



K. G. H.
Tech. Ser. Lab.
OCT 11 1982

Interoffice Communication

To P. W. Lashbrooke, Westlake, Louisiana

From K. L. Kennedy, Ponca City, Oklahoma

Date October 6, 1982

Subject No. 4 HDS Unit (DHDS) and No. 5 HDS Unit (GOHDS) Test Run

CPE _____
JLR _____
PJR _____
TEC _____
DDJ _____
RSJ _____
FILE *Return to KCH*

We are planning a test run on the No. 4 HDS Unit (DHDS) and No. 5 HDS Unit (GOHDS) for twenty-four hours starting at 8:00 a.m. on October 14, 1982. As we understand it, both reformers will be in operation at that time and Alaskan North Slope Crude will be feeding the No. 3 CTU. Yield data will be collected for both the DHDS and GOHDS units and the GOHDS unit will operate at or above design capacity so that equipment performance may be evaluated.

Attached please find Tables 1 through 4 outlining required samples and analyses for the test run. These tables have been discussed with refinery personnel. Operator assistance will be required on each shift during the test run for sample collection.

Prior to the test run, twenty flow meters should be zero checked. Approximately forty pressure gauges must be replaced or installed. PED personnel will be in the plant from October 11 to the end of the test run to assist plant personnel with these tasks.

The plant is asked to provide the following personnel for data collection. An operator will be required to assist in obtaining twenty "single-gauge" pressure measurements. An electrician will be needed to check amperage on fifteen motors in the HDS units and a mechanic will be needed to measure speeds on eleven fans and compressors. We request the assistance of one refinery engineer for data collection during the day shift, October 14.

Please contact Bob Schlessman or me if you have any questions.

Karen L. Kennedy
Process Engineer
Engineering Services Division
Process Engineering Department

ke
Enc

MCD 000021109

P. W. Lashbrooke
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CC:
RGG:JSD:LES:HDR:SHDeP
DRK:SDG:HJF:SCC:MJC
D. F. Meyers - Westlake
R. Holtsmith - Westlake
J. W. Leigh - Westlake
T. C. Blair - Westlake
P. Nelson - Westlake
R. Wodnik - Westlake
R. H. Cowden - Westlake
W. J. Weisenborn - Westlake
M. E. Oliver - Westlake
J. Mangelinkx - Westlake

Approved: R. E. Schlessman

File: PD-190.7

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MCD 000021111

TABLE 1
LIQUID HDS SAMPLES

No. of Samples
Gravity, API
ASTM Distillation, of
Light Gases by GLC
Elemental Sulfur
Hydrogen Sulfide
Mercaptans Sulfur (1)
Disulfides Sulfur (1)
Thiophene Sulfur (1)
Total Nitrogen, Wt%
Basic Nitrogen, Wt%
Conradson Carbon Res., Wt%
Metals, (V, Ni, Fe, As) ppm
Refractive Index @ 100, 122, 210°F
Carbon, Wt% (1)
Hydrogen, Wt% (1)
Cetane
Cloud Point, of
Pour Point, of
Olefins (1)
Aromatics (1)
Saturates (1)

No. 4 HDS Unit (DHDS)

Distillate Feed
Desulfurized Product
Separator Drum Liquid (2)
Stripper Ovhd. Liquid (2)
Sep. Drum Sour Water
Stripper Ovhd. Sour Water

No. 5 HDS Unit (GOHDS)

Gas Oil Feed
Desulfurized Product
Separator Drum Liquid
Sep. Drum Sour Water

No. of Samples	Gravity, API	ASTM Distillation, of	Light Gases by GLC	Elemental Sulfur	Hydrogen Sulfide	Mercaptans Sulfur (1)	Disulfides Sulfur (1)	Thiophene Sulfur (1)	Total Nitrogen, Wt%	Basic Nitrogen, Wt%	Conradson Carbon Res., Wt%	Metals, (V, Ni, Fe, As) ppm	Refractive Index @ 100, 122, 210°F	Carbon, Wt% (1)	Hydrogen, Wt% (1)	Cetane	Cloud Point, of	Pour Point, of	Olefins (1)	Aromatics (1)	Saturates (1)
1/1 B/F	X 86	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1/1 B/F	X 86	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2 A	X 86	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 A	X 86	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 C	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 C	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1 B/F	X 1160	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1/1 B/F	X 1160	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2 A	X 86	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES: 1) To be done by Ponca City TSL.

2) All tests except GLC to be done after debutanizing samples.

* Sample Containers: A. Cold Bomb B. One-Quart Metal Can C. Glass Bottle F. Gallon Plastic Bottle

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TABLE 2
GAS SAMPLES

No. 4, 5	HDS Hydrogen Recycle
No. 4	HDS Separator Off-Gas
No. 5	HDS Separator Off-Gas
No. 4	HDS Stripper Overhead
H-1301	Flue Gas
C-1201	Make-up Hydrogen
H-1102	Fuel Gas

- NOTES:
1. All samples to be collected in cold bombs
 2. Sample analyses to be light gases by GLC
 3. Sample frequency is one sample per shift during test run (24 hours)
 4. HDS Hydrogen Recycle sample to be collected in high pressure (1000 psig) bomb

TABLE 3
HDS FEED SAMPLES

<u>Sample</u>	<u>Gravity, °API</u>	<u>Distillation (3)</u>	<u>(122, 210°F) Viscosity</u>
#3 CTU Diesel	X	D-86	-
Coker Gas Oils	X	D-86	X
#2 CTU Diesel	X	D-86	-
#3 CTU AGO	X	D-1160	X
#3 CTU LVGO	X	D-1160	X
#3 CTU HVGO	X	D-1160	X
Reg. Coker Gas Oil	X	D-1160	X

- NOTES: 1. All samples to be collected in glass bottles
2. Sample frequency is one sample per shift during test run (24 hours)
3. Distillation to be performed on composite of the three samples collected.

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TABLE 4
SAMPLE FOR RESEARCH DEPARTMENT

	Chemicals R&D <u>Ponca City (2)</u>	<u>Chocolate Bayