TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 19, 2015

MR VIVEK SINGH
REGULATORY FILING
HORST ENERGY LLC
PO BOX 8938
FORT WORTH TX 76124-0938

Permit by Rule Registration Number: 127663

Location	From The Junction Of Hwy 84 & Fm 2106 In Southland Go S On Fm 2106 For 2.4 Mi Go W 0.8 Mi On Lease Rd Then Turn N Into The Facility
City/County:	Southland, Lynn County
Project Description/Unit:	Ken Davies 1
Regulated Entity Number:	RN107903338
Customer Reference Number:	CN604719633
New or Existing Site:	New

30 TAC § 106.352(l) Effective Date: 11/22/2012

HORST ENERGY LLC has certified the emissions associated with the Ken Davies 1 under the Permit by Rule(s) stated above. For rule information see: www.tceq.texas.gov/permitting/air/nav/numerical_index.html.

The company is also reminded that these facilities may be subject to and must comply with other state and federal air quality requirements. Facility owners or operators must retain records containing sufficient information to demonstrate compliance as required in 30 TAC §106.8.

If you have questions, please contact (512) 239-1250 or email airog@tceq.texas.gov. This action is taken under the authority delegated by the Executive Director of the TCEQ.

Sincerely,

Dominic Ruggeri, P.E., Manager
Rule Registrations Section
Air Permits Division

cc: Air Section Manager, Region 2 - Lubbock

Project Number: 222685

Certified Emission Rates
Registration Number: 127663

This table lists the certified emission rates and all sources of air contaminants on the applicant's property covered by this registration. The emission rates shown are those derived from information submitted as part of the registration for PBR.

ESTIMATED EMISSIONS															
EPN/Emission Source	Specific VOC or Other Pollutants	VOC		NO_x		CO		PM_{10}		$PM_{2.5}$		SO_2		H_2S	
		lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
CLOAD/Crude Loading		57.68	0.45	--	--	--	--	--	--	--	--	--	--	1.32	0.01
PWLOAD/Produced Water Loading		0.58	0.01	--	--	--	--	--	--	--	--	--	--	0.01	<0.01
T-01/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-02/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-03/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-04/Produced Water Tank (1) 200-BBL		<0.01	0.02	--	--	--	--	--	--	--	--	--	--	<0.01	<0.01
F-01/Fugitives Site		0.50	2.19	--	--	--	--	--	--	--	--	--	--	0.03	0.10
H-01/Heater Treater (0.5 MMBtu/hr)		<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.26	--	--
MSS/MSS Activities/Blowdowns		19.98	0.50	--	--	--	--	--	--	--	--	--	--	1.80	0.04
TOTAL EMISSIONS (TPY):			4.16		0.01		0.01		<0.01		<0.01		0.26		0.18
MAXIMUM OPERATING SCHEDULE:			Hours/Day		24	Days/Week		7	Weeks/Year		52	Hours/Year			8760

VOC - volatile organic compounds
NO_x - total oxides of nitrogen
CO - carbon monoxide
PM_{10} - particulate matter equal to or less than 10 microns in size
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in size
SO_2 - sulfur dioxide

**Fugitive emissions are an estimate only and should not be considered as a maximum allowable

TECHNICAL REVIEW: SCREENING

Permit No.:	127663	*Company Name:*	HORST ENERGY LLC	*APD Reviewer:*	Ms. Carolyn Salch
Project No.:	222685	*Unit Name:*	Ken Davies 1	*PBR No(s).:*	106.352(l) 2012-NOV-22

GENERAL INFORMATION			
Regulated Entity No.:	RN107903338	**Project Type:**	Permit by Rule Application
Customer Reference No.:	CN604719633	**Date Received by TCEQ:**	December 8, 2014
Account No.:		**Date Received by Reviewer:**	January 21, 2015
City/County:	Southland, Lynn County	**Physical Location:**	from the junction of hwy 84 & fm 2106 in southland go s on fm 2106 for 2.4 mi go w 0.8 mi on lease rd then turn n into the facility

CONTACT INFORMATION					
Responsible Official/ Primary Contact Name and Title:	Vivek Singh Regulatory Filing	**Phone No.:** **Fax No.:**	(817) 886-4491	**Email:**	HORSTENERGY@ATT.NET
Technical Contact/ Consultant Name and Title:		**Phone No.:** **Fax No.:**		**Email:**	

INITIAL SCREENING

Horst Energy, LLC (Horst) is registering Ken Davies #1 in Lynn County, Texas, under Texas Commission on Environmental Quality (TCEQ) Permit by Rule (PBR) §106.352. This registration is for a single scenario site. Horst constructed the Facility after November 22, 2012, and is not waiting for a response from the TCEQ prior to implementing this project. Horst has prepared a PI-7-CERT submittal to register and certify the emission at the site.

Estimated Emissions

ESTIMATED EMISSIONS

EPN/Emission Source	Specific VOC or Other Pollutants	VOC		NO_x		CO		PM_{10}		$PM_{2.5}$		SO_2		H_2S	
		lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
CLOAD/Crude Loading		37.68	0.45	--	--	--	--	--	--	--	--	--	--	1.32	0.01
PWLOAD/Produced Water Loading		0.58	0.01	--	--	--	--	--	--	--	--	--	--	0.01	<0.01
T-01/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-02/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-03/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-04/Produced Water Tank (1) 200-BBL		<0.01	0.02	--	--	--	--	--	--	--	--	--	--	<0.01	<0.01
F-01/Fugitives Site		0.50	2.19	--	--	--	--	--	--	--	--	--	--	0.03	0.10
H-01/Heater Treater (0.5 MMBtu/hr)		<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.26	--	--
MSS/MSS Activities/Blowdowns		19.98	0.50	--	--	--	--	--	--	--	--	--	--	1.80	0.04
TOTAL EMISSIONS (TPY):			4.16		0.01		0.01		<0.01		<0.01		0.26		0.18
MAXIMUM OPERATING SCHEDULE:		Hours/Day		24	Days/Week		7	Weeks/Year		52	Hours/Year			8760	

Sweet		**Sour**	**X**	**ppm** *(sour site only)*	**20000**	**¼ mile ?** *(sour site only)*	**Y**

Noted Highlights From Project	**Yes**	**No**	**N/A**	**Comments**
Are emissions certified?	X			
Are Calculations for Each EPN provided?	X			
Storage Tanks: Are VOC emissions from each tank < 6 tpy?	X			
Engines: Does NOx meet NAAQS?			X	
Is HCHO included in VOC total?			X	*If no, is HCHO + VOC < 25 tpy?* ☐ *YES*
MSS: Are emissions included?	X			*If no, add MSS language to letter*
Federal/State Rule Applicability Represented or	**Yes**	**No**	**N/A**	**Comments**

TECHNICAL REVIEW: SCREENIN

Permit No.:	127663	***Company Name:***	HORST ENERGY LLC	***APD Reviewer:***	Ms. Carolyn Salch
Project No.:	222685	***Unit Name:***	Ken Davies 1	***PBR No(s).:***	106.352(l) 2012-NOV-22

Acknowledged				
NSPS OOOO		X		
Other:				

COMMENTS & SCOPE OF REVIEW

NOTES	Permit reviewer has reviewed the application and has found no outstanding issues that would prohibit the project from meeting all applicable rules and regulations.	DEFICIENT ITEMS	

02/17/2015 ----------NSR IMS - PROJECT RECORD ----------

PROJECT#: 222685 PERMIT#: 127663 STATUS: PENDING DISP CODE: C
RECEIVED: 12/08/2014 PROJTYPE: INITIAL AUTHTYPE: PBR ISSUED DT: 2.18.15
RENEWAL:
PROJECT ADMIN NAME: KEN DAVIES 1
PROJECT TECH NAME: KEN DAVIES 1

Assigned Team:RULE REG SECTION

STAFF ASSIGNED TO PROJECT:

EVANS , LINDZEY	- REVIEWR1_2 -	AP INITIAL REVIEW
MCDONALD , MARK	- REVIEW ENG -	RR TEAM
TEAM LEADER , RR	- REVIEW ENG -	RULE REG SECTION

CUSTOMER INFORMATION (OWNER/OPERATOR DATA)
ISSUED TO: HORST ENERGY LLC
COMPANY NAME: HORST ENERGY LLC
CUSTOMER REFERENCE NUMBER: **CN604719633**

REGULATED ENTITY/SITE INFORMATION
REGULATED ENTITY NUMBER: **RN107903338** ACCOUNT:
PERMIT NAME: KEN DAVIES 1

REGULATED ENTITY LOCATION: FROM THE JUNCTION OF HWY 84 & FM 2106 IN SOUTHLAND GO S ON FM 2106 FOR 2.4 MI GO W 0.8 MI ON LEASE RD THEN TURN N INTO THE FACILITY
REGION 02 - LUBBOCK NEAR CITY: SOUTHLAND COUNTY: LYNN

CONTACT DATA

CONTACT NAME: MR VIVEK SINGH CONTACT ROLE: RESPONSIBLE OFFICIAL
JOB TITLE: REGULATORY FILING ORGANIZATION: HORST ENERGY LLC
MAILING ADDRESS: PO BOX 8938, FORT WORTH, TX, 76124-0938
PHONE: (817) 886-4491 Ext: 0
EMAIL:HORSTENERGY@ATT.NET

