr. Kamlah confirmed that the drilling Kristen Cockle, Tony Kamlah waste was disposed of off-site via LWD Ridgeline Canada and had no knowledge of a cement pit Inc. being utilized on-site during drilling. He explained that following the initial reclamation he complained of more water ponding in the northwest corner than previous years. As a result, the site was recontoured in the Spring of 2008. Mr. Kamlah stated he is now satisfied with the soil, vegetation, Landowner: landscape and all reclamation efforts at the site. As per the Land Title, on July 5, 2014, a 1/2 interest of the land was sold to Riser Developments Ltd. Mr. Glenn Fraser is a representative of Riser Developments and signed the release for the approach July 30, 2014, he did not know any history of the site. Occupant: Operator: Position: Additional Notes/Comments/Information:

#### 13.3 Additional Site History/Comments/Clarification

The 100/13-14-041-28 W4/00 well was drilled between September 25, 2005 to October 5, 2005 to a total depth of 1,885 metres. There is no production associated with this well and it was surface abandoned on October 12, 2005. The wellsite is accessed from the west via an east-west running access road off of a high grade gravel road allowance. The landowners and Lacombe County have signed releases to retain the approach.

A Phase 1 ESA was completed on August 11, 2009 by S.N.L. Environmental Consulting Ltd. The disposal of 260 cubic metres of total gel chemical drilling waste on SW-25-041-28 W4M via landspray while drilling was documented in a report by VegTec Inc. dated September 25, 2005. Drilling waste disposal met Compliance Option 1 checklist requirements. The Phase 1 ESA identified a potential cement pit in the northwest corner of the wellsite. The assessors recommended a Phase 2 ESA to confirm a 1 metre cap was present over the cement pit.

A Limited Phase 2 ESA was conducted by S.N.L. Environmental Consulting on June 24, 2010. Boreholes were advanced to investigate potential impacts at well centre and to confirm a 1 metre cap over the cement pit. Analytical

100/13-14-041-28 W4/00

results indicated there were values greater than the applicable guidelines. The assessors determined that no cement pit could be identified on-site in the northwest corner.

A Detailed Site Assessment was conducted by Ridgeline on July 3, 2014. The wellsite and adjacent land consist of a tame pasture field. The wellsite and access road passed all applicable 2010 Reclamation Criteria for Wellsites and Associated Facilities on Cultivated land.

#### **Public Disclosure and Privacy Notification**

The Reclamation Certificate Application form is a public record that is disclosed in accordance with section 35 of the Environmental Protection and Enhancement Act, Disclosure of Information Regulation, and Ministerial Order 23/2004. Reasonable efforts have been made to minimize collection of personal information where possible. Personal information on the form is collected under the authority of the Environmental Protection and Enhancement Act and is in compliance with section 33(c) of the Freedom of Information and Protection of Privacy Act (FOIP). Personal information collected on this form will be used by Alberta Energy Regulator for the purposes of administering its programs.

#### Accuracy of Information

The information in this document has been submitted by persons other than the AER. The AER cannot and does not warrant that the information in this document is current, accurate, complete, or free of errors. Persons accessing the information provided should not rely on it, and any reliance on the information provided is taken at the sole risk of the user. Users of this information are advised to conduct their own due diligence to satisfy themselves of the environmental condition of the property of interest.

Protect Form



# VESTA ENERGY LTD.

Schedule 2
Phase 1 Environmental Site Assessment

### PHASE I ENVIRONMENTAL SITE ASSESSMENT AT 00/13-14-041-28 W4/0

PREPARED FOR:

HIGHPINE OIL & GAS LTD.

PREPARED BY:

S.N.L. ENVIRONMENTAL CONSULTING LTD

# Schedule Two Phase 1 Environmental Site Assessment

Please check off the appropriate boxes indicating which documents are included or sections completed in this Schedule.

Following	sections completed:
	A – Drilling Information (Checklists and calculation tables from the guideline, Assessing Drilling Waste Disposal Areas: Compliance Options for Reclamation Certification should be attached to Schedule 3.
	B – Production/Storage & Environmental Information
	D – Aerial/Satellite Review
	E – Interviews
Σ	F – Conclusions and Recommendations
Σ	G - Declaration
Σ	Construction and Operation Sketches
Attach the	following:
	Phase 1 Environmental Site Assessment: Site Visit Photos
$\triangleright$	Aerial or satellite photographs
$\triangleright$	List of available aerial photographs from Air Photo Distribution
$\triangleright$	
20	08
	OR
	Phase 1 Environmental Site Assessment form (AENV 2002)* including all of the above information.
	Phase 1 Environmental Site Assessment; Site Visit Photos
	Aerial or satellite photographs
	List of available aerial photographs from Air Photo Distribution
	AENV Professional Declaration Form - This form must be signed for work completed after January 1,
20	
	ale stille et alle principal agrecies par la principal de la company de la company de la company de la company
<b>.</b>	Dhana 4 Factorial and a second
1	Phase 1 Environmental Site Assessment (FSA) completed prior to November 1, 2007, see he culturally

the Phase 1 ESA form (AENV 2002). Ensure that all information required on the new Phase 1 ESA form (AENV 2007) is included.

### PHASE 1 Environmental Site Assessment

Α,	Drilling Information							
١.	Drilling date: Spud: September 25, 2005 and Rig Release: October 5, 2005							
2.	Well depth: 1885 m							
3.	Has this site been previously certified and the certificate cancelled? ☐ Yes ☒ No							
	If Yes, provide details of work com	pleted in the Detail	ed Site Assessr	ment Report.				
	If no work has been done, explain	why					-	
l.	Is this site a re-entry?   Yes	No						
	If yes, has this site been previously	y certified?  Yes	☐ No, If yes,	Certificate No.				
5.	Drilling mud (type, volume):	Gel-chem 260 m3				STAN STONE STANDARD SECTION		
		LWD						
	Sump location: ☐ On-Lease	Remote	None					
	Remote sump location:	<u> </u>				Color (chipselped) (O.)		
	Disposal location (s):	SW 25-41-28 W4N	1			disagra and account of the		
i.	Drilling Waste Compliance Option	used and attached	to Schedule 3:	Option 1	Option 2	Option 3		
	Has this site been used for drilling Details:			-	⊠ No	Unknown		
3.	Production/Storage & Envi	ocation historical a	nd/or current: (ta	anks, pipeline, į		access roads etc.)		
	Infrastructure associated with the lo	ocation historical a	nd/or current: (ta	anks, pipeline, į				
	Infrastructure associated with the long production associated with the variation of the pits (drilling, production)	ocation historical al well. Access road. Yes ⊠ No □ U	nd/or current: (ta	/Location:	process skids, a	access roads etc.)		
•	Infrastructure associated with the long to production associated with the very start pits (drilling, production)	ocation historical al well. Access road. Yes ⊠ No □ U	nd/or current: (ta	/Location:	process skids, a	access roads etc.)		
	Infrastructure associated with the long production associated with the variation of the production of	ocation historical anwell. Access road. Yes  No  Uove ground)  Y	nd/or current: (ta	/Location:	process skids, a	access roads etc.)		
	Infrastructure associated with the long to production associated with the will be production associated with the will be production associated with the will be production. In the production associated with the will be production associated with the will be production associated with the long to product as the long	ocation historical and well. Access road. Yes  No  Upove ground)  You	nd/or current: (tanknown <b>Details</b> es No Un	/Location: nknown e: both used fro	process skids, a	access roads etc.)		
	Infrastructure associated with the long production associated with the variation of the production of	ocation historical anwell. Access road. Yes  No  Uove ground)  You	nd/or current: (ta	/Location: nknown e: both used fro	process skids, a	access roads etc.)		
	Infrastructure associated with the long production associated with the long production associated with the long production in the long pr	ocation historical and well. Access road.  Yes  No  Upove ground)  Your young your young y	nd/or current: (tanknown <b>Details</b> es  No  Un rth of well centre	/Location: nknown e: both used fro	m drilling of the	e well.		
	Infrastructure associated with the long No production associated with the variation of the production associated with the variation of the production of the	ocation historical anwell. Access road.  Yes  No  Uove ground)  Your ground Your ground Your ground Your green tank noon grage tanks, pipeling	nd/or current: (tanknown <b>Details</b> es  No  Un rth of well centre	/Location: nknown e: both used fro	m drilling of the	e well.		
	Infrastructure associated with the long No production associated with the will be production associated with the will be production. It is storage tanks ( below or about a belo	ocation historical anwell. Access road.  Yes  No  U  Ove ground)  Y  Intre: shale tank no  Orage tanks, pipelin  isposal wells, and/	nd/or current: (tanknown Details es  No  Un rth of well centre	/Location: nknown e: both used fro	m drilling of the	e well.		
	Infrastructure associated with the long production associated with the vertical straight of the straight of th	ocation historical anwell. Access road.  Yes  No  Uove ground)  Your ground Your ground Your ground Your green tank noon grage tanks, pipeling	nd/or current: (tanknown Details es  No  Un rth of well centre nes, etc.)? or battery sites son the site.	/Location: nknown e: both used fro	m drilling of the	e well.		
	Infrastructure associated with the long No production associated with the will be production associated with the will be production associated with the will be production. It is a social be production. It is a social be production. It is a social be production associated with the will be production. It is a social be productionally associated with the will be producted as a social between the will be wi	pocation historical and well. Access road.  Yes No Upove ground) Yountre; shale tank now prage tanks, pipeling isposal wells, and/ Fluid piped from Fluid piped from Fluid frucked from	nd/or current: (tanknown <b>Details</b> es  No  Un  rth of well centre  nes, etc.)?  or battery sites son the site.	/Location: nknown  b: both used fro  Not App shipped to/from	m drilling of the	e well.  Iderground facilities at site.		
	Infrastructure associated with the long production as a long	pocation historical and well. Access road.  Yes  No  Upove ground)  Your ground)  Your ground)  Your ground   Your ground	nd/or current: (tanknown Details es  No  Un  rth of well centre  nes, etc.)?  or battery sites so the site. om the site. ed pits, landfills	/Location:nknown  a: both used fro  Not App shipped to/from	m drilling of the	e well.  Iderground facilities at site.		
	Infrastructure associated with the long production associated associated with the long production associated associated with the long production as a long production as	pocation historical and well. Access road.  Yes No Upove ground) Yountre; shale tank now prage tanks, pipeling isposal wells, and/filled piped from froid storage, buries Yes No Upocasional wells.	nd/or current: (tanknown Details es  No  Un  rth of well centre  nes, etc.)?  or battery sites so in the site. om the site. ed pits, landfills of	/Location: nknown  by both used from Mot Appshipped to/from letc.): etc.):	m drilling of the	e well.  Iderground facilities at site.		
	Infrastructure associated with the long production associated associated with the long production associated associated with the long production as a long prod	pocation historical and well. Access road.  Yes  No  Upove ground)  You well. Yes  No  Upove ground)  You will be to the control of the contr	nd/or current: (tanknown Details es No United	/Location: nknown  in both used fro  Not App shipped to/from  etc.): sate:	m drilling of the	e well.  Iderground facilities at site.		
	Infrastructure associated with the long production associated with the long production as a long production as	pocation historical and well. Access road.  Yes No Upove ground) Yountre; shale tank now prage tanks, pipeling isposal wells, and/fluid piped from Fluid trucked from ical storage, buries.	nd/or current: (tanknown <b>Details</b> es  No  Un  rth of well centre  nes, etc.)?  or battery sites so the site. om the site. ed pits, landfills of	/Location: nknown  a: both used fro  Not App shipped to/from etc.): etc.):	m drilling of the	e well.  Inderground facilities at site.		
	Infrastructure associated with the long production associated associated with the long production associated associated with the long production as a long prod	pocation historical and well. Access road.  Yes  No  Upove ground)  Your ground)  Your ground)  Your ground)  Your ground)  Your ground   Your ground  Your groun	nd/or current: (tanknown Details es No Unknown No Unknown Details es to No Unknown Details es to No Unknown Details end/or currents es to No Unknown Details es to No Unknown D	/Location: nknown  a: both used fro  Not App shipped to/from etc.):	m drilling of the	e well.  Aderground facilities at site.		
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C.	Phase 1 Site Visit
1.	Date (m/d/y): August 28, 2007
2.	Assessor: Wendy Weiss
3.	Surrounding land use:
	N: Pasture S: Pasture E: Pasture W: Pasture
4.	Topography: gently rolling  Vegetation: New print of the characteristics of the characteris
5.	Vegetation: Hay mix; alfalfa, clover, brome, tilmothy
6.	Proximity to (fill in distance to all that fall within 300 metres of this site):
	Residence:; Water well:; Surface waterbody (e.g., dugout, stream, river): slough adjacent to north side of acce
	road.
7.	Equipment or tankage present (or visual signs of former facilities):
	What was observed?:
8.	Visual signs of open or potentially buried earthen pits: ☐ Yes ☒ No
	What was observed?:
0.	evidence of past spills (includes cumulative releases, well centre impacts, salt tolerant vegetation, etc.):
	What was observed?:
10.	Adjacent land affected by operations on the site?   Yes  No
	What was observed?:
11,	vegetation stress apparent: LI Yes XI No
	Details (location, evidence):
12.	Does site visit information conflict with specific file or the imagery review Information: Tyes 🔀 No
	If YES, explain:
	AERIAL/SATELLITE IMAGERY REVIEW
Phot	tographs of the site in aerial, satellite or other media format are required. Scales such as 1:5000 or 1:7500 should be used to
ite v	ducing wells and batteries: one pre-disturbance; one post-disturbance; one photograph for every 2 to 3 year interval while the
hoto	and abandoned wells: one photograph of the active site, if available, is required. If active site photographs are not available, ographs of the pre and post disturbance are required.
	s with above ground facilities and/or spills: photos of the site before, during (if available), and after the spill cleanup or facility
emo	oval are required.
Revie	ew date: <u>July 18, 2008</u>
evie	ewed by: Wendy Weiss
to be defended	
hoto	o ID: <u>4971-1998</u>
ear:	: <u>1998</u> Scale: <u>1:30,000 enhanced to 1:2,000</u>
/ide	ence of former infrastructure or areas of potential concern:
re-d	disturbance

Facility Name; HIGHPINE MORNSD 13-14-41-28	Location; 13-14-041-28 W4N
Photo ID: AS 5408-175	
Year: 2007 Scale: 1:40,000 enhanced to 1:2,000	
Evidence of former infrastructure or areas of potential concern:	
Reclamation completed. No areas of concern observed.	
Photo ID:	
Year:Scale:	
Evidence of former infrastructure or areas of potential concern:	
	Applied to the second days.
Photo ID:	The pulling a summary of federal state department
Year:Scale:	
Evidence of former infrastructure or areas of potential concern:	

E.	INTERVIEWS
1.	Private Land: Have you performed a site visit in the presence of the landowner/occupant?   Yes   No
	Public Land: Have you performed a site visit in the presence of the occupant?
	Public Land: Have all disposition conditions been met?
	Date of site visit(s): August 28, 2007
nt	terviews
	Details of Interviewee's Comments (request information on previous complaints, former facilities, presence and details of spills, pits, waste storage/handling, and vegetation control, etc.)
	Landowner Interview: Date: August 28, 2007 Interviewed By: Wendy Weiss
	Landowner had no environmental concerns with the site. The lease was seeded in the fall of 2005 and mowed in 2006. He that location is holding water more so than prior to lease construction. He stated that the original drainage of the slough was natural swale running from the slough, south across the lease into a drainage ditch.
•	Occupant Interview: Date: Interviewed By:
	Operator Interview: Date: Interviewed By:
dd	Operator Interview: Date: Interviewed By:
dd	Position: Interviewed By:  Position: Interviewed By:  Interviewed By:  Position: Interviewed By:  Silitional Notes / Comments / Information  No Phase II ESA required according to the DWD checklist and colculations. An environmental state of the DWD checklist and colculations.
dd illi	Position: Interviewed By:  Position: Interviewed By:  Interviewed By:  Position: Interviewed By:  Silitional Notes / Comments / Information  No Phase II ESA required according to the DWD checklist and colculations. An environmental state of the DWD checklist and colculations.
dd illi	Operator Interview: Date: Interviewed By: Position:  Iditional Notes / Comments / Information  No Phase II ESA required according to the DWD checklist and calculations. An onsite cement pit is noted in the Notification of the Disposal forms, a Phase II ESA is required to confirm that 1m of cap is present over the cement pit area.
dd illi	Operator Interview: Date: Interviewed By: Position:  ditional Notes / Comments / Information  No Phase II ESA required according to the DWD checklist and calculations. An onsite cement pit is noted in the Notification of the Disposal forms, a Phase II ESA is required to confirm that 1m of cap is present over the cement pit area.  CONCLUSIONS AND RECOMMENDATIONS
	Departor Interview: Date: Interviewed By:
dd rilli	Departor Interview: Date:
dd rilli	Date:
dd	Departor Interview: Date:
	Operator Interview: Date: Interviewed By: Position:

	G.	DI	EC	LA	RA	ITA	ON
--	----	----	----	----	----	-----	----

	of	certify that, to the best of my
	intioned information is accurate.	This Phase 1 Environmental Site Assessment (ESA)
was conducted on behalf of _		, for the above noted
location. All the pertinent info	ormation gathered during the Pha	ase 1 ESA has been provided within this report.
NAME (signature)	POSITION	DATE

### **SITE SKETCHES**

Site sketches documen	nted:	
below	☑ on air photos or attached sketch ☐ bot	h locatio
CONSTRUCTION	PHASE – Mandatory for any site constructed since	1994
See Attached	d Lease Diagram within the Drilling Waste	
	Lease Report and LWD Notification. Accord	100
tile site diagra	am the well was crowned North on the lease	
	28 (810)	

momadon on	both sketches:
Drainage/direct	ion 🝑
Wellhead	⊕W/H
Berms	berm
Cut/fill	ummu
Spoil	sp
Spills	(spill)
Trenches	tr
Access	ac
Topsoil Pile	tsp
Subsoil Pile	ssp
Sump	S
Flare Pit	fp
Tank Storage	
Teardrop	

### **OPERATIONS PHASE**

No production or operations associated with well; D&A.

Schedule 2

List of Available Aerial Photographs from Air Photo Distribution

### **APRS Search Results**

When ordering aerial photography there are two methods:

1. supply the roll and print/frame numbers (e.g. AS-5112-014) from the flight index maps, or

2. provide the Project Number(s) (e.g. 05-089) and either a more precise location within the section (e.g. Legal Sub-division, Quarter, street address or site diagram) or if appropriate the radius around the site in miles (e.g. 0.5 miles). This information is needed to determine the best possible photographs to cover the site.

### User Information:

 Blue Underlined Project numbers (e.g. <u>92-159</u>) - click on the project number to download and view the flight index map(s) associated with that project. Index maps show photo centres/locations not the actual photographic image.

 "p" (in red) - identifies incomplete or partial coverage of the specified section. View the index map(s) to determine if second/third choices should be included with your request.

• "Tr" Projects (e.g. 06-078**Tr**) - in general projects with this suffix are of superior quality. For example, well-site details can usually be observed even at small scales (e.g. 1:60,000). Check "Comments" column for product availability.

More detailed instructions on using the flight indices (a "Read Me" file) are included as part

of the map download.

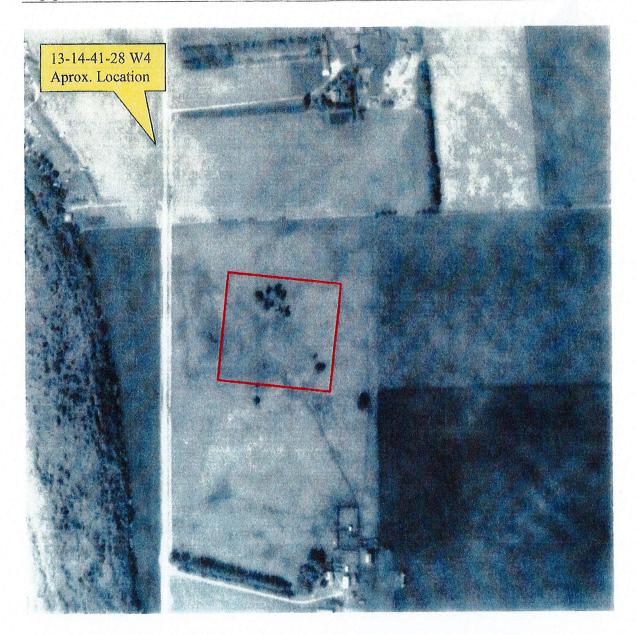
Legal Description (Sec. Twp. Rge. Meridian): 14 - 41 - 28 - 4

Project No.	Coverage (Partial/Complete)	Date	Scale (1:)	Emulsion	Comments
<u>07-021 83Asw</u>	С	2007-00-00	40000	B/W	Rolls: AS- 5407,5408
98-097A 83A	C	1998-00-00	30000	B/W Agfa-50	
93-176	C	1993-00-00	30000	B/W PAN	
87-089	C	1987-00-00	30000	B/W PAN	
87-089 83A	С	1987-00-00	30000	B/W Pan-2405	
E84-028-14 P2	P	1984-07-17	50000	False Colour.*	Digital/Laser only - Roll: AS-3049
84-103 83A	С	1984-07-10	60000	B/W Pan-2402	- ext. into 73D
83-017	С	1983-04-22	30000	B/W Pan-2405	Gull Lake - Roll: AS-2695
83-018	С	1983-04-20	10000	B/W PAN-2405	Gull Lake
82-086 83A	C	1982-09-00	30000	B/W Pan-2405	
80-121 83A	С	1980-00-00	60000	B/W Pan-2405	
76-023A 83A	С	1976-10-15	31680	B/W Pan-2405	

75-169	С	1975-00-00	31680	B/W DOUBLE	Rolls: AS- 1439,1440
70-322 83A	С	1970-00-00	80000	B/W Pan-2405	Rolls: AS- 1108,1109
69-028	С	1969-06-02	6000	PAN 2405	
69-167 83A	С	1969-00-00	31680	B/W.	
66-83A	С	1966-00-00	31680	B/W.	
62-83 <u>A</u>	С	1962-00-00	31680	B/W.	
49-83A	С	1949-00-00	40000	B/W Super.	



Schedule 2 Aerial Photographs



CLIENT:		HIGHPINE OIL & GAS Ltd.  13-14-041-28-W4				
LOCATION:						
РНОТО ID:	YEAR:	ORIGINAL SCALE:	APPROXIMATE EFFECTIVE SCALE:	REVIEWED BY:		
AS 4971-132	1998	1:30,000	1:2,000	Wendy Weiss		





CLIENT:		HIGHPINE OIL & GAS Ltd. 13-14-041-28-W4				
LOCATION:						
PHOTO ID:	YEAR:	ORIGINAL SCALE:	APPROXIMATE EFFECTIVE SCALE:	REVIEWED BY:		
AS 5408-175	2007	1:40,000	1:1,000	Wendy Weiss		



Schedule 2 Site Visit Photographs



Photo 1: View looking north from well centre.



Photo 2: View looking east from well centre.

00/13-14-041-28W4/0

Operator:

HIGHPINE OIL & GAS LTD.

Reclamation Consultant:

S.N.L. Environmental Consulting Ltd.

Photo Date: August 28, 2007

Page: 1 of 2



Photo 3: View looking south from well centre.



Photo 4: View looking west from well centre.

Operator:

HIGHPINE OIL & GAS LTD.

00/13-14-041-28W4/0

Reclamation Consultant:

S.N.L. Environmental Consulting Ltd.

