

**PANTECHS LABORATORIES, INC.**

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# Analytical Report

3/24/2022

<b>Customer:</b>	Occidental Permian Ltd.	<b>Order:</b>	300-3024
<b>Location:</b>	North Hobbs RCF	<b>Received:</b>	3/21/2022
<b>Description:</b>	Monthly Collection	<b>Primary Contact:</b>	Richard Sanders

**REPORT DISTRIBUTION:**

Brian Carlisle , Casey Morris , Chauncia Farayola , Chip Mitchell , Chris Frei , Dillon Hart , Erica Zuniga , Greg Vencil , James King , Jason Sisson , Jimmy Dobson , John Dorow , Judy Rich , Justin Saxon , Kenley Powell , Kevin Mulkern , Richard Sanders

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We appreciate you choosing Pantechs Laboratories. If you have any questions concerning this report, please feel free to contact us at any time.

**Pantechs Laboratories, Inc.****Order: 300-3024 Order Date: 3/21/2022****Order Description: North Hobbs RCF, Monthly Collection****Sample List**

Fluid	Operator	Location	Site	Sample Point	Date	Time
CO2	Occidental Permian Ltd.	North Hobbs RCF	2098	CO2 Discharge	3/21/2022	12:58 PM
CO2	Occidental Permian Ltd.	North Hobbs RCF	2099	CO2 Discharge	3/21/2022	12:48 PM
Gas	Occidental Permian Ltd.	North Hobbs RCF	1013	#1 Slug Catcher Inlet	3/21/2022	1:30 PM
Gas	Occidental Permian Ltd.	North Hobbs RCF	10002	NGL Plant Inlet	3/21/2022	1:13 PM
Gas	Occidental Permian Ltd.	North Hobbs RCF	21013	#2 Slug Catcher Inlet		
Gas	Occidental Permian Ltd.	North Hobbs RCF	21023	#3 Slug Catcher Inlet	3/21/2022	1:34 PM
Gas	Occidental Permian Ltd.	North Hobbs RCF	DEX PRO	Inlet	3/21/2022	1:23 PM
Gas	Occidental Permian Ltd.	North Hobbs RCF	DEX PRO	Outlet		
Gas	Occidental Permian Ltd.	North Hobbs RCF	Reflux Stabilizer	Sample Valve	3/21/2022	1:07 PM
Gas	Occidental Permian Ltd.	North Hobbs RCF	Surge Tank	Propane Vapor	3/21/2022	1:38 PM
Liquid	Occidental Permian Ltd.	North Hobbs RCF	DEX PRO	Gasoline		
Liquid	Occidental Permian Ltd.	North Hobbs RCF	NGL Storage	NGL	3/21/2022	1:03 PM
Liquid	Occidental Permian Ltd.	North Hobbs RCF	Stabilizer	Bottoms	3/21/2022	1:09 PM
Liquid	Occidental Permian Ltd.	North Hobbs RCF	Surge Tank	Propane Liquid	3/21/2022	1:42 PM

**No Sample List**

Operator	Location	Site	Sample Point	Comment
Occidental Permian Ltd.	North Hobbs RCF	21013	#2 Slug Catcher Inlet	No Flow at Sample Point
Occidental Permian Ltd.	North Hobbs RCF	DEX PRO	Gasoline	Sample Point All Water
Occidental Permian Ltd.	North Hobbs RCF	DEX PRO	Outlet	Sample Point Inaccessible

Pantechs Laboratories, Inc. - Order: 300-3024 - Order Date: 3/21/2022

Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	1623 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	2098	Atm Temp	62 F
Site Type	Meter	Collection Date	03/21/2022
Sample Point	CO2 Discharge	Collection Time	12:58 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID	2098	Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	CO2	Container(s)	YZ28194

## GPA 2177 CO2 Fractional Analysis

COMPOUND	FORMULA	MOL%	VOL%	WT%
NITROGEN	N2	1.897	1.205	1.262
CARBON DIOXIDE	CO2	88.646	87.500	92.676
HYDROGEN SULFIDE	H2S	0.662	0.516	0.536
METHANE	C1	5.873	5.765	2.238
ETHANE	C2	0.868	1.344	0.620
PROPANE	C3	1.114	1.778	1.167
I-BUTANE	iC4	0.174	0.330	0.240
N-BUTANE	nC4	0.365	0.666	0.504
I-PENTANE	iC5	0.132	0.280	0.226
N-PENTANE	nC5	0.109	0.229	0.187
HEXANES PLUS	C6+	0.160	0.388	0.344
TOTALS:		100.000	100.000	100.000

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

## Liquid Phase Properties

SCF/Gal (Ideal)	SCF/Gal (Real)	Mol Weight	Relative Density (60/60)	Vapor Pressure 100F, psia
58.229	57.904	42.096	0.772	1,463.1

## Vapor Phase Properties

ITEM	BTU/CF	Specific Gr.	Z Factor
DRY	142.42	1.461	0.994
WATER SATURATED	140.88	1.447	0.994

## Onsite Testing by Stain Tube

METHOD	TYPE	MOL%	GRAINS/100	PPMV
GPA2377	H2S	0.6621	420.42	6,684.7

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	1627 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	2099	Atm Temp	63 F
Site Type	Meter	Collection Date	03/21/2022
Sample Point	CO2 Discharge	Collection Time	12:48 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID	2099	Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	CO2	Container(s)	YZ12639

## GPA 2177 CO2 Fractional Analysis

COMPOUND	FORMULA	MOL%	VOL%	WT%
NITROGEN	N2	1.678	1.073	1.129
CARBON DIOXIDE	CO2	87.219	86.668	92.210
HYDROGEN SULFIDE	H2S	1.880	1.477	1.539
METHANE	C1	6.693	6.614	2.579
ETHANE	C2	1.001	1.561	0.723
PROPANE	C3	1.132	1.819	1.199
I-BUTANE	iC4	0.106	0.202	0.148
N-BUTANE	nC4	0.164	0.301	0.229
I-PENTANE	iC5	0.041	0.088	0.071
N-PENTANE	nC5	0.033	0.070	0.057
HEXANES PLUS	C6+	0.053	0.129	0.116
TOTALS:		100.000	100.000	100.000

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

## Liquid Phase Properties

SCF/Gal (Ideal)	SCF/Gal (Real)	Mol Weight	Relative Density (60/60)	Vapor Pressure 100F, psia
58.620	58.298	41.628	0.769	1,481.5

## Vapor Phase Properties

ITEM	BTU/CF	Specific Gr.	Z Factor
DRY	140.51	1.445	0.995
WATER SATURATED	138.99	1.431	0.994

## Onsite Testing by Stain Tube

METHOD	TYPE	MOL%	GRAINS/100	PPMV
GPA2377	H2S	1.8795	1,193.48	18,976.3

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	299 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	1013	Atm Temp	62 F
Site Type	Meter	Collection Date	03/21/2022
Sample Point	#1 Slug Catcher Inlet	Collection Time	1:30 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID	1013	Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	PL1954

## GPA 2261 Gas Fractional Analysis

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	1.576	1.049	0.173
CARBON DIOXIDE	CO2	87.314	91.310	14.886
HYDROGEN SULFIDE	H2S	0.784	0.635	0.106
METHANE	C1	6.495	2.476	1.101
ETHANE	C2	1.005	0.718	0.269
PROPANE	C3	1.443	1.512	0.398
I-BUTANE	iC4	0.227	0.314	0.074
N-BUTANE	nC4	0.494	0.682	0.156
I-PENTANE	iC5	0.196	0.336	0.072
N-PENTANE	nC5	0.165	0.283	0.060
HEXANES PLUS	C6+	0.301	0.685	0.129
TOTALS:		100.000	100.000	17.424

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

LIQUID YIELD	C2+	C3+	C4+	C5+	26# Liquid	10# Liquid
GAL/MSCF (GPM)	1.158	0.889	0.491	0.261	0.401	0.245

CALCULATED PROPERTIES	BTU/CF	Specific Gr.	Z Factor	Mol Weight	Wobbe IDX
DRY	178.86	1.461	0.994	42.084	147.98
WATER SATURATED	176.70	1.447	0.994	41.349	

## Onsite Testing by Stain Tube

METHOD	TYPE	MOL%	GRAINS/100	PPMV
GPA2377	H2S	0.7835	497.50	7,910.3

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	293 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	10002	Atm Temp	62 F
Site Type	Meter	Collection Date	03/21/2022
Sample Point	NGL Plant Inlet	Collection Time	1:13 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID	10002	Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	PL1904