PROJECT NOTES:

12/18/2014 TC SAME AS RO
12/18/2014 NO APWL DF

PERMIT NOTES:

FEE:

Reference	Fee Receipt Number	Amount	Fee Receipt Date	Fee Payment Type

3111	100.00	CHECK

TRACKING ELEMENTS:

TE Name	Start Date	Complete Date
APIRT RECEIVED PROJECT (DATE)	12/08/2014	
APIRT TRANSFERRED PROJECT TO TECHNICAL STAFF (DATE)	12/19/2014	
PROJECT RECEIVED BY ENGINEER (DATE)	01/31/2015	
ENGINEER INITIAL REVIEW COMPLETED (DATE)	02/06/2015	
PEER / MANAGER REVIEW PERIOD	02/17/2015	02/17/2015
CENTRAL REGISTRY UPDATED		
DEFICIENCY CYCLE		
ENHANCED ADMINISTRATIVE OR APPLICATIONS REVIEW (EAR)		
ENHANCED ADMINISTRATIVE OR APPLICATIONS REVIEW (EAR)		

PROJECT RULES:

Unit Desc	Rule Desc	Request Type	On Application	Approve
OIL AND GAS PRODUCTION FACILITIES	106.352 2012-NOV-22 -	ADD	Y	APPROVE

PERMIT RULES:

Unit Desc	Rule Desc	Start Date	End Date

PROJECT ATTRIBUTES:

Attributes	Value
PROJECT POINT	

12/19/2014 ----------NSR IMS - PROJECT RECORD ----------

PROJECT#: 222685 PERMIT#: 127663 STATUS: PENDING DISP CODE: _____
RECEIVED: 12/08/2014 PROJTYPE: INITIAL AUTHTYPE: PBR ISSUED DT: _____
RENEWAL:
PROJECT ADMIN NAME: KEN DAVIES 1
PROJECT TECH NAME: KEN DAVIES 1

Assigned Team: RULE REG SECTION

STAFF ASSIGNED TO PROJECT:

EVANS , LINDZEY	- REVIEWR1_2 -	AP INITIAL REVIEW
TEAM LEADER , RR	- REVIEW ENG -	RULE REG SECTION

CUSTOMER INFORMATION (OWNER/OPERATOR DATA)
ISSUED TO: HORST ENERGY LLC
COMPANY NAME: HORST ENERGY LLC
CUSTOMER REFERENCE NUMBER: **CN604719633**

REGULATED ENTITY/SITE INFORMATION
REGULATED ENTITY NUMBER: **RN107903338** ACCOUNT:
PERMIT NAME: KEN DAVIES 1

REGULATED ENTITY LOCATION: FROM THE JUNCTION OF HWY 84 & FM 2106 IN SOUTHLAND GO S ON FM 2106 FOR 2.4 MI GO W 0.8 MI ON LEASE RD THEN TURN N INTO THE FACILITY
REGION 02 - LUBBOCK NEAR CITY: SOUTHLAND COUNTY: LYNN

CONTACT DATA

CONTACT NAME: MR VIVEK SINGH CONTACT ROLE: RESPONSIBLE OFFICIAL
JOB TITLE: REGULATORY FILING ORGANIZATION: HORST ENERGY LLC
MAILING ADDRESS: PO BOX 8938, FORT WORTH, TX, 76124-0938
PHONE: (817) 886-4491 Ext: 0
EMAIL:HORSTENERGY@ATT.NET

PROJECT NOTES:
12/18/2014 TC SAME AS RO
12/18/2014 NO APWL DF

PERMIT NOTES:

FEE:

Reference	Fee Receipt Number	Amount	Fee Receipt Date	Fee Payment Type
3111		100.00		CHECK

TRACKING ELEMENTS:

TE Name	Start Date	Complete Date
APIRT RECEIVED PROJECT (DATE)	12/08/2014	
APIRT TRANSFERRED PROJECT TO TECHNICAL STAFF (DATE)	12/19/2014	
CENTRAL REGISTRY UPDATED		
DEFICIENCY CYCLE		
ENGINEER INITIAL REVIEW COMPLETED (DATE)		
ENHANCED ADMINISTRATIVE OR APPLICATIONS REVIEW (EAR)		
ENHANCED ADMINISTRATIVE OR APPLICATIONS REVIEW (EAR)		
PEER / MANAGER REVIEW PERIOD		
PROJECT RECEIVED BY ENGINEER (DATE)		

PROJECT RULES:

Unit Desc	Rule Desc	Request Type	On Application	Approve
OIL AND GAS PRODUCTION FACILITIES	106.352 2012-NOV-22 -	ADD	Y	APPROVE

PERMIT RULES:

Unit Desc	Rule Desc	Start Date	End Date

PROJECT ATTRIBUTES:

Attributes	Value
PROJECT POINT	

TEXAS SECRETARY of STATE
NANDITA BERRY

BUSINESS ORGANIZATIONS INQUIRY - VIEW ENTITY

Filing Number:	801590032	**Entity Type:**	Domestic Limited Liability Company (LLC)
Original Date of Filing:	May 1, 2012	**Entity Status:**	In existence
Formation Date:	N/A		
Tax ID:	32047831949	**FEIN:**	
Duration:	Perpetual		

Name: HORST ENERGY LLC

Address: PO BOX 8938
FORT WORTH, TX 76124 USA

REGISTERED AGENT | FILING HISTORY | NAMES | MANAGEMENT | ASSUMED NAMES | ASSOCIATED ENTITIES

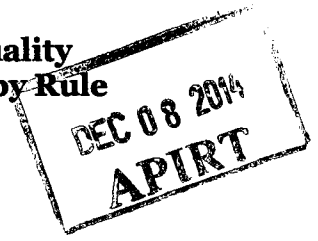
Name	Address	Inactive Date
National Registered Agents, Inc.	1999 Bryan St., Ste. 900 Dallas, TX 75201-3136 USA	

Order | Return to Search

Instructions:

- To place an order for additional information about a filing press the 'Order' button.

Texas Commission on Environmental Quality
Registration and Certification for Permits by Rule
Form PI-7-CERT Instructions



The TCEQ **requires** that a complete Core Data Form bearing an original signature be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number have been issued by the TCEQ and no core data information has changed. For more information regarding the Core Data Form, call (512) 239-5175 or go to the TCEQ Web site at www.tceq.texas.gov/permitting/central_registry/guidance.html.

I. Registrant Information		
A. Company or Other Legal Customer Name: Horst Energy LLC		
Company Official Contact Name: Vivek Singh		
Title: Regulatory Filing		
Mailing Address: PO Box 8938		
City: Fort Worth	State: TX	ZIP Code: 76124
Phone: (817) 886-4491	Fax:	E-mail: horstenergy@att.net
B. Technical Contact Name: Vivek Singh		
Title: Regulatory Filing		
Company: Horst Energy, LLC		
Mailing Address: PO Box 8938		
City: Forth Worth	State: TX	ZIP Code: 76124
Phone: (817)886-4491	Fax:	E-mail: horstenergy@att.net
C. Facility Location Information - Street Address:		
If "NO," street address, provide written driving directions to the site: (attach description if additional space is needed)		
From the junction of Hwy 84 and FM2106 in Southland, go South on FM2106 for 2.4 miles, go West 0.8 miles on lease road, then turn North into the Facility.		
City: Southland	County: Lynn	ZIP Code: 79364
D. Is the Core Data Form *(TCEQ Form 10400)* attached?		☒ YES ☐ NO
If "*No*," provide customer reference number and regulated entity number below:		
Customer Reference Number (CN):		
Regulated Entity Number (RN):		
II. Facility and Site Information		
A. Name and Type of Facility: Ken Davies #1/ Oil & natural gas gathering		☒ Permanent ☐ Portable
B. PBR claimed under **30 TAC 106** *(List all)*:		
106. 352 Oil and Gas Production Facilities	106.	
106.	106.	

Texas Commission on Environmental Quality
Form PI-7-CERT
Certification and Registration for Permits by Rule

II. Facility and Site Information (*continued*))

Are you claiming a **historical standard exemption or PBR**? ☐ YES ☒ NO

"YES," enter effective date(s) and rule number(s) in the spaces provided below.

Effective Date	Rule Number

C. Is there a previous Standard Exemption or PBR for the facility in this registration? ☐ YES ☒ NO

If "YES," enter registration number(s), rule number(s) and effective dates in the spaces provided below.

Registration Number	Effective Date	Rule Number

D. Are there any other facilities at this site which are authorized by an Air Standard Exemption or PBR? ☐ YES ☒ NO

If "YES," enter registration number(s), rule number(s) and effective dates in the spaces provided below.

Registration Number	Effective Date	Rule Number

E. Are there any other air preconstruction permits at this site? ☐ YES ☒ NO

If "YES," enter permit number(s) in the spaces provided below.

Are there any other air preconstruction permits at this site that would be directly associated with this project? ☐ YES ☒ NO

If "YES," enter permit number(s) in the spaces provided below.

F. Is this facility located at a site which is required to obtain a Federal Operating Permit (FOP) pursuant to 30 TAC Chapter 122? ☐ YES ☒ NO ☐ To be determined

If the site currently has an existing federal operating permit, enter the permit number.

Check the requirements of 30 TAC Chapter 122 that will be triggered if this certification is accepted.

☐ Initial Application for an FOP ☐ Significant Revision for an SOP ☐ Minor Revision for an SOP

☐ Operational Flexibility/off Permit Notification for an SOP ☐ Revision for GOP

☐ To be Determined ☒ None

Texas Commission on Environmental Quality
Form PI-7-CERT
Certification and Registration for Permits by Rule

II. Facility and Site Information *(continued)*		
Identify the type(s) issued and/or FOP application(s) submitted/pending for the site. *(Check all that apply)*		
☐ SOP	☐ GOP	☐ GOP application/revision application: Submitted or under APD review.
☒ N/A	☐ SOP application/revision application: submitted or under APD review.	
G. TCEQ Account Identification Number (*if known):*		
III. Fee Information		
See Section VIII. for address to send fee or go to www6.tceq.texas.gov/epayto pay online.		
A. Is this certification to solely establish a federally enforceable emission limit and not authorize any new facilities?		☐ YES ☒ NO
If "YES," than no fee is required.		
If "NO," then go to Section III.B.		
B. If "YES," to any of the following three questions, a **$100** fee is required. Otherwise, a **$450** fee is required.		
Does this business have less than 100 employees?		☒ YES ☐ NO
Does this business have less than 6 million dollars in annual gross receipts?		☐ YES ☒ NO
Is this registration submitted by a governmental entity with a population of less than 10,000?		☐ YES ☒ NO
C. Enter the check, money order, or transaction number.	3111	
Enter the individual or company name printed on the check. *(below)*		
Horst Energy, LLC		
Fee amount (*spell out*): one hundred dollars		$ 100.
Was fee **Paid** online?		☐ YES ☒ NO
IV. Selected Facility Reviews *Only*—Technical Information		
Note: If claiming one of the following PBRs, complete this section, then skip to Section VI., "Submitting your registration" below:		
Animal Feeding Operations 30 TAC 106.161, Livestock Auction Facilities 30 TAC 106.162, Saw Mills 30 TAC 106.223, Grain Handling, Storage and Drying 30 TAC 106.283, Auto Body Refinishing Facilities 30 TAC 106.436, and Air Curtain Incinerator 30 TAC 106.496		
A. Is the applicable PBR checklist attached which shows the facility meets all general and specific requirements of the PBR(s) being claimed?		☐ YES ☐ NO
B. Distance from this facility's emission release point to the nearest property line:		feet
Distance from this facility's emission release point to the nearest off-property structure:		feet

Texas Commission on Environmental Quality
Form PI-7-CERT
Certification and Registration for Permits by Rule

V. TECHNICAL INFORMATION - The following information must be submitted with Form PI-7CERT. Place a check next to the appropriate box to verify you have included it in the submittal.	
☒ Process Flow Diagram and Process Description	☒ Emissions data and calculations
☒Table 1(a) (Form 10153) Emission Point Summary	
☐ Confidential Information (All pages properly marked "CONFIDENTIAL")	
Has the company implemented the project or waiting on a response from TCEQ?	☒ Implemented ☐ Waiting
Projected Start of Construction Date:	
Is this an annual certification under 30 TAC Chapter 106.261 and/or 106.262?	☐ YES ☒ NO
☒ Information on meeting the specific PBR requirements *(PBR checklists maybe used and are optional.)*	☒ Information on meeting the general PBR requirements 30 TAC 106.4. *(PBR checklists maybe used and are optional.)*
*Note: Please be reminded that if the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under **30 TAC Chapter 101, Subchapter H, Division 3**, the owner/operator of these facilities must possess NO_x allowances equivalent to the actual NO_x, emissions from these facilities.*	
Distance from this facility's emission release point to the nearest property line:	274 feet
Distance from this facility's emission release point to the nearest off-property structure:	2629 feet
Note: In limited cases, a map or drawing of the site and surrounding land use may be requested during the technical review or at the request of the TCEQ Regional Office or local air pollution control program during an investigation.	
VI. DELINQUENT FEES	
This form **will not be processed** until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ is paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ Web site at: www.tceq.texas.gov/agency/delin/index.html.	

Texas Commission on Environmental Quality
Form PI-7-CERT
Certification and Registration for Permits by Rule

VII. SIGNATURE FOR CERTIFICATION AND REGISTRATION

The signature below indicates that the Responsible Official has knowledge of the facts herein set forth and that the same are true, accurate, and complete to the best of my knowledge and belief. By this signature, the maximum emission rates listed on this certification reflect the maximum anticipated emissions due to the operation of this facility and all representations in this certification of emissions are conditions upon which the facilities and sources will operate. It is understood that it is unlawful to vary from these representations unless the certification is first revised. The signature certifies that to the best of the Responsible Official's knowledge and belief, the project will satisfy the conditions and limitations of the indicated exemption or permit by rule and the facility will operated in compliance with all regulations of the Texas Commission on Environmental Quality and with Federal U.S. Environmental Protection Agency regulations governing air pollution. The signature below certifies that, based on information and belief formed after reasonable inquiry, the statements and information above and contained in the attached document(s) are true, accurate, and complete. **If you questions on how to fill out this form or about air quality permits. Please call (512) 239-1250.** *Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, call (512) 239-3282.*

SIGNATURE: V Singh 12/24/14
DATE

(ORIGINAL SIGNATURE REQUIRED)

VIII. SUBMITTING COPIES OF THE CERTIFICATION AND REGISTRATION		
Copies must be sent as listed below: **Processing delays may occur if copies are not sent as noted.**		
Who	**Where**	**What**
Air Permits Initial Review Team (APIRT)	Regular, Certified, Priority Mail MC161, P.O. Box 13087 Austin, Texas 78711-3087 Hand Delivery, Overnight Mail MC 161, 12100 Park 35 Circle, Building C, Third Floor Austin, Texas 78753 Fax: (512) 239-2123 *(do not follow fax with paper copies)*	Originals Form PI-7, Core Data Form and all attachments
Revenue Section, TCEQ	Regular, Certified, Priority Mail MC 214, P.O. Box 13088 Austin, Texas 78711-3088 Hand Delivery, Overnight Mail MC 214, 12100 Park 35 Circle, Building A, Third Floor Austin, Texas 78753	Original Money Order or Check Copy of Form PI-7 and Core Data Form
Appropriate TCEQ Regional Office	To find your Regional Office address, go to the TCEQ Web site at www.tceq.texas.gov.us/, or call (512) 239-1250.	Copy of Form PI-7, Core Data Form, and all attachments.
Appropriate Local Air Pollution Control Program(s)	To Find your local or Regional Air Pollution Control Programs go to the TCEQ, APD Website at www.tceq.texas.gov/nav/permits/air_permits.html or call (512) 239-1250	Copy of Form PI-7, Core Data Form, and all attachments.

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No — 106.352 PBR Registration & Certification

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN		RN

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy) 7/25/2014

6. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other: _____

7. General Customer Information

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☐ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☒ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)*	*If new Customer, enter previous Customer below*	*End Date:*
Horst Energy LLC		

10. Mailing Address:							
	PO Box 8938						
City	Forth Worth	State	TX	ZIP	76124	ZIP + 4	0938

11. Country Mailing Information *(if outside USA)*	12. E-Mail Address *(if applicable)*

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(817) 886-4491		( ) -

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*
455187414	32047831949		0801590032

20. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☒ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

23. Regulated Entity Name *(name of the site where the regulated action is taking place)*

Ken Davies #1

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		**State**		**ZIP**		**ZIP + 4**
25. Mailing Address:	Horst Energy LLC						
	P.O. Box 8938						
	City	Fort Worth	**State**	TX	**ZIP**	76124	**ZIP + 4**
26. E-Mail Address:	horstenergy@att.net						

27. Telephone Number	**28. Extension or Code**	**29. Fax Number** *(if applicable)*
(817) 886-4491		( ) -

30. Primary SIC Code (4 digits)	**31. Secondary SIC Code** (4 digits)	**32. Primary NAICS Code** (5 or 6 digits)	**33. Secondary NAICS Code** (5 or 6 digits)
1311		211111	

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Oil and natural gas gathering

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:	From the junction of Hwy 84 and FM2106 in Southland, go South on FM2106 for 2.4 miles, go West 0.8 miles on lease road, then turn North into the Facility.

36. Nearest City	**County**	**State**	**Nearest ZIP Code**
Southland	Lynn	TX	79364

37. Latitude (N) In Decimal:	33.324407	**38. Longitude (W) In Decimal:**	-101.569991

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
33	19	27.9	101	34	12.0

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Industrial Hazardous Waste	☐ Municipal Solid Waste
☒ New Source Review – Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS	☐ Sludge
☐ Stormwater	☐ Title V – Air	☐ Tires	☐ Used Oil	☐ Utilities
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Vivek Singh	**41. Title:**	Regulatory Filing

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(817) 886-4491		( ) -	horstenergy@att.net

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	Horst Energy LLC	**Job Title:**	Regulatory Filing
Name *(In Print)* :	Vivek Singh	**Phone:**	(817) 886-4491
Signature:	VSingh	**Date:**	11-24-14

November 24, 2014

VIA Email to airog@tceq.texas.gov

Texas Commission on Environmental Quality
Air Permits Initial Review Team (APIRT), MC 161
P. O. Box 13087
Austin, Texas 78711-3087

DEC 08 2014

Re: Horst Energy, LLC
Permit by Rule 106.352 Registration
Ken Davies #1

Dear Reader:

Horst Energy, LLC (Horst) is registering Ken Davies #1 in Lynn County, Texas, under Texas Commission on Environmental Quality (TCEQ) Permit by Rule (PBR) §106.352. This registration is for a single scenario site. Horst constructed the Facility after November 22, 2012, and is not waiting for a response from the TCEQ prior to implementing this project. Horst has prepared a PI-7-CERT submittal to register and certify the emission at the site.

This registration submittal consists of the following:

- PI-7-CERT - "Certification and Registration for Permits By Rule"
- Core Data Form
- Chapter 106.4 - "Permit by Rule Applicability Checklist"
- Chapter 106.352 – PBR Checklist – "Oil and Gas Production Facilities"
- Process Description and Flow Diagram
- Emission Calculations

A check for $100, a copy of the Core Data Form and a copy of the PI-7-CERT Form have been submitted under separate cover to the TCEQ Revenue Section. The check number is 3111. A copy of this registration has also been sent to the TCEQ Region 2 office in Lubbock.

The original signature copy of the PI-7-CERT Form and the Core Data Form have been mailed to your attention.

If you have any questions concerning the requested registration, or wish to discuss the information provided with this letter, please contact me at (817) 886-4491.

Sincerely,

VSingh

Vivek Singh
Regulatory Filing

cc: Air Section Manager, TCEQ Lubbock
5012 50th St., Ste 100
Lubbock, TX 79414

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

The following checklist was developed by the Texas Commission on Environmental Quality (TCEQ), **Air Permits Division**, to assist applicants in determining whether or not a facility meets all of the applicable requirements. Before claiming a specific Permit by Rule (PBR), a facility must first meet all of the requirements of **Title 30 Texas Administrative Code § 106.4** (30 TAC § 106.4), "Requirements for Permitting by Rule." Only then can the applicant proceed with addressing requirements of the specific Permit by Rule being claimed.

The use of this checklist is not mandatory; however, it is the responsibility of each applicant to show how a facility being claimed under a PBR meets the general requirements of 30 TAC § 106.4 and also the specific requirements of the PBR being claimed. If all PBR requirements cannot be met, a facility will not be allowed to operate under the PBR and an application for a construction permit may be required under 30 TAC § 116.110(a).

Registration of a facility under a PBR can be performed by completing **Form PI-7** (Registration for Permits by Rule) or

Form PI-7-CERT (Certification and Registration for Permits by Rule). The appropriate checklist should accompany the registration form. Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division website at: www.tceq.state.tx.us/permitting/air/nav/air_pbr.html.

For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org

1. 1.30 TAC § 106.4(a)(1) and (4): Emission limits	
List emissions in tpy for **each** facility (add additional pages or table if needed):	
Are the SO_2, PM_{10}, VOC, or other air contaminant emissions claimed for **each** facility in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO_x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
If the answer to both is "Yes," continue to the question below. *If the answer to either question is "No," a **PBR cannot be claimed.***	
Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.) *If "Yes," skip to Section 2.* *If "No," continue to the questions below.*	☐ YES ☒ NO
If the site has had no public notice, please answer the following:	
Are the SO_2, PM_{10}, VOC, or other emissions claimed for **all** facilities in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO_x and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
If the answer to both questions is "Yes," continue to Section 2. *If the answer to either question is "No," **a PBR cannot be claimed**. A permit will be required under Chapter 116.*	
***2.* 30 TAC § 106.4(a)(2): Nonattainment check**	
Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county? *If "Yes," please indicate which county by checking the appropriate box to the right.*	☐ YES ☒ NO
(Marginal) - Hardin, Jefferson, and Orange counties:	☐ BPA
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	☐ HGA
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant counties	☐ DFW
If "Yes," to any of the above, continue to the next question. *If "No," continue to Section 3.*	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

2. 30 TAC § 106.4(a)(2): Nonattainment check *(continued)*	
Does this project trigger a nonattainment review?	☐ YES ☐ NO
Is the project's potential to emit (PTE) for emissions of VOC or NO_x increasing by 100 tpy or more? *PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case physical and operational design unless limited by a permit, rules, or made federally enforceable by a certification.*	☐ YES ☐ NO
Is the site an existing major nonattainment site and are the emissions of VOC or NO_x increasing by 40 tpy or more?	☐ YES ☐ NO
*If "Yes," to any of the above, the project is a major source or a major modification and **a PBR may not be used**. A Nonattainment Permit review must be completed to authorize this project.* *If "No," continue to Section 3.*	
If needed, attach contemporaneous netting calculations per nonattainment guidance.	
Additional information can be found on TCEQ Air Permits Division's nonattainment new source review tables at www.tceq.state.tx.us/permitting/air/forms/newsourcereview/tables/nsr_table8.html and in general guidance documents for new source review permitting at www.tceq.state.tx.us/permitting/air/nav/air_docs_newsource.html	
3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) check	
Does this project trigger a review under PSD rules? To determine the answer, review the information below:	
Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	☐ YES ☒ NO
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	☐ YES ☒ NO
Are emissions increasing above significance levels at an existing major site?	☐ YES ☒ NO
*If "Yes," to any of the above, **a PBR may not be used**.* *A PSD Permit review must be completed to authorize the project.* *If "No," continue to Section 4.*	
PSD information can be found at: www.tceq.state.tx.us/permitting/air/forms/newsourcereview/tables/nsr_table9.html and www.tceq.state.tx.us/permitting/air/nav/air_docs_newsource.html	
4. 30 TAC § 106.4(a(6): Federal Requirements	
Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	☐ YES ☐ NO ☒ N/A
If "Yes," which Subparts are applicable?	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	☐ YES ☐ NO ☒ N/A
If "Yes," which Subparts are applicable?	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	☐ YES ☐ NO ☒ N/A
If "Yes," which Subparts are applicable?	
If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

5. 30 TAC § 106.4(a)(7): PBR prohibition check

Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs? ☐ YES ☒ NO

If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.

List permit number(s):

6. 30 TAC § 106.4(a)(8): NO_x Cap and Trade

Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County? ☐ YES ☒ NO

If "Yes," answer the question below.
If "No," continue to Section 7.

Will the proposed facility or group of facilities obtain required allowances for NO_x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)? ☐ YES ☐ NO

7. Highly Reactive Volatile Organic Compounds (HRVOC) check

Is the facility located in Harris County? ☐ YES ☒ NO

If "Yes," answer the next question.
If "No," skip to the box below.

Will the project be constructed after June 1, 2006? ☐ YES ☐ NO

If "Yes," answer the next question.
If "No," skip to the box below.

Will one or more of the following HRVOC be emitted as a part of this project? ☐ YES ☐ NO

If "Yes," complete the information below:

Chemical Compound:	lb/hr	tpy
1,3-butadiene		
all isomers of butene (e.g., isobutene [2-methylpropene or isobutylene])		
alpha-butylene (ethylethylene)		
beta-butylene (dimethylethylene, including both cis - and trans-isomers)		
ethylene		
propylene		

Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County? ☐ YES ☒ NO

If "Yes," answer the next question.
If "No," the checklist is complete.

Will the project be constructed after June 1, 2006? ☐ YES ☐ NO

If "Yes," answer the next question.
If "No," the checklist is complete.

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

7. Highly Reactive Volatile Organic Compounds (HRVOC) check *(continued)*		
Will one or more of the following HRVOC be emitted as a part of this project? ☐ YES ☐ NO *If "Yes," complete the information below:*		
Chemical Compound:	lb/hr	tpy
ethylene		
propylene		

Save Form Reset Form

Oil and Gas Handling and Production Facilities
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.352(l)

Check the most appropriate answer and include any technical information in the spaces provided. If additional space is needed, please include an extra page that references this checklist. The forms, checklists, and guidance documents are available from the Texas Commission on Environmental Quality (TCEQ), Air Permits Division Web site at: www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-o/oil_and_gas.html. If you have any questions, or need additional assistance, please contact the Air Permits Division at (512) 239-1250.

The facility can register by submitting this application and any supporting documentation. Below is a checklist to ensure you have provided all appropriate documentation. For sites that require registration or if the company chooses to register the site with the TCEQ, a Core Data Form is required with this checklist.

For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org

This checklist is for use by the operator to ensure a complete application.

Have you included each of the following items in the application?

- ☒ Process Description.
- ☒ Plot plan or area map.
- ☒ TCEQ Oil and Gas Emission Calculation Spreadsheet (or equivalent).
- ☒ Detailed summary of maximum emissions estimates with supporting documentation, such as result reports from any emission estimation computer program.
- ☒ Gas and Liquid analyses. If a site specific analysis is not submitted, please provide justification as to why a representative site was used.
- ☒ Technical documents (manufacturer's specification sheet, operational design sheets)
- ☒ State and Federal applicability.
- ☒ Core Data Form (for new sites that have never been registered with the TCEQ).

General Information and Questions/Descriptions

Is the project located in one of the Barnett Shale counties and did the start of construction or modification begin on or after April 1, 2011? ☐ Yes ☒ No

[**Note:** *Counties included in the Barnett Shale area: Cooke, , Dallas, Denton, , Ellis, Erath, Hill, Hood, Jack, Johnson, Montague, Palo Pinto, Parker, Somervell, Tarrant, and Wise counties.*]

For what is considered start of construction see: www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/factsheet-const.pdf

If ***"Yes,"*** *do not complete this checklist. The project is subject to the requirements of §106.352(a)-(k). Additional information for Barnett Shale area projects can be found at:* **www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-o/oil_and_gas.html.**

Are the total site-wide emissions from all facilities claimed under 30 TAC §106.352(l) less than 25 tpy VOC, 250 tpy NOx, 250 tpy CO, and 25 tpy SO_2? ☒ Yes ☐ No

Oil and Gas Handling and Production Facilities
Title 30 Texas Administrative Code § 106.352(l)

General Information and Questions/Descriptions *(continued)*		
Does any facility at the site handle a stream with more than 24 ppm hydrogen sulfide (H_2S)?	☒ Yes	☐ No
If "Yes," answer the following questions.		
Are there flares, engines, or turbines at the site?	☐ Yes	☒ No
If "Yes," attach supporting documentation to demonstrate compliance with the requirements.		
Additional information and checklists can be found at: *§106.492 Flares:* www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-v/flares.html *§106.512 Stationary Engines and turbines:* www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-w/stationary_eng_turb.html		
Does any facility at the site handle a stream with more than 24 ppm hydrogen sulfide (H_2S)?	☒ Yes	☐ No
If "Yes," answer the following questions. Registration is required prior to the start of operation.		
If "No," The questions below are not applicable.		
Indicate the actual distance from the nearest emissions point to the nearest offsite receptor(ft.): 2629		
[**Note:** *An offsite receptor includes any recreational area, residence, or other structure not occupied or used solely by the owner or operator of the facility. A facility handling sour gas must be located at least 1/4 mile from the nearest offsite receptor.*]		
Indicate the total actual emission rate of sulfur compounds, excluding sulfur oxides, from all vents (lb/hr.): 3.17		
Does the height of all vents at the site emitting sulfur compounds meet the minimum required height based on the H_2S emission rate in 106.352(l)(4)?	☒ Yes	☐ No
[**Note:** *Truck loading and fugitive sources are not considered vents.*]		

Recordkeeping: To demonstrate compliance with the requirements of the PBR, sufficient records must be maintained at all times. The records must be made available immediately upon request to the commission or any air pollution control program having jurisdiction. If you have any questions about the recordkeeping requirements, contact the Air Permits Division or the Air Program in the TCEQ Regional Office for the region in which the site is located.

Save Form Reset Form

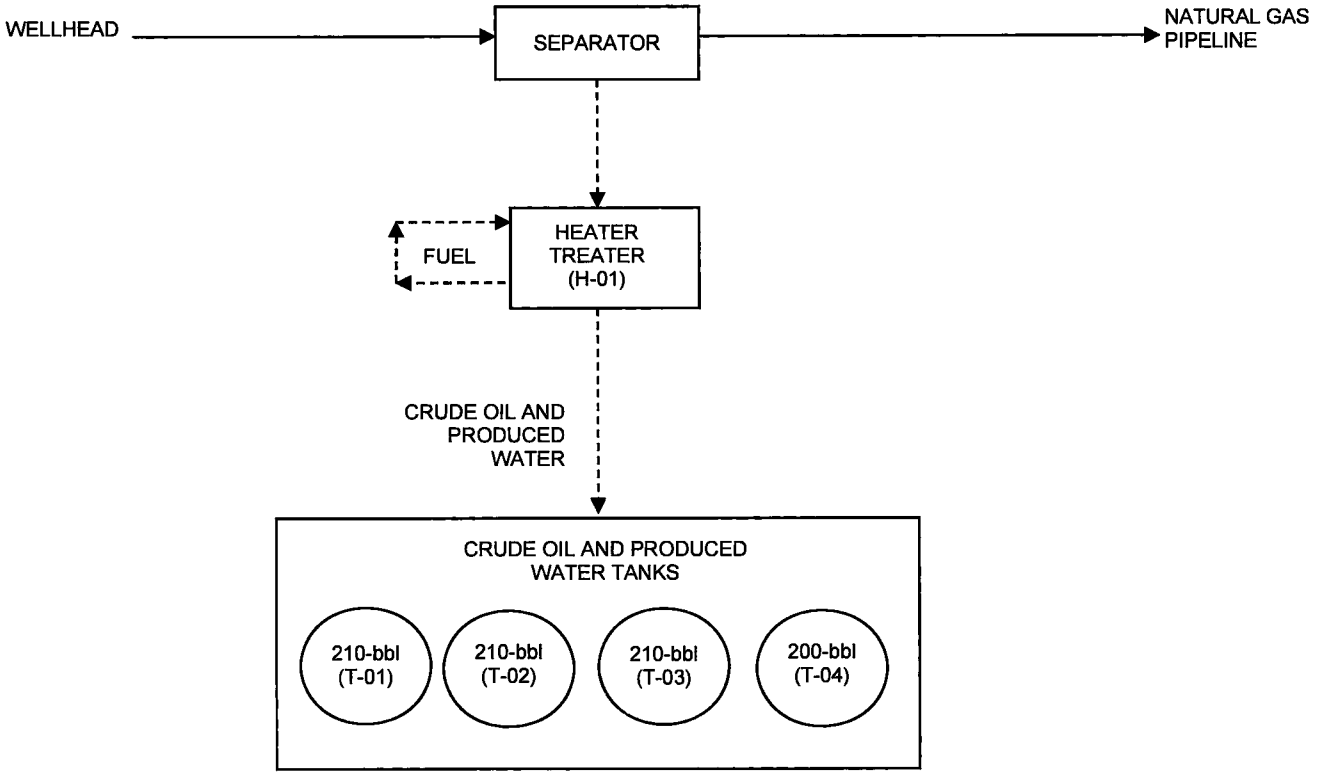
Ken Davies #1
Process
Description
November 2014

Horst Energy, LLC operates the Ken Davis #1 Facility under PBR §106.352.

Ken Davis #1 consists of the following equipment:

- Three (3) crude oil storage tanks including flash: T-01, T-02, T-03
- One (1) produced water storage tank: T-04
- One (1) heater treater: H-01
- One (1) condensate out line: CLOAD
- One (1) water load out line: PWLOAD
- Equipment fugitives: F-01
- Associated separation and metering equipment

The Facility is an oil and gas exploration and production station, responsible for the production of natural gas. Storage of condensate and produced water occurs on-site as well. The Facility is located at the wellhead. The natural gas stream enters the Facility through the separator, where condensate and water are removed from the inlet stream. The water is sent to the produced water storage tank and stored prior to being unloaded by truck. The condensate is transported to the heater treater, and the remaining liquids are then sent to the condensate storage tanks where the condensate is stored prior to being unloaded by truck. To maximize production at the site, the flash gases generated from the heater treater are routed to fuel the heater treater burner. The remaining gas either returns to the wellhead or exits the Facility for transmission via pipeline.



ENVIROCLEAN PRODUCTS & SERVICES

1015 N. Broadway
Suite 300
Oklahoma City, OK 73102

www.envirocleanps.com/

FIGURE TITLE
PROCESS FLOW DIAGRAM

DOCUMENT TITLE
PBR §106.352 PERMIT APPLICATION

CLIENT
Horst Energy, LLC

LOCATION
KEN DAVIES #1, LYNN COUTNY, TX

DATE	7/25/2014
SCALE	NTS
DESIGNED BY	BE
APPROVED BY	LWL
DRAWN BY	BE

SUMMARY TABLE

ESTIMATED EMISSIONS															
EPN/Emission Source	Specific VOC or Other Pollutants	VOC		NO_x		CO		PM_{10}		$PM_{2.5}$		SO_2		H_2S	
		lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
CLOAD/Crude Loading		57.68	0.45	--	--	--	--	--	--	--	--	--	--	1.32	0.01
PWLOAD/Produced Water Loading		0.58	0.01	--	--	--	--	--	--	--	--	--	--	0.01	<0.01
T-01/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-02/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-03/Crude Oil Storage Tank: (1) 210-BBL		0.08	0.33	--	--	--	--	--	--	--	--	--	--	<0.01	0.01
T-04/Produced Water Tank: (1) 200-BBL		<0.01	0.02	--	--	--	--	--	--	--	--	--	--	<0.01	<0.01
F-01/Fugitives Site		0.50	2.19	--	--	--	--	--	--	--	--	--	--	0.03	0.10
H-01/Heater Treater (0.5 MMBtu/hr)		<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.26	--	--
MSS/MSS Activities/Blowdowns		19.98	0.50	--	--	--	--	--	--	--	--	--	--	1.80	0.04
TOTAL EMISSIONS (TPY):			4.16		0.01		0.01		<0.01		<0.01		0.26		0.18
MAXIMUM OPERATING SCHEDULE:		Hours/Day		24		Days/Week		7		Weeks/Year		52		Hours/Year	8760