Photo Date: August 28, 2007

Page: 2 of 2

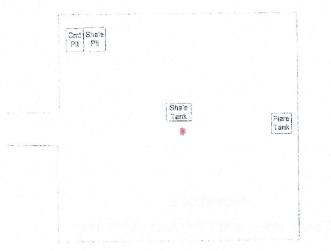


Schedule 2
Construction and Operation Sketches

### WELL SITE DIAGRAM LEASE DIAGRAM

Company: Well Name & Lucation: Highpine Oil And Gas Limited Highpine Morningside 13-14--1-28 W4M

NO





Schedule 2
Professional Declaration



### **Professional Declaration for Reclamation Certificate Applications**

1.	This Declaration is made in conjunction with an application for a reclamation certificate (the "Application") made by(Applicant)
	for the following land(s): (insert legal description).
2.	I am a practicing professional member of the
	which is a regulated professional organization (the "Professional Organization"). I have a minimum of five years verifiable experience in remediation or reclamation relevant to the Competencies Table contained in the Competencies for Remediation and Reclamation Advisory Committee's Recommendations Report (AENV 2006).
3.	As a member of the Professional Organization, I have the ability to sign off on work required for reclamation certificate applications as defined by Alberta Environment and am authorized by the Applicant to prepare and submit the attached report(s) or document(s), entitled (the "Professional Reports").
4.	To the best of my knowledge and the best of my professional ability, recognizing the standard of care expected of a reasonable professional doing this work, it is my professional opinion that all the information contained in the Professional Report(s) is accurate and complete, and contains all the relevant information for the purposes of this Application.
5.	The results reported in the Professional Report(s) are consistent with all current and applicable Provincial policy, criteria, standards and guidelines for the remediation or reclamation.
6.	The Professional Report(s), including all attachments, data and supplemental information, were prepared by me, or under my direct supervision, or was prepared by a third party(ies) and has been reviewed and accepted by me; and was prepared in accordance with an appropriate quality assurance/quality control system that ensured qualified personnel properly gathered and evaluated all the information contained in and underlying the Professional Reports. All the information submitted is, to the best of my knowledge, true, accurate and complete.
7.	I carry, or my employer (insert legal name of employer) carries professional liability insurance (errors and omissions). This insurance will be maintained for the specified liability period, subject to insurance availability.
8.	I am aware that it is an offence under section 227 of the <i>Environmental Protection</i> and <i>Enhancement Act</i> to provide false, misleading or inaccurate information and that there are significant fines for committing these offences, including the possibility of imprisonment. See below for the relevant sections.

Date: August 11, 2009
Signature:
Registration/Member number: 328 9
Stamp/Seal:
Section 227 of the Environmental Protection and Enhancement Act  Offences s. 227 A person who  (c) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information, provides false or misleading information pursuant to a requirement under this Act to provide information is guilty of an offence.
Penalties s. 228(1) A person who commits an offence referred to in section 60, 87, 108(1), 109(1) or 227(a), (d), (f) or (h) (c) in the case of an individual, to a fine or not more than \$100,000 or to imprisonment for a period of not more than 2 years or to (d) in the case of a corporation, to a fine of not more than \$1,000,000.
(2) A person who commits an offence referred to in section 61, 67, 75, 76, 79, 88, 108(2), 109(2) 110(1) or (2), 111, 112, 137, 148, 149, 155, 157, 163, 169, 170, 173, 176, 188, 191, 192, 209, 227(b), (c), (e), (g), or (i) or 251 is liable.
(c) in the case of an individual, to a fine or not more than 450,000, or in the case of a corporation, to a fine of not more than \$500,000.



Schedule 3
Guide 50 Notification Form or Equivalent

WF

### **Highpine Oil And Gas Limited**

Highpine Morningside 13-14-41-28 W4M

Surface Location:

13-14-41-28 W4M

Drilling Fluids Disposal Report / Gel Chem

September 25, 2005





### WELL RECAP AND SUMMARY

OPERATOR	Highpine Oil And Gas Limited
WELL NAME AND LOCATION	Highpine Morningside 13-14-41-28 W4M
CONTRACTOR	Kinnell
RIG NUMBER	
OPERATOR REPRESENTATIVE	Byron Christensen
CONTRACTOR TOOLPUSH	Steve Hann
ENVIRONMENTAL REPRESENTATIVE	Rick Jewers
SPUD DATE	September 25, 2005
SURPACE DRILL OUT DATE	September 27, 2005
DAYS TO TOTAL DEPTH	8
RIG RELEASE DATE	October 5, 2005
DAYS ON WELL.	11

HOLE SIZE	INTERVAL	CASING SIZE	DEPTH SET @
251 mm	0m to 363m	219.6 mm	363m
159 mm	363m to 1877m	139.7 mm	1877m

### USAGE

Hyperdrill	3	-	
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Alkapam		Kelzan XCD	A Control of the Cont
Barite	X	Lignite	X
Can Break	The second secon	Lime	
Hec 10		Prima / Maxi Seal	
Poleflak		Newxan	Y
Caustic Soda	X	SAPP	^_
Celloflake		Sawdust	
Defoamer		Soda Ash	X
Desco		Staflo	<del>-</del>
Detergent	X	Chem-Break EBS	
Drispac Reg.		K2	
Drispac SL	The second second	Starpak DP	
Envirofice'	No.	T 2001	

	WELL SUMMARY		
The state of the s	A Company of the control of the cont		4
WELL NAME Highpine Morningside 13-14-41-2	3 W4M		
Surface Location 13-14-41-28 W4M	Commence and the second	LICENSE 337338	
OPERATOR Highpine Oil And Gas Limned	The state of the s	AFE 30285-9310-349	
		RIG Kinnell	
production of the state of the			
DATE October 5, 2005			
TECHNICIAN Rick Jowers			
FASE INFORMATION	Program SCHOOLS (all to a lateral managers)	LEASE LAND DISP	DSITION
Lessor Tony and Thelma Kamlah		Crown	
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Spread Fee: \$ 1,000,00	Forest White	The state of the s	
The second secon	Special Areas	Access Ian Ross Phone 403-782-2686	
	The second secon	Prione 403-782-2686	
	Metis		
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Phone 780-706-5853			
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Phone #1403-852-3443			37.5
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VegTec Inc

Highpine Oil And Gas Limited
Highpine Morningside 13-14-41-28 W45

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ssigned Volumes		3(1	100	130	
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O4 may rate in m3 ha	890539 72	912111 86	395426,83	923584,91	the state of the s
04 max rate Final	20,00	20 00	20.00	20.00	
04 mg/kg in dried solids 04 mass in kg 04 mas rate in m3 ha 04 max rate Final 04 kg sprend ha	6,002	0.002	0.002	0 002	
		227830	12377.36	3400.00	
mg/kg in dried solids	80894 34	4,39	12377.36	30.07	
i mg/kg in dried solids I mass in kg I max rate in m3 ha	3071.09	2726.09	2007.16	1725.24	
i maa idie iii 015 iid	20.00	20.07	20'00	20.00	Landace and the service of assessment and
kg spread ha	2.60	2.03	3 98	4.63	
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a mass in kg	Alleron -	138	179	212.96 132.00	a reason during the first continuent and
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### Highpine Oil And Gas Limited Highpine Morningside 13-14-41-28 W4M

Yee Truck Co	Office Vaca and Service
Driver	Ivan Paulsen
Phone	(780) 706-5853

1 ANDOWNER Tony and Thehm Kuraluft ADDRESS RR#3, Site 3, Box 4, Lacombo, Ab., 15H 2N3 PHONE 403-782-4194

DATE	\$GADS	S OF COURTS TO	14KEN PROVI	SPREAD RATE	GOLE SECTION	PECTARES USEE
27-Sen-05	3	30	Pit & Tanks	17.33	hurthee	1.7
28-Sep-05		10	Pit & Tanks	17.33	- lix	2.3
29-Sep-05		69	Pit & Tanks	17.33	Yor	3.5
30-Sep-95	Y	40	Pit & Tanks	17.33	Mad	2.3
1-Oct-05	5	. 50	Ph & Tanks	17.33	Vijal	2.9
4-Cici-65		40	Pit & Tanks	17.33	Not	2.3
	10 7 Maria de 200 Vine Port					
						15.0

CONDITIONS	Dņ
LOTATION TIMES	Yes
CEMINTER	Yes
SHALE PH	Yes
SHALL SLGOP	Tank

TOTAL LAND USED INTECTORES 15.6

PRIVATE	X
PL SILIC	
CROWN	
GREEN	
WHITE.	

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SPRUAD DE D	ZW 13-11-28 E/421		Spibe - 12
AVAILABLE	15t Acres		n6 has



WELL NAME Highpine Morningside 13-14-41-28 W4M

GPERATOR Highpine Oil And Gas Limited

Surface Location 13-14-41-28 W4M

WATER LSD	SW 25-41-28 W4M	Sleugh	
CONTACT	lan Ross	103-782-2686	
HAULER,	Mai Investment	780-975-05	

Hanled Between:	9/25/2005	10/5/2005

SECTION	# LOADS	BARRELS	m3	USAGE
Surlace	5	502	80	Cmt / Mud / V/ash
Maio	7	703	112	Floc / Wesh
TD/CVT	Č-	603	1/6	Mud / Wash
	and the second s			
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		<del></del>		
		-		
		4		
TOTALS	288			
tigwash / Cement	28			

TRUCK CAPACITY IN 223	36
ins HAULED FOR CEMENT / RIG WASH	28
BORER	
Po Dedicated Holding Pit	
TOTAL VCIAMU SPRIVAD IN 107	204

WATER SOURCE ESD AND TYPE IE CREEN/DUGOCH EPC
SW 28-41-28 W4M
Sleegh
Water Diversion Permit 3: 00224243-08-600
File # SW-28-41-28 W4M



#### DRILLING WASTE MANAGEMENT Lease Report & LWD Notations

Company: Highpine Oil And Gas I indied

Well Licence #: 0337338

Well Name & Location: Highpine Morningside 13-14-41-28 W4V

 Surface / Pad Location:
 13-14-41-28 W4M

 Location of Spreadfield:
 NW 13-41-28 W4M

Condition of Lease: Dry Condition of Access: Dry

Total Volume LWD (m3:: 260 m3

Additional Comments: Cement Isolated in Pit

Orilled logged and ran plugs.

Analysis Conducted: During the Drilling of the Well.

Receiving Soils Analyzed Prior to Landspray Operations.

Water Table: Established in area by construction = 4m.
Cernent Pit: Cennent Sum3

Flare Pit: tank

Shale Ph: Took - Short Emptied

Drilling Waste Samples: Surface, Flore, Main Hole.

As par  $\mathbb{R}^*B: \operatorname{G-SO}(LWD)$ 

\*Note: All samples are composites

All volumes include consideration

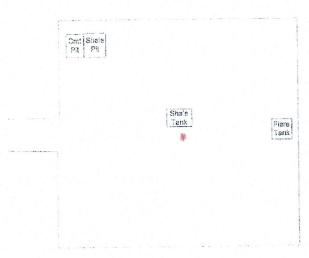
for partial loads.



### WELL SITE DIAGRAM LEASE DIAGRAM

Company: Well Name & Location: Highpine Oil And Gas Limited Highpine Morningside 13-14-41-28 W4M

NO

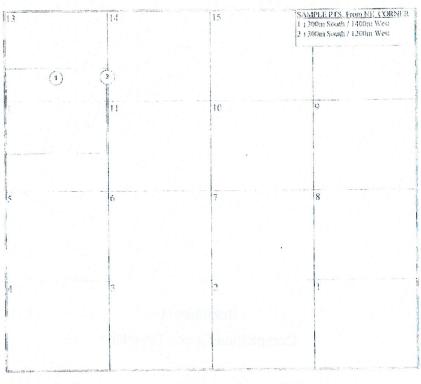






Highpine Oil And Gas Limited Highpine Morningside 13-14-41-28 W4M License 0337338

### Νû



andspra	y Location: 8 W4M	) capth of spica6 Width Adj. Estimate	375 to 400 to 15 0	
Soil Type	Sandy Alay		Hectares used	15.0
Soil Usage	Pasitive		Slope	1 to 1
S. Samples	2 set		Water Bodics	\vec{v}e
Mpc Type	Gel3 Iver		Volume Spread	260 m <sup>3</sup>

WITHIN					Section	Township	Range	Mendino
VE comer	250 m	South	1300 m	West	13	41	28	4
Wicomer	625 m	South	1600 m	West	13	41	28	4





Schedule 3
Compliance Option Checklist



Compliance Option 1 - Drilling Waste Disposal Assessment Checklist

If any response to the checklist questions leads to a Phase 2 ESA requirement, an environmental site assessment must be conducted in accordance with Compliance Option Three. If insufficient information is available to allow completion of the Compliance Option One checklist, Compliance Option Two or a Phase 2 ESA must be completed.

1. General Disposal and Drilling Fluid Information:

If some or all of the drilling waste was managed on-site (on the wellsite) or at a landtreatment area or a remote sump, then the checklist must be completed. In some cases, the drilling waste may have been managed at a remote sump/site that is not linked to the wellsite and as such a separate reclamation certificate may have been or need to be applied for at that separate location. If the remote sump or land treatment area is linked to the wellsite, proceed with the checklist for the remote sump or land treatment area. Where remote sumps are associated with multiple disposals managed in separate cells complete one checklist per disposal. Otherwise, complete one checklist by combining the information from all notification forms.

Section 1.0 to 1.3 must be completed for all disposals. The remaining sections do not need to be completed for wastes disposed of by the following methods:

- a) If drilling waste was managed at an EUB or AENV approved waste management facility, indicate this using the appropriate checkbox below and list the supporting documentation (e.g. waste manifests, truck tickets, invoices, Alberta Oilfield Waste Management Form) under Reference Documents.
- b) If the waste was disposed at an off-site location by landspraying or landspray-while-drilling (LWD) and the *Notification of Drilling Waste Disposal* form indicates the disposal method and location.

The notification form will indicate the type of drilling fluid system used. Water-based drilling fluids can be described in numerous ways for example; gel chem, floc water, fresh water gel, gypsum water, nitrate gypsum water, etc.

1.0 Well Information:	Unique Identifier (UI) Spud Date Well Depth	00/13-14-041-28 W4/0 September 25, 2005 1885 m
1.1 Disposal Method (CI	heck all that apply);	
On-site  Mix-bury-cover  Landspread  Land Treatment  Remote Site  Mix-bury-cover		Off-site  Landspray-while-drilling  Landspray  Pumpoff  Disposal on Licence of Occupation (Public Land only)
Landspread Land Treament		☐ Land Fill/Waste Management Facility
Other, specify: LV	WD on SW 25-41-28 W4M	



7.3 W	Yes	No
1.2 Was the well re-entered or another well drilled on the same site using fluids containing drilling fluid additives?		
If yes, were the disposal areas separate from one another?	Drilling waste information must be evaluated for each disposal	
If the disposal areas were not separate, is documentation available to show that a disposal plan was followed that was agreed to by the licensee and the regulator?	Disposal plan and confirmatory information must be retained on file and provided to Alberta Environment upon request.	Compliance Option Two or Three required
1.3 Were cuttings or solids disposed of on-site that were associated with off-site waste disposal by LWD or landspraying?		
If Yes, is separate analytical information or unique notification available?		
If separate information or notification is not available, is the known volume (include references in Reference Documents) or estimated volume of waste disposed of onsite less than 50 m <sup>3</sup> ?		Phase 2 required
If the volume of cuttings or solids disposed of on-site is unknown, estimate the volume using following calculation and enter the data and results at right:	Enter data below:  V <sub>C</sub> =(m) V <sub>T</sub> =(m)	
V <sub>C</sub> = V <sub>1</sub> - V <sub>OFF</sub> Where: V <sub>C</sub> = Volume of cuttings or solids on-site (m <sup>3</sup> )	V <sub>OFF</sub> =(m <sup>3</sup> ) WDm =(mm) WDp =(m)	
V <sub>OFF</sub> = Volume of cuttings or solids disposed of off-site (m³) V <sub>1</sub> = Total volume of cuttings or solids (m³) and:		
$V_1 = \left(\frac{WDm}{2000}\right)^2 \times 3.14 \times WDp \times 1.2$		
Where: WDm = Well diameter (mm) WDp = Well Depth (m)		
* If different hole sections have different diameters, V <sub>c</sub> may be calculated for each section separately. Provide the data and result for each section at right or as an attachment.		



	Yes	No
1.4 Were water-based drilling fluids used (gel chemical drilling fluid system)?		
If Yes, were all or part of the wastes disposed of on-site?		
1.5 Was the drilling fluid described as an advanced gel chemical system such as the following: potassium sulphate, potassium silicate, sodium silicate, or potassium formate?	П	
If Yes, were all or part of the wastes disposed of on-site?		
If wastes were disposed of on-site, was the disposal done in compliance with an approval from the EUB?	Approval and post- disposal sampling results must be retained on file and provided to Alberta Environment upon request.	Compliance Option Two or Three Required
<ul><li>1.6 Is a mud list available and can all the additives on the mud list be identified and described?</li><li>Record the additives and their description (e.g., chrome-free lignosulfonate, aldehyde-based bactericide, etc.) on the attached form.</li></ul>		Phase 2 required
1.7 For mix-bury-cover disposal, was calculated or measured post-disposal chloride concentration 800 mg/kg or less?		Phase 2 required
1.8 Was a remote site used?		
If, Yes, is the remote site included in this reclamation application?		
If not included, is the remote site a multi- well disposal location?	In Comments section, indicate which well the remote site will be linked with for the purposes of reclamation	Single well remote disposal site must be included with reclamation certificate application, unless it already has received a Reclamation Certificate.



# 2. Hydrocarbon & Toxicity Management

If hydrocarbon based drilling fluids were used (i.e. diesel inverts, synthetic or mineral oil systems) or hydrocarbons were added to the drilling fluid or the well is an horizontal oil well then it must be demonstrated that the resulting drilling waste was handled appropriately as per *Directive 50* or *Directive 58*. In most cases, if hydrocarbons were added to the system or if the well was a horizontal oil well it is still possible to dispose of the resulting drilling waste on the location and remain within allowable disposal limits but hydrocarbon testing and toxicity testing must have been conducted and documented on the notification form.

	Yes	No
2.1 Were hydrocarbon-based drilling fluids used or were hydrocarbons added to the drilling fluid or was the well a horizontal oil well?		
If Yes, is documentation available showing that the wastes were disposed of in a manner consistent with <i>Directive 50</i> (1996) or <i>Directive 58</i> ?		Phase 2 required
2.2 If hydrocarbon was present, is the predicted post-disposal hydrocarbon concentration at or below the appropriate guideline? (subsoil: 0.1%, topsoil: 0.5%)?		Phase 2 required
2.3 Was a Microtox test required as indicated on the disposal notification form?	L	
If Yes, did the waste pass the Microtox requirements as outlined in <i>Directive 50</i> (waste must pass either the original or charcoal Microtox)?		
If the waste failed the Microtox test (i.e., Microtox EC50 (15) original and Microtox EC50 (15) charcoal treated, reading at 15 minutes < 75%) is there evidence that demonstrates the waste was treated to remove toxicity and retested or disposed of as per <i>Directive 58</i> (i.e., appropriately approved waste management facility)?		Phase 2 required



3. Metals (Trace Elements) Management

Some drilling fluids contain trace metals and other toxic compounds. Metal-containing additives that have been or are being used include barite (BaSO<sub>4</sub>), zinc carbonate (ZnCO<sub>3</sub>), and chrome-based thinners. If these additives were used, the attached calculation tables must be completed and the results used to determine if a Phase 2 ESA is required.

	Yes	No		
3.1 Was barite added to the drilling fluid?	$\boxtimes$			
If Yes, did it meet the requirements specified in the attached metal calculation table?	Show calculation on attached form	Phase 2 required		
3.2 Was zinc carbonate added to the drilling fluid?				
If Yes, did it meet the requirements specified in the attached metal calculation table?	Show calculation on attached form	Phase 2 required (Cadmium analysi will also be		
3.3 Were chrome-based thinners added to the drilling fluid?		required.)		
If Yes, did it meet the requirements specified in the attached metal calculation table?	Show calculation on attached form	Phase 2 required		
.4 Were any other metals added that triggered testing required by Section 3 or 5 of <i>Directive 50</i> ?	П			
If Yes, are waste analytical data and application rates (land treatment, landspreading) or maximum application (mix-bury-cover) available?		Phase 2 required		
If above data are available, did the application rate or maximum application meet <i>Directive 50</i> requirements?		Phase 2 required		



Mud Additives (Attach additional pages if necessary.)

Product Name	Amount Used (units)	Brief Description of Product
Drilling Detergent	7 pails	Surfactant
Bentonite	201 sacks	Clay mineral mud-viscosity control
Calcium Nitrate	38 sacks	Source of calcium-flocculant
Hyper-drill	15 sacks	Shale control inhibitor
Soda Ash	6 sacks	Sodium Carbonate-corrosion inhibitor dispersant
Caustic Soda	7 sacks	NaOH-alkalinity pH control
Humalite	4 sacks	Thinner, dispersant
Staflo	5 sacks	Filtrate reducer
Lignite	1 sacks	CMC polymer-contribute to viscosity, shale inhibitor
Poly-Xan	1 sacks	Viscosifier
Barite	20 sacks	Weighing material
Desco	20 sacks	Chrome based deflocculant

Reference Documents (List all source documents used in the completion of this checklist. Attach additional pages if necessary. Documents must be supplied to Alberta Environment, if requested.)

Tour Reports for 13-14-41-28 W5 from September 24 to October 5, 2005
CAPP mud lsit
Veg Tech Inc. Well Cap and Summary Report
Veg Tech Inc. Drilling Waste Management Lease Report and LWD Notification
www.abadadatagraphics.com EUB well file
Drilling Fluid Disposal Report

Comments (Please provide any additional comments relevant to the decision process within the checklist. Attach additional pages if necessary.)

Hydrocarbons and zinc carbonate were not added to the mud system. Chrome based thinners had been utilized during drilling and the number of sacks per meter of well depth, (0.00016) are less than the checklist requirement (0.02). Barite had been utilized during drilling and the number of sacks per meter of well depth, (0.0035) is less than the checklist requirement (0.070).

A Phase II ESA is not required for the Site according to the DWD



# VESTA ENERGY LTD.

Schedule 3
Compliance Option Calculations



### Metal Calculations for Compliance Options One and Two

Note:

Different default mix ratios are provided depending on whether the well was drilled before or after October 22, 1996. The current *Guide 50*, *Drilling Waste Management*, which was issued by the Energy and Utilities Board on this date, increased the minimum mix ratio requirement from 1:1 to 3:1.

### Barite:

Directions: Fill in the number of sacks and adjust for sack weight if different than 40 kg. Enter the Well Depth in metres. The spreadsheet will calculate the number of sacks per metre. This value must be less than or equal to **0.070**. If the value exceeds the objective, a Phase 2 ESA must be conducted.

Total Number of Sacks (40 kg/sack*)		Well Depth (m)		Mix Ratio**		Sacks per Metre
20	+	1885	÷	3	=	0.003537

<sup>\*</sup> Sack weight may be adjusted by dividing the number of sacks by 40 and multiplying by the actual sack weight in kilograms. This value should be entered as the number of sacks

### Zinc Carbonate:

Alternative 1:

If waste zinc, mix ratio and waste dry bulk density data are available use the following calculator to estimate post-disposal zinc concentration.

Directions: Enter the total zinc concentration in mg/kg measured in the waste, the Waste Dry Bulk Density in kg/m³, and Mix Ratio in the appropriate cells. The spreadsheet will calculate the post-diposal zinc concentration. This value must be less than or equal to **200 mg/kg**. If the value exceeds this objective, a Phase 2 ESA must be conducted.