## GPA 2261 Gas Fractional Analysis

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	1.752	1.167	0.192
CARBON DIOXIDE	CO2	87.424	91.518	14.904
HYDROGEN SULFIDE	H2S	0.662	0.537	0.089
METHANE	C1	6.581	2.511	1.116
ETHANE	C2	0.944	0.675	0.253
PROPANE	C3	1.277	1.339	0.352
I-BUTANE	iC4	0.227	0.314	0.074
N-BUTANE	nC4	0.492	0.680	0.155
I-PENTANE	iC5	0.194	0.333	0.071
N-PENTANE	nC5	0.164	0.281	0.059
HEXANES PLUS	C6+	0.283	0.645	0.122
TOTALS:		100.000	100.000	17.387

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

LIQUID YIELD	C2+	C3+	C4+	C5+	26# Liquid	10# Liquid
GAL/MSCF (GPM)	1.086	0.833	0.481	0.252	0.386	0.232

CALCULATED PROPERTIES	BTU/CF	Specific Gr.	Z Factor	Mol Weight	Wobbe IDX
DRY	172.55	1.459	0.994	42.042	142.83
WATER SATURATED	170.49	1.445	0.994	41.307	

## Onsite Testing by Stain Tube

METHOD	TYPE	MOL%	GRAINS/100	PPMV
GPA2377	H2S	0.6621	420.42	6,684.7

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	N/A
Location	North Hobbs RCF	Sample Temp	N/A
Site	21013	Atm Temp	N/A
Site Type	Meter	Collection Date	
Sample Point	#2 Slug Catcher Inlet	Collection Time	
Spot/Comp	Spot	Collection By	
Meter ID	21013	Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	

## No Sample

Employee	Comment
Cody Carson	No Flow at Sample Point

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	299 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	21023	Atm Temp	62 F
Site Type	Meter	Collection Date	03/21/2022
Sample Point	#3 Slug Catcher Inlet	Collection Time	1:34 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID	21023	Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	PL1037

## GPA 2261 Gas Fractional Analysis

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	1.772	1.164	0.194
CARBON DIOXIDE	CO2	90.387	93.241	15.410
HYDROGEN SULFIDE	H2S	0.552	0.441	0.074
METHANE	C1	4.411	1.659	0.748
ETHANE	C2	0.692	0.488	0.185
PROPANE	C3	0.984	1.017	0.271
I-BUTANE	iC4	0.194	0.264	0.063
N-BUTANE	nC4	0.424	0.578	0.134
I-PENTANE	iC5	0.160	0.271	0.059
N-PENTANE	nC5	0.136	0.230	0.049
HEXANES PLUS	C6+	0.288	0.647	0.124
TOTALS:		100.000	100.000	17.311

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If Onsite H2S testing is performed, its resulting value is used in fractional table

LIQUID YIELD	C2+	C3+	C4+	C5+	26# Liquid	10# Liquid
GAL/MSCF (GPM)	0.885	0.700	0.429	0.232	0.360	0.231

CALCULATED PROPERTIES	BTU/CF	Specific Gr.	Z Factor	Mol Weight	Wobbe IDX
DRY	132.49	1.481	0.994	42.662	108.87
WATER SATURATED	131.11	1.467	0.994	41.917	

## Onsite Testing by Stain Tube

METHOD	TYPE	MOL%	GRAINS/100	PPMV
GPA2377	H2S	0.5517	350.35	5,570.6



Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	296 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	DEX PRO	Atm Temp	62 F
Site Type	Station	Collection Date	03/21/2022
Sample Point	Inlet	Collection Time	1:23 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	PL2106

## GPA 2261 Gas Fractional Analysis

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	1.596	1.051	0.175
CARBON DIOXIDE	CO2	89.906	93.000	15.328
HYDROGEN SULFIDE	H2S	0.552	0.442	0.074
METHANE	C1	4.900	1.848	0.831
ETHANE	C2	0.751	0.531	0.201
PROPANE	C3	1.058	1.097	0.292
I-BUTANE	iC4	0.204	0.279	0.067
N-BUTANE	nC4	0.447	0.611	0.141
I-PENTANE	iC5	0.173	0.293	0.063
N-PENTANE	nC5	0.147	0.249	0.053
HEXANES PLUS	C6+	0.266	0.599	0.114
TOTALS:		100.000	100.000	17.339

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

LIQUID YIELD	C2+	C3+	C4+	C5+	26# Liquid	10# Liquid
GAL/MSCF (GPM)	0.931	0.730	0.438	0.230	0.354	0.216

