15-187-20377

14-30-41W JAN 30 2001

Analysis Report

01/22/2001 9:12:45

WF

KN FIELD SERVICES, INC.

A Division of

KN ENERGY

Barrett's

Sample ID:	8394	Sampled Date:	09/05/2000
Station #:	E6232	Effective Date:	09/05/2000
Name:	NAOMI 1	Analysis File:	E6232.BDF
Code:	1045		

Components	Mole %	Btu	Gravity	GPM
Helium:	0.227	0.000	0.000	0.000
Hydrogen:	0.000	0.000	0.000	0.000
Oxygen:	0.000	0.000	0.000	0.000
Nitrogen:	2.751	0.000	0.027	0.000
Methane:	36.920	373.775	0.205	0.000
Carbon Dioxide:	4.880	0.000	0.000	0.000
Hydrogen Sulfide:	0.002	0.000	0.000	0.000
Ethane:	17.795	315.629	0.185	4.759
Propane:	22.133	558.177	0.337	6.099
i-Butane:	4.148	135.201	0.083	1.357
n-Butane:	6.804	222.480	0.137	2.145
i-Pentane:	1.486	59.591	0.037	0.544
n-Pentane:	1.654	66.461	0.041	0.599
Hexanes + C6:	1.159	61.438	0.037	0.477
Ideal Total:	99.959	1792.752	1.163	15.980
Unnormalized Total:	101.307			

Gasoline Content

Propane GPM:	6.099
Butane GPM:	3.502
Gasoline GPM:	1.620
26# Gasoline GPM:	2.327

Gross BTU/Real Cu. Ft. (@ 60 deg F, 14.730 PSIA)

Dry: 1809.8

Sat: 1780.1

(1.000 lbs. water/MMCF)

Gas Compressibility:	0.9906
Real Gravity Calculated:	1.089
H2S PPM:	20

Comments:

Analysis Report

01/22/2001 9:30:30

WF

Berryes

KN FIELD SERVICES, INC.

A Division of

KN ENERGY

Sample ID:	008319	Sampled Date:	08/25/2000
Station #:	E6232	Effective Date:	08/25/2000
Name:	NAOMI 1	Analysis File:	E6232.BDF
Code:	1045		

Components	Mole %	Btu	Gravity	GPM
Helium:	0.219	0.000	0.000	0.000
Hydrogen:	0.032	0.104	0.000	0.000
Oxygen:	0.000	0.000	0.000	0.000
Nitrogen:	2.700	0.000	0.026	0.000
Methane:	36.999	374.575	0.205	0.000
Carbon Dioxide:	4.973	0.000	0.076	0.000
Hydrogen Sulfide:	0.002	0.000	0.000	0.000
Ethane:	18.040	319.974	0.187	4.825
Propane:	22.217	560.295	0.338	6.122
i-Butane:	4.201	136.928	0.084	1.374
n-Butane:	6.870	224.639	0.138	2.166
i-Pentane:	1.408	56.463	0.035	0.515
n-Pentane:	1.506	60.514	0.038	0.545
Hexanes + C6:	0.833	44.157	0.027	0.343
Ideal Total:	100.000	1777.649	1.154	15.890
Unnormalized Total:	100.690			

Gasoline Content

Propane GPM:	6.122
Butane GPM:	3.540
Gasoline GPM:	1.403
26# Gasoline GPM:	1.928

Gross BTU/Real Cu. Ft. (@ 60 deg F, 14.730 PSIA)

Dry: 1794.2

Sat: 1764.7

(1.000 lbs. water/MMCF)

Gas Compressibility:	0.9908
Real Gravity Calculated:	1.154
H2S PPM:	19

Comments: CONTACTED PRODUCER

15-187-20377

14-30-4W

AUG 0 4 2004

EM

WF

Analytical Laboratory Report for:

Berexco

BJ Chemical Services

Account Representative:
Todd Jones

Production Water Analysis

Listed below please find water analysis report from: Naomi, #1

Lab Test No:	2004115512	Sample Date:	04/20/2004
Specific Gravity:	1.051		
TDS:	77561		
pH:	6.00		

Cations:	mg/L	as:
Calcium	4003	(Ca^{++})
Magnesium	1030	(Mg^{++})
Sodium	26871	(Na^{+})
Iron	6.97	(Fe^{++})
Barium	1.09	(Ba^{++})
Strontium	217.59	(Sr^{++})
Manganese	0.79	(Mn^{++})
Anions:	**mg/L**	**as:**
Bicarbonate	130	(HCO_3^{-})
Sulfate	800	($SO_4^{=}$)
Chloride	44500	(Cl^{-})
Gases:		
Carbon Dioxide	84	(CO_2)
Hydrogen Sulfide	50	(H_2S)
Oxygen	0.0	(O_2) ppm

Analytical Laboratory Report for:

Berexco

BJ Unichem Chemical Services

UNICHEM Representative: Jim Baker

Production Water Analysis

Listed below please find water analysis report from Naomi, #1

Lab Test No:	2003126820	Sample Date:	05/24/2003
Specific Gravity:	1.050		
TDS:	75335		
pH:	6.40		

Cations:	mg/L	as:
Calcium	3167	(Ca^{++})
Magnesium	877	(Mg^{++})
Sodium	25338	(Na^{+})
Iron	97.53	(Fe^{++})
Barium	0.66	(Ba^{++})
Strontium	172.17	(Sr^{++})
Manganese	2.51	(Mn^{++})
Anions:	**mg/L**	**as:**
Bicarbonate	281	(HCO_3^{-})
Sulfate	800	($SO_4^{=}$)
Chloride	44600	(Cl^{-})
Gases:		
Carbon Dioxide	260	(CO_2)
Hydrogen Sulfide	0	(H_2S)

Analytical Laboratory Report for:

Berexco

BJ Chemical Services

Account Representative:
Jim Baker

Production Water Analysis

Listed below please find water analysis report from: Naomi, #1

Lab Test No:	2003126820	Sample Date:	05/24/2003
Specific Gravity:	1.050		
TDS:	75335		
pH:	6.40		

Cations:	mg/L	as:
Calcium	3167	(Ca^{++})
Magnesium	877	(Mg^{++})
Sodium	25338	(Na^{+})
Iron	97.53	(Fe^{++})
Barium	0.66	(Ba^{++})
Strontium	172.17	(Sr^{++})
Manganese	2.51	(Mn^{++})
Anions:	**mg/L**	**as:**
Bicarbonate	281	(HCO_3^{-})
Sulfate	800	($SO_4^{=}$)
Chloride	44600	(Cl^{-})
Gases:		
Carbon Dioxide	260	(CO_2)
Hydrogen Sulfide	0	(H_2S)

OKMAR OIL COMPANY

INTER-OFFICE

TO: Well File

FROM: Evan

DATE: 1/17/89

REFERENCE:

Naomi #1 Chem Solv Water analysis 1/12/89 before pulling for cig lk WO

Sg - 1.155
Cl - 116795
Ca - 2930
Mg - 1005
SULF - 625
BICARB - 193
Fe - 35
H_2S - 0
PH - 6.4
Mud - 6%

To Evan Mayhew

Well File

HALLIBURTON SERVICES 96

LIBERAL, KANSAS 67901

Company Barexco

Lease Naomi No. 1

Sec. Twp. Rge. County

Formation Depth

Pool Sample Source Swab

Well History

Date 1-21-90 Submitted by

Potassium 0 Sp. Gr. 1.040

Iron 4000 mpl. pH .5

Chlorides 33,900 mpl. Calcium ND mpl.

Magnesium ND mpl. Sulfates 1600+ mpl.

Resistivity .11 Ohm m2/m @ 68 °F

Other Oil 20.5 gr API

Remarks Spent Acid

no Emulsion problem

DW

Analyst

TRETOLITE

FILE

PETROLITE

WATER ANALYSIS REPORT

Mid-Continent Region
Technical Services
7649 S.W. 34th Street
Oklahoma City, Oklahoma 73176
405 745-2058

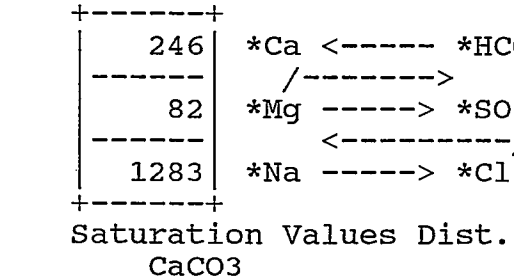
Company : BEREXCO INC.
Address :
Lease : NAOMI
Well : 1
Sample Pt. :

Date : 9-3-92
Date Sampled : 8-19-92
Analysis No. :

	ANALYSIS		mg/L		* meq/L
1.	pH	6.4			
2.	H2S	0.5			
3.	Specific Gravity	1.063			
4.	Total Dissolved Solids		92735.8		
5.	Suspended Solids				
6.	Dissolved Oxygen				
7.	Dissolved CO2				
8.	Oil In Water				
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		50.0		
11.	Bicarbonate	HCO3	61.0	HCO3	1.0
12.	Chloride	Cl	56411.4	Cl	1591.3
13.	Sulfate	SO4	850.0	SO4	17.7
14.	Calcium	Ca	4921.8	Ca	245.6
15.	Magnesium	Mg	994.3	Mg	81.8
16.	Sodium (calculated)	Na	29486.9	Na	1282.6
17.	Iron	Fe	10.4		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		16384.7		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter



Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	1.0	81
CaSO4	68.1	17.7	1205
CaCl2	55.5	226.9	12591
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	81.8	3894
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	1282.6	74955

REMARKS: SALES ENGINEER :J. HENSON

Petrolite Oilfield Chemicals Group
Mid-Continent Region
5601 Northwest 72nd, Suite 324
Oklahoma City, OK 73132

Respectfully submitted,

KRISTEN CASE

BAKER HUGHES
Baker Petrolite

EM

WF

Water Analysis Report by Baker Petrolite

BEREXCO INCORPORATED
NAOMIE
WELL #1
WELLHEAD

Account Manager
JODI MARGREITER

Summary	
Sampling Date	7/13/00
Analysis Date	7/26/00
Analyst	JOANNA RAGAN
TDS (mg/l or g/m³)	87040.3
Density (g/cm³ or tonne/m³)	1.058
Anion/Cation Ratio	1.00
Carbon Dioxide	
Oxygen	

Analysis of Sample 154078 @ 75°F					
Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride	52725	1487	Sodium	28355	1233
Bicarbonate	49.0	0.80	Magnesium	862	70.9
Carbonate	0.00	0.00	Calcium	3854	192
Sulfate	839	17.5	Strontium	170	3.88
Phosphate	N/A	N/A	Barium	0.70	0.01
Borate	N/A	N/A	Iron	21.0	0.75
Silicate	N/A	N/A	Potassium	165	4.22
			Aluminum	N/A	N/A
			Chromium	N/A	N/A
			Copper	N/A	N/A
pH at time of sampling		6.83	Lead	N/A	N/A
pH at time of analysis			Manganese	N/A	N/A
pH used in Calculations		6.83	Nickel	N/A	N/A

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000bbl										CO_2
Temp.	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		Press.
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0.	-0.23		-0.42		-0.45		0.01	3.32	0.74	0.32	0.06
100	0.	-0.15		-0.46		-0.42		0.00	0.83	0.56	0.28	0.07
120	0.	-0.06		-0.49		-0.38		0.00	0.76	0.40	0.24	0.09
140	0.	0.02	0.16	-0.52		-0.31		0.01	2.66	0.27	0.18	0.12

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.
Note 3: The reported CO_2 pressure is actually the calculated CO_2 fugacity. It is usually nearly the same as the CO_2 partial pressure.