Waste Zinc Concentration (mg/kg)		Waste Dry Bulk Density* (kg/m³)		IMIX Ratio**!		Post-Disposal Zn Concentration (mg/kg)				
	Х		÷		÷	1500	+	70	=	#DIV/0!

<sup>\*</sup> Waste Dry Bulk Density = (Waste Specific Gravity - 1) x 1600

### Alternative 2:

If the above data is not available use the following equation to calculate the number of sacks of zinc carbonate added per meter drilled.

Directions: Fill in the number of sacks and adjust for sack weight if different than 25 kg. Enter the Well Depth in metres. The spreadsheet will calculate the number of sacks per metre. This value must be less than or equal to **0.00650**. If the value exceeds the objective, a Phase 2 ESA must be conducted.

Total Number of	Well Depth (m)			Sacks per
Sacks (25 kg/sack*)	AND TENNEY CONTROL	Mix Ratio**		Metre
	÷   -		=	#DIV/0!

<sup>\*</sup> Sack weight may be adjusted by dividing the number of sacks by 25 and multiplying by the actual sack weight in kilograms. This value should be entered as the number of sacks.

	=	Required	Field
--	---	----------	-------

<sup>\*\*</sup> Enter the number of parts of soil mixed with one part of waste. For example, for a 3:1 mix ratio (3 parts soil to 1 part waste) enter "3". If this value is not known, enter 1 for wells drilled before October 22 1996, or 3 for wells drilled on or after this date.

<sup>\*\*</sup> Enter the number of parts of soil mixed with one part of waste. For example, for a 3:1 mix ratio (3 parts soil to 1 part waste) enter "3". If this value is not known, enter 1 for wells drilled before October 22 1996, or 3 for wells drilled on or after this date.

<sup>\*\*</sup> Enter the number of parts of soil mixed with one part of waste. For example, for a 3:1 mix ratio (3 parts soil to 1 part waste) enter "3". If this value is not known, enter 1 for wells drilled before October 22 1996, or 3 for wells drilled on or after this date.



### Chromium-based Thinner:

### Alternative 1:

If waste chromium, mix ratio and waste bulk density data are available use the following calculator to estimate post-disposal chromium concentration.

Directions: Enter the Total Chromium Concentration in mg/kg measured in the waste, the Waste Dry Bulk Density in kg/m3, and Mix Ratio in the appropriate cells. The spreadsheet will calculate the Post-Disposal Chromium Concentration. If this value is greater than 64 mg/kg, a Phase 2 ESA is required.

Waste Chromium Concentration (mg/kg)		Waste Dry Bulk Density* (kg/m³)		Mix Ratio						Post-Disposal Cr Concentration (mg/kg)
* W	X		÷		÷	1500	+	30	=	#DIV/0!

<sup>\*</sup> Waste Dry Bulk Density = (Waste Specific Gravity - 1) x 1600

### Alternative 2:

If the above data is not available use the following equation to calculate the number of sacks of chrome thinner added per meter drilled. If the number of sacks exceeds the limits below, a Phase 2 is required.

Directions: Fill in the number of sacks and adjust for sack weight if different than 25 kg. Enter the Well Depth in metres. The spreadsheet will calculate the number of sacks per metre. This value must be less than or equal to **0.020**. If the value exceeds the objective, a Phase 2 ESA must be conducted.

Total Number of Sacks (25 kg/sack*)		Well Depth (m)		Mix Ratio**	19	Sacks per Metre
9.08	•	1885	•	3	_	0.001606

<sup>\*</sup> Sack weight may be adjusted by dividing the number of sacks by 25 and multiplying by the actual sack weight in kilograms. This value should be entered as the number of sacks.

= Required Field

<sup>\*\*</sup> Enter the number of parts of soil mixed with one part of waste. For example, for a 3:1 mix ratio (3 parts soil to 1 part waste) enter "3". If this value is not known, enter 1 for wells drilled before October 22 1996, or 3 for wells drilled on or after this date.

<sup>\*\*</sup> Enter the number of parts of soil mixed with one part of waste. For example, for a 3:1 mix ratio (3 parts soil to 1 part waste) enter "3". If this value is not known, enter 1 for wells drilled before October 22 1996, or 3 for wells drilled on or after this date.



# VESTA ENERGY LTD.

Schedule 3
Professional Declaration



## **Professional Declaration for Reclamation Certificate Applications**

1.	This Declaration is made in conjunction with an application for a reclamation certificate (the "Application") made by
2.	I am a practicing professional member of the, which is a regulated professional organization (the "Professional Organization"). I have a minimum of five years verifiable experience in remediation or reclamation relevant to the Competencies Table contained in the Competencies for Remediation and Reclamation Advisory Committee's Recommendations Report (AENV 2006).
3.	As a member of the Professional Organization, I have the ability to sign off on work required for reclamation certificate applications as defined by Alberta Environment and am authorized by the Applicant to prepare and submit the attached report(s) or document(s), entitled (the "Professional Reports").
4.	To the best of my knowledge and the best of my professional ability, recognizing the standard of care expected of a reasonable professional doing this work, it is my professional opinion that all the information contained in the Professional Report(s) is accurate and complete, and contains all the relevant information for the purposes of this Application.
5.	The results reported in the Professional Report(s) are consistent with all current and applicable Provincial policy, criteria, standards and guidelines for the remediation or reclamation.
6.	The Professional Report(s), including all attachments, data and supplemental information, were prepared by me, or under my direct supervision, or was prepared by a third party(ies) and has been reviewed and accepted by me; and was prepared in accordance with an appropriate quality assurance/quality control system that ensured qualified personnel properly gathered and evaluated all the information contained in and underlying the Professional Reports. All the information submitted is, to the best of my knowledge, true, accurate and complete.
7.	I carry, or my employer (insert legal name of employer) carries professional liability insurance (errors and omissions). This insurance will be maintained for the specified liability period, subject to insurance availability.
8.	I am aware that it is an offence under section 227 of the <i>Environmental Protection</i> and <i>Enhancement Act</i> to provide false, misleading or inaccurate information and that there are significant fines for committing these offences, including the possibility of

imprisonment. See below for the relevant sections.

	Date: Angust 11,2009
	Signature:
	OR
	Stamp/Seal:
	Stamp/Seat.
	The state of the s
	SPINI-FOR CAL
	Section 227 of the Environmental Protection and Enhancement Act
	Offences s. 227 A person who
	(c) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information,
	(c) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information  (d) provides false or misleading information pursuant to a requirement under this Act to provide information
	3289
	is guilty of an offence.
	Penalties s. 228(1) A person who commits an offence referred to in section 60, 87, 108(1), 109(1) or 227(a), (d), (f) or (h)
۱	is liable to (c) in the case of an individual, to a fine or not more than \$100,000 or to imprisonment for a period of not more than 2 years or to
۱	both fine and imprisonment, or
	(d) in the case of a corporation, to a fine of not more than \$1,000,000.
	(2) A person who commits an offence referred to in section 61, 67, 75, 76, 79, 88, 108(2), 109(2) 110(1) or (2), 111, 112, 137, 148, 149, 155, 157, 163, 169, 170, 173, 176, 188, 191, 192, 209, 227(b), (c), (e), (g), or (i) or 251 is liable.
	(c) in the case of an individual, to a fine or not more than 450,000, or
	(d) in the case of a corporation, to a fine of not more than \$500,000.

# VESTA ENERGY LTD.

# Schedule 4

Limited Phase 2 Environmental Site Assessment



Daylight Energy Ltd. Sun Life Plaza, West Tower Suite 2100, 144 - 4th Avenue SW Calgary, Alberta T2P 3N4

Attention: Jeff Wilton, B.Sc.

Manager, Construction & Environment

Dear Mr. Wilton:

Re: 13-14-41-28W4M – Potential Cement Pit Search

SNL Environmental Consulting Ltd. (S.N.L) was retained by Daylight Energy Ltd. (Daylight) to conduct an intrusive investigation in order to ensure that 1 meter of sufficient cover is located over the potential cement pit area at the above referenced site (the "Site"). The investigation on the Site was conducted on September 18<sup>th</sup> 2009. This letter report documents the methods and findings of the intrusive investigation activities conducted to date by S.N.L. with the primary objective of locating the physical presence of the potential cement pit area.

Six boreholes (S09-01 through S09-06) were advanced at the Site (Appendix IV). One borehole (S09-C01) was advanced within the southwest portion of the Site to represent background soil condition. Two boreholes (S09-01 and S09-02) were advanced in the vicinity of well center. Soil samples were collected for detailed salinity, metals, hydrocarbon and soil grain size analysis. All analyzed parameters were below their respective regulatory guidelines (Alberta 2007a. Alberta Tier 1 Soil and Groundwater Remediation Environment. Guidelines) are outlined in Appendix III. Headspace field screening on the collected samples detected OVA hydrocarbon readings less then 100ppm; consequently, only one sample (the sample with the highest OVA reading) was selected for Alberta Tier 1 hydrocarbons. Three boreholes were advanced northwest of well center and one borehole was advanced east of well center as probable locations of a potential cement pit area (Appendix IV). The soil profiles of boreholes S09-03 through S09-06 were consistent with the background boreholes soil profile; consequently, no samples were collected for laboratory analysis. All collected samples were submitted to Access Analytical

CONSTRUCTION + SITE NECESTANTION + WITE REMEDIATION

Laboratories Inc. located in Calgary, Alberta for analyses.

Based on the results of the potential cement pit investigation, it can be inferred that no cement pit could be identified on the Site. Additionally, the results for all collected and analyzed parameters were determined to be below their respective regulatory guidelines.

Attached are the appendixes.

We trust this meets your current requirements. Should you have any questions or concerns please call the undersigned at 403.597.0804 or Lorne Bates at 403.352.1856.

Respectfully submitted,

S.N.L Environmental Consulting Ltd.

Jule Junsu

Nicole Johnson, B.App.Sc.

**Environmental Consultant** 

Reviewed By:

Dr. Roger Saint Fort, P.Ag. Environmental Scientist

Attachments:

Appendix I: Soil Assessment Methods

Appendix II: Soil Borehole Logs

Appendix III: Tables & Laboratory Data Report

Appendix IV: Site Sketch & Site Photos

# APPENDIX I SOIL ASSESSMENT METHODS

### APPENDIX I: SOIL ASSESSMENT METHODS

All boreholes were advanced using a truck or track-mounted auger system. The solid stem augers used for sampling were six inches in diameter. The following sampling methodology was utilized for all soil sampling:

- Ensure all ground disturbance codes of practice have been adhered to;
- inspect drill rig augers for cleanliness and in good condition;
- drill rig operator is instructed were to begin drilling by site supervisor or designate;
- prior to obtaining a soil sample, sterile Nitrile/Latex gloves are donned;
- visual observations made regarding soil type/texture, structure, moisture content (depth to water table), etc. and logged in supervisors log book;
- discreet sample intervals identified on the drill auger i.e.) 0.5-0.75 m below ground surface;
- identified soil samples removed from auger using stainless steel soil knife and placed directly into laboratory provided zero headspace/Teflon lined (lid) jars for hydrocarbon samples and directly into laboratory supplied soil bags for organic vapour analysis (OVA), salinity and or total metals analyses;
- hydrocarbon sample jars placed directly on ice in cooler to preserve sample integrity;
- OVA sample bags placed in warm {(i.e.) truck} environment to ensure hydrocarbon volatilization and equalization;
- ensure OVA instrument has been recently calibrated and should be calibrated at the beginning of each work day or new site location;
- ensure methane response mode is disengaged on OVA instrument;
- place OVA probe in soil bag and wait until concentration has stabilized, record measurement in log book;
- sample bags packed on ice prior to shipment to certified laboratory fro analyses;
- once the soil auger has been logged and the samples removed, instruction to advance the borehole may be given to the drill operator from the supervisor;
- an effort is made to ensure vertical delineation of impacts while drilling i.e.) obtain a clean sample at the bottom of the drill depth for each borehole; and
- once the borehole is completed, instruction is given by the supervisor to backfill the borehole, bentonite chips are used to backfill each borehole.

APPENDIX II SOIL BOREHOLE LOGS

CLIENT	HIGHPINE		Project #:	13-14-41-2	8 W4M	BOREHO ELEVAT		S09-01		
PR⊜IECT	Assessment at 13-	.14-41-28 W4M				DATUM	: CASING:	n/a n/a		
i KOJEC I	voorooniciii at 13-	17-41-70 AA-41A1				-	CASING: RING PT:	n/a n/a		
BOREHO	LE LOCATION	N 52.53446° W 113.93725°				ļ	MBIO	2 001 mon mar	TO.	
DRILLER	RGit R Down Drilli	ng	DATE DRILLED	Septemb	er 18 2009		AND	R COMPONENT 35%-50%	<u>18</u>	
							Y	20%-35%		
DRILLIN	G SUPERVISED B	Nicole Johnson				4	SOME TRACE	10%-20% 1%-10%		
DRILLIN	G METHOD	4 inch solid stem auger				Well S		Sample type		
						Well S Water Elev.		SS - Split Spoo WA - Wash Sa		nple
MONITO	RING WELL DAT	A					nonth/day	AU - Auger Sa		
	-PIPE:	n/a					onitor screen r reading	CN - Continuo	us Sar	npler
	-SCREEN: -OTHER:	n/a n/a				year/m	onth/day	RX - Rock Co GS - Grab San		
						1		SAMPLE		
DEPTH (m)	Soil I	Description	Start Plot	Depth	Scale	Monitori	ng Details		TYPE	FE VOE
7				(fi)	(m)	EC (dS/m)	OVA (ppm)	₽	Ţ	SAMPLE
0.0-0.45		black, friable, moderate moisture, e fragments, admixed organic odor,		-			35	S09-01 (0.0-0.2 m)	AU	BAG/JAR
	no HC's.	e nagments, admixed organic odor,		-1						
0.45-1.5		n-grey, admixed with some clay,		_2	- 0.5					
	moderate moistu HC's.	re, very friable, Fe streaks, no		-						
	110 3.			_3	_1.0					
				<b>f</b> .			10	S09-01 (1.3-1.5 m)	AU	BAG/JAR
				[ *			'*	250 0 1 (1.0-1.0 111)		
1.5-3.0		t brown, common sand pockets, ecks, rocks, moist, friable,		- 5	- 1.5					
	native/undisturbe			<b>}</b> ,						
				-6	2.0					
				-7			0	S09-01 (2.0-2.2 m)	AU	BAG/JAR
				-8						
					2,5					
				-9						
	End of borehole at	3.0 m. Backfilled with cuttings		- 10	3.0					
				-						
				L11	- 3.5					
				12	د.د					
				<b>F</b> "						
				- 13	4.0					
				14						
				F	<b>L</b>					
				_ 15	4.5					
				_ _ 16						
				-	- 5.0					
				<b>–</b> 17						
	1			_18	- 5.5					
	1			<b>!</b>						
				- 19	6.0					
				_ 20	0.0					
				- _ 21						
				F "	- 6.5					
				_ 22		1				
	<u>.</u>			<u> </u>	7.0					
PREPARED	BY.	Nicole Johnson	CHECKED BY:	Lome Bates			DATE PREPAR	DED:		February

CLIENT	HIGHPINE	Project #:	13-14-41-28	3 W4M	BOREHO		S09-02		
			11 20		DATUM:		n/a		
PROJECT	Assessment at 13-14-41-28 W4M			· · · · · · · · · · · · · · · · · · ·	TOP OF OMEASUR		n/a n/a		
BOREHO	LE LOCATION N 52.53443° W 113.93724°							_	
DDII I ED	Git R Down Drilling	DATE DRILLED	Sentembe	er 18 2009		<u>MINOF</u> AND	COMPONENT 35%-50%	<u>'S</u>	
DRILLER	Git K Down Dillining	- DATE DRIEEED	Septemo	1 10 2007	1	Y	20%-35%		
DRILLIN	G SUPER VISED B'Nicole Johnson				_	SOME TRACE	10%-20% 1%-10%		
DRILLIN	G METHOD 4 inch solid stem auger				Well S		Sample type		
					Water Elev. r	level	SS - Split Spoo		ple
MONITO	RING WELL DATA					n onth/day	WA - Wash Sa AU - Auger Sa		
	-PIPE: n/a					nitor screen	CN - Continuo		pler
	-SCREEN: n/a -OTHER: n/a				year/me		RX - Rock Cor GS - Grab Sam		
							SAMPLE		
DEPTH (m)	Soil Description	Start Plot	Depth	Scale	Monitoria	ng Details	_ ₽	TYPE	SAMPLE
			(ft)	(m)	EC (dS/m)	OVA (ppm)		Т	SAM
0.0-0.5	Loam, dark brown-black, friable, moderate moisture, lots of roots, coarse fragments, admixed organic odor		-			35	S09-02 (0.0-0.2 m)	AU	BAG/JAR
l	no HC's.	1	- 1						
	Transition zone, rocks present		_2	. 0,5					
0.7-1.5	Silty clay, light brown-grey, admixed with some sand, large silt pockets, friable, moderate		-						
	moisture, coarse fragments, no HC's.		_3	-1.0	1				
			_4			15	S09-02 (1.3-1.5 m)	AU	BAG/JAR
1530	Sandy Clay, light brown, common sand pockets,		-	- 1,5					
1.0-0.0	coal flecks, Fe flecks, rocks, moist, friable,		-5	1,5					
	native/undisturbed, no HC's.		_6						
1			<b>-</b>	2,0		0	S09-02 (2.0-2.2 m)	AU	BAG/JAR
			-7				, ,		
			-8	2.5					
			_,		ı				
	End of household at 0.0 on Dealette durith authors		F						
	End of borehole at 3.0 m. Backfilled with cuttings		- 10	3.0					
			_11						
			-	- 3.5				Ì	
			- 12						
			_13	_ 4.0					
			<b>F</b> .,						
			- 14		1				
			_ 15	4.5					
			16						
			<b> </b>	- 5.0					
			-17						
			_ 18	- 5,5					
			-19						
			-	6.0					
			- 20						
			21	6.5					
				""		!			
			F **	7.0	1				
PREPARED	BY: Nicole Johnson	CHECKED BY:	Lorne Bates			DATE PREPA	RED:	<u> </u>	February

CLIENT	HIGHPINE		Project #:	13-14-41-28	R W4M	BOREHO ELEVAT		S09-03		
		·-· · · · · · · · · · · · · · · · · · ·		15 11 11 20	<i>y</i> 1111	DATUM:		n/a		
PROJECT	Assessment at 13-14	-41-28 W4M				TOP OF (	CASING:	n/a		
						MEASUF	RING PT:	n/a		
BOREHO	LE LOCATION 1	N 52.53448° W 113.93645°								
DBILLED	Git R Down Drilling		DATE DRUITED	Cantanala	10 2000			COMPONENT	<u> </u>	
DRILLER	Gil K Down Drilling		DATE DRILLED	Septembe	er 18 2009	1	AND Y	35%-50% 20%-35%		
DRILLIN	G SUPERVISED BY	Jicole Johnson					SOME	10%-20%		
Brazzir	O DOI ER VIOLE D	vicolo Johnson				i	TRACE	1%-10%		
DRILLIN	G METHOD	4 inch solid stem auger				Well S		Sample type		
	_			· · · · · · · · · · · · · · · · · · ·		Water	level	SS - Split Spoo	n Sam	ple
						Elev.		WA - Wash Sa		
MONITO:	RING WELL DATA					l	ionth/day	AU - Auger Sa		
	-PIPE:	n/a					nitor screen reading	CN - Continuo		npler
	-SCREEN: -OTHER:	n/a n/a	··			year/mo		RX - Rock Cor		
	-OTTIEK.	104				<u> </u>		GS - Grab Sam	pie	
DEPTH	2 11 2							SAMPLE		l
(m)	Soil De	scription	Start Plot	Depth	Scale	Monitorii	ng Details	] ₽	TYPE	SAMPLE STORAGE
				(ft)	(m)	EC (dS/m)	OVA (ppin)	-	1	STO STO
0.0-0.4		ick, friable, moderate moisture,								
i	lots of roots, coarse f no HC's.	ragments, admixed organic odor,		- 1						
				-	0.5					
0.4-2.2		vn-grey, admixed with some		_2						
	moisture, coarse fra	kets, friable, moderate		-						
	inoisture, coarse na	agments, no no s.		_3	1.0					
				-	Γ					
				_4						
				ļ						
				_5	- 1.5					
				-						
				-6						
22-30	Sandy Clay light b	rown, common sand pockets,		ŀ	_ 2.0			S09-02 (2.0-2.2 m)	AU	BAG/JAR
		ks, rocks, moist, friable,		-7				309-02 (2:0-2:2 m)	10	BAGIJAR
	native/undisturbed,			١.						
				-8	2.5					
				_9						
	End of borehole at 3.	0 m. Backfilled with cuttings		_ 10	- 3,0					
				-						
				_ 11						
				ļ.	- 3.5					
				_ 12						
				-						
				13	4.0					
				<b>-</b>						
				- 14						
				15	4.5					
				["						
				16						
				<u> </u>	5.0					
				L 17						
1				}						
1				- 18	- 5.5					
I				<b>.</b>						
I				<del>-</del> 19						
1				20	- 6.0					
1				<u> </u>						
1				21						
1				ŀ	- 6.5					
1				_ 22						
1				<b>-</b>	7.0			1		
PREPARED	BY:	Nicole Johnson	CHECKED BY:	Lorne Bates		<u> </u>	DATE PREPAR	RED:	L	February

CLIENT	HIGHPINE	Project #:	13-14-41-28	W4M	BOREHO ELEVATI		S09-04		
		. •			DATUM:		n/a		
PROJECT	Assessment at 13-14-41-28 W4M				TOP OF C		n/a n/a		
BOREHO	LE LOCATION N 52.53481° W 113.93785°				MEASUR	<b>VO</b> F 1,	ı ı a		
							COMPONENT	<u>S</u>	
DRILLER	Git R Down Drilling	DATE DRILLED	Septembe	r 18 2009	4		35%-50% 20%-35%		
DRILLIN	G SUPERVISED B'Nicole Johnson						10%-20%		
					_	TRACE	1%-10%		
DRILLIN	G METHOD 4 inch solid stem auger				Well So Water		Sample type SS - Split Spoor	n Sam	nle
					Elev. n	n	WA - Wash Sar		pic
MONITO	RING WELL DATA				max	ontl/day	AU - Auger Sar	nple	
	-PIPE: n/a -SCREEN: n/a	<u> </u>	_		Vapour		CN - Continuou RX - Rock Core		pler
	-SCREEN: n/a -OTHER: n/a				year/mo		GS - Grab Sam		
							SAMPLE		
DEPTH (m)	Soil Description	Start Plot	Depth	Scale	Monitorin	g Details	Ð	TYPE	AGE
(att)	•		(fi)	(m)	EC (dS/m)	OVA (ppm)	"	Ţ	SAMPLE
0.0-0.5	Loam, dark brown-black, friable, moderate moisture,				1 1				
	lots of roots, coarse fragments, admixed organic odor, no HC's.		- 1						
0.5-0.8	CL, grey, friable, moderate moisture, white		<b>ŀ</b> .	0.5	1 1				
	percipitates, no HC's.		<b>-</b> ²						
0.8-1.5	Clay - sandy clay, light brown-grey, friable, moist,		_3	_ 1.0					
	coarse fragments, plastic, native/undisturbed, no HC's.	1	}						
			-4						
	End of borehole at 1.5 m. Backfilled with cuttings		- -5	- 1.5					
			ļ						
			-6						
			7	<b></b> 2.0					
			ļ ·						
			-8	2.5					
		[	_,						
			Ę´						
			10	- 3.0					
			<b>!</b> ,,		1				
			<b>-</b> "	- 3.5					
			_ 12						
			<u> </u>						
			- 13	4.0					
			_14						
1			-	- 4.5			-		
1			- 15	1					
l			16						
1			-	5.0					
			- 17						
			18	- 5.5					
			-						
			<b>-</b> 19						
			_ 20	6,0					
l			-					-	
1			_ 21	- 6.5					
			_ 22						
			-	7.0					
PREPARED	BY: Nicole Johnson	CHECKED BY:	Lome Bates		1	DATE PREPA	RED:		February

MEASURING PT:   n/a
MASURING FT:   Inval
DRILLER Git R Down Drilling
DATE DRILLENG SUPERVISED BY Nicole Johnson
DRILLING SUPERVISED B\$\frac{\text{Nicole Johnson}}{\text{TRACE}}\$  DRILLING METHOD  4 inch solid stem auger    MONITORING WELL DATA
DRILLING SUPERVISED B\ Nicole Johnson  DRILLING METHOD  4 inch solid stem auger  MONITORING WELL DATA -PIPE:
DRILLING METHOD  4 inch solid stem auger    Sample type   Sapple type   Sapple type   Sample   Sample type   Sampl
DRILLING METHOD  4 inch solid stem auger  MONITORING WELL DATAPIPE:SCREEN:DTHER:D
MONITORING WELL DATA -PIPE: N/a -SCREEN: N/a -OTHER: N/a  Soil Description Soil Description Source for more received by each month due to the following decision of the follow
MONITORING WELL DATA   PIPPE   1/3
-PIPE: n/a -SCREN: n/a -OTHER: n/a -OTHER: n/a  -OTHER: n
-OTHER: nya Soil Description Start Plot Depth Scale Monitoring Details  O.0-0.5 Loam, dark brown-black, friable, moderate moisture, lots of roots, coarse fragments, admixed organic odor, no HC's.  O.5-0.8 CL, grey, friable, moderate moisture, white percipitates, no HC's.  O.8-1.5 Clay - sandy clay, light brown-grey, friable, moist, coarse fragments, plastic, native/undisturbed, no HC's.  End of borehole at 1.5 m. Backfilled with cuttings  -5 - 1.58 - 2.0 - 7 - 8 - 2.0 - 7 - 8 - 2.5 - 9 - 10 - 3.0 - 11 - 3.5 - 12 - 13 - 4.0 - 14 - 15 - 4.5 - 16 - 16
DEPTH (no)   Soil Description   Start Plot   Depth Scale   Monitoring Details   Q   E   Sample
Soil Description   Start Plot   Depth Scale   Monitoring Details   Q   P
0.0-0.5 Loam, dark brown-black, friable, moderate moisture, lots of roots, coarse fragments, admixed organic odor, no HC/s.  0.5-0.8 CL, grey, friable, moderate moisture, white percipitates, no HC/s.  0.8-1.5 Clay - Sandy clay, light brown-grey, friable, moist, coarse fragments, plastic, native/undisturbed, no HC/s.  End of borehole at 1.5 m. Backfilled with cuttings  5 1.5  6 -2.0  7 -8  2.5  9 -10  1.3 -4.0  -14  -15 4.5  -16
0.0-0.5 Loam, dark brown-black, friable, moderate moisture, lots of roots, coarse fragments, admixed organic odor, no HC's.  0.5-0.8 CL, grey, friable, moderate moisture, white percipitates, no HC's.  0.8-1.5 Clay - sandy clay, light brown-grey, friable, moist, coarse fragments, plastic, native/undisturbed, no HC's.  End of borehole at 1.5 m. Backfilled with cuttings  5 1.5  6 2.0  7 2.0  7 8 2.5  9 10 3.5  11 3.5  12 13 4.0  14 15 4.5
lots of roots, coarse fragments, admixed organic odor, no HC's.  0.5-0.8 CL, grey, friable, moderate moisture, white percipitates, no HC's.  0.8-1.5 Clay - sandy clay, light brown-grey, friable, moist, coarse fragments, plastic, native/undisturbed, no HC's.  End of borehole at 1.5 m. Backfilled with cuttings  -5 - 1.5  -6 - 2.0  -7 - 8 - 2.5  -9 - 10 - 3.0  -11 - 3.5  -12 - 13 - 4.0  -14 - 15 - 4.5  -16
1.5
D.S. D.C., grey, inable, mosture, while percipitates, no HC's.  D.S. 1.5 Clay - sandy clay, light brown-grey, friable, moist, coarse fragments, plastic, native/undisturbed, no HC's.  End of borehole at 1.5 m. Backfilled with cuttings  End of borehole at 1.5 m. Backfilled with cuttings  -5 - 1.5  -6 -7 -8 - 2.5 -9 -10 - 3.0 -11 - 3.5 -12 - 13 - 4.0 - 14 - 15 - 4.5 - 16
0.8-1.5 Clay - sandy clay, light brown-grey, friable, moist, coarse fragments, plastic, native/undisturbed, no HC's.  End of borehole at 1.5 m. Backfilled with cuttings
coarse fragments, plastic, native/undisturbed, no HC's.  End of borehole at 1.5 m. Backfilled with cuttings
End of borehole at 1.5 m. Backfilled with cuttings  -4 -5 -1.5 -6 -7 -8 -2.5 -9 -10 -3.5 -11 -12 -13 -4.0 -14 -15 -16
End of borehole at 1.5 m. Backfilled with cuttings  -5 - 1.5 -6 - 2.0 -7 -8 - 2.5 -9 - 10 - 3.0 -11 - 3.5 -1213 - 4.0 -1415 - 4.5 -16
-6 - 20 - 7 - 7 - 8 - 2.5 - 9 - 10 - 3.0 - 11 - 3.5 - 12 - 13 - 40 - 14 - 15 - 4.5 - 16
2.0 - 7 - 8 - 2.5 - 9 - 10 - 10 - 3.5 - 12 - 13 - 4.0 - 14 - 15 - 15 - 16
2.0 - 7 - 8 - 2.5 - 9 - 10 - 10 - 3.5 - 12 - 13 - 4.0 - 14 - 15 - 15 - 16
-7 -8 -2.5 -9 -10 -3.0 -11 -12 -13 -4.0 -14 -15 -15 -4.5 -16
-9 -3.0 -3.0 -3.5 -12 -13 -4.0 -14 -15 -4.5 -16
-9 -3.0 -3.0 -3.5 -12 -13 -4.0 -14 -15 -4.5 -16
-10 -3.0 -11 -3.5 -12 -3.5 -13 -4.0 -14 -4.5 -15 -4.5
-11 - 3.5 - 4.014151616
-11 - 3.5 - 4.014151616
3.5 - 12 13 14 15 16
3.5 - 12 13 14 15 16
- 13
-14 -15 -15 -16
-14 -15 -15 -16
-15 -15 -16
5.0
-17
PREPARED BY: Nicole Johnson CHECKED BY: Lorne Bates DATE PREPARED: February

CLIENT	HIGHPINE	Project #:	13-14-41-28	W4M	BOREHC ELEVAT		S09-06		
					DATUM:		n/a		
PROJECT	Assessment at 13-14-41-28 W4M				TOP OF OMEASUR		n/a n/a		
BOREHO	LE LOCATION N 52.53492° W 113.93773°								
	Chap B W	D. LTD DDW LED	C 1 1	- 10 2000			COMPONENT 35%-50%	<u>'S</u>	
DRILLER	Git R Down Drilling	DATE DRILLED	Septembe	18 2009		AND Y	20%-35%		
DRILLING	G SUPER VISED B Nicole Johnson					SOME	10%-20%		
DDII I INI	C METIOD A inch colid stem over					TRACE	1%-10% Sample type		<del> </del>
DRILLING	G METHOD 4 inch solid stem auger				Well S Water	creen level	SS - Split Spoo	n Sam	ple
					Elev. 1	n nonth/day	WA - Wash Sai	nple	
MONITO	RING WELL DATA -PIPE: n/a				1000	nitor screen	AU - Auger Sai CN - Continuo		mler
	-SCREEN: n/a				Vapour year/mo	reading	RX - Rock Core	•	
	-OTHER: n/a				]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	GS - Grab Sam	ple	
DEPTH		1	1		Т		SAMPLE		
(m)	Soil Description	Start Plot	Depth	Scale	<u> </u>	ng Details	₽	TYPE	SAMPLE
	Loom dark brown block frieble mederate writing		(ft)	(m)	EC (dS/m)	OVA (ppm)		<u> </u>	\$ 5
0.0-0.5	Loam, dark brown-black, friable, moderate moisture, lots of roots, coarse fragments, admixed organic odor	,	<b>ŀ</b> ,						
•	no HC's.		['	0.5					
0.5-0.8	CL, grey, friable, moderate moisture, white percipitates, no HC's.		-2						
ტ 8 <sub>−</sub> 1 5	Clay - sandy clay, light brown-grey, friable, moist,		3						
0.0-1.0	coarse fragments, plastic, native/undisturbed, no		[	_1.0					
	HC's.		-4						
	End of borehole at 1.5 m. Backfilled with cuttings		-	- 1.5					
	•		_,						
			_6						
ı		1	-	_ 2.0					
			<b>-</b> 7						
			_8	2.5					
			-	2.5					
			_9						
			_ 10	3.0				1	
			<b>-</b>			Ì			
			<b>-</b> 11	- 3.5					
			12		1				
			-						
			- 13	_ 4.0					
1			14					ļ	
			<b>F</b>	4,5					
			15			]			
			_16					Ì	
			<b>!</b>	- 5.0					
			-17						
			_ 18	- 5.5					
			10						
			- 19	6.0					
			_ 20						
			21						
			F.	- 6.5					
1			_ 22						
				7.0					
PREPARED	BY: Nicole Johnson	CHECKED BY:	Lome Bates			DATE PREPA	RED:		February

CLIENT	HIGHPINE	Project #:	13-14-41-2	8 W4M	BOREHC ELEVAT		S09-C01		
		_			DATUM:		n/a		
PROJECT	Assessment at 13-14-41-28 W4M				TOP OF O		n/a		
BOREHO	LE LOCATION N 52.53452° W 113.93804°				MEASUR	ANG PT:	n/a		
	Git R Down Drilling	DATE DRILLED	Septemb	er 18 2009		MINOF AND	R COMPONENT 35%-50%	<u>`S</u>	
		-	<del></del>		1	Y	20%-35%		
	G SUPERVISED B'Nicole Johnson				-	SOME TRACE	10%-20% 1%-10%		
DRILLING	G METHOD 4 inch solid stem auger				Well S Water	creen level	Sample type SS - Split Spoo	n Sam	ple
					Elev. 1		WA - Wash Sai		•
	RING WELL DATA				1538	onth/day	AU - Auger Sai		
	-PIPE: n/a -SCREEN: n/a				- Wangur	nitor screen reading	CN - Continuou		npler
	-OTHER: n/a				year/mo	nth/day	RX - Rock Core GS - Grab Sam		
						<del></del>	SAMPLE	<u> </u>	
DEPTH (m)	Soil Description	Start Plot	Depth	Scale	Monitorir	ng Details	Ω	TYPE	SAMPJE STORAGE
			(ft)	(m)	EC (dS/m)	OVA (ppm)		,	SAN
	Loam, dark brown-black, friable, moderate moisture, lots of roots, organic odor, no HC's.		-			40	S09-C01 (0.0-0.2 m)	AU	BAG
0.4-0.7	CL, grey, friable, moderate moisture, white		-1						
	percipitates, no HC's. Clay - sandy clay, light brown-grey, friable, moist,		-2	. 0.5		15	S09-C01 (0.5-0.7 m)	AU	8AG
	coarse fragments, plastic, no HC's.		_3	1.0					
			_	Γ		5	S09-C01 (1.0-1.2 m)	ΑU	BAG
1.3-1.6	Sand, light brown-grey, moist, friable, no HC's.		-4			0	S09-C01 (1.3-1.5 m)	ΑU	BAG
		1	· .	1.5					
1.6-3.8	Sandy Clay, light brown, gleyed, silt pockets,		-5						
	common sand pockets, coal flecks, Fe flecks,		_6						
	white percipitates, rocks, very moist, very friable	<b>,</b>	-	2.0					
		1	-7			0	S09-C01 (2.0-2.2 m)	AU	BAG
			-8						
			_	2.5					
			_9						
			10	- 3.0					
			-			0	S09-C01 (3.0-3.2 m)	ΑU	BAG
			-"	- 3.5					
3.8-4.2	Silty clay, light brown-grey, large silt pockets, friable, moderate moisture-dry, common sand		_ 12						
4.2-4.5	pockets, coarse fragments, no HC's.		- 13	_ 4.0		5	S09-C01 (3.8-4.0 m)	AU	BAG
	Clay till, dark brown, friable, tight, rocks, coal		- 14						
	flecks, Fe flecks, coarse fragments, white percipitates, sand pockets, silt pieces, no HC's.		- - 15	4.5		0	S09-C01 (4.3-4.5 m)	AU	BAG
			-						
	End of borehole at 4.5 m. Backfilled with cuttings		- 16 -	- 5.0					
			<b></b> 17	<u> </u>					
			_ 18	- 5.5					
			- 19						
			-	6.0					
			- 20						
			21						
			-	6.5					
			_ 22						
		1		7.0					
PREPARED I	BY: Nicole Johnson	CHECKED BY:	Lorne Bates			DATE PREPAR	RED:		February

APPENDIX III
LABORATORY DATA REPORTS

# TABLE 1. SALINITY/SODICITY DATA FOR SOIL SAMPLES

Highpine Oil Gas

zamble	Zoll Depth (m)	Dale	Saturation %	<b>5</b> 3	pH - Saturated Paste	odion Adsorption Ratio	Calcium	Wagnesium	muissato9	muibo2	Chloride	Znlbyaţe
		(d-m-y)	(%)	(dS/m)	(units)	(ratio)	(mg/L)	(mg/L)	(mg/r)	(mg/L)	(mg/l)	(mg/L)
	la ju			<2 (good)	6 - 8.5	< 4 (good)	1		:	1	1	1
AENV (2007) Tier I Remediation Guidelines	(1.04)			2-4 (fair) 4-8 (poor) > 8 (unsuitable)		4-8 (fair) 8-12 (poor) > 12 (unsuitable)						
10-608	0.0-0.2	18-Sep-09	80.0	1.09	7.2	9.0	173	29	42	17	20.7	76
809-03	2.0-2.2	18-Sep-09	90.0	0.52	7.6	1.2	27	9	က	19	7.5	39
NOTES:	ND denotes para	 ND denotes parameter not detected.										

TABLE 2. HYDROCARBON DATA FOR SOIL SAMPLES

	Sample Soil Depth (m)		AENV (2007) Tier I Remediation Guidelines Agricultural Area: Fine-grained	AENV (2007) Tier I Remediation Guidelines Agricultural Area: Course-grained	\$09-01 0.0-0.2 2.0-2.2	ND denotes para denotes para
	Бяіе	(d-m-y)	pa	iined	18-Sep-09 18-Sep-09	ND denotes parameter not detected.  denotes parameter not analysed or not applicable.  denotes parameter not analysed or not applicable.  denotes value exceeds AENV Tier I Remediation Guidelines (2007); Agriculture Area Land Use
Phys	Moisture	(W/W/W)	-	1	12.5	Remediation C
Physical Properties	(mm 270.0 >) desM 002 >	(%M/M) (%	-	-		uidelines (2007)
	(mm 270.0 <) dsəM 002 <	(WWW) (n	0 -	0 -	1929	: Agriculture
	Дојиеве	(mg/kg) (mg/kg)	0.046 0.52	0.073 0.49	<0.02 <0.02 <0.02 <0.02 <0.02	Area Land Use
	Ετμληρουχουο	kg) (mg/kg)	52 0.11	19 0.21	02 <0.02 02 <0.02	
Petroleum	Xylenes-total	(mg/kg)	15	12	2 <0.02 2 <0.02	
Petroleum Hydrocarbons	Ы (С°-С¹0)-ВЛЕХ	(mg/kg)	210	24	<0.1	
su	F2 (C>10-C16)	(mg/kg)	150	130	<10	
	F3 (C>16-C34)	(mg/kg)	1,300	300	59 <10	
	F4 (C <sub>&gt;31</sub> -C <sub>50</sub> )	(mg/kg)	5,600	2,800	94 <10	

13-14-41-28 W4M

TABLE 3. REGULATED METAL AND INORGANIC DATA FOR SOIL SAMPLES

13-14-41-28 W4M

							ə								10 E				
zamble	Soil Depth (m)	Date	T:ɔinəsıA	Ţ:muħɒ8	Barium (Extractable)	T:muillynə8	Boron-Hot Water Solub	Cadmium:1 Chromium (HEX):1	Сһгомічт:Т	Coball:T	IneqqoO	[eaq:]	Мегсигу:Т	Molybdenum:T	Nickel:T	T:muinələ2	T:mullibnT	T:muibpnpV	Z:ɔniːZ
		(d-m-y)	(mg/kg)	(mg/kg)	m)	(mg/kg) (mg	(mg/kg) (mg	(mg/kg) (mg/kg)	'kg) (mg/kg)	kg) (mg/kg)	(g) (mg/kg)	t) (mg/kg)	(mg/kg)	(mg/kg)	9	(6)	(mg/kg) (n	(mg/kg) (n	(mg/kg)
AENV (2007) Alberta Tier 1 Remediation Guidelines Agricultural Area: fine-grained	icultural Area: fin	ne-grained	21	750		5.0	2.0	1.4 0.4	4 64.0	0 20.0	63.0	20	9.9	4	20	1	1	130	200
AENV (2007) Alberta Tier 1 Remediation Guidelines Agricultural Area: Coarse	icultural Area: Co	oarse-grained	11	750		5.0	2.0	1.4 0.4	4 64.0	0 20.0	63.0	20	9.9	4	20	1	1	130	200
AENV (2007) Alberta Tier 1 Remediation Guidelines Natural Area: fine-grained	ural Area: fine-gr	rained	11	750		5.0	2.0	3.8 0.4	4 64.0	0 20.0	63.0	20	12	4	20	1	1	130	200
AENV (2007) Alberta Tier 1 Remediation Guidelines Natural Area: Coarse-grained	ural Area: Coarse	e-grained	17	750	3200	5.0	2.0	3.8 0.4	4 64.0	0 20.0	63.0	20	12	4	20	1.	1	130	200
10 000	2000	90	0 6	200		ç	, , ,	0	0.01		10.6	7.3	ç		0	ç	Ç		5
50-03 S08-03	2.0-2.2	18-Sep-09	5.7	243									0.5	-	16.9	<0.5	<0.5		32.4
						() ()		1 23		100									
NOTES	denotes parar	denotes parameter not analysed or not applicable.	applicable		2 1					12									Γ
		denotes value exceeds AENV Tier I Remediation Guidelines (2007); Agricultural Area Land Use for coarse-grained surface soils	VENV Tier I	Remediatio	n Guideline	es (2007): J	Agricultura	l Area Land	Use for co	arse -grain	ed surface	soils							
			N 12 N													200		F 10 10	

APPENDIX IV SITE SURVEY

# Site Sketch

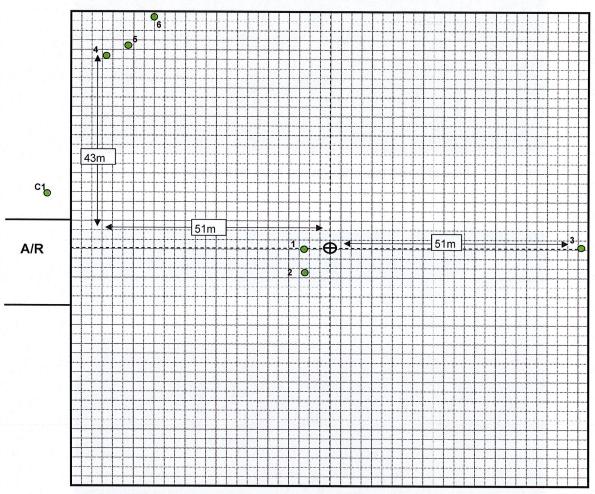
Client: HIGHPINE OIL & GAS LIMITED

Project #:

Project Name: Phase II Drilling Location: 13-14-41-28W4M

Date: September 18 2009

N



### LEGEND

⊕ = Well Center

 $\Box$  = 2m x 2m

= Boreholes

= Gradient Direction

Lease Dimentions 100m x 100m



Photo 1: View of north lease boundary from well center

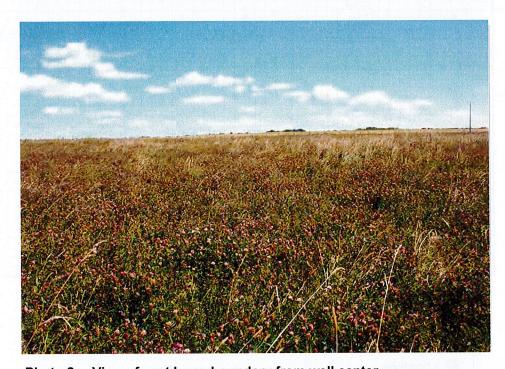


Photo 2: View of east lease boundary from well center

13-14-41-28 W4M

Operator:

Highpine Oil & Gas Ltd.

Reclamation Consultant:

S.N.L. Environmental Consulting Ltd.

Photo Date: September 18 2009

Page: 1 of 2

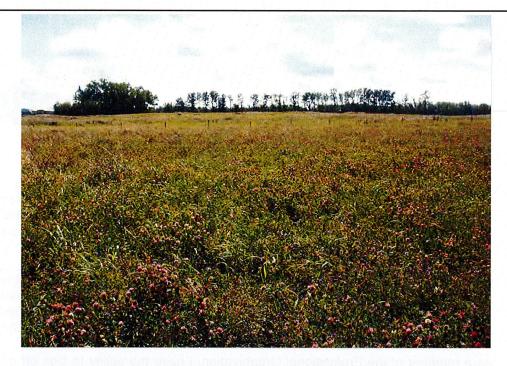


Photo 3: View of south lease boundary from well center

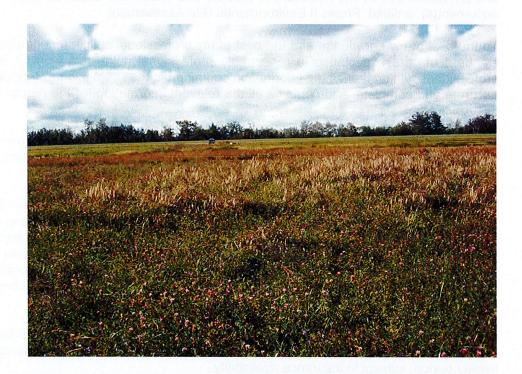


Photo 4: View of west lease boundary from well center

13-14-41-28 W4M

Operator:

Highpine Oil & Gas Ltd.

Reclamation Consultant:

S.N.L. Environmental Consulting Ltd.

Photo Date: September 18 2009

Page: 2 of 2



### **Professional Declaration for Reclamation Certificate Applications**

1.	This Declaration is made in conjunction with an application for a reclamation certificate (the "Application") made by (Applicant) for the following land(s): (insert legal description).
2.	I am a practicing professional member of the, which is a regulated professional organization (the "Professional Organization"). I have a minimum of five years verifiable experience in remediation or reclamation relevant to the Competencies Table contained in the Competencies for Remediation and Reclamation Advisory Committee's Recommendations Report (AENV 2006).
3.	As a member of the Professional Organization, I have the ability to sign off on work required for reclamation certificate applications as defined by Alberta Environment and am authorized by the Applicant to prepare and submit the attached report(s) or document(s), entitled Phase II Environmental Site Assessment.
4.	To the best of my knowledge and the best of my professional ability, recognizing the standard of care expected of a reasonable professional doing this work, it is my professional opinion that all the information contained in the Professional Report(s) is accurate and complete, and contains all the relevant information for the purposes of

- 5. The results reported in the Professional Report(s) are consistent with all current and applicable Provincial policy, criteria, standards and guidelines for the remediation or reclamation.
- 6. The Professional Report(s), including all attachments, data and supplemental information, were prepared by me, or under my direct supervision, or was prepared by a third party(ies) and has been reviewed and accepted by me; and was prepared in accordance with an appropriate quality assurance/quality control system that ensured qualified personnel properly gathered and evaluated all the information contained in and underlying the Professional Reports. All the information submitted is, to the best of my knowledge, true, accurate and complete.
- 7. I carry, or my employer (insert legal name of employer) carries professional liability insurance (errors and omissions). This insurance will be maintained for the specified liability period, subject to insurance availability.
- 8. I am aware that it is an offence under section 227 of the *Environmental Protection* and *Enhancement Act* to provide false, misleading or inaccurate information and that there are significant fines for committing these offences, including the possibility of imprisonment. See below for the relevant sections.

this Application.

Date: July 6/2010
Signature:
Registration/Member number: 328 / OR
Stamp/Seal:
SAINT-FOR PORT
Section 227 of the Environmental Policition and Enhancement Ad
Offences s. 227 Appropriate — — — — — — — — — — — — — — — — — — —
(c) knowingly provides false of the leader internation pursuably a requirement under this Act to provide information, (d) provides false or mislead no provide provides false or mislead no provide information
is guilty of an offence.
Penalties s. 228(1) A person pro commits are prience referred to in section 60, 87, 108(1), 109(1) or 227(a), (d), (f) or
(c) in the case of an individual, to a fine or not more than \$100,000 or to imprisonment for a period of not more than 2 years or to both fine and imprisonment, or
(d) in the case of a corporation, to a fine of not more than \$1,000,000.
(2) A person who commits an offence referred to in section 61, 67, 75, 76, 79, 88, 108(2), 109(2) 110(1) or (2), 111, 112, 137, 148, 149, 155, 157, 163, 169, 170, 173, 176, 188, 191, 192, 209, 227(b), (c), (e), (g), or (i) or 251 is liable.
(c) in the case of an individual, to a fine or not more than 450,000, or
(d) in the case of a cornovation, to a fine of not more than \$500,000

# **Record of Site Condition**





Title of report	13-14-	41-28 W4M - Pote	8 W4M - Potential Cement Pit Search					
Report date (dd-mon-yyyy)		24-Jun-2010	u.					

2 SITE IDENTIFICATION AND PHYSICAL LOCATION											
2.1 Site name		VESTA	MORNSI	DE 13-14-41-28							
2.2 Address o	f cita	100/13	100/13-14-041-28 W4/00								
Z.Z Address 0	Munic	ipality	Lacomb	Alberta							
2.3 Legal land	2.3 Legal land description of site (if multiple, list all.)										
Plan	Plan, Block, Lot (PBL)  Alberta Township System (ATS)										
Plan	Block		Lot	LSD	Quarter	Section	Township	Range	Meridian		
				13	NW	14	41	28	4		
		ncie						a principality	g (6)		
1007.50	100	300 THE T R 9 STATE				Part of the second seco		(1)	does to the second		
	et al Scott	CKOL PRINTS		tona neachan s	Partition of the	a sagaratic kan	10 10 10 10 10 10 10 10 10 10 10 10 10 1		18.31.93		

3 STAKEHO	OLDERS	and the transfer and distinction in	galiyar wikamo wawanziki wa 194				
3.1 Operator							
Company	Vesta Energy Ltd.	Contact person	Shane Imber				
		Position held	VP - Operations				
Mailing address	410, 333 - 5 Avenue	Business phone No.	403-358-2518				
	Calgary, Alberta	Business fax No.					
	T2P 3B6	Business e-mail	simber@vestaenergy.com				
3.2 Consultant	☐ Not applicable						
Company	Ridgeline Canada Inc.	Contact person	Marnie Hill				
		Position held	Project Manager				
Mailing address	8, 4608 - 62 Street	Business phone No.	403-342-2130				
	Red Deer, Alberta T4N 6T3	Business fax No.	403-342-2005				
	14N 613	Business e-mail	mhill@ridgelinecanada.com				
3.3 Landowne	r(s)						
Land type	Land type    Private   Special Areas   Parks and protected area   Public						
Landowner(s)	☐ Same as operator ☐ Othe	er					

 $<sup>\</sup>ensuremath{^{\Psi}}\xspace$  . Do not fill in. Reserved for internal administrative purposes only.

# **Record of Site Condition**





3.4	Occupant(s)				osli (4 Praviše)		Grandygly de filsely of		
Are	re there occupants at the site?								
Occupant(s) Same as operator Same as landowner Other							Other		
Wha	at is the type of occ	upanc	y? ☐ Apartment b☐ Agricultural	☐ Apartment building ☐ Town house ☐ Agricultural ☐ Industrial			☐ Single detached house ☐ Commercial		
			Other (spec	ify)					
4	OPERATING S	TATU	JS				APRICE AREA		
Lanna Control	☐ Operating ☐ Reclaimed ( <i>pro</i>		spended 🔀 Abando eclamation Certificate No		☐ Decommissioning in p ) ☐ Not	rogres t applic			
5	TYPE OF ACTI	VITY	AND SITE				and the state of t		
5.1	Petroleum Stora	ige Ta	nk Site	☐ Ye	es ·		Vanco variento sul.		
5.1.	1 ESRD file No.(s)	to a list was a second		P	ΓMAA site No.		TV108tb; 75700		
5.1.	2 Types of activity								
	Retail gas station		Aviation fuelling station		Bulk fuel  Other (	specify	):		
5.2	Upstream Oil ar	d Gas	s Facility	☐ Ye	S 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				
5.2.	1 ESRD file No.(s)		AE	R app	proval No.(s)	33733	38		
5.2.	2 AER authorizatio	n type	☐ Approval	Licens	e 🗌 Permit 🗌 Order	☐ Ot	her (specify)		
5.2.	3 Types of activity				13600) mosnoblish	leto4.	to atministratino2 is		
	Wellsite and associ	ated fa	cility 🔲 Satellite	e de or	☐ Battery [	□ Pi	peline		
	Compressor and pu	mping	station	specify	):	distyre	most recommend		
5.3	Approved Facili	ty Und	der Environmental Pro	otecti	on and Enhancement Ac	t (EPI	EA) 🗌 Yes		
5.3.	1 ESRD approval N	lo.(s)	anciete et las joyen je	A	ER approval No.(s)		referenciate Parama		
5.3.	2 Types of approve	d activ	vity		Claudicae and a community	U DV 10			
	Chemical manufacturing plant		Enhanced recovery insitu oil sands or heavy oil processing plant		Fertilizer manufacturing plant		Landfill		
	Metal manufacturing plant		Oil refinery		Oilsands processing plant		Oil production site		
	Pesticide manufacturing plant		Petrochemical manufacturing plant		Pipeline		Power plant		
	Pulp and paper processing plant		Sour gas processing plant		Sulphur manufacturing or processing plant		Waste management facility		
	Wood treatment plant		Other (specify):						

# **Record of Site Condition**





5.4 Facility Under EPEA Code of Practice										
5.4.1	ESRD registration I	No.(s)			AER re	gistration	No.(s)		สมภัพสุดสมภัพ กับรา	
5.4.2 Type of Code of Practice										
	Asphalt paving plant		Compressor and Domining station Concrete producing plant Domining Station Landfill							
	Pesticides		Pipeline		Land treatment of soils Sand and gravel pit containing hydrocarbons					
	Small incinerator		Sweet gas Other (specify):							
5.5 Other Activity										
5.5.	5.5.1 ESRD file No.(s) Other site ID No.(s) Authorized by									
5.5.2	2 Types of activity								104-405-444	
	☐ Dry cleaning operation ☐ Highway maintenance yard ☐ Transportation									
6	SITE CHARACTI	ERIZ	ATION							
6.1	What Environmen	ıtal Si	te Assessments (E	ESA) H	lave Be	en Cond	ucted and	Comp	leted to Date?	
☐ Phase I ESA ☑ Phase II ESA ( <i>check all that apply</i> .) ☑ Initial intrusive sampling ☐ delineation completed ☐ post-remediation monitoring ☐ final confirmatory sampling										
6.2	Contaminants of	Poten	tial Concern (COP	C)					visitios to securificación	
6.2.	1 Does the site have Groundwater Reme	any o ediatio	f the conditions that on Guidelines (ESRD ⊠ No (→procee	, 2007	and upo	lates)? (c.	use of Albei heck all that	<b>ta Tie</b> apply i	r <b>2 Soil and</b> n Section 6.2.1.1.)	
6.2.	1.1 Identify any cond and Groundwater I			roach	es of the	Alberta		ines. (	see Alberta Tier I Soil	
	Contamination withir of building foundation		│	then fl			of surf	ace wa	n within 10 m distance ter body	
	Fractured bedrock		□ Potentia conduct	ally high tivity (>	n hydraul 10⁻⁵ m/s	ic ec.)	□ Other and sp		berta Tier 1 guidelines	
6.2.	1.2 Did the Alberta T corresponding Ti		pproach lead to a so uideline for the same				eline that wa	s lowe	er than the	
	Yes		☐ TBD		☐ No	o ( <b>→</b> proce	ed to Section	6.2.2	) Distribution in	
6.2.1.3 If you answered 'yes' or 'TBD' to Section 6.2.1.2, identify the group of contaminants for each COPC with a mandatory Tier 2 guideline that is lower than the corresponding Tier 1 guideline (check all that apply, see Alberta Tier 1 guidelines, Tables 1-4 for detailed listing).										
	General and inorgan	ic para	ameters	ing !		Metals	1 200 100 2		i iele a hor ola P. C	
	Hydrocarbons		- interapplicar	nora .			ated aliphation	cs	Picks years some	
	Chlorinated aromatics Pesticides								Toomas a backy. To	
片	☐ Other organics ☐ Radionuclides   ☐ Salt ☐ Other (specify):									
	Salt					Other (S	occity)	200		





6.2.1	.4 Did any past or current ESA re guidelines referred to in Sectio 1 guidelines)?	levant to this inve n 6.2.1.3 (e.g. Tier ☐ Yes	stigatior 2 guide	identify an exceedance of the mandatory Tier 2 lines that are lower than the corresponding Tier  No  TBD
6.2.1	.5 If you answered 'yes' in Section Tier 2 guidelines?	n <b>6.2.1.4, have all</b> ☐ Yes	relevant	COPC been remediated to meet the mandatory ☐ No
6.2.2	Did any past or current ESA rele	vant to this invest	igation i	dentify a drilling waste disposal area?
	Yes	No (→proceed)		
6.2.2	1.1 If a drilling waste disposal area the compliance options outline Reclamation Certification (AER	d in <i>Assessing Dı</i>	rilling Wa	ast or current ESA identify non-compliance with aste Disposal Areas: Compliance Options for
	Yes	□ No		
6.2.2	.2 If you answered 'yes' in Section outlined in Assessing Drilling V (AER, 2014), as amended? Yes	n 6.2.2.1, have all Waste Disposal Ar ☐ No	COPC be reas: Cor	een remediated to meet the compliance options inpliance Options for Reclamation Certification
622			ontiona	n Assessing Drilling Waste Disposal Areas,
0.2.2	identify the group of contamina detailed listing).	ints (check of all th	at apply,	see the Alberta Tier 1 guidelines, Tables 1-4 for
	General and inorganic parameters	Negaria de este con la companya de br>La companya de la companya de		Metals
	Hydrocarbons			Halogenated aliphatics
	Chlorinated aromatics	oli der (1		Pesticides
	Other organics	language and account		Radionuclides
	Salt			Other (specify):
6.2.3	investigation identify an exceeda	essed under Secti nce over the Albe	ions 6.2. erta Tier	1 or 6.2.2, did any ESA relevant to this I guidelines?
1 81	Yes	⊠ No (→proc		
6.2.3	guidelines?	n 6.2.3, have all Co	OPC bee	n remediated to meet the Alberta Tier 1
	☐ Yes	☐ No		□ TBD
6.2.3	.2 For any COPC that exceeded A contaminants. (check all that app	lberta Tier 1 guide ply, see the Alberta	elines in Tier 1 gu	Section 6.2.3.1, identify the group of idelines, Tables 1-4 for detailed listing.)
	General and inorganic parameters			Metals
	Hydrocarbons			Halogenated aliphatics
	Chlorinated aromatics	Sade the particular		Pesticides
	Other organics		ong 🗖 n	Radionuclides
	Salt	tivaanka kee aki?		Other (specify):





6.3 Status of Investigation								
6.3.1 Identify soil and groundwater guidelines used to (check all that apply).	assess the COPCs that are the subject of this investigation							
	ion Guidelines – 2007 and updates.							
☐ Coarse grained ☐ Fine g								
Alberta Tier 2 Soil and Groundwater Remediati	ion Guidelines – 2007 and updates,							
☐ Pathway exclusion ☐ Guideline adjustment ☐ Site specific remediation objectives								
Assessing Drilling Waste Disposal Areas: Com	ppliance Options for Reclamation Certification							
(AER, 2014), as amended								
Other (specify):	Series Manager 1 - 2 - 2 Amalogo Paris and beautiful and the com-							
6.3.2 What land use classification(s) is used?  ☐ Natural ☐ Agricultural ☐ Residential ☐	Commercial ☐ Industrial ☐ Other (specify:)							
6.3.3 What is the outcome of the investigation? (check								
	e has been found above any applicable soil and groundwater							
guidelines in any prior and current assessments.								
☐ All contamination on-site and off-site has been cor	mpletely remediated and meets the applicable soil and							
groundwater guidelines.								
One or more COPC still exceeds the applicable so								
6.3.4 How many contaminated areas are there current   ☐ None	tly at the site?							
6.3.5 Are all contaminated areas and potential contam	ninated areas assessed during this investigation?							
⊠ Yes □ No								
6.3.6 For all areas of potential environmental concern (specify dd-mon-yyyy): N/A;	i, list the dates when the contamination was discovered							
6.3.7 For all areas that have been identified in Section	n 6.3.4, have all substance releases been reported to ESRD?							
☐ Yes ☐ No	Not applicable     ■							
6.3.8 If the answer to Section 6.3.7 is 'yes', list all Incie								
6.3.9 What is the approximate, cumulative amount of								
guidelines? (m <sup>2</sup> )	None ☐ TBD							
6.3.10 Is there non-aqueous phase liquid (NAPL) prod	duct remaining on site?							
6.3.11 Is there non-aqueous phase liquid (NAPL) prod	duct remaining off site? ☐ Yes ☐ No ☐ TBD							
6.3.12 What is the remediation status of the contamin	nated areas at site?							
⋈ No remediation required	☐ Site has exceedance but no remediation plan							
Remediation plan developed	☐ Active remediation							
Remediation completed	☐ Post remediation assessment completed							
Ongoing risk management plan – on-site	Ongoing risk management plan – off-site							
Remediation Certificate issued for some area(s) (pro	rovide Remediation Certificate No.(s):)							
Remediation Certificate cancelled for some area(s)	(provide Remediation Certificate No.(s):)							





### **Direction for Completing the Remainder of the Form**

Attach the analytical summary tables of the COPCs that are the subject of this investigation and still present at this site. A detailed listing of COPCs can be found with Tables 1-4 in *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* (ESRD, 2007 and updates), as amended. Refer to the *RSC User's Guide* for detailed information on format and other requirements regarding the summary table.

For the remainder of the form, follow the directions below:

- If the COPCs on-site and off-site have never exceeded any applicable soil and groundwater guidelines in any prior and current assessments, → proceed to Section 8, or
- If the COPCs on-site and off-site have been completely remediated and meet the applicable soil and groundwater guidelines, →proceed to Section 8, or
- For all other circumstances, continue with Section 6.4.

	Afternative of the Indian			
6.4 k	Key Transport Factors for Exi	sting COPCs		
6.4.1 \	What is the horizontal distance t		40 - 10일 - 10 - 10 - 그렇게 하셨다면 아무리를 가는 그렇게 하네.	f the nearest contaminated area? 00 m
6.4.2 \	What is the horizontal distance t ☐ ≤10 m ☐ 10-50 m	o the nearest surface	water body from tl	ne edge of the contaminated area?
6.4.3 I	Does delineation achieve closur	e above the groundw	ater water table tha	t is nearest to the ground surface?
	☐ Yes (→ go to Section 6.5.)	□No	noticollinanto and t	□ TBD
6.4.4	Tier 2 guidelines?		a domestic use aq	uifer (DUA) as defined in Alberta
	☐ Yes	□ No	☐ TBD	☐ Not required (NR)
6.4.5 l	ls there a hydraulic barrier, as de area and the DUA?	efined in Alberta Tier	2 guidelines, betwe	en the base of the contaminated
	Yes	□ No	☐ TBD	□NR
0.4.0 I	value ×10 <sup>-7</sup> m/sec.) for the 5.0 m (×10 <sup>-7</sup> m/sec.)	vertical layer from th	e bottom of the con	e of the hydraulic conductivity (as taminated zone.
6.5 C	On-site Characterization			
6.5.1 W	hat is the dominant soil texture	that governs substa	nce transport at the	site?
	Coarse grained		and the second s	st identify reason in Section 6.2.1.1.)
6.5.2 V	What are the shallowest and dee able at site?	pest measured depth	s (meters below gro	ound surface) of the water
	Shallowest: (m) Deepest: _			nax. depth assessed:(m))
6.5.3 V	What is the dominant horizontal (	direction of groundw	ater flow for the nea	r surface water table?
	(N, NW, etc.:)	☐ TBD	☐ NF	
	What is the existing land use class Natural ☐ Agricultural ☐		nmercial 🔲 Indus	strial
6.5.5 V	What is the end land use classific	cation?		
	Natural	Residential	nmercial 🔲 Indus	strial  Other (specify)





6.5.6 Identify exposure pathways for v	vhich the applicabl	le guide	lines are exceeded	on-site (check all that apply).		
☐ Vapour inhalation			Soil ingestion			
☐ Ingestion of potable water			Soil dermal (skin) contact			
☐ Fresh water aquatic life			Soil contact for plan	nts and invertebrates		
□ TBD			Other (specify):	ng talif paggada buga antali talika		
				Market and the second s		
6.6 Off-site Characterization		- A10	INCLUSION CONDICTORY			
6.6.1 Are there COPCs off-site exceed	ing applicable soil	or grou	ndwater guidelines	?		
☐ No (→ if on-site contamination was a contamination.	vas reported, procee	ed to Sec	tion 7, otherwise, pro	oceed to Section 8.)		
☐ Yes	TBD		La La Santa			
6.6.2 What is the current land use class	ssification for any	off-site a	area(s) identified in	Section 6.6.1?		
		ommerci		Other (specify)		
6.6.3 What is the end land use classifi	ication for any off-	site area	(s) identified in Sec	ction 6.6.1?		
		ommerci		Other (specify)		
6.6.4 Is there any substance concentr guidelines?	ation under a road	allowar	nce exceeding the a	pplicable soil or groundwater		
☐ Yes ☐ I	No (→proceed to S	ection 6.	6.6.) TE	BD		
6.6.5 What is the most sensitive land	use classification a	adjacent	to the road allowa	nce?		
		Commerc		Other (specify)		
6.6.6 Identify exposure pathways for	which the applicab	le guide	lines are exceeded	off-site (check all that apply).		
☐ Vapour inhalation			Soil ingestion			
			Cail damas (akin)			
☐ Ingestion of potable water			Soil dermal (skin) c	ontact		
☐ Ingestion of potable water ☐ Fresh water aquatic life				nts and invertebrates		





7 RIS	K MANA	GEMENT PLAN (RMP)
7.1 Wha	at is the P	lan for Contaminated Areas Still Remaining on and off the Site? (check one only.)
	Complete	remediation (→ proceed to Section 8).
		nediation with risk management for some residual contamination.
	Risk mana	gement for all remaining contamination.
7.2 Key	<b>Progress</b>	of RMP
7.2.1 If t	the site nee	eds an on-going RMP, answer all the following questions that apply to the RMP.
☐ Yes	☐ No	Are contaminated areas completely delineated horizontally and vertically in soil?
☐ Yes	☐ No	Are contaminated areas completely delineated horizontally and vertically in groundwater?
☐ Yes	☐ No	Is source identified and completely delineated?
☐ Yes	□No	Is source migrating or has migrated off-site?
☐ Yes	□No	Is source left as is?
☐ Yes	☐ No	Is source partially removed and residual source being managed?
☐ Yes	☐ No	Is source controlled with physical or administrative methods?
☐ Yes	☐ No	Are all pathways of concern identified?
☐ Yes	☐ No	Have all relevant receptors been identified and protected?
☐ Yes	☐ No	Is there a monitoring program in place to verify RMP success?
☐ Yes	☐ No	Are there third parties related to this RMP? (if the answer is 'no', skip the next question.)
☐ Yes	☐ No	If there are third parties, have all of them accepted the RMP?
☐ Yes	□No	Is there a commitment from person(s) responsible to implement and monitor the RMP until final remediation guidelines are achieved?
☐ Yes	□No	Is there a contingency plan in place should the RMP fail?
☐ Yes	□No	Is the RMP implemented for the site?

### **Public Disclosure and Privacy Notification**

The Record of Site Condition form is a public record that is disclosed in accordance with section 35 of the Environmental Protection and Enhancement Act, Disclosure of Information Regulation, and Ministerial Order 23/2004. Reasonable efforts have been made to minimize collection of personal information where possible. Personal information on the form is collected under the authority of section 12(c) and other provisions of the Environmental Protection and Enhancement Act and is in compliance with section 33(a) and 33(c) of the Freedom of Information and Protection of Privacy Act (FOIP). Personal information collected on this form will be used by Alberta Environment and Sustainable Resource Development (ESRD) or the Alberta Energy Regulator (AER), as the case may be, for the purposes of administering its programs.

### **Accuracy of Information**

The information in this document has been submitted by persons other than ESRD or the AER. The Department, the Government of Alberta, and the AER cannot and do not warrant that the information in this document is current, accurate, complete, or free of errors. Persons accessing the information provided should not rely on it, and any reliance on the information provided is taken at the sole risk of the user. Users of this information are advised to conduct their own due diligence to satisfy themselves of the environmental condition of the property of interest.





### 8 DECLARATION

This Record of Site Condition form was prepared for the purpose of reporting on the state of environmental site conditions and, where applicable, for the purpose of remediation or reclamation, for:

**VESTA MORNSIDE 13-14-41-28** 

(site name) (the "Site").

I, as the licensed operator or authorized representative, have reviewed all information that was used in preparation of this form and I am satisfied that it was prepared in a manner consistent with the Applicable Standard together with any relevant additional guidance that is available from Alberta Environment and Sustainable Resource Development as of this date for conducting environmental site assessments.

Having conducted reasonable inquiries to obtain all relevant information, to my knowledge, the statements made in this form are true as of this date. I have disclosed all pertinent information of which I am aware concerning the historical and current environmental condition of the Site to the Director.

Any use which a third party, other than the Crown in right of Alberta or the AER, makes of this form, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. The undersigned accepts no responsibility for damages, if any, suffered by any third party, other than the Crown in right of Alberta and the AER, as a result of decisions made or actions based on this form. Any exclusions or disclaimers to the contrary contained in any attachment to this form are of no force or effect as against the Crown in right of Alberta and the AER.

### Footnote 11:

"Applicable Standard" means

- a) for the purposes of upstream oil and gas sites,
  - i) 2010 Reclamation Criteria for Wellsites and Associated Facilities Application Guidelines (ESRD 2011),
  - ii) CSA Standard Z769, *Phase II Environmental Site Assessment*, as amended, for any Phase II site assessment information used in preparation of this form on all upstream oil and gas sites not included in a) i);
- b) for the purposes of all other sites, CSA Standard Z768, *Phase I Environmental Site Assessment*, as amended, for any Phase I site assessment information and with CSA Standard Z769, *Phase II Environmental Site Assessment*, as amended, for any Phase II site assessment information used in preparation of this form.

By signing below, I as the licensed operator or authorized representative, confirm the information provided herein is correct and complete, to the best of my knowledge and belief.

Vesta Energy Ltd

Shane Imber

**VP** - Operations

Name of operator

Name of authorized representative

Title of authorized representative

(e.g. officer, director)

Signature

Date (dd-mon-yyyy)



# VESTA ENERGY LTD.

Schedule 5
Detailed Site Assessment



VESTA ENERGY LTD.
DETAILED SITE ASSESSMENT
100/13-14-041-28 W4/00
VESTA MORNSIDE 13-14-41-28
LACOMBE COUNTY, ALBERTA
JULY 15, 2014

### Prepared for:

VESTA ENERGY LTD. 410, 333 – 5 Avenue SW Calgary, Alberta T2P 3B6

### Prepared by:

RIDGELINE CANADA INC. 101, 3016 - 19 Street NE Calgary, Alberta T2E 6Y9



July 15, 2014

VESTA ENERGY LTD. 410, 333 – 5 AVENUE SW CALGARY, ALBERTA T2P 3B6

Attention:

Shane Imber VP Operations

Dear Shane Imber:

Re: DETAILED SITE ASSESSMENT VESTA MORNSIDE 13-14-41-28 100/13-14-041-28 W4/00

Please find the attached Detailed Site Assessment (DSA) conducted for the VESTA MORNSIDE 13-14-41-28; 100/13-14-041-28 W4/00 wellsite located within 13-14-041-28 W4M. The DSA was conducted in compliance with the Government of Alberta (GoA) 2010 Reclamation Criteria for Wellsites and Associated Facilities for Cultivated Lands (GoA, 2013) and includes a completed Alberta Energy Regulator 2010 Assessment Tool and Record of Observation for Cultivated Lands datasheet (AER, 2014).

- The current surrounding land use is classified as cultivated as described by ESRD (AENV, 2011);
- The well was drilled from September 25, 2005 to October 3, 2005 to a total depth of 1,885 m (Abacus, 2014);
- The well did not produce prior to surface abandonment on October 12, 2005 (Abacus, 2014);
- A DSA was conducted for the lease and access road on July 3, 2014;
- An approximately 2.5 m by 2.5 m patch of stinkweed (Thlapsi arvense) was identified in the northwest corner during the site visit. The landowner plans to convert land to golf course, therefore no control of stinkweed is required;
- The DSA was conducted in the presence of the landowner, who stated he was satisfied with soil, vegetation, landscape and all reclamation efforts at the site; and,
- The lease and access road satisfied all applicable DSA guidelines for cultivated lands with regard to landscape, soil and vegetation parameters.

Based on the DSA, the lease and access road meet all requirements for Government of Alberta reclamation criteria for cultivated lands with regard to landscape, soil and vegetation parameters (GoA, 2013). It is recommended to apply for a reclamation certificate for the lease and associated access road.

Respectfully,

RIDGELINE CANADA INC.

Sur Hill.

Marnie Hill, B.Sc., P.Ag. Project Manager

Suite 101, 3016-19 Street NE, Calgary, Alberta, Canada T2E 6Y9

Tel: 403 806 2380

Fax: 403 806 2381



Appendix A
Background Information and Assessment Tool

Martin   M		Operator	<u> 257 1941</u>	ERCB Unique	e Well Identifier(s)			Disposition # VERSION VERSION #3.1			.1		
Material Region   Pick Parket and Region   P		Vesta Energy Ltd.		100/13-14	-041-28 W4/00			N/A			CRITERIA	Cultivated La	ands
Material Region   Pick Parket and Region   P		Provincial Land Classification	- 5357		Soil Informat	ion			-	Vec	retation Informati	ion	
Protect   Protect   Soll Careface   Soll Series   TVEEDSTUIR   Costate   Soll Careface   Soll Series   TVEEDSTUIR   Costate   Soll Series   TVEEDSTUIR   Soll Series   Sol	Area			Soil Order			mic	Natu	ıral Region	1			egion
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Date   Complete Surface Legal Land   Investment   Inves		the first of the second	4.50	Soil Series	sant T	WEEDSM	IUIR			2.27			
Assessor Name(q)   Date   Complete Surface Legal Land   NW   13   14   41   28   W4		Landscape Assessme	nt		07.004017	**************************************			LSD	Section	Township	Ranger	Meridian
Kim Stevenson, Dipl. & Even Johnston, B.S.    Soll Assessment   Feating   Source		Assessor Name(s)				urface Le	gal Land						
Soll Assessor Name(s)  Soll Assessor Name(s)  Date  Intrinsic (mm/dd/vy)  Assessor Name(s)  Facility / Area Assessed  If other, describe  If other, describe  If other, describe  Activity  Description  Construction  Rociamation  Rociamation  Rociamation  Rociamation  Rociamation  Full Disturbance  Full Disturbance  Full Disturbance  Full Disturbance  Rociamation  Full Disturbance  Full Dis	Kim Ste	venson, Dipl. & Evan Johnston, B.Sc.			UTM Coord	inates (N		<b>12</b> U			whole Site  Description  Il Disturbance  Il Disturbance  ed: Perennial Crop  ise (mm/dd/yr)  07/29/05  Spring 2008  Spring 2008		
Soil Assessment Date   Facility / Area Assessed   Drilled and Abandoned (D&A) Wellstre							1804 - 282 T. J. S.						
Assessor Name(s)  Date (mm/dd/yr) Assessment Approach Whole Site  Kim Stevenson, Dipl. & Evan Johnston, 8.5c.  O7/03/14  Construction Full Disturbance Cultivated: Perennial Crop  Assessor Name(s)  Date Activity Dates  Date (mm/dd/yr)  Assessor Name(s)  Date (mm/dd/yr)  Construction Cultivated: Perennial Crop  Revegetation Spring 2008  SUMMARY OF THE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS  Drilled and Abandoned (D&A) Wellste VERSION VERSION #8.1  CRITERIA Cultivated Lands  Did the site fall any of the Landscape Assessment questions below?  Did the site fall any of the Level 1 Soil Assessment questions below?  Did the site fall any of the Level 2 Soil Assessment questions below?  OID the site fall any of the Level 2 Soil Assessment questions below?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments is Professional Judgment being used to pass the site?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments is Professional Judgment being used to pass the site?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments is Professional Judgment being used to pass the site?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments is Professional Judgment being used to pass the site?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments are portions exempt due to justification(s)?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments Are portions exempt due to justification(s)?  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments Are portions exempt due to justification(s)?  If Yes, provide supporting documentation. This is now a Non-Routine Application and will be subject to additional review by the Government of Alberta r		<del></del>											300796
Assessor Name(s) (mm/dd/yr) Assessment Approach Whole Site  Kim Stevenson, Dipl. & Evan Johnston, B.Sc. 07/03/14 Construction Full Disturbance  Vegetation Assessment Revegetation Full Disturbance  Vegetation Assessment Date Activity Dates Date (Construction Full Disturbance)  Assessor Name(s) Date Activity Dates Date (Construction Full Disturbance)  Assessor Name(s) Date Activity Dates Date (Construction G7/29/OS Date (mm/dd/yr)  Kim Stevenson, Dipl. & Evan Johnston, B.Sc. 07/03/14 Revegetation Spring 2008  SUMMARY OF THE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION WAS DESCRIPTION, AND SOIL ASSESSMENT RESULTS DRIVEN DRIV		Soli Assessment	jagjakti <u>ni</u> T	Najudjest.					Drill	ed and Aba	andoned (D&A) W	/ellsite	
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Kim Stevenson, Dipl. & Evan Johnston, 8.Sc.    O7/03/14			(r	nm/dd/yr)	Assessment	Approac	th .			١	Whole Site		
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Kim Stevenson, Dipl. & Evan Johnston, B.Sc. 07/03/14 Red, Complet, Date Spring 2008  SUMMARY OF THE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS Drilled and Abandoned (D&A) Wellsite  VERSION VERSION #3.1 Whole Site  CRITERIA Cultivated Lands  Did the site fall any of the Landscape Assessment questions below? No, Site Passed  Did the site fall any of the Level 1 Soil Assessment questions below? No, Site Passed  Did the site fall any of the Level 2 Soil Assessment questions below? No, Site Passed  Did the site fall any of the Level 2 Soil Assessment questions below? No, Site Passed  Did the site fall any of the Level 2 Soil Assessment questions below? No, Site Passed  Did the site fall any of the Level 2 Soil Assessment questions below? No, Site Passed  Did the site fall any of the Level 2 Soil Assessment place of the site fall and site of the Level 2 Soil Assessment place of the site fall and site of the Level 2 Soil Assessment place of the site fall and site of the Level 2 Soil Assessment place of the site fall and site of the Level 2 Soil Assessment place of the Soil Assessment place of the site fall and site of the Level 2 Soil Assessments is Professional  Judgment being used to pass the site?  If Yes, provide supporting documentation. This is now a Non-Routine Application and will be subject to additional review by the Government of Alberta (GoA). If no, site falls. Mitigate and Reassess.  If the site falled either the Landscape, Vegetation, Level 1 Soil, or Level 2 Soil Assessments are portions exempt due to justification(s)?  If Yes, provide supporting documentation. This is now a Non-Routine Application and will be subject to additional review by the Government of Alberta (GoA). If no, site falls. Mitigate and Reassess.  COMMENTS  Based on the DSA, the lease and access road meet all requirements for Government of Alberta reclamation criteria for cultivated lands with regards to landscape, soil and vegetation parameters (GoA, 2013), it is recommended to landscape, soil and vegetation parameters (GoA,		Assessor Name(s)	- tr		J-90-07-07-07		Construction					<u> </u>	The second second
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apply for reclamation certificate application for the lease and access road.							COMMITTEE	Governmen	t of Alberta re	clamation o	criteria for cultiva	ted lands with	regards to
								apply for red	clamation cert	ificate appl	lication for the lea	sse and access	s road.
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MARY O	FTHE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS	Drilled and Abandoned (D&A) Wellsite
SION	VERSION #3.1	Whole Site
ERIA	Cultivated Lands	Cultivated: Perennial Crop
DSCAPE A	ASSESSMENT	
DRAIN	NAGE is the surface water flow and onsite drainage (e.g., cross site flow, direction, dispersion, ponding,	Yes; Site Passes
depre	ssional storage) comparable to offsite?	
DRAIN	NAGE Have disturbed riparian areas on-site been restored (e.g., bank stability, shore stability, etc.) to	Yes; Site Passes
condi	tions comparable to off-site?	
EROS	ON Is soil erosion (e.g., rills and/or gullies) onsite comparable to offsite? (Based on a qualitative	Yes; Site Passes
	sment of bare soil in relation to cover)	
STABI	LITY is any subsidence occurring onsite comparable to offsite?	Yes; Site Passes
BARE	AREAS is the amount, frequency, density of landscape scale bare areas onsite comparable with offsite?	Yes; Site Passes
OPER	ABILITY Are the macro-scale contours (30-100 m; width scale) assessed lease-wide onsite comparable to	Yes; Site Passes
offsite		
DEBR	IS is the organic debris (e.g. Straw and wood) onsite consistent with offsite?	Yes; Site Passes
	If No, can onsite be managed similar to offsite (i.e., in accordance with the Land Manager's operations)?	Not Applicable
DEBR	IS Has industrial (including domestic) refuse been removed?	Yes; Site Passes
11/	END OF LANDSCAPE ASSESSMENT	

MARY OF THE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS	<u> </u>	Drilled and Abandoned (D&A) Wellsite
ON VERSION #3.1		Whole Site
RIA Cultivated Lands		Cultivated: Perennial Crop
TATION ASSESSMENT APPLIES TO ALL CROPS		
CROP TYPE Is the seeded species onsite compatible with offsite? (Provide crop type grown in species)	ace provided).	Yes
- (현대)	Onsite Offsite	Tame Pasture
	Offsite	Tame Pasture
If no, has the Landowner/Land Manager agreed to the crop seeded onsite?		Not Applicable
If no, can it be managed the same as offsite?		Not Applicable
ROP TYPE Where representative controls are available, is onsite comparable to the surrounding	g area?	Yes
ROP TYPE is the agronomic practice (i.e., tillage, seeding, etc.) onsite comparable to offsite?		Not Applicable
ROP TYPE is the row-spacing onsite comparable to offsite?		Not Applicable
ROP TYPE: Document the row-spacing (cm)		Onsite (cm): n/a Offsite (cm): n/a
ROP TYPE Is the residue management onsite comparable to offsite?		Yes
GROWTH STAGE is the growth stage on-site consistent with offsite?		Yes
		res
ROWTH STAGE Was the assessment conducted during the Prime Assessment Stage?		Yes, Assessed at Prime Assessment Stage
ROWTH STAGE For small seeded crops, is the rating difference between onsite and offsite <2?		Not Applicable
the crop has been removed this is not considered a prime assessment stage. Estimates of stub be conducted the following year.	ble health and	density can be collected but a Vegetation Assessment at a different stage will nee
o be conducted the following year.		
f the crop has not been removed this is still considered to be part of the prime assessment stag: Assessment the following year is not required:	e. Estimates of	stubble health, plant height, and plant can be collected. A second Vegetation
GROWTH STAGE is the crop/seeding distribution and/or germination onsite consistent with offsi	te?	Yes
VEEDS Have prohibited noxious weeds been eliminated/destroyed as per the Weed Control Act	or local	Not Applicable
quirements?		
EEDS Have noxious weeds been controlled as per the Weed Control Act or local requirements:	,	Not Applicable
EEDS Have noxious weeds been controlled as per the Weed Control Act or local requirements.		Not Applicable
en kan di pangangan dan salah salah salah salah salah salah salah salah salah salah salah salah salah salah sa Kan salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah		Not Applicable  Yes; Site Passes
/EEDS Are the problem and/or volunteer weeds observed onsite consistent those observed off.		
WEEDS Are the problem and/or volunteer weeds observed onsite consistent those observed off- pecial management is required?		
VEEDS Are the problem and/or volunteer weeds observed onsite consistent those observed offs pecial management is required?  TION ASSESSMENT CEREAL CROPS.		Yes; Site Passes
/EEDS Are the problem and/or volunteer weeds observed onsite consistent those observed offs secial management is required? TION ASSESSMENT CEREAL CROPS ROWTH STAGE is the growth stage on-site consistent with offsite?		Yes; Site Passes  Not Applicable
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/EEDS Are the problem and/or volunteer weeds observed onsite consistent those observed offsecial management is required?  (ION ASSESSMENT CEREAL CROPS)  ROWTH STAGE is the growth stage on-site consistent with offsite?  (ANT HEIGHT is the crop height onsite comparable with offsite?  (ANT DENSITY is the tiller density (or head producing stems) in each of the four (4) x 1 linear materials.	site, and no	Yes; Site Passes  Not Applicable
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EEDS Are the problem and/or volunteer weeds observed onsite consistent those observed official management is required?  ION ASSESSMENT CEREAL CROPS  ROWTH STAGE is the growth stage on-site consistent with offsite?  ANT HEIGHT is the crop height onsite comparable with offsite?  ANT DENSITY is the tiller density (or head producing stems) in each of the four (4) x 1 linear management with offsite?  ANT DENSITY is the tiller density (or head producing stems) per 0.50 square meters (Broadcast	site, and no	Yes; Site Passes  Not Applicable  Not Applicable
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WEEDS Are the problem and/or volunteer weeds observed onsite consistent those observed offspecial management is required?  TION ASSESSMENT CEREAL CROPS  GROWTH STAGE Is the growth stage on-site consistent with offsite?  PLANT HEIGHT Is the crop height onsite comparable with offsite?  PLANT DENSITY Is the tiller density (or head producing stems) in each of the four (4) x 1 linear mecomparable with offsite? Caveat Seeding rates must be comparable.  PLANT DENSITY is the tiller density (or head producing stems) per 0.50 square meters (Broadcast comparable with offsite? Caveat Seeding rates must be comparable.  PLANT DENSITY If the crop has been swathed but the crop is present in the field, estimate yield. It is the comparable to offsite?  HEAD LENGTH Is the head/tuber length of the crop onsite comparable with offsite?  HEAD WEIGHT Is the head weight measured onsite comparable with offsite? Assessors must coll meet a minimum weight of 50-grams, and the same number of heads collected onsite as were or purpose the plant health (i.e., disease-free, appropriate colour, exhibits vigour, good he consite consistent with offsite?	eter onsite  crops) onsite  Is the stubble  ect enough to ollected offsite.	Yes; Site Passes  Not Applicable
WEEDS Have noxious weeds been controlled as per the Weed Control Act or local requirements.  WEEDS Are the problem and/or volunteer weeds observed onsite consistent those observed offspecial management is required?  WITON ASSESSMENT CEREAL CROPS.  SROWTH STAGE Is the growth stage on-site consistent with offsite?  PLANT HEIGHT Is the crop height onsite comparable with offsite?  PLANT DENSITY Is the tiller density (or head producing stems) in each of the four (4) x 1 linear mecomparable with offsite? Caveat Seeding rates must be comparable.  PLANT DENSITY Is the tiller density (or head producing stems) per 0.50 square meters (Broadcast comparable with offsite? Caveat Seeding rates must be comparable.  PLANT DENSITY If the crop has been swathed but the crop is present in the field, estimate yield, density onsite comparable to offsite?  HEAD LENGTH Is the head/tuber length of the crop onsite comparable with offsite? Assessors must coll meet a minimum weight of 50-grams, and the same number of heads collected onsite as were comparable with offsite?  PLANT HEALTH Is the plant health (i.e., disease-free, appropriate colour, exhibits vigour, good he onsite consistent with offsite?	eter onsite  crops) onsite  Is the stubble  ect enough to ollected offsite.	Yes; Site Passes  Not Applicable
WEEDS Are the problem and/or volunteer weeds observed onsite consistent those observed offspecial management is required?  TION ASSESSMENT CEREAL CROPS  ROWTH STAGE is the growth stage on-site consistent with offsite?  PLANT HEIGHT is the crop height onsite comparable with offsite?  PLANT DENSITY is the tiller density (or head producing stems) in each of the four (4) x 1 linear memorphase with offsite? Caveat Seeding rates must be comparable.  PLANT DENSITY is the tiller density (or head producing stems) per 0.50 square meters (Broadcast comparable with offsite? Caveat Seeding rates must be comparable.  PLANT DENSITY if the crop has been swathed but the crop is present in the field, estimate yield. Items the comparable to offsite?  PLANT DENSITY if the crop has been swathed but the crop is present in the field, estimate yield. Items the head/tuber length of the crop onsite comparable with offsite?  HEAD LENGTH is the head/tuber length of the crop onsite comparable with offsite? Assessors must coll meet a minimum weight of 50-grams, and the same number of heads collected onsite as were or purposed to the plant health (i.e., disease-free, appropriate colour, exhibits vigour, good he consistent with offsite?	eter onsite  crops) onsite  Is the stubble  ect enough to ollected offsite.	Yes; Site Passes  Not Applicable

MARY OF THE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS	Drilled and Abandoned (D&A) Wellsite
ION VERSION #3.1	Whole Site Cultivated: Perennial Crop
RIA Cultivated Lands	Cultivated, Feletifial Clop
TATION ASSESSMENT SMALL SEEDED CROPS	
GROWTH STAGE Is the growth stage on-site consistent with offsite?	Not Applicable
PLANT HEIGHT is the crop height onsite comparable with offsite?	Not Applicable
PLANT DENSITY is the plant density in each of the four (4) x 1 linear meter) onsite comparable with offsite?	Not Applicable
Caveat Seeding rates must be comparable.	
PLANT DENSITY is the tiller density per 0.50 square meters (Broadcast crops) onsite comparable with offsite?	Not Applicable
Caveat Seeding rates must be comparable.	
PLANT DENSITY For oilseeds/pulses is cover equal to or greater than 80% of control?	Not Applicable
PLANT DENSITY If the crop has been swathed but the crop is present in the field, estimate yield. Is the stubble	Not Applicable
density onsite comparable to offsite?	
A Land Land Land Land Land Land Land Land	Not Applicable
PLANT HEALTH is the plant health (i.e., disease-free, appropriate colour, exhibits vigour, good height, etc.) onsite consistent with offsite?	Not Applicable
POD HEALTH is the pod health (i.e., disease-free, appropriate colour, exhibits vigour, etc.) observed onsite consistent with offsite?	Not Applicable
POD DENSITY For Oilseeds/Pulses Is pod density onsite comparable with offsite?	Not Applicable
SEED DEVELOPMENT is the seed development observed onsite consistent with offsite?	Not Applicable
TATION ASSESSMENT PULSE CROPS	
GROWTH STAGE Is the growth stage on-site consistent with offsite?	Not Applicable
PLANT HEIGHT is the crop height onsite comparable with offsite?	Not Applicable
PLANT DENSITY is the plant density in each of the four (4) x 1 linear meter) onsite comparable with offsite?  Caveat Seeding rates must be comparable.	Not Applicable
PLANT DENSITY is the tiller density per 0.50 square meters (Broadcast crops) onsite comparable with offsite?  Caveat Seeding rates must be comparable.	Not Applicable
Cavear Seeding lates thus be comparable.	
PLANT DENSITY is cover equal to or greater than 80% of control?	Not Applicable
PLANT DENSITY If the crop has been swathed but the crop is present in the field; estimate yield. Is the stubble	Not Applicable
density onsite comparable to offsite?	
HEAD WEIGHT is the pod weight measured onsite comparable with offsite? Assessors must collect enough to	Not Applicable
meet a minimum weight of 50-grams, and the same number of pods collected onsite as were collected offsite.	
PLANT HEALTH is the plant health (i.e., disease-free, appropriate colour, exhibits vigour, good height, etc.)	Not Applicable
onsite consistent with offsite?	
POD HEALTH Is the pod health (i.e., disease-free, appropriate colour, exhibits vigour, etc.) observed onsite	Not Applicable
consistent with offsite?	
POD DENSITY Is pod density onsite comparable with offsite?	Not Applicable
SEED DEVELOPMENT is the seed development observed onsite consistent with offsite?	Not Applicable