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date:	7/23/2014	Permit Number:	PBR 106.352 Registration	Regulated Entity No:	Not Assigned
Area Name:	Ken Davies #1			Customer Reference No.:	TBD

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA

1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN	FIN	NAME		Pounds per Hour	TPY
(A)	(B)	(C)		(A)	(B)
MSS	MSS	MSS Activities/Blowdowns	VOC	19.98	0.50
			H_2S	1.80	0.04
H-01	H-01	Heater Treater (0.5 MMBtu/hr)	NOx	<0.01	0.01
			CO	<0.01	0.01
			VOC	<0.01	<0.01
			SO_2	0.06	0.26
			PM_{10}	<0.01	<0.01
T-01	T-01	Crude Oil Storage Tank: (1) 210-BBL	VOC	0.08	0.33
			H_2S	<0.01	0.01
T-02	T-02	Crude Oil Storage Tank: (1) 210-BBL	VOC	0.08	0.33
			H_2S	<0.01	0.01
T-03	T-03	Crude Oil Storage Tank: (1) 210-BBL	VOC	0.08	0.33
			H_2S	<0.01	0.01
T-04	T-04	Produced Water Tank: (1) 200-BBL	VOC	<0.01	0.02
			H_2S	<0.01	<0.01
PWLOAD	PWLOAD	Produced Water Loading	VOC	0.58	0.01
			H_2S	0.01	<0.01
CLOAD	CLOAD	Crude Loading	VOC	57.68	0.45
			H_2S	1.32	0.01
F-01	F-01	Fugitives Site	VOC	0.50	2.19
			H_2S	0.03	0.10

EPN = Emission Point Number FIN = Facility Identification Number
[TCEQ-10153 (Revised 04/08) Table 1(a)
(APDG 5178 v5)
KenDavies_1_CalcsUPDATE2.xlsx 12/4/2014

TABLE 1
EMISSIONS SUMMARY
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

Emissions Source	FIN/EPN	NO_x		VOC		CO		$PM_{10}/PM_{2.5}$		SO_2		H_2S	
		(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	lb/hr	T/yr	lb/hr	T/yr
Crude Loading	CLOAD	--	--	57.68	0.45	--	--	--	--	--	--	1.32	0.01
Produced Water Loading	PWLOAD	--	--	0.58	0.01	--	--	--	--	--	--	0.01	0.0002
Crude Oil Storage Tank: (1) 210-BBL	T-01	--	--	0.08	0.33	--	--	--	--	--	--	0.002	0.01
Crude Oil Storage Tank: (1) 210-BBL	T-02	--	--	0.08	0.33	--	--	--	--	--	--	0.002	0.01
Crude Oil Storage Tank: (1) 210-BBL	T-03	--	--	0.08	0.33	--	--	--	--	--	--	0.002	0.01
Produced Water Tank: (1) 200-BBL	T-04	--	--	0.005	0.02	--	--	--	--	--	--	0.000002	0.00001
Fugitives Site	F-01	--	--	0.50	2.19	--	--	--	--	--	--	0.03	0.10
Heater Treater (0.5 MMBtu/hr)	H-01	0.002	0.01	0.0001	0.0004	0.002	0.01	0.0002	0.001	0.06	0.26	--	--
MSS Activities/Blowdowns	MSS	--	--	19.98	0.50	--	--	--	--	--	--	1.80	0.04
Total Facility Emissions		**0.002**	**0.01**	**78.99**	**4.16**	**0.002**	**0.01**	**0.0002**	**0.001**	**0.06**	**0.26**	**3.17**	**0.18**

TABLE 2
POTENTIAL EMISSIONS SUMMARY
HEATER TREATER (H-01)
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

Pollutant	Max Firing Rate (MMBtu/hr)	Gas Heating Value (MMBtu/scf)	Emission Factor (lb/MMSCF) [a]	Potential Emission Rates [b]	
				(lb/hr)	(T/yr)
NO_x	0.021	1020	100.0	0.002	0.01
VOC	0.021	1020	5.5	0.0001	0.0004
CO	0.021	1020	84.0	0.002	0.01
PM_{10}	0.021	1020	7.6	0.0002	0.001

Notes:

[a] Emission factors obtained from AP-42 Table 1.4-1 through 1.4-3 for commercial boilers.

[b] Potential emissions based on AP-42 emission factors, maximum firing rate of 0.021 MMBtu/hr, 1020 Btu/scf fuel heating value, and 8,760 hours per year of operation.

TABLE 3
SO_2 AND H_2S EMISSIONS FROM HEATER TREATER
HORST ENERGY, LLC
KEN DAVIES #1
LYNN COUNTY, TEXAS

Gas Flow Rate:	0.021	MCF/HR	(based on burner size of 0.5 MMBtu/hr and average heating value of 1020 Btu/scf)
Gas Flow Rate:	0.50	MCFD	(based on operating 24 hours per day)
H_2S Concentration:	20000	PPM	
Standard Pressure:	14.7	psi	
Gas Constant:	10.73	psi ft^3/lb mol/R	
Std Temp:	528	deg R	
H_2S Volume Constant:	11.1351	cu ft/lb	
H_2S Volume:	0.42	scf/hr	

SO_2 Emissions:

$PV = nRT$

$$\text{lb mole } H_2S/hr = \frac{\text{Volume (V) x Pressure (P)}}{\text{Gas Constant (R) x Std Temp (T)}}$$

$$= 0.001 \text{ lb mol } H_2S/hr$$

One Mole H_2S will form one mole SO_2:

$$SO_2 \text{ (lb/hr)} = \frac{\text{lb mol } H_2S/hr \times 1 \text{ lb mol } SO_2/\text{lb mol } H_2S}{1 \text{ lb mol } SO_2/64 \text{ lb}}$$

$$= \boxed{0.06 \text{ lb } SO_2/hr}$$

$$SO_2 \text{ (T/yr)} = \frac{\text{lb } SO_2/hr \times 8760 \text{ hr/yr}}{2000 \text{ lb/T}}$$

$$= \boxed{0.26 \text{ T } SO_2/yr}$$

TABLE 4
ESTIMATED EMISSIONS FROM STORAGE TANKS
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

Identification - Vertical Fixed Roof Tanks		
Tank ID	T-01 - T-03 - Crude Oil Tanks	T-04 - Produced Water Tank
Description	210 BBL Tanks	200 BBL Tank
Throughput (BPD)	4	27
Tank Dimensions		
Shell Height (ft)	20.0	15.0
Diameter (ft)	16.0	10.0
Volume (gal)	25,200	8,820
Turnovers	2.43	46.93
Net Throughput (gal/yr)	61,320	413,910
Other Inputs		
Shell & Roof Color/Shade	Lt. Gray	Lt. Gray
Shell & Roof Condition	Good	Good
Meteorological Data	Midland, TX	Midland, TX
Tank VOC Emissions		
E&P Tank Losses (T/yr)[a]	0.33	0.02
E&P Tank Losses (lb/hr)[a]	0.08	0.005
Tank H_2S Emissions		
% H_2S[b]	2.28%	2.28%
Total H_2S Losses (T/yr)[c]	0.01	0.00001
Total H_2S Losses (lb/hr)[d]	0.002	0.000002

[a] Annual flash losses were based on E&P Tank V2.0. Please note that the breathing and working losses from the storage tanks are included in the E&P Tank emissions calculations. For water tanks assume 1% of the calculated number is emitted.
[b]% H2S is Weight % from gas analysis as shown on Table 7.
[c]Total H2S Losses (T/yr) = Total VOC Emissions (T/yr) x % H2S
[d]Total H2S Losses (lbs/hr) = Total VOC Emissions (lb/hr) x % H2S

TABLE 5
POTENTIAL EMISSIONS SUMMARY
LOADING (LOAD)
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

Material Name	Saturation Factor[a] (S)	True Vapor Pressure[b] (P)		Molecular Weight of Vapors[b] (M) (lb/lb-mole)	Temp of Loaded Liquid[b] (F)	Emission Factor[a] (lb VOC/10^3 gal)		Annual Throughput[c] (gals)	Estimated Hourly Throughput[c] (gal)	Total Uncontrolled Hourly VOC Emissions[d] (lb/hr)	Total Uncontrolled Annual VOC Emissions[e] (T/yr)	H_2S[f] (%)	Total Annual H_2S Emissions[g] (T/yr)	Total Hourly H_2S Emissions[h] (lb/hr)
		Avg	Max			Avg	Max							
Crude Oil	0.6	5.0875	7.8674	68	65.52	4.921	7.21	183,960	8,000	57.68	0.45	2.28%	0.01	1.32
Water[i]	0.6	5.0875	7.8674	68	65.52	4.921	7.21	413,910	8,000	0.58	0.01	2.28%	0.0002	0.01
									Total:	**58.26**	**0.46**			

Notes:

[a] Per AP-42, 5th Edition (6/08), Section 5.2, Equation 1

$$\text{Emission Factor (lb VOC/10}^3\text{gal)} = \frac{S \times P \times M \times 12.46}{F + 460}$$

Saturation Factor = 0.6 for submerged loading: dedicated normal service

[b] True vapor pressure, weight of vapors and temp of loaded liquid obtained from TANKS 4.0.9d run using Gasoline RVP-8.