CALCULATED PROPERTIES	BTU/CF	Specific Gr.	Z Factor	Mol Weight	Wobbe IDX
DRY	141.24	1.477	0.994	42.546	116.22
WATER SATURATED	139.71	1.463	0.994	41.802	

## Onsite Testing by Stain Tube

METHOD	TYPE	MOL%	GRAINS/100	PPMV
GPA2377	H2S	0.5517	350.35	5,570.6

Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	N/A
Location	North Hobbs RCF	Sample Temp	N/A
Site	DEX PRO	Atm Temp	N/A
Site Type	Station	Collection Date	
Sample Point	Outlet	Collection Time	
Spot/Comp	Spot	Collection By	
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	

No Sample

Employee	Comment
Cody Carson	Sample Point Inaccessible

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	238 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	Reflux Stabilizer	Atm Temp	64 F
Site Type	Station	Collection Date	03/21/2022
Sample Point	Sample Valve	Collection Time	1:07 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	PL1921

## GPA 2261 Gas Fractional Analysis

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	1.773	1.191	0.194
CARBON DIOXIDE	CO2	89.236	94.144	15.208
HYDROGEN SULFIDE	H2S	0.000	0.000	0.000
METHANE	C1	6.797	2.614	1.152
ETHANE	C2	0.974	0.702	0.260
PROPANE	C3	1.051	1.111	0.290
I-BUTANE	iC4	0.085	0.118	0.028
N-BUTANE	nC4	0.080	0.111	0.025
I-PENTANE	iC5	0.000	0.000	0.000
N-PENTANE	nC5	0.000	0.000	0.000
HEXANES PLUS	C6+	0.004	0.009	0.002
TOTALS:		100.000	100.000	17.159

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

LIQUID YIELD	C2+	C3+	C4+	C5+	26# Liquid	10# Liquid
GAL/MSCF (GPM)	0.605	0.345	0.055	0.002	0.003	0.002

CALCULATED PROPERTIES	BTU/CF	Specific Gr.	Z Factor	Mol Weight	Wobbe IDX
DRY	118.18	1.448	0.995	41.716	98.22
WATER SATURATED	117.05	1.434	0.994	40.987	

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	175 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	Surge Tank	Atm Temp	62 F
Site Type	Tank	Collection Date	03/21/2022
Sample Point	Propane Vapor	Collection Time	1:38 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Gas	Container(s)	PL2227

## GPA 2261 Gas Fractional Analysis

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	9.123	6.641	1.007
CARBON DIOXIDE	CO2	0.804	0.919	0.138
HYDROGEN SULFIDE	H2S	0.000	0.000	0.000
METHANE	C1	1.253	0.522	0.214
ETHANE	C2	27.084	21.164	7.291
PROPANE	C3	61.716	70.722	17.116
I-BUTANE	iC4	0.016	0.024	0.005
N-BUTANE	nC4	0.002	0.003	0.001
I-PENTANE	iC5	0.000	0.000	0.000
N-PENTANE	nC5	0.000	0.000	0.000
HEXANES PLUS	C6+	0.002	0.005	0.001
TOTALS:		100.000	100.000	25.773

Value of "0.000" in fractional interpreted as below detectable limit.

If Onsite H2S testing is performed, its resulting value is used in fractional table

LIQUID YIELD	C2+	C3+	C4+	C5+	26# Liquid	10# Liquid
GAL/MSCF (GPM)	24.414	17.123	0.007	0.001	0.002	0.001

CALCULATED PROPERTIES	BTU/CF	Specific Gr.	Z Factor	Mol Weight	Wobbe IDX
DRY	2,063.47	1.344	0.988	38.482	1,779.84
WATER SATURATED	2,029.28	1.332	0.988	37.810	

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	N/A
Location	North Hobbs RCF	Sample Temp	N/A
Site	DEX PRO	Atm Temp	N/A
Site Type	Station	Collection Date	
Sample Point	Gasoline	Collection Time	
Spot/Comp	Spot	Collection By	
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Liquid	Container(s)	

## No Sample

Employee	Comment
Cody Carson	Sample Point All Water

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	30 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	NGL Storage	Atm Temp	62 F
Site Type	Vessel	Collection Date	03/21/2022
Sample Point	NGL	Collection Time	1:03 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Liquid	Container(s)	PL2506

