This representative produced water fluid sample is for the nearby F RPC 30 2, which is producing from the same formation as the F RPC 19 1.

Rocky Mountain Area Laboratory
350 Cole Creek Road,
Evansville, WY 82636

Upstream Chemicals

REPORT DATE: 1/22/2020

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER:	HILCORP ENERGY CO	**ACCOUNT REP:**	JASON HARE
DISTRICT:	FOUR CORNERS	**SAMPLE ID:**	201912018050
AREA/LEASE:	BISTI	**SAMPLE DATE:**	9/17/2019
SAMPLE POINT NAME	FRPC 30#2	**ANALYSIS DATE:**	10/1/2019
SITE TYPE:	WELL SITES	**ANALYST:**	KS
SAMPLE POINT DESCRIPTION:	WELL HEAD		

HILCORP ENERGY CO, BISTI, FRPC 30#2

FIELD DATA	
Initial Temperature (°F):	250
Final Temperature (°F):	70
Initial Pressure (psi):	100
Final Pressure (psi):	15
pH:	
pH at time of sampling:	6.6

ALKALINITY BY TITRATION:	mg/L	meq/L
Bicarbonate (HCO_3^-):	1586.0	26.0
Carbonate (CO_3^{2-}):	ND	
Hydroxide (OH^-):	ND	

aqueous CO_2 (ppm):	164.0
aqueous H_2S (ppm):	0.0
aqueous O2 (ppb):	ND
Calculated TDS (mg/L):	58986
Density/Specific Gravity (g/cm^3):	1.0378
Measured Specific Gravity	ND
Conductivity (mmhos):	ND
Resistivity:	ND
MCF/D:	No Data
BOPD:	No Data
BWPD:	No Data

ANALYSIS OF SAMPLE					
ANIONS:	**mg/L**	**meq/L**	**CATIONS:**	**mg/L**	**meq/L**
Chloride (Cl^-):	34540.0	974.3	**Sodium (Na^+):**	20299.1	883.3
Sulfate (SO_4^{2-}):	0.0	0.0	**Potassium (K^+):**	187.0	4.8
Borate (H_3BO_3):	7.6	0.1	**Magnesium (Mg^{2+}):**	470.5	38.7
Fluoride (F^-):	ND		**Calcium (Ca^{2+}):**	1478.1	73.8
Bromide (Br^-):	ND		**Strontium (Sr^{2+}):**	233.1	5.3
Nitrite (NO_2^-):	ND		**Barium (Ba^{2+}):**	155.9	2.3
Nitrate (NO_3^-):	ND		**Iron (Fe^{2+}):**	22.8	0.8
Phosphate (PO_4^{3-}):	2.7	0.1	**Manganese (Mn^{2+}):**	0.9	0.0
Silica (SiO_2):	13.0		**Lead (Pb^{2+}):**	ND	
			Zinc (Zn^{2+}):	0.0	0.0
ORGANIC ACIDS:	**mg/L**	**meq/L**	**Aluminum (Al^{3+}):**	ND	
Formic Acid:	ND		**Chromium (Cr^{3+}):**	ND	
Acetic Acid:	ND		**Cobalt (Co^{2+}):**	ND	
Propionic Acid:	ND		**Copper (Cu^{2+}):**	ND	
Butyric Acid:	ND		**Molybdenum (Mo^{2+}):**	ND	
Valeric Acid:	ND		**Nickel (Ni^{2+}):**	ND	
			Tin (Sn^{2+}):	ND	
			Titanium (Ti^{2+}):	ND	
			Vanadium (V^{2+}):	ND	
			Zirconium (Zr^{2+}):	ND	
			Lithium (Li):	ND	
			Total Hardness:	6013	N/A
Anion/Cation Ratio:	0.99		**ND = Not Determined**		

SCALE PREDICTIONS BASED ON FIELD PROVIDED DATA; FUTHER MODELING MAY BE REQUIRED FOR VALIDATION OF SCALE PREDICTION RESULTS.