[c] Throughput is the amount of condensate or produced water loaded out from the storage tanks.

[d] Uncontrolled Hourly Emissions = Hourly Throughput / 1000 x Emission Factor

[e] Uncontrolled Annual VOC Emissions = Annual Throughput / 1000 x Emission Factor / 2000 lb/T

[f] See Table 7.

[g] Total Annual H_2S Emissions = Total Annual VOC Emissions x Estimated H_2S %

[h] Total Hourly H_2S Emissions = Total Hourly VOC Emissions x Estimated H_2S %

[i] The calculation for water loading uses condensate, assuming 1% is emitted.

TABLE 6
EQUIPMENT FUGITIVE EMISSIONS
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

Equipment Type	Estimated Equipment At Site[a]	Emission Factor lb/hr/component[b]	% VOC[c]	VOC Emissions (lb/hr)	VOC Emissions (tons/yr)	% H_2S[c]	H_2S Emissions (lb/hr)	H_2S Emissions (tons/yr)
Flanges/Connectors								
Gas	55	0.00086	41.62%	0.02	0.09	2.28%	0.001	0.004
Light Liquid	6	0.000243	100.00%	0.001	0.004	2.28%	0.00003	0.0001
Valves								
Gas	50	0.00992	41.62%	0.21	0.92	2.28%	0.01	0.04
Light Liquid	5	0.0055	100.00%	0.03	0.13	2.28%	0.001	0.004
Other Relief Valves								
Gas	13	0.0194	41.62%	0.10	0.44	2.28%	0.01	0.04
Light Liquid	3	0.0165	100.00%	0.05	0.22	2.28%	0.001	0.004
Pump Seals								
Light Liquid	3	0.02866	100.00%	0.09	0.39	2.28%	0.002	0.01
			Total VOC	0.50	2.19	TOTAL H_2S	0.03	0.10

[a] Number of each component and type of service estimated based on a similar site.
[b] Emission factors based on TCEQ's oil and gas production operations factors for process piping fugitive emissions.
[c] Percent VOC and H_2S for Gas/Vapor service based on representative gas analysis from facility (see Table 7).

TABLE 7
GAS ANALYSIS
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

Component	Mole %	Molecular Weight	lb/100 mole	Wt % Total	Wt % Hydrocarbon	Wt % VOC
H2S	2.0000	34.08	68.16	2.28	--	--
N2	3.8971	28.01	109.16	3.65	--	--
CO2	21.1229	44.01	929.62	31.08	--	--
Methane	51.6398	16.04	828.30	27.69	27.69	--
Ethane	9.0202	30.07	271.24	9.07	9.07	--
Propane	4.1260	44.10	181.96	6.08	6.08	9.65%
Isobutane	1.2727	58.12	73.97	2.47	2.47	3.92%
n-Butane	2.4539	58.12	142.62	4.77	4.77	7.57%
Isopentane	1.2013	72.15	86.67	2.90	2.90	4.60%
n-Pentane	0.9879	72.15	71.28	2.38	2.38	3.78%
Hexanes+	2.2782	100.00	227.82	7.62	7.62	12.10%
Total	100.00	--	2990.80	99.99	62.98	41.62%

Notes:
1. Gas analysis provided by West Texas Gas, sampled 8/01/2010. This representative analysis is from a nearby site.
2. Wt % VOC is the VOC % in the hydrocarbon portion of the gas.

TABLE 8
POTENTIAL EMISSIONS FROM BLOWDOWNS/MSS ACTIVITIES
KEN DAVIES #1
HORST ENERGY, LLC
LYNN COUNTY, TEXAS

BLOWDOWN RATES

Blowdown Rates and Gas Composition

Volume of Gas (MCF/Hr)	1
Volume of Gas (MCF/Yr)	50

	Mole %	MCF/Hr	Cu Ft/ #	lbs/hr	MCF/Yr	Cu Ft/ #	lbs/yr
N2	3.897%	0.039	13.5460	2.88	1.949	13.5460	143.88
CO2	21.123%	0.211	8.6229	24.47	10.562	8.6229	1224.88
H2S	2.0000%	0.02000	11.1351	1.796	1.0000	11.1351	89.81
C1	51.640%	0.516	23.6540	21.81	25.820	23.6540	1091.57
C2	9.020%	0.090	12.6200	7.13	4.510	12.6200	357.37
C3	4.126%	0.041	8.6059	4.76	2.063	8.6059	239.72
IC4	1.273%	0.013	6.5291	1.99	0.637	6.5291	97.56
NC4	2.454%	0.025	6.5291	3.83	1.227	6.5291	187.93
IC5	1.201%	0.012	5.2596	2.28	0.601	5.2596	114.27
NC5	0.988%	0.010	5.2596	1.90	0.494	5.2596	93.92
C6+	2.278%	0.023	4.4035	5.22	1.139	4.4035	258.66
Total	100.000%	1.000		78.07	50.002		3899.57
			Total VOC per engine (lbs)	19.98			992.06
					Total VOC per engine (T/yr)		0.50

Notes:
1. It is estimated that up to 1000 cubic feet of gas could be vented to atmosphere during a blowdown event and one event could occur per hour.
2. It is estimated that up to 50 blowdown events could occur per year for the site.

TABLE 9
H2S AND SO2 SCREEN MODELING INPUTS AND RESULTS
HORST ENERGY, LLC
KEN DAVIES #1
LYNN COUNTY, TEXAS

	MSS, TANKS, LOADING, & FUGITIVES		HEATER TREATER	
Inputs				
H2S Emission Rate	3.16 lb/hr H_2S	0.3982 g/sec	-- lb/hr H_2S	-- g/sec
SO_2 Emission Rate	-- lb/hr SO_2	-- g/sec	0.06 lb/hr SO_2	0.01 g/sec
Release Height	10 ft	3.0480 m	--	--
Longer Side Length	300 ft	91.4400 m	--	--
Shorter Side Length	200 ft	60.9600 m	--	--
Stack Height	--	--	20 ft	6.096 m
Stack Inside Diameter	--	--	0.67 ft	0.2042 m
Stack Exit Velocity	--	--	60.0 ft/sec	18.2880 m/sec
Stack Gas Exit Temp	--	--	400 ° F	477.59 ° K
Ambient Air Temp	--	--	--	293 ° K
Heat Release Rate	--	--	--	--
Receptor Height	0 ft	0 m	0 ft	0 m
Urban/Rural	Rural	Rural	Rural	Rural
Downwash	None	None	None	None
Distance to Property Line	274 ft	83.5152 m	274 ft	83.5152 m
Number of Identical Emission Points		--		1
Screen Modeling Results H2S				
Maximum 30-min Modeled Concentration at Property Line		21.61 µg/m^3		-- µg/m^3
Total 30-min Modeled Concentration		21.61 µg/m^3		
Is Total Concentration less than 108 µg/m3 (0.08 ppm)?		**Yes**		
Screen Modeling Results SO2				
Maximum 30-min Modeled Concentration		-- µg/m^3		82.80 µg/m^3
Total 30-min Modeled Concentration		82.80 µg/m^3		
Is Total Concentration less than 1021 µg/m3 (0.4 ppm)?		**Yes**		

****
* Project Setup Information *
****

Project File : C:\Documents and Settings\Administrator\Desktop\Horst Energy\KenDavis_1_EP_Oil.ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : RVP Distillation
Control Efficiency : 100.0%
Known Separator Stream : Geographical Region
Geographical Region : All Regions in US
Entering Air Composition : No

Filed Name : Horst Energy, LLC
Well Name : Ken Davis #1
Well ID : (3) 210-bbl oil storage tank, 12 bopd total
Permit Number : SW5, Actual: 34.2 API
Date : 7/23/2014

****
* Data Input *
****

Separator Pressure : 40.00[psig]
Separator Temperature : 110.00[F]
Ambient Pressure : 14.70[psia]
Ambient Temperature : 110.00[F]
C10+ SG : 0.8700
C10+ MW : 297.00

-- Low Pressure Oil ----------

No.	Component	mol %
1	H2S	0.0000
2	O2	0.0000
3	CO2	0.0400
4	N2	0.0100
5	C1	2.9100
6	C2	0.4400
7	C3	0.6800
8	i-C4	0.5800
9	n-C4	0.6300
10	i-C5	0.5300
11	n-C5	0.4900
12	C6	0.8900
13	C7	4.6300
14	C8	5.3100
15	C9	4.5800
16	C10+	76.3800
17	Benzene	0.1000
18	Toluene	0.1900
19	E-Benzene	0.0400
20	Xylenes	0.9800
21	n-C6	0.5900
22	224Trimethylp	0.0000

-- Sales Oil ----------
Production Rate : 4[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 34.0
Reid Vapor Pressure : 3.20[psia]

****
* Calculation Results *
****

-- Emission Summary ----------

Item	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
Total HAPs	0.010	0.002
Total HC	0.771	0.176
VOCs, C2+	0.408	0.093
VOCs, C3+	0.332	0.076

Uncontrolled Recovery Info.