## GPA 2177 Liquid Fractional Analysis

COMPOUND	FORMULA	MOL%	VOL%	WT%
NITROGEN	N2	0.022	0.007	0.009
CARBON DIOXIDE	CO2	0.010	0.005	0.007
HYDROGEN SULFIDE	H2S	0.000	0.000	0.000
METHANE	C1	0.000	0.000	0.000
ETHANE	C2	0.000	0.000	0.000
PROPANE	C3	16.966	13.632	11.353
I-BUTANE	iC4	10.216	9.745	9.010
N-BUTANE	nC4	27.876	25.626	24.585
I-PENTANE	iC5	13.225	14.116	14.479
N-PENTANE	nC5	11.196	11.824	12.258
HEXANES PLUS	C6+	20.489	25.045	28.299
TOTALS:		100.000	100.000	100.000

Value of "0.000" in fractional interpreted as below detectable limit.

## Calculated Properties

SCF/Gal (Ideal)	SCF/Gal (Real)	Mol Weight	Relative Density (60/60)	Vapor Pressure 100F, psia	Reid VP Equivalent, psi
29.321	27.986	65.901	0.609	60.5	57.4

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	280 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	Stabilizer	Atm Temp	64 F
Site Type	Vessel	Collection Date	03/21/2022
Sample Point	Bottoms	Collection Time	1:09 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Liquid	Container(s)	PL2290

## GPA 2177 Liquid Fractional Analysis

COMPOUND	FORMULA	MOL%	VOL%	WT%
NITROGEN	N2	0.011	0.004	0.005
CARBON DIOXIDE	CO2	0.002	0.001	0.002
HYDROGEN SULFIDE	H2S	0.000	0.000	0.000
METHANE	C1	0.000	0.000	0.000
ETHANE	C2	0.000	0.000	0.000
PROPANE	C3	41.764	36.579	32.516
I-BUTANE	iC4	11.666	12.131	11.972
N-BUTANE	nC4	25.162	25.216	25.822
I-PENTANE	iC5	7.761	9.031	9.887
N-PENTANE	nC5	6.022	6.933	7.671
HEXANES PLUS	C6+	7.612	10.105	12.125
TOTALS:		100.000	100.000	100.000

Value of "0.000" in fractional interpreted as below detectable limit.

## Calculated Properties

SCF/Gal (Ideal)	SCF/Gal (Real)	Mol Weight	Relative Density (60/60)	Vapor Pressure 100F, psia	Reid VP Equivalent, psi
31.961	30.955	56.638	0.570	103.7	98.9

Pantechs Laboratories, Inc. Order: 300-3024 - Order Date: 3/21/2022

## Order Description: North Hobbs RCF, Monthly Collection

SAMPLE ID		COLLECTION DATA	
Operator	Occidental Permian Ltd.	Pressure	175 psig
Location	North Hobbs RCF	Sample Temp	N/A
Site	Surge Tank	Atm Temp	62 F
Site Type	Tank	Collection Date	03/21/2022
Sample Point	Propane Liquid	Collection Time	1:42 PM
Spot/Comp	Spot	Collection By	Cody Carson
Meter ID		Pressure Base	14.650 psi
Purchaser		Temperature Base	60 F
Fluid	Liquid	Container(s)	PL1629

## GPA 2177 Liquid Fractional Analysis

COMPOUND	FORMULA	MOL%	VOL%	WT%
NITROGEN	N2	0.025	0.010	0.016
CARBON DIOXIDE	CO2	0.003	0.002	0.003
HYDROGEN SULFIDE	H2S	0.000	0.000	0.000
METHANE	C1	0.003	0.002	0.001
ETHANE	C2	0.739	0.717	0.504
PROPANE	C3	98.582	98.490	98.595
I-BUTANE	iC4	0.596	0.707	0.786
N-BUTANE	nC4	0.017	0.019	0.022
I-PENTANE	iC5	0.004	0.005	0.007
N-PENTANE	nC5	0.003	0.004	0.005
HEXANES PLUS	C6+	0.028	0.044	0.061
TOTALS:		100.000	100.000	100.000

Value of "0.000" in fractional interpreted as below detectable limit.

## Calculated Properties

SCF/Gal (Ideal)	SCF/Gal (Real)	Mol Weight	Relative Density (60/60)	Vapor Pressure 100F, psia	Reid VP Equivalent, psi
36.455	35.823	44.091	0.506	192.7	184.1



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**EVENT SPECIFIC JUSTIFICATIONS FORM****Facility:** North Hobbs Plant**Start Date:** 01/03/2023 @ 09:09 AM**End Date:** 01/03/2023 @ 09:14 AM**Cause:** THE NORTH PLANT FLARED WHEN "F" TRAIN SHUTDOWN ON LOW OIL PRESSURE.**Duration of event:** 0:05 hours

Flared MCF: 54

**Method of Flared Gas Measurement:** Flare Meter

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**1. Reason why this event was beyond Operator's control:**

The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to ensure flame is lit and meeting opacity requirements.

This event was a sudden and unforeseeable compressor malfunction of "F" Train compressor unit. Oxy operators were alerted to a malfunction of the compressor unit when an alarm started going off indicating a low/low alarm on oil pressure and a malfunction of the unit. An Oxy operator quickly arrived at the facility and began to immediately inspect the unit and reading the shutdown alarms. Oxy operator determined that the compressor unit would need to be shut down so that he could perform a thorough inspection of the unit to determine exact cause involving the low oil pressure and a need to change filters. OXY operators assisted with shutting down the unit, and this shut down of the malfunctioning compressor unit triggered a flaring event. After thoroughly inspecting the compressor unit, the Oxy operator brought the unit back to normal working service. OXY personnel were in place and available at the facility location when compressor unit was returned to working service.

Notwithstanding proper gas compressor design and operation, various forms of mechanical or technical issues can be sudden, reasonably unforeseeable and unexpected which can cause compressor unit malfunctions to occur without warning or advance notice. OXY made every effort to control and minimize emissions as much as possible during this event.

**2. Steps Taken to limit duration and magnitude of venting or flaring:**

The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem

from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to ensure flame is lit and meeting opacity requirements.

In this case, the steps taken to limit duration and magnitude of flaring was for Oxy operators to quickly respond to the compression equipment malfunction alarms by quickly contacting the operator that the compressor unit was rising, and a malfunction alarm was occurring. An Oxy operator quickly arrived at the facility and began to immediately inspect the unit and reading the shutdown alarms. Oxy operator determined that the compressor unit would need to be shut down so that he could perform a thorough inspection of the unit to determine exact cause involving the alarms. OXY operators assisted with shutting down the unit, and this shut down of the malfunctioning compressor unit triggered a flaring event. In addition to shutting Train "F" compressor unit down, OXY routed all the stranded sales gas to a flare with a 98% combustion efficiency in order to lessen emissions as much as possible. The flare is regularly monitored to ensure the flame is lit and meeting opacity requirements. After thoroughly inspecting the malfunctioning compressor unit for any other possible reasons the compressor unit might be getting shutdown alarms. After inspecting and troubleshooting the compressor unit, the operator brought the unit back to normal working service.

Notwithstanding proper gas compressor design and operation, various forms of mechanical or technical issues can be sudden, reasonably unforeseeable and unexpected which can cause compressor unit malfunctions to occur without warning or advance notice. OXY made every effort to control and minimize emissions as much as possible during this event.

**3. Corrective Actions taken to eliminate the cause and reoccurrence of venting or flaring:**

The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to ensure the flame is lit and meeting opacity requirements.

Oxy cannot take any corrective actions to eliminate the cause and potential reoccurrence of compressor malfunctions as notwithstanding proper gas compressor design and operation, various forms of mechanical or technical issues can be sudden, reasonably unforeseeable and unexpected which can cause compressor unit malfunctions to occur without warning or advance notice. Oxy continually strives to maintain and operate its facility equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Train "F" was working as designed and operated normally prior to the sudden and without warning malfunction of the compressor unit. Oxy has a strong and positive compression equipment preventative maintenance program in place. This incident was completely out of OXY's control to prevent from happening as it was determined the malfunction occurred due to a need to change out filters regarding the oil pressure and a malfunction of the unit. OXY made every effort to control and minimize emissions as much as possible during this event. The only actions that Oxy can take and handle that is within its control, is to keep continue with its compression equipment preventative maintenance program for this unit.

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
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DEFINITIONS  
  
Action 175772

DEFINITIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 175772
	Action Type: [C-129] Venting and/or Flaring (C-129)

DEFINITIONS

For the sake of brevity and completeness, please allow for the following in all groups of questions and for the rest of this application: <ul style="list-style-type: none"><li>• this application's operator, hereinafter "this operator";</li><li>• venting and/or flaring, hereinafter "vent or flare";</li><li>• any notification or report(s) of the C-129 form family, hereinafter "any C-129 forms";</li><li>• the statements in (and/or attached to) this, hereinafter "the statements in this";</li><li>• and the past tense will be used in lieu of mixed past/present tense questions and statements.</li></ul>
--

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QUESTIONS

Action 175772

**QUESTIONS**

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 175772
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS****Prerequisites**

Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.