Conditions		Barite ($BaSO_4$)		Calcite ($CaCO_3$)		Gypsum ($CaSO_4 \cdot 2H_2O$)		Anhydrite ($CaSO_4$)	
Temp	**Press.**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**
70°F	15 psi		0.000	0.96	261.505		0.000		0.000
90°F	24 psi		0.000	1.03	274.859		0.000		0.000
110°F	34 psi		0.000	1.14	292.577		0.000		0.000
130°F	43 psi		0.000	1.25	310.414		0.000		0.000
150°F	53 psi		0.000	1.37	327.166		0.000		0.000
170°F	62 psi		0.000	1.50	342.484		0.000		0.000
190°F	72 psi		0.000	1.63	356.327		0.000		0.000
210°F	81 psi		0.000	1.76	369.778		0.000		0.000
230°F	91 psi		0.000	1.90	381.631		0.000		0.000
250°F	100 psi		0.000	2.04	392.069		0.000		0.000

Conditions		Celestite ($SrSO_4$)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate ($FeCO_3$)	
Temp	**Press.**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**
70°F	15 psi		0.000	-1.98	0.000	-8.76	0.000	0.85	14.070
90°F	24 psi		0.000	-2.01	0.000	-8.83	0.000	0.99	14.774
110°F	34 psi		0.000	-2.02	0.000	-8.82	0.000	1.15	15.330
130°F	43 psi		0.000	-2.03	0.000	-8.79	0.000	1.31	15.708
150°F	53 psi		0.000	-2.04	0.000	-8.75	0.000	1.46	15.959
170°F	62 psi		0.000	-2.04	0.000	-8.70	0.000	1.59	16.126
190°F	72 psi		0.000	-2.04	0.000	-8.62	0.000	1.72	16.245
210°F	81 psi		0.000	-2.04	0.000	-8.54	0.000	1.84	16.328
230°F	91 psi		0.000	-2.03	0.000	-8.46	0.000	1.95	16.386
250°F	100 psi		0.000	-2.02	0.000	-8.37	0.000	2.05	16.427

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered

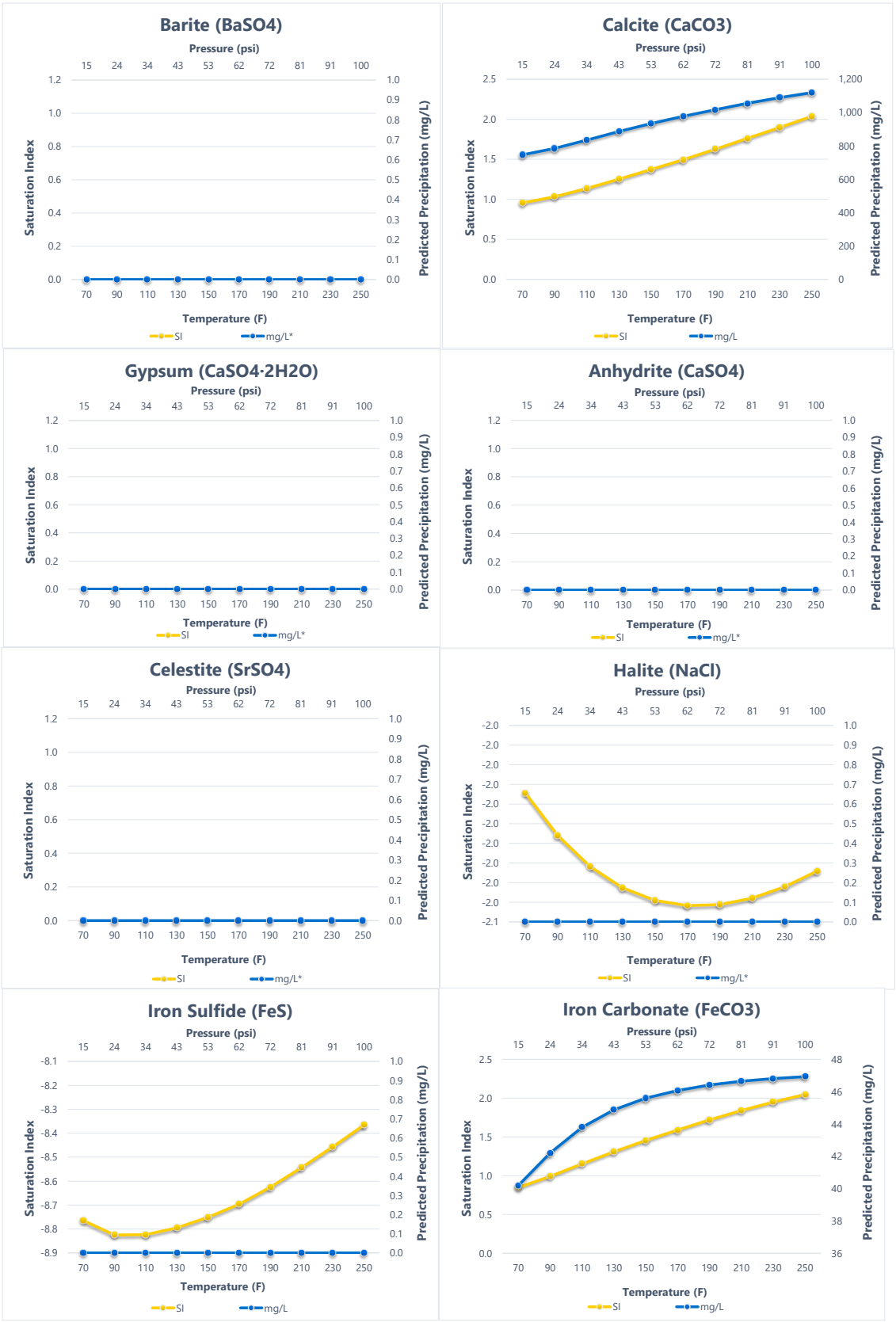
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.