ION	VERSION #3.1		Drilled and Abandoned (D&A) Wellsite Whole Site
ERIA	Cultivated Lands		Cultivated: Perennial Crop
100	N ASSESSMENT FORAGE CRO	DPS	
1.47	and the second second second second	age on-site consistent with offsite?	Yes
933		onsite comparable with offsite?	
7.8.9.3	หรับที่รับได้ เคยาร์ย เลียงใหม่ให้กระบบนี้ นั		Yes; Site Passes
	The state of the s	live desireable plants onsite comparable with offsite?	Yes; Site Passes
	IT DENSITY If the crop has b ity onsite comparable to off	een swathed but the crop is present in the field, estimate yield. Is the site?	e stubble Not Applicable
	IT HEALTH is the plant healt e consistent with offsite?	h (i.e., disease-free, appropriate colour, exhibits vigour, good height, «	etc.) Yes; Site Passes
	HEALTH (If applicable) is the rved onsite consistent with	ne head health (i.e., disease-free, appropriate colour, exhibits vigour, e offsite?	etc.) Yes; Site Passes
SEED	DEVELOPMENT (If applicab	le) is the seed development observed onsite consistent with offsite?	Yes; Site Passes
: <u>1985</u>	A SA	ment observed onsite consistent with offsite?	
. <u>1</u>			Yes; Site Passes
	sturbed Area on-site 65% or	RBED AREA When compared to the control is the litter development in greater?	n the Yes; Site Passes
	· 在我们的最后是"我们的",在"大学的"的复数形式的作品的特殊。在1997年,	D AREA When compared to the control is the litter development in the	he Yes; Site Passes
Distu	rbed Area on-site 15% or gr	eater?	
	N ASSESSMENT OTHER SPEC	的。 15 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19 may 19	
GROV	WTH STAGE is the growth st	age on-site consistent with offsite?	Not Applicable
PLAN	IT HEIGHT is the crop height	onsite comparable with offsite?	Not Applicable
		od was used to assess plant density is the plant density (tiller count/4	
linear	r meter; plants / m2) onsite	comparable with offsite? Caveat Seeding rates must be comparable.	
	IT DENSITY If the crop has b ity onsite comparable to off	een swathed but the crop is present in the field, estimate yield.' Is the site?	e stubble Not Applicable
DIAN		h (i.e., disease-free, appropriate colour, exhibits vigour, good height, e	
	e consistent with offsite?	ii (i.e., disease-nee, appropriate colour, exhibits vigour, good neight, e	etc.) Not Applicable
HEAD	MEAE/DOD/THRED HEALTH	I is the health (i.e., disease-free, appropriate colour, exhibits vigour, et	N. A. B. Li
	rved onsite consistent with		Not Applicable
SEED	DEVELOPMENT Is the cood	development observed onsite consistent with offsite?	
3110			7/43/39/11
	DEVELORIVIEW 13 the seed	neveropment observed disite consistent with offsiter	Not Applicable
OTHE			
		thod being used to assess productivity? If so, what is the method and	
	ER METHODS is another me	thod being used to assess productivity? If so, what is the method and  Measurabl	
	ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and	
	ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and  Measurabl Methodolg description	le gg/
	ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and  Measurabl  Methodolg	le S'n'
meas	ER METHODS is another me surable being used? If the measurable (identif measurement)	thod being used to assess productivity? If so, what is the method and    Measurabl   Methodolg   description   Methodolg   Met	le gy n
meas OTHE	ER METHODS is another me surable being used? Is the measurable (identif measurement) ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and  Measurabl Methodolg description  Tied above) onsite comparable with offsite? (Make sure to include unit	le gy n ta of Not Applicable
meas OTHE	ER METHODS is another me surable being used? Is the measurable (identif measurement) ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and    Measurabl	le gy, n
meas OTHE	ER METHODS is another me surable being used? Is the measurable (identif measurement) ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and  Measurabl Methodolg description  Tied above) onsite comparable with offsite? (Make sure to include unit	le gy n'i Not Applicable  See Sey Sey Sey Sey Sey Sey Sey Sey Sey
meas OTHE	ER METHODS is another me surable being used? Is the measurable (identif measurement) ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and Measurabl Methodolg description above) onsite comparable with offsite? (Make sure to include unit thod being used to assess productivity? If so, what is the method and Measurabl Methodolg description	le gy n Not Applicable  Its of Not Applicable  gy n Not Applicable
meas OTHE	ER METHODS is another me surable being used? Is the measurable (identif measurement) ER METHODS is another me surable being used?	thod being used to assess productivity? If so, what is the method and    Measurabl	le gy n Not Applicable  Its of Not Applicable  gy n Not Applicable

MARY OF THE LANDSCAPE, VEGETATION, AND SOIL ASSESSMENT RESULTS	Drilled and Abandoned (D&A) Wellsite  Whole Site
SION   VERSION #3.1   ERIA   Cultivated Lands	Cultivated: Perennial Crop
L 1 : SOIL ASSESSMENT	
SOIL - DISTURBANCE Is there evidence of soil disturbance?	Yes
SURFACE CHARACTERISTICS Has topsoil been adequately replaced as per topsoil depth requirements by	Yes; Site Passes
construction date?	
OPERABILITY Are the meso-scale contours (<10-30 m; width scale) ratings from each assessment site onsite	Yes; Site Passes
comparable to offsite?	
OPERABILITY Are micro-scale contours (<10 m; width scale) ratings from each assessment site onsite	Yes; Site Passes
comparable to offsite?	
OPERABILITY is the operability onsite and offsite equally unaffected by gravel (Surface Stoniness; <2.5 cm)?	Yes; Site Passes
OPERABILITY is the operability onsite and offsite equally unaffected (i.e., overall quantity, size and	Yes; Site Passes
concentrations, etc.) by stone content (e.g., cobbles, stones and boulders; Stone Content; >2.5 cm)?	
TOPSOIL COLOR is on/offsite topsoil color comparable?	Yes; Site Passes
VERTICAL PROCESSES is the topsoil texture onsite comparable to the topsoil texture offsite?	Yes; Site Passes
VERTICAL PROCESSES is the subsoil texture onsite comparable to the subsoil texture offsite?	Yes; Site Passes
VERTICAL PROCESSES is the topsoil consistence onsite comparable to the topsoil consistence offsite?	Yes; Site Passes
If not, is the topsoil structure onsite comparable to the topsoil structure offsite?	Not Applicable
VERTICAL PROCESSES is the subsoil consistence onsite comparable to the subsoil structure offsite?	Yes; Site Passes
If not, is the subsoil structure onsite comparable to the subsoil structure offsite?	Not Applicable
ROOTING RESTRICTIONS is there a restrictive layer (assess to 50 cm)?	No, Site Passes
If yes, is it consistent with offsite?	Not Applicable
	Not Applicable
If No, is the Issue due to the presence of a compacted zone or disease?	нос аррисане
END OF LEVEL 1 SOIL ASSESSMENT	
EL 2 - SOIL ASSESSMENT (OPTIONAL)	
TEXTURE + Topsoil Is topsoil particle size analysis (PSA) onsite comparable to topsoil PSA offsite?	Not Applicable
% Clay is topsoil %-Clay onsite comparable to topsoil %-Clay offsite?	Not Applicable
TEXTURE - Subsoil is subsoil particle size analysis (PSA) onsite comparable to subsoil PSA offsite?	Not Applicable
% Clay is subsoil %-Clay onsite comparable to subsoil %-Clay offsite?	Not Applicable
ORGANIC CARBON - Topsoil is topsoil organic carbon onsite comparable to topsoil organic carbon offsite?	Not Applicable
pH - Topsoil is topsoil pH onsite comparable to topsoil pH offsite?	Not Applicable
pH - Subsoil is subsoil pH onsite comparable to subsoil pH offsite?	Not Applicable
	Not Applicable
	<u> </u>
EC - Subsoil is subsoil EC onsite comparable to subsoil EC offsite?	Not Applicable
SAR - Topsoil Is topsoil SAR onsite comparable to topsoil SAR offsite?	Not Applicable
SAR - Subsoil Is subsoil SAR onsite comparable to subsoil SAR offsite?	Not Applicable



Appendix B Site Sketch

										or Innonexactors			CATRON MARKET
		Operator				The state of the s	Unique Wel 0/13-14-041	I Identifier(s):			Dis	position #: N/A	
		Vesta Energy Ltd.	Г				SAPIDA GOAST GOAS	-28 W4/00					
CRITERIA:	STOREST TO STORE STORES	ATELOGRAPH PUREL PROPERTY OF THE PROPERTY OF T	-	Vegetation Information			DAZRE ACRES POR POR PROPER	hund Donien		Soil Order	RECEIVED THE REPORT OF THE PROPERTY OF A S	Information Chernozemic	
	Provincial Land Clas	STATE OF STA		Natural Region:			PK - Central	tural Region		Soil Great	Black Chernozem		
Area:		e Area		Natural Sub-region: Ecosite:			Red De			Soil Series	STREET, ARTEST &	TWEEDSMUIR	9
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Drair	Boun	s Road Lease Bou	ındary:	Former Wellhead:	rgend: Trees /	Brush:	Step O	ut: C	control Point:		Point:		^
:5:	The rest in the last of the la	dscape Criteria			tation				Soil	-1	T T		
Abbreviations:	E - Erosion	BA - Bare Area	is	V# - Site Ass	Selected and the contract	int	NACOUS CONTRACTOR OF THE	Site Assessme		MED MERCHANISM	T - Texture		4
revi	C - Contour				trol Point			SC - Control P		G/S ·	Gravel / Stones	<b>Y</b>	
Abb	ST - Stability	PD - Poor Draina	age		Weeds		CDD	AD - Admixi	- Cyce percent and the contract of the contrac				
	D - Debris				Health Area	S	SPK-	Soli Profile Re	Striction				ananana d
SITE SKET	CH Drilled an	nd Abandoned (D&A) V	Wellsite	Describe	other:						Version:	VERSION #3.1	
Lease Are Length: Width: Area: Access: Length:	120 m 120 m 120 m 1.440 ha		of s	m by 2.5 m stinkweed (T			C4			C3			
Width:	20 m			1								00	
Area:	0.230 ha		1		$\cup$	~~~~~~						C2	
T	opography:					<b>S5</b>		S	1		S3		
	Flat		n	/C5		33							
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	Inding Land Use / Vegetation	ARC2		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				Drainage (			100		
On-site:	I		1	1					<sup>)</sup> S1				
		ARS2		ARS1				V	<sup>&gt;</sup> S1		S2	C1	
			1			<b>S6</b>							
	Tame Pasture			ARC1					4				
North:	Tame Pasture		면			1		20 M M M M M M M M M M M M M M M M M M M			1	2 CO SEC. AND AND AND AND AND AND AND AND AND AND	
			Slough	/ cc						1 mil 100 mil			
			<u> </u>	ノ C6									
East:	Tame Pasture												******
Lusti						<b>S7</b>			<b>S8</b>		S9		
						O1			<b>J</b> U		- 55	C9	
	Tame Pasture												
South:	Tame Pasture	200 00 00 00 00 00 00 00 00 00			-	1						Across Co. Co. Co. Co. Co. Co. Co. Co. Co. Co.	
							67			00			
		,			1		C7		1	CE			
	Tame Pasture												
West:	, anne i astare				1	1	1		1		1		
										1 10 10 10 10 10 10 10 10 10 10 10 10 10			
	Tame												
	Pasture/Slough												
1000	The Control of the Co	7											

Comments:

The site sketch is not to scale. There was an approximately 2.5 m by 2.5 m patch of stinkweed (*Thlapsi arvense*) identified in the northwest corner. Landowner plans to remove hay and convert land to golf course, therefore no control of stinkweed is required. There is a slough located along the access road including offsite along the western edge which was identified on the original survey plan.





Appendix C Soil Assessment

	00 00 00 00 00 00 00 00 00 00 00 00 00							CDCD Linia	CB Haima Well Identifiar(s)	atifior(c)			C	Disposition #					VER	VERSION	VERSION #3.1
OFFSITE ASSESSMENT			Operator	5				hino only	2000	(6) (7)				NI /A					Had	CPITEPIA	Cultivated Lands
			Vesta Energy Ltd.	gy Ltd.				100/13-	100/13-14-041-28 W4/00	v4/00				NA						CNI	Course resident
Provincial Land Classification	tion					Soil Information	ation									Soil Assessment	sment		_		
Area Green Area	AND THE PERSON NAMED AND THE P		Soil Order				Cherr	Chernozemic							Assessor Name(s)	lame(s)				Date	
			Soil Great Group	t Group			Black Ch	Black Chernozem					1							(mm/dd/yr)	(J
			Soil Series	S			TWEE	TWEEDSMUIR					*	Kim Stevens	son, Dipl. &	Kim Stevenson, Dipl. & Evan Johnston, B.Sc.	n, B.Sc.			07/03/14	
Facility / Area Accord	Dril	Drilled and Abandoned (D&A) Wellsite	(D) banob	&A) Wellsi	t t	15	UTM Coordinates (NAD83)	tes (NAD8	3)		Activity				Dest	Description		Activity Dates	ates		Date (mm/dd/yr)
raciiity / At ea Assessed If other, describe			N/A				N	Northing	5824536	536		Con	Construction		Full Di.	Full Disturbance				Construction	n 07/29/05
Archard Amenda		W	Whole Site					Easting	300796	962		Rec	Reclamation		Full Di.	Full Disturbance				Revegetation	in Spring 2008
Assessment Approach					1					1		Reve	Revegetation		Cultivated:	Cultivated: Perennial Crop	۵		Aband.	Aband. / Reclam. Date	e Spring 2008
Cite Point		Soil							Soil Ratings												
) June 1 2001		Mozellin		74:5				Toncoil Origity	Vilelity				Subsoil	Subsoil Quality			Overall Ka	Overall Kating Comparison:	on:		
		Nicasul C.	qt	Contour	our		ţue				suoj				suoit	ų		Ą	łέγ	(4)	
Step - St	Evidence of S	Topsoil Depth (cm)	Topsoil Dep	-osəW	-orsiM	oninot2 asshu2	Goarse Fragme fragino fraginal	Color	Texture Consistence	Structure	Rooting Restrict	erutxe∏	eonstsisno	Structure	Rooting Restric	dəd liosqoT	gniteA əti2	lleuD liosqoT	liosdu2	UseraVO lis7 \ (9) szsq	NOTES:
OFFSITE		5														<b>2</b> 2	၁ ၁	၁ ၁	၁၁		
No. of Assessment Points		6	6	6	6	6	6	6	6	7	6	6	o	0	6					No st	No stucture assessment was conducted for any subsoil sample point, as a result no
Average Value		30	1.22	1.00	1.00	1.00	1.00	1.00	1.56 1.56	99 1.00	0 1.00	1.78	1.00	#DIV/0i	1.00					avera	average subsoil structure could be
% of Offsite Average		100%					,									Opening	727-100-00-00-00-00-00-00-00-00-00-00-00-00	SHOOTING HOUSE	ABHATTERSUCKALDICTO	calculated	ated.
Maximum Value		38	2	1	1	1	7	1	2 2	1	1	m	Т	0	1	2	2	6	2		
85% of Offsite Average		26																			
Minimum Value (LCM)		19	1	1	П	1	1	7	1	1	1	1	T	0	1						
80% of LCM		15																			
Standard Deviation		6.7																			
Standard Error		2.2	The state of the s		The second secon	Na Company	angua satura	anning and a second													
No. of Points with Rating of: 1			7	6	6	6	6					4	6	0	6						
No. of Points with Rating of: 2			2	0	0	0	0	0	5	0	0	m	0	0 (	0 (						
No. of Points with Rating of: 3			0	0	0	0	0					2	0	0 0	0 0						
No. of Points with Rating of: 4			0	0	0	0	0					0	0	5	0						
Allowable Rating Drop:																					
Maximum Rating - Offsite																					
Maximum Rating - Onsite																					
Rating Difference																					
Pass / Fail																					
Critical Value:																					
Onsite vs. Offsite:																				-	
Pass / Fail															1						

subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil Consistence subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil Consistence No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for subsoil required due to rating category of 1 for Subsoil Consistence No structure assessment for subsoil required due to rating category of 1 for Subsoil Consistence required due to rating category of 1 for Subsoil Consistence required due to rating category of 1 for Subsoil Consistence No structure assessment for subsoil required due to rating category of 1 for Subsoil Consistence No structure assessment for subsoil required due to rating category of 1 for Subsoil Consistence required due to rating category of 1 No structure assessment for subsoil No structure assessment for subsoil No structure assessment for subsoil Date (mm/dd/yr) Spring 2008 Spring 2008 07/29/05 Cultivated Lands NOTES: VERSION #3.1 (mm/dd/yr) Aband. / Reclam. Date 07/03/14 Construction Revegetation (A) lie7 \ (9) sze9 VERSION ۵ Overall 2 2 2 2 2 Subsoil Quality 2 Activity Dates m Overall Rating Comparison: 2 ۵. ۵ ۵ ۵ م ۵ ۵ 6 6 6 6 6 6 Topsoil Quality 9 9 ۵ ۵ ۵ ۵ Δ. 2 7 2 7 7 Site Rating Kim Stevenson, Dipl. & Evan Johnston, B.Sc 7 Cultivated: Perennial Crop ۵ ۵ ۵ ۵ ۵. ۵ Full Disturbance Full Disturbance 2 7 2 7 2 7 7 Description **Topsoil Depth** None (1) None (1) None (1) None (1) None (1) None (1) None (1) None (1) None (1) Н Н н н Rooting Restrictions н П Н Disposition # N/A Subsoil Quality Sli. Hard Sli. Hard (1-SD) Sli. Hard Loose (1 Loose (1 Firm (1-SM) Loose (1 Loose (1 Construction Reclamation (1-SD) Firm (1-(1-SD) SM) SM) SM) SM) SM) SCL (C2) SCL (C2) SCL (C2) SCL (C2) SC (C3) SCL (C2) SCL (C2) SC (C3) SCL (C2) Texture None (1) None (1) None (1) None (1) None (1) None (1) None (1) None (1) None (1) Rooting Restrictions f. gr. (T1) f. gr. (T1) f. gr. (T1) f. gr. (T1) Structure f. gr. (T1) f. gr. (T1) f. gr. (T1) ERCB Unique Well Identifier(s) 100/13-14-041-28 W4/00 Loose (2 TD) Sli. Hard (1-TD) Sli. Hard (1-TD) Sli. Hard (1-TD) (2 (2 (2 5824536 300796 TD) Loose (TD) Consistence TD) Loose TD) Loose TD) Soil Ratings Topsoil Quality CL (C2) CL (C2) CL (C2) CL (C2) (22) (2) L(1) L(1) L (1) I exture 7 UTM Coordinates (NAD83) Chernozemic Black Chernozem J J **TWEEDSMUIR** Northing Easting Black (1) Black (1) Black (1) Black (1) Black (1) Black (1) Black (1) Black (1) Black (1) Color <3% Vol. <3% Vol. <3% Vol. <3% Vol. (1) <3% Vol. <3% Vol. <3% Vol. <3% Vol. <3% Vol. Soil Information Content Ξ 1 1 (1) (1) (1) Ξ (1) Coarse Fragment None (1) None (1) None (1) None (1) None (1) None (1) None (1) None (1) None (1) Н Surface Stoniness Н ч <5 cm (1) <5 cm <5 cm (1) <5 cm (1) <5 cm <5 cm (1) <5 cm <5 cm <5 cm (1) (1) (1) 1 (1) Micro-Contour Drilled and Abandoned (D&A) Wellsite Site Soil Order Soil Great Group No Pond. No Pond. No Pond No Pond. (1) No Pond. (1) No Pond. No Pond. No Pond. No Pond. Vesta Energy Ltd. Meso-3 н E н Soil Series >85% (1) ×85% (1) ×85% (1) >85% (1) LCM (2) (2) ×85% (1) ×85% (1) (1) Topsoil Depth N/A Measure Soil 35 38 56 19 E 34 34 31 34 21 9 2 2 20 9 2 20 2 2 Evidence of Soil Provincial Land Classification Lower Lower Upper Upper Mid Mid Mid Mid Mid Slope Private Land Site Poin Step-out 9 No. 9 8 9 2 2 2 9 OFFSITE ASSESSMENT acility / Area Assessed Obs. Obs. Obs. Obs. Obs. Obs. Obs. Obs. Obs. \* \* OFFSITE 1 **OFFSITE 2** OFFSITE 3 **OFFSITE 4** OFFSITE 5 OFFSITE 6 **OFFSITE 7 OFFSITE 8** OFFSITE 9

ACCOUNT OF THE PARTY OF THE PAR		Characo	5																
ONSITE ASSESSMENT		Vesta Energy Ltd.	gy Ltd.				100/13	100/13-14-041-28 W4/00	: W4/00				N/A				CRITERIA	Cultivated Lands	spı
Provincial Land Classification					Soil Information	ation									Soil Assessment				
Area Green Area		Soil Order	er			Chernozemic	zemic							Assessor	Assessor Name(s)		Date		
Type Private Land		Soil Great Group	at Group			Black Cherr	ernozem										(mm/dd/yr	(yr)	
		Soil Series	Sa			TWEEDSMUIR	SMUIR						Kim Steven.	son, Dipl.	Kim Stevenson, Dipl. & Evan Johnston, B.Sc.		07/03/14	14	
Facility / Area Assessed	Drilled and Abandoned (D&A) Wellsite	ndoned (D.	&A) Wells	ite	5	UTM Coordinates (NAD83)	ates (NAD	(23)		Activity	À			De	Description	Activity Dates		Date (n	Date (mm/dd/yr)
other, describe		N/A				Nort	Northing	5824536	9		CO	Construction		Full D	Full Disturbance		Construction		07/29/05
Assessment Approach	3	Whole Site				Ea	Easting	300796	9		Rec	Reclamation		Full D	Full Disturbance		Revegetation		Spring 2008
44											Rev	Revegetation	J	ultivated	Cultivated: Perennial Crop	Aba	Aband. / Reclam. Compl.		Spring 2008
Site Point	Soil							Soil Ratings	gs						Č				
	Measure.		Site	9			Topso	Topsoil Quality				Subsoil	Subsoil Quality		Overall	Overali Kating Comparison:			
lio2 f			Contour	our		ופונך		Э		snoita		ə	į	ctions			(F)	i Lindon	
Step.	Depth (cm)	Topsoil De	Meso-	-oroiM	ninot2 əsahı	ngeri esteo tnetnoD	Color	Consistenc	Structure	oting Restric	Texture	Consistenc	enutountS	oting Restri	Topsoil Dep	euD liosqoT	Overall Sass (P) / Fai		ä
	E					2				Вο				оЯ			I		
ONSITE															S C S C	S C S C			
No. of Assessment Points	paran	6	6	ი	6		6 6		0		6	σ	0	o	No stucture assessment	No stucture assessment was conducted for any topsoil or subsoil	il or subsoil		
Average Value	30	1	٦	1	1	1	1	1	0/AIQ#	1	2	H	#DIV/0i	-	sample points, as a result n	sample points, as a result no average for topsoil and subsoil structure could be calculated.	bsoil structure		
% of Uffsite Average	30%	,	,	,				-	c		٠	,	c	-	2	Y			
Maximum Value	34	7	7	7				-	0	4	1	1	)	1		100 CO CO CO CO CO CO CO CO CO CO CO CO CO			al Control of the Con
Minimum Value	22	1	Н	1	П	П	1 1	1	0	Η.	2	П	o	П	No stucture assessment	No stucture assessment was conducted for any topsoil or subsoil	oil or subsoil		
Standard Deviation	3.7	0.3	0.0	0.0				0.0	#DIV/0I	0.0		0.0	#DIV/0i	0.0	sample points, as a result r	sample points, as a result no standard deviation or standard error for toosoil and subsoil structure could be calculated.	ndard error for		
Standard Error	1.2	0.1	0.0	0.0	0.0	0.0	0.0		#DIV/0		0.0	0.0	#DIV/0!	0.0					
No. of Points with Rating of: 1		∞	6	6	 б		6		0	6	0	6	0	6					
No. of Points with Rating of: 2		1	0	0	0				0	0	6	0	0	0					
No. of Points with Rating of: 3		0	0	0	0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0					
No. of Points with Rating of: 4		0	0	0	0	11	- Contraction	DOGGER-ROOM		0									
Allowable Rating Drop:		2	2	2	2	7	7 7		-	7	7	7		7					
Maximum Rating - Offsite		2	П	1	1	1	1 2		1	1 ,	e (	н,	0 0	н,					
Maximum Rating - Onsite		2	1	1	1	1	1 1	1 OC	-1 00	000	-1 00	000	00.0	0.00	No onsite vs. offsite value	No onsite vs. offsite values could be calculated for topsoil or subsoil	soil or subsoil		
kating Dillelence Pass / Fail		000 a	8	8 4							-	۵	۵	۵	structure since no structu	structure since no structure assessment was required at the onsite toncoil and subsoil assessment points.	at the onsite		
Critical Value:	82%	0:30	0:30	0:30	0:30	0.30 0.	0.30 0.30	0:30	0.15	0:30	0:30	0:30	0:30	0:30					
Onsite vs. Offsite:	%86	-0.11	0.00	0.00	00.0	(	)- (	56 -0.56	10/NIQ# 5	00.00	0.22	0.00	#DIV/0!	0.00					
Dace / Eail		•																	

subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil Consistence subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil No structure assessment for topsoil or subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil subsoil required due to rating category of I for Topsoil Consistence and Subsoil ubsoil required due to rating category of I for Topsoil Consistence and Subsoil subsoil required due to rating category of 1 for Topsoil Consistence and Subsoil subsoil required due to rating category 1 for Topsoil Consistence and Subsoil No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for topsoil or No structure assessment for topsoil or Date (mm/dd/yr) Spring 2008 Spring 2008 07/29/05 **Cultivated Lands** VERSION #3.1 onsistence onsistence (mm/dd/yr) Aband. / Reclam. Compl 07/03/14 (A) list / (9) szeq VERSION CRITERIA ۵ ۵ ۵ Ь ۵ ۵ Overall ۵ 2 2 2 Subsoil Quality 2 2 2 2 2 Activity Dates Overall Rating Comparison: ۵ ۵ ۵ ۵ 6 6 Villeu D liosqoT 6 6 6 6 6 9 9 9 9 9 ۵ ۵ Δ. ۵ Kim Stevenson, Dipl. & Evan Johnston, B.Sc 2 Site Rating 7 7 7 Cultivated: Perennial Cro ۵ ۵ Full Disturbance ۵ Full Disturbance ۵ ۵ Assessor Name(s) 7 7 **Topsoil Depth** 2 7 7 7 7 7 None (1) None (1) None (1) None (1) None (1) ч Н H None None (1) None (1) Vone Н Н (1) Н Н (1) н N/A Structure Sli. Hard (1-SD) Revegetation Sli. Hard (1-Construction Sli. Hard (1-Hard (1-Firm (1-Sli. Hard (1-Sli. Hard (1-SD) Reclamation Sli. Hard ( SD) Н Sli. Hard ( SD) CONSISTENCE SD) SD) SI. SD) SM) SD) Н (22) CL (C2) CL (C2) CL (C2) lexture SC (2) SC (52) SCL (C2) SCL (C2) SCL (52) 7 ŭ None (1) None (1) None (1) None (1) Vone Vone Vone None (1) Rooting Restrictions Vone Structure 100/13-14-041-28 W4/00 Sli. Hard (1 Sli. Hard (1-TD) Sli. Hard (1-TD) 300796 Soil Ratings Sli. Hard (1: Sli. Hard (1-TD) Sli. Hard (1-TD) Sli. Hard (1-TD) Sli. Hard (1-Hard (1-Consistence 7 Н 1 <u>O</u> ч ч н (OT 1 SI. P **Topsoil Quality** UTM Coordinates (NAD83) L(1) L (1) L (1) L (1) Texture L (1) L(1) L(1) L (1) Black Chernozem TWEEDSMUIR Chernozemic Northing Easting Black (1) Black (1) Black (1) Black (1) Black (1) Black (1) (1) Black (1) Black (1) Н Soil Information <3% Vol. <3% Vol. (1) <3% Vol. <3% Vol. Content <3% Vol. <3% Vol. Ξ Œ (1) (1) 3 (1) Ξ Coarse Fragment None (1) None None (1) None (1) None (1) Vone None (1) Surface Stoniness (1) None (1) None (1) <5 cm (1) <5 cm <5 cm (1) <5 cm <5 cm (1) <5 cm (1) <5 cm (1) <5 cm (1) <5 cm (1) 1 Micro-(1) Drilled and Abandoned (D&A) Wellsite Site Soil Great Group Pond. No Pond. (1) No Pond. No Pond. No Pond. No Pond. (1) No Pond. (1) Vesta Energy Ltd. S No Pond. (1) No Pond. (1) Meso-Н Soil Series Soil Order Whole Site ×85% (1) >85% (1) ×85% (1) >85% >85% >LCM (2) >85% (1) >85% Topsoil Depth 7 ч 7 Depth (cm Measure Topsoil Soil E 32 33 27 28 31 31 22 28 34 Disturbance: Yes Yes Yes Yes Yes Yes Yes Yes Yes Evidence of Soil Upper Green Area Mid Lower Lower Lower Private Land Slope Mid Mid Mid Mid Provincial Land Classi Site Point Step 8 9 å 8 9 9 2 2 No. ONSITE ASSESSMENT icility / Area Assessed Value: Obs. Obs. Obs. Obs. Obs. /alue: Obs. Obs. Obs. Obs. ONSITE ONSILE I ONSILE 2 ONSITE 3 ONSITE 4 ONSITE 5 ONSITE 6 ONSILE 7 8 3LISNO ONSITE 9

VERSION #3.1	Cultivated Lands			yr)	4	Date (mm/dd/yr)	07/29/05	Spring 2008	Spring 2008			NOTES:			Soils are saturated due to being located within a slough	fortered priced of out to be described on a place	ours are sacurated une to being located within a slough		Sample point adjacent to the approach which landowner and county have signed a release for		
5925	CRITERIA	-	Date	(mm/dd/yr)	07/03/14	Activity Dates	Construction	Revegetation	Aband. / Reclam. Date		Overall kating comparison:	Valleu D llosqoT  Valleu D llosdu S  Il 19 163 / (9) 2559	S C S C	P 9 9 P 4 4 P P				P 10 9 P 4 4 P P			
		Soil Assessment	e(s)		Kim Stevenson, Dipl. & Evan Johnston, B.Sc.	ition	rbance	rbance	rennial Crop	=	Overall R	Restrictions Topsoil Depth	S C S C	1 1 P 3 3	a a		a	1 1 P 2 2	e.		e. (
		Soi	Assessor Name(s)		n, Dipl. & Eva	Description	Full Disturbance	Full Disturbance	Cultivated: Perennial Crop		ality	Structure		Т	None (1)	1	None (1)	1	None (1)	Т	None (1)
Disposition #	N/A				Kim Stevenso						Subsoil Quality	Sonsistence		Н	Loose (1- SM)	1	Loose (1- SM)	Н	Loose (1- SM)	н	Loose (1- SM)
							Construction	Reclamation	Revegetation			Texture		2	CL (C2)	2	CL (C2)	7	CL (C2)	2	CL (C2)
							Con	Rec	Reve			Rooting Restrictions		1	None (1)	1	None (1)	1	None (1)	1	None (1)
						Activity						Structure		1	f. gr. (T1)	Н	f. gr. (T1)	Н	f. gr. (T1)	н	f. gr. (T1)
er(s)	00		100000							tings	۸ .	eonstsisnoO		2	Loose (2 TM)	2	Loose (2 TM)	7	Loose (2 TM)	2	Loose (2 TM)
ue Well Identifier(s)	-14-041-28 W4/00						5824536	300796		Soil Ratings	Topsoil Quality	Техtиге		2		2	ack (1) CL (C2) Loose (2	7	ack (1) CL (C2)	2	CL (C2)
nique We	13-14-041			E	~	4D83)					Tops	Color		ı	Black (1) CL (C2)	1	Black (1)	П	Black (1)	1	Black (1)
ERCB Uniq	100/13		Chernozemic	Black Chernozem	TWEEDSMUIR	inates (N	Northing	Easting				Coarse Fragment Content		1	<3% Vol. (1)	1	<3% Vol. (1)	1	<3% Vol. (1)	1	<3% Vol. (1)
		Soil Information	Che	Black	TWE	UTM Coordinates (NAD83)						sseninot& esettu		1	None (1)	τ	None (1)	2	Num. (2)	н	None (1) <3% Black (1) CL (C2)
		Soil Inf									Site	Our Micro-		1	<5 cm (1)	1	<5 cm (1)	1	<5 cm (1)	П	<5 cm (1)
						ellsite					Si	On -oseM		2	Oc. Pond. (2)	2	Oc. Pond. (2)	1	No Pond. (1)	П	No Pond. (1)
Operator	Vesta Energy Ltd.		er	Soil Great Group	Se	(D&A) W		0				Topsoil Depth		1	>85% (1)	1	>85%	1	>85%	1	>85%
obe	Vesta Er		Soil Order	Soil Gre	Soil Series	Drilled and Abandoned (D&A) Wellsite		Whole Site			Soil Measure.	Topsoil Depth (cm)		91.43		100		96.55		100	
		190			Table 1	d and Al					Noil №		5	32		35		28		29	
		n u				Drille						Evidence of Soil Disturbance:			o Z	10.10	N <sub>O</sub>		o N		N
-		assification	Green Area	Private Land			If other describe					Slope			Lower		Lower		Upper		Upper
AD	E	Provincial Land Classification	Gree	Privat		passas	If other	roach	JI Oacii	Cito Boint	olle roll	Step - out			N O		S <sub>O</sub>		Š		Š
ACCESS ROAD	ASSESSMENT	Provincia	Area	Tvpe		Facility / Area Accepted	Cacillet / Area	Accorded Amongo	Assessment Ap					Value:	ONSITE 3	Value:	OFFSITE :	Value:	ONSITE 2	Value:	OFFSITE :



Appendix D Vegetation Assessment

	Operator		ERCB Unique Well Identifier(s)	entifier(s)				Disp	Disposition #					>	VERSION	VERSION #3.1	13.1	
OFFSITE ASSESSMENT	Vesta Energy Ltd.		100/13-14-041-28 W4/00	W4/00					N/A					[5]	RITERIA	Cultivated Lands	Lands	
Provincial Land Classification	Classification		Vegetation Information	Informat	ion								Vegetation	Vegetation Assessment	nt			
Area	White Area	Natural Region		PK - Parkland Natural Region	nd Natura	Region					As	Assessor Name(s)	(S)et				Date	
Туре	Private Land	Natural Sub-region	gion	PK - Ce	PK - Central Parkland	and							(2)				(mm/dd/yr)	
		Ecosite		~	Red Deer					Kim	Stevenson	Kim Stevenson, Dipl. & Evan Johnston, B.Sc.	in Johnstoi	1, B.Sc.			07/03/14	
Facility / Area Assessed	Drilled and Abandoned (D&A) Wellsite	UTM Coordinates (NAD83)	es (NAD83)	-	Activity					Description	u			Activit	Activity Dates		Date (mm/dd/yr)	/yr)
If other, describe		Northing	5824536	10516		Construction	iction		F	Full Disturbance	nce				Construction	rction	07/29/05	
Assessment Approach	Whole Site	Easting	300796			Reclamation	ation		F.	Full Disturbance	nce				Revegetation	tation	Spring 2008	8
Was area disturbed?	Yes					Revegetation	ation		Cultiva	Cultivated: Perennial Crop	nial Crop			A	Aband. / Reclam Compl.	ompl.	Spring 2008	8
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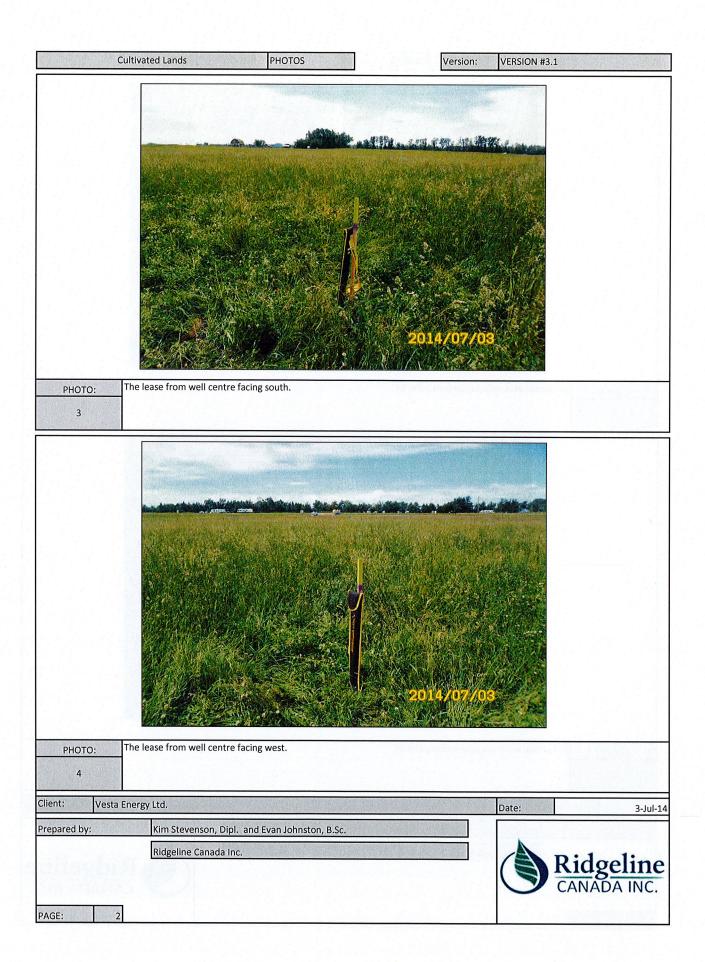
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Appendix E Site Photographs





Cultivated Lands

PHOTOS

Version: VERSION #3.1

2014/D7/08

PHOTO:

Soil profile at on-site assessment point S4.

5



РНОТО:

Soil profile at on-site assessment point S7.

6

Client: Vesta Energy Ltd.

Date:

3-Jul-14

Prepared by:

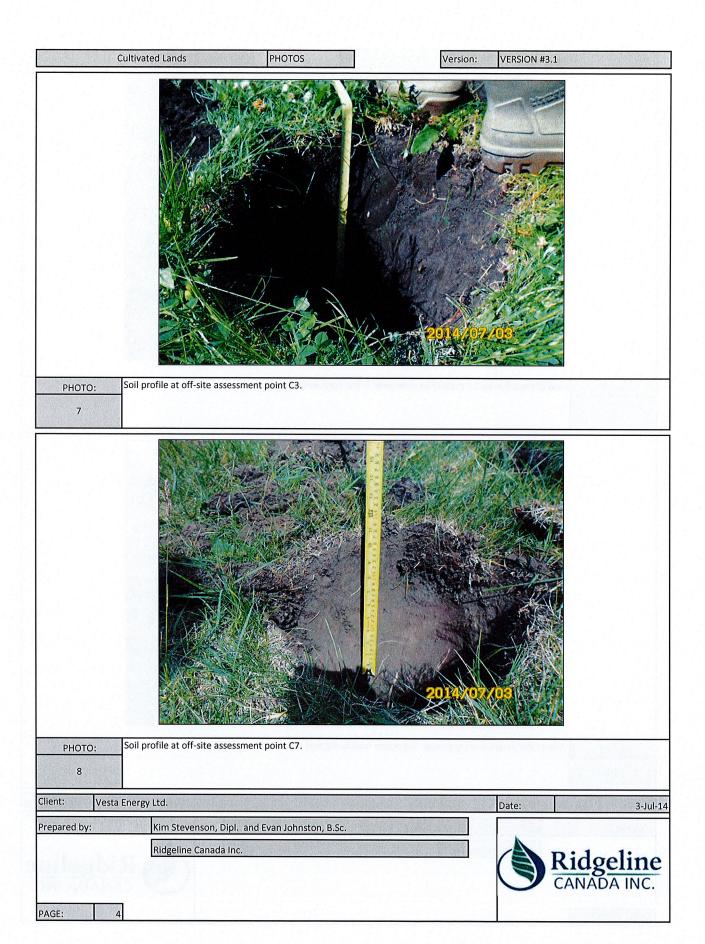
Kim Stevenson, Dipl. and Evan Johnston, B.Sc.

Ridgeline Canada Inc.



PAGE:

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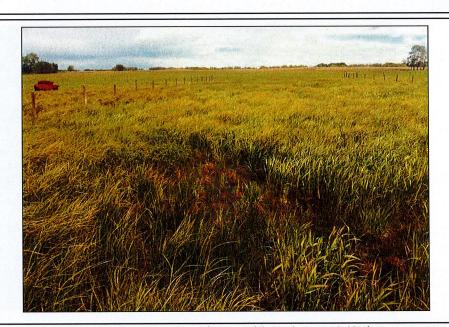
Cultivated Lands PHOTOS Version: VERSION #3.1



РНОТО:

View of the 2.5 m by 2.5 m patch of stink weed in the northwest corner.

9



РНОТО:

View of the slough running through the access road facing east (Photo taken June 10, 2014).

10

Client: Vesta Energy Ltd. Date: 3-Jul-14

Prepared by: Kim Stevenson, Dipl. and Evan Johnston, B.Sc.

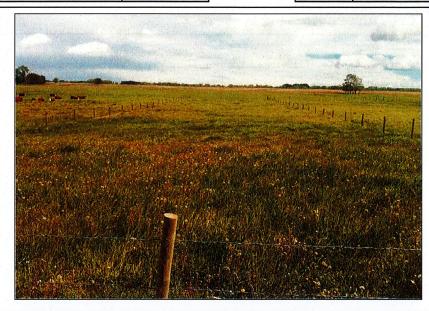
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5

Cultivated Lands PHOTOS Version: VERSION #3.1



РНОТО:

Facing east from the approach along the access road (Photo taken June 10, 2014).

11



PHOTO:

The approach facing north from the approach toward the access road associated with another facility that was under construction at the time of the assessment.

Client: Vesta Energy Ltd.

Date:

3-Jul-14

vesta Energy Et

Kim Stevenson, Dipl. and Evan Johnston, B.Sc.

Ridgeline Canada Inc.



PAGE:

Prepared by:

6



Appendix F
References, Limitations and Closure



## VESTA ENERGY LTD.

### **REFERENCES**

Abacus Datagraphics. July, 2014. http://www.abacusdatagraphics.com.

Government of Alberta (GoA). 2013. 2010 Reclamation Criteria for Wellsites and Associated Facilities for Cultivated Lands. July 2013.

Alberta Energy Regulator (AER). 2014. Assessment Tool and Record of Observation for Cultivated Lands. Version 3.1. April 2014.

Ridgeline Canada Inc. (Ridgeline). 2013. *Standard Operating Procedures*. Calgary, Alberta.

Ridgeline. 2014. Health, Safety and Environment Manual. Current COR No. 20120409-4501. Valid until April, 2015.

### LIMITATIONS

Ridgeline Canada Inc. confirms that it performed the assessment work as described in this report. This report is based on-site conditions and on information available to Ridgeline Canada Inc. at the time of the assessment, as described in this report. Ridgeline Canada Inc. has no obligation to update this report based on changes in conditions or new information arising after the date of the assessment. This report has been prepared for the exclusive use of Vesta Energy Ltd. Ridgeline Canada Inc. assures that it exercised reasonable due diligence in the collection of information but cannot guarantee the accuracy or validity of such information. This report is based on the assumptions set out in this report. Unless stated otherwise, Ridgeline Canada Inc. has not independently verified the accuracy of such assumptions and gives no assurance of the accuracy or validity of such assumptions. Information presented in this report was accumulated and interpreted exclusively for conducting the assessment work described in this report. Ridgeline Canada Inc. does not accept any liability for the use of this report for any purpose other than as stated.

### **CLOSURE**

This report was prepared by Kristen Cockle, B.Sc., GIT, and reviewed by Marnie Hill, B.Sc., P.Ag. Ridgeline Canada Inc. would like to thank Vesta Energy Ltd. for the opportunity to conduct the work described in this report. Should you have any questions or require additional copies of the report, please do not hesitate to contact the undersigned.

Respectfully submitted,

RIDGELINE CANADA INC.

Kristen Cockle, B.Sc., GIT

Hydrgeologist-In-Training

Marnie Hill, B.Sc., P.Ag.

**Project Manager** 



# Appendix G Government of Alberta Professional Declaration



### **Professional Declaration for Reclamation Certificate Applications**

### Submit one Declaration for each report

1 This Declaration is made in conjunction with an application for a reclamation certificate (the "Application") made by

Vesta Energy Ltd. (Applicant)

for the following land(s): 100/13-14-041-28 W4/00

(insert legal description).

- 2 I am a practicing professional member [Registration/member number] 3639
  - of the Alberta Institute of Agrologists
  - which is a regulated professional organization (the "Professional Organization"). I have a minimum of five years verifiable experience in remediation or reclamation relevant to the Competencies Table contained in the Competencies for Remediation and Reclamation Advisory Committee's Recommendations Report (ESRD 2006).
- 3 As a member of the Professional Organization, I have the ability to sign off on work required for reclamation certificate applications as defined by the Alberta Energy Regulator and am authorized by the Applicant to prepare and submit the attached report or document, (the "Professional Report") listed below.
- 4 To the best of my knowledge and the best of my professional ability, recognizing the standard of care expected of a reasonable professional doing this work, it is my professional opinion that all the information contained in the Professional Report is accurate and complete, and contains all the relevant information for the purposes of this Application.
- The results reported in the Professional Report are consistent with all current and applicable Provincial policy, criteria, standards and guidelines for the remediation or reclamation.
- 6 The Professional Report, including all attachments, data and supplemental information, were prepared by me, or under my direct supervision, or was prepared by a third party(ies) and has been reviewed and accepted by me; and was prepared in accordance with an appropriate quality assurance/quality control system that ensured qualified personnel properly gathered and evaluated all the information contained in and underlying the Professional Reports. All the information submitted is, to the best of my knowledge, true, accurate and complete.
- 7 I carry, or my employer: Ridgeline Canada Inc.

(insert legal name of employer)

carries professional liability insurance (errors and omissions). This insurance will be maintained for the specified liability period, subject to insurance availability.

March 2014 Version 3.0

I am aware that it is an offence under section 227 of the Environmental Protection and Enhancement Act to provide false, misleading or inaccurate information and that there are significant fines for committing these offences, including the possibility of imprisonment. See below for the relevant sections.

Report Title: Detailed Site Assessment

VESTA MORNSIDE 13-14-41-28

100/13-14-041-28 W4/00

Date:

July 15, 2014

Name:

Marnie Hill, B.Sc., P.Ag.

Marnie Hill

2014.07.15

14:15:51

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Signature:

Registration/Member number:

3639

Section 227 of the Environmental Protection and Enhancement Act

Offences

s. 227 A person who

(a) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information,

(b) provides false or misleading information pursuant to a requirement under this Act to provide information

is guilty of an offence.

Penalties is liable to

s. 228(1) A person who commits an offence referred to in section 60, 87, 108(1), 109(1) or 227(a), (d), (f) or (h)

Note: If you wish to sign the form with an electronic

you had a fixed signature on paper.

signature you are bound with the same force as though

(a) in the case of an individual, to a fine or not more than \$100 000 or to imprisonment for a period of not more than 2 years or to both fine and imprisonment, or

(b) in the case of a corporation, to a fine of not more than \$1 000 000.

(2) A person who commits an offence referred to in section 61, 67, 75, 76, 79, 88, 108(2), 109(2) 110(1) or (2), 111, 112, 137, 148, 149, 155, 157, 163, 169, 170, 173, 176, 188, 191, 192, 209, 227(b), (c), (e), (g), or (i) or 251 is liable.

(a) in the case of an individual, to a fine or not more than \$50 000. or

(b) in the case of a corporation, to a fine of not more than \$500 000.