15-187-20377

14-30-41W

PETROLITE

Petrolite Corporation
Mid-Continent Region
5601 N.W. 72nd St. • Suite 260
Oklahoma City, OK 73132-5903
(405) 728-9958
Fax (405) 728-8043

TRETOLITE DIVISION

WATER ANALYSIS REPORT

Company : BEREXCO INC.
Address : RICHFIELD, KS
Lease : NAOMI
Well : 1
Sample Pt. :

Date : 6-17-94
Date Sampled : 5-26-94
Analysis No. :

	ANALYSIS		mg/L		* meq/L
1.	pH	6.5			
2.	H2S	1.0			
3.	Specific Gravity	1.062			
4.	Total Dissolved Solids		93920.0		
5.	Suspended Solids				
6.	Dissolved Oxygen				
7.	Dissolved CO2				
8.	Oil In Water				
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		250.0		
11.	Bicarbonate	HCO3	305.0	HCO3	5.0
12.	Chloride	Cl	57040.4	Cl	1609.0
13.	Sulfate	SO4	675.0	SO4	14.1
14.	Calcium	Ca	4797.6	Ca	239.4
15.	Magnesium	Mg	938.4	Mg	77.2
16.	Sodium (calculated)	Na	30151.2	Na	1311.5
17.	Iron	Fe	12.4		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		15844.2		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

239	*Ca <----- *HCO3	5
	/------->	
77	*Mg -----> *SO4	14
	<---------/	
1311	*Na -----> *Cl	1609

Saturation Values Dist. Water 20 C
CaCO3 13 mg/L
CaSO4 * 2H2O 2090 mg/L
BaSO4 2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	5.0	405
CaSO4	68.1	14.1	957
CaCl2	55.5	220.3	12227
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	77.2	3675
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	1311.5	76644

REMARKS: SALES ENGINEER : J. HENSON

FILE

Petrolite Oilfield Chemicals Group
Mid-Continent Region
5601 Northwest 72nd, Suite 324
Oklahoma City, OK 73132

Respectfully submitted,

KRISTEN CASE

PETROLITE

Petrolite Oil Field Chemicals Group
Mid-Continent Region Technical Services

5801 West 10th Street
Great Bend, Kansas 67530
(316) 792-7781

WATER ANALYSIS REPORT

FILE

Company : BEREXCO INC.
Address : RICHFIELD, KS
Lease : NAOMI
Well : #[redacted]-1
Sample Pt. :

Date : 1/28/92
Date Sampled :
Analysis No. :

	ANALYSIS		mg/L		* meq/L
1.	pH	6.5			
2.	H2S	0.0			
3.	Specific Gravity	1.063			
4.	Total Dissolved Solids		91939.2		
5.	Suspended Solids				
6.	Dissolved Oxygen				
7.	Dissolved CO2				
8.	Oil In Water				
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		149.0		
11.	Bicarbonate	HCO3	181.8	HCO3	3.0
12.	Chloride	Cl	56122.2	Cl	1583.1
13.	Sulfate	SO4	600.0	SO4	12.5
14.	Calcium	Ca	4537.1	Ca	226.4
15.	Magnesium	Mg	1339.5	Mg	110.2
16.	Sodium (calculated)	Na	29013.7	Na	1262.0
17.	Iron	Fe	145.0		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		16845.1		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

226	*Ca <----- *HCO3	3
	/------->	
110	*Mg -----> *SO4	12
	<---------/	
1262	*Na -----> *Cl	1583

Saturation Values Dist. Water 20 C
CaCO3 13 mg/L
CaSO4 * 2H2O 2090 mg/L
BaSO4 2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/
Ca(HCO3)2	81.0	3.0	241
CaSO4	68.1	12.5	850
CaCl2	55.5	210.9	11704
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	110.2	5246
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	1262.0	73752

REMARKS: JIM ROBERTS - SALES ENGINEER

Petrolite Oilfield Chemicals Group
Mid-Continent Region
5601 Northwest 72nd, Suite 324
Oklahoma City, OK 73132

Respectfully submitted,

STEVE HECKEL