Vapor	64.7200 x1E-3	[MSCFD]
HC Vapor	64.0000 x1E-3	[MSCFD]
GOR	16.18	[SCF/bbl]

-- Emission Composition ----------

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.012	0.003
4	N2	0.002	0.000
5	C1	0.363	0.083
6	C2	0.076	0.017
7	C3	0.103	0.024
8	i-C4	0.064	0.015
9	n-C4	0.054	0.012
10	i-C5	0.025	0.006
11	n-C5	0.018	0.004
12	C6	0.012	0.003
13	C7	0.028	0.006
14	C8	0.013	0.003
15	C9	0.005	0.001
16	C10+	0.000	0.000
17	Benzene	0.001	0.000
18	Toluene	0.001	0.000
19	E-Benzene	0.000	0.000
20	Xylenes	0.001	0.000
21	n-C6	0.007	0.002
22	224Trimethylp	0.000	0.000
	Total	0.785	0.179

-- Stream Data ----------

No.	Component	MW	LP Oil mol %	Flash Oil mol %	Sale Oil mol %	Flash Gas mol %	W&S Gas mol %	Total Emissions mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0400	0.0098	0.0098	0.8500	0.0000	0.8500
4	N2	28.01	0.0100	0.0004	0.0004	0.2676	0.0000	0.2676
5	C1	16.04	2.9100	0.3133	0.3133	72.6320	0.0000	72.6320
6	C2	30.07	0.4400	0.1557	0.1557	8.0745	0.0000	8.0745
7	C3	44.10	0.6800	0.4267	0.4267	7.4810	0.0000	7.4810
8	i-C4	58.12	0.5800	0.4707	0.4707	3.5143	0.0000	3.5143
9	n-C4	58.12	0.6300	0.5431	0.5431	2.9629	0.0000	2.9629
10	i-C5	72.15	0.5300	0.5076	0.5076	1.1304	0.0000	1.1304
11	n-C5	72.15	0.4900	0.4777	0.4777	0.8212	0.0000	0.8212
12	C6	86.16	0.8900	0.9055	0.9055	0.4726	0.0000	0.4726
13	C7	100.20	4.6300	4.7679	4.7679	0.9277	0.0000	0.9277
14	C8	114.23	5.3100	5.4936	5.4936	0.3804	0.0000	0.3804
15	C9	128.28	4.5800	4.7458	4.7458	0.1273	0.0000	0.1273
16	C10+	166.00	76.3800	79.2247	79.2247	0.0000	0.0000	0.0000
17	Benzene	78.11	0.1000	0.1023	0.1023	0.0388	0.0000	0.0388
18	Toluene	92.13	0.1900	0.1962	0.1962	0.0237	0.0000	0.0237
19	E-Benzene	106.17	0.0400	0.0414	0.0414	0.0018	0.0000	0.0018
20	Xylenes	106.17	0.9800	1.0150	1.0150	0.0399	0.0000	0.0399
21	n-C6	86.18	0.5900	0.6025	0.6025	0.2537	0.0000	0.2537
22	224Trimethylp	114.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MW		247.82	256.11	256.11	25.19	0.00	25.19
	Stream Mole Ratio		1.0000	0.9641	0.9641	0.0359	0.0000	0.0359
	Heating Value	[BTU/SCF]				1473.81	0.00	1473.81

Gas Gravity	[Gas/Air]				0.87	0.00	0.87
Bubble Pt. @ 100F	[psia]	106.46	13.98	13.98			
RVP @ 100F	[psia]	11.94	3.05	3.05			
Spec. Gravity @ 100F		0.743	0.745	0.745			

****
* Project Setup Information *
****

Project File : C:\Documents and Settings\Administrator\Desktop\HorstEnergy\KenDavies_1_EP_water.ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : RVP Distillation
Control Efficiency : 100.0%
Known Separator Stream : Geographical Region
Geographical Region : All Regions in US
Entering Air Composition : No

Filed Name : Horst Energy, LLC
Well Name : Ken Davies #1
Well ID : (1) 200-bbl water storage tank, 27 bwpd
Permit Number : SW6, Actual: 34.2 API
Date : 2014.07.23

****
* Data Input *
****

Separator Pressure : 40.00[psig]
Separator Temperature : 110.00[F]
Ambient Pressure : 14.70[psia]
Ambient Temperature : 110.00[F]
C10+ SG : 0.8700
C10+ MW : 297.00

-- Low Pressure Oil ----------

No.	Component	mol %
1	H2S	0.0000
2	O2	0.0000
3	CO2	0.0400
4	N2	0.0100
5	C1	2.9100
6	C2	0.4400
7	C3	0.6800
8	i-C4	0.5800
9	n-C4	0.6300
10	i-C5	0.5300
11	n-C5	0.4900
12	C6	0.8900
13	C7	4.6300
14	C8	5.3100
15	C9	4.5800
16	C10+	76.3800
17	Benzene	0.1000
18	Toluene	0.1900
19	E-Benzene	0.0400
20	Xylenes	0.9800
21	n-C6	0.5900
22	224Trimethylp	0.0000

-- Sales Oil ----------
Production Rate : 27[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 34.0
Reid Vapor Pressure : 3.20[psia]

****
* Calculation Results *
****

-- Emission Summary ----------

Item	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
Total HAPs	0.070	0.016
Total HC	5.205	1.188
VOCs, C2+	2.754	0.629
VOCs, C3+	2.243	0.512

Uncontrolled Recovery Info.

Vapor	436.8600 x1E-3	[MSCFD]
HC Vapor	431.9800 x1E-3	[MSCFD]
GOR	16.18	[SCF/bbl]

-- Emission Composition ----------

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.079	0.018
4	N2	0.016	0.004
5	C1	2.451	0.560
6	C2	0.511	0.117
7	C3	0.694	0.158
8	i-C4	0.430	0.098
9	n-C4	0.362	0.083
10	i-C5	0.172	0.039
11	n-C5	0.125	0.029
12	C6	0.084	0.019
13	C7	0.189	0.043
14	C8	0.089	0.020
15	C9	0.033	0.008
16	C10+	0.000	0.000
17	Benzene	0.006	0.001
18	Toluene	0.005	0.001
19	E-Benzene	0.000	0.000
20	Xylenes	0.009	0.002
21	n-C6	0.046	0.011
22	224Trimethylp	0.000	0.000
	Total	5.301	1.210

-- Stream Data ----------

No.	Component	MW	LP Oil mol %	Flash Oil mol %	Sale Oil mol %	Flash Gas mol %	W&S Gas mol %	Total Emissions mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0400	0.0098	0.0098	0.8500	0.0000	0.8500
4	N2	28.01	0.0100	0.0004	0.0004	0.2676	0.0000	0.2676
5	C1	16.04	2.9100	0.3133	0.3133	72.6320	0.0000	72.6320
6	C2	30.07	0.4400	0.1557	0.1557	8.0745	0.0000	8.0745
7	C3	44.10	0.6800	0.4267	0.4267	7.4810	0.0000	7.4810
8	i-C4	58.12	0.5800	0.4707	0.4707	3.5143	0.0000	3.5143
9	n-C4	58.12	0.6300	0.5431	0.5431	2.9629	0.0000	2.9629
10	i-C5	72.15	0.5300	0.5076	0.5076	1.1304	0.0000	1.1304
11	n-C5	72.15	0.4900	0.4777	0.4777	0.8212	0.0000	0.8212
12	C6	86.16	0.8900	0.9055	0.9055	0.4726	0.0000	0.4726
13	C7	100.20	4.6300	4.7679	4.7679	0.9277	0.0000	0.9277
14	C8	114.23	5.3100	5.4936	5.4936	0.3804	0.0000	0.3804
15	C9	128.28	4.5800	4.7458	4.7458	0.1273	0.0000	0.1273
16	C10+	166.00	76.3800	79.2247	79.2247	0.0000	0.0000	0.0000
17	Benzene	78.11	0.1000	0.1023	0.1023	0.0388	0.0000	0.0388
18	Toluene	92.13	0.1900	0.1962	0.1962	0.0237	0.0000	0.0237
19	E-Benzene	106.17	0.0400	0.0414	0.0414	0.0018	0.0000	0.0018
20	Xylenes	106.17	0.9800	1.0150	1.0150	0.0399	0.0000	0.0399
21	n-C6	86.18	0.5900	0.6025	0.6025	0.2537	0.0000	0.2537
22	224Trimethylp	114.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MW		247.82	256.11	256.11	25.19	0.00	25.19
	Stream Mole Ratio		1.0000	0.9641	0.9641	0.0359	0.0000	0.0359
	Heating Value	[BTU/SCF]				1473.81	0.00	1473.81

Gas Gravity	[Gas/Air]				0.87	0.00	0.87
Bubble Pt. @ 100F	[psia]	106.46	13.98	13.98			
RVP @ 100F	[psia]	11.94	3.05	3.05			
Spec. Gravity @ 100F		0.743	0.745	0.745			