Note 3: Saturation Index predictions on this sheet use pH and alkalinity; $\%CO_2$ is not included in the calculations.

EESI ScaleSoftPitzer™ SSP2010

Comments: SO4 < 0.075 ppm

SAMPLE ID: 43725 HILCORP ENERGY CO, BISTI, FRPC 30#2



SCALE PREDICTIONS BASED ON FIELD PROVIDED DATA; FUTHER MODELING MAY BE REQUIRED FOR VALIDATION OF SCALE PREDICTION RESULTS.

The total spill volume was based on the operator's knowledge of daily water production and the time span between the prior visit versus the time of discovery.

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Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 475244

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 475244
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2516731623**
Incident Name	**NAPP2516731623 F RPC 19 1 @ 30-045-31269**
Incident Type	**Produced Water Release**
Incident Status	**Initial C-141 Received**
Incident Well	**[30-045-31269] F RPC 19 #001**

Location of Release Source *Please answer all the questions in this group.*	
Site Name	F RPC 19 1
Date Release Discovered	06/09/2025
Surface Owner	Federal

Incident Details *Please answer all the questions in this group.*	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release *Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.*	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Flow Line - Production | Produced Water | Released: 12 BBL | Recovered: 10 BBL | Lost: 2 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	On 6/9/2025 at 9:30 am (MT), a lease operator discovered a leaking flowline (most likely due to corrosion) while on location for a routine visit. Upon discovery, the operator shutdown the pumping unit, secured the flowline, and called in a water truck immediately, which was able to recover 10 bbls from the surface. A total of 12 bbls of produced water fluid is estimated to have been released from the flowline. All released fluids remained inside secondary containment and around the 2-phase separator vessel. Area of impact on the surface measured approximately 10' x 10'.

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QUESTIONS (continued)

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QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: Mitch Killough Title: Environmental Specialist Email: mkillough@hilcorp.com Date: 06/16/2025

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QUESTIONS (continued)

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	Action Number: 475244
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QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	*Not answered.*
What method was used to determine the depth to ground water	*Not answered.*
Did this release impact groundwater or surface water	*Not answered.*
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	*Not answered.*
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	*Not answered.*
An occupied permanent residence, school, hospital, institution, or church	*Not answered.*
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	*Not answered.*
Any other fresh water well or spring	*Not answered.*
Incorporated municipal boundaries or a defined municipal fresh water well field	*Not answered.*
A wetland	*Not answered.*
A subsurface mine	*Not answered.*
An (non-karst) unstable area	*Not answered.*
Categorize the risk of this well / site being in a karst geology	*Not answered.*
A 100-year floodplain	*Not answered.*
Did the release impact areas not on an exploration, development, production, or storage site	*Not answered.*

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	No
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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CONDITIONS

Action 475244

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Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 475244
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CONDITIONS

Created By	Condition	Condition Date
rhamlet	None	6/18/2025