Incident Well	Unavailable.
Incident Facility	[fKJ1517634129] NORTH HOBBS UNIT RCF/WIB

**Determination of Reporting Requirements**

Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.

Was this vent or flare caused by an emergency or malfunction	Yes
Did this vent or flare last eight hours or more cumulatively within any 24-hour period from a single event	No
Is this considered a submission for a vent or flare event	Yes, minor venting and/or flaring of natural gas.

An operator shall file a form C-141 instead of a form C-129 for a release that, includes liquid during venting and/or flaring that is or may be a major or minor release under 19.15.29.7 NMAC.

Was there at least 50 MCF of natural gas vented and/or flared during this event	Yes
Did this vent or flare result in the release of <b>ANY</b> liquids (not fully and/or completely flared) that reached (or has a chance of reaching) the ground, a surface, a watercourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water	No
Was the vent or flare within an incorporated municipal boundary or within 300 feet from an occupied permanent residence, school, hospital, institution or church in existence	No

**Equipment Involved**

Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	Emergency Flare>Compressor Oil>Compressor Low Pressure Alarm>Shutdown Alarm

**Representative Compositional Analysis of Vented or Flared Natural Gas**

Please provide the mole percent for the percentage questions in this group.

Methane (CH4) percentage	6
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	7,840
Carbon Dioxide (CO2) percentage, if greater than one percent	87
Oxygen (O2) percentage, if greater than one percent	0

If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.

Methane (CH4) percentage quality requirement	Not answered.
Nitrogen (N2) percentage quality requirement	Not answered.
Hydrogen Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 175772

QUESTIONS (continued)

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 175772
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	01/03/2023
Time vent or flare was discovered or commenced	09:09 AM
Time vent or flare was terminated	09:14 AM
Cumulative hours during this event	1

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Other   Other (Specify)   Natural Gas Flared   Released: 54 Mcf   Recovered: 0 Mcf   Lost: 54 Mcf.
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Not answered.
Is this a gas only submission (i.e. only significant Mcf values reported)	Yes, according to supplied volumes this appears to be a "gas only" report.

Venting or Flaring Resulting from Downstream Activity	
Was this vent or flare a result of downstream activity	No
Was notification of downstream activity received by this operator	Not answered.
Downstream OGRID that should have notified this operator	Not answered.
Date notified of downstream activity requiring this vent or flare	Not answered.
Time notified of downstream activity requiring this vent or flare	Not answered.

Steps and Actions to Prevent Waste	
For this event, this operator could not have reasonably anticipated the current event and it was beyond this operator's control.	True
Please explain reason for why this event was beyond this operator's control	The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements.
Steps taken to limit the duration and magnitude of vent or flare	The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements.

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ACKNOWLEDGMENTS  
  
Action 175772

**ACKNOWLEDGMENTS**

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 175772
	Action Type: [C-129] Venting and/or Flaring (C-129)

**ACKNOWLEDGMENTS**

<input checked="" type="checkbox"/>	I acknowledge that I am authorized to submit a <i>Venting and/or Flaring</i> (C-129) report on behalf of this operator and understand that this report can be a <b>complete</b> C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
<input checked="" type="checkbox"/>	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to this operator) to track any C-129 forms, pursuant to 19.15.27.7 and 19.15.28.8 NMAC and understand that this submission meets the notification requirements of Paragraph (1) of Subsection G and F respectively.
<input checked="" type="checkbox"/>	I hereby certify the statements in this report are true and correct to the best of my knowledge and acknowledge that any false statement may be subject to civil and criminal penalties under the Oil and Gas Act.
<input checked="" type="checkbox"/>	I acknowledge that the acceptance of any C-129 forms by the OCD does not relieve this operator of liability should their operations have failed to adequately investigate, report, and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment.
<input checked="" type="checkbox"/>	I acknowledge that OCD acceptance of any C-129 forms does not relieve this operator of responsibility for compliance with any other applicable federal, state, or local laws and/or regulations.



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CONDITIONS  
  
Action 175772

CONDITIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 175772
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
ralvarado	If the information provided in this report requires an amendment, submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event.	1/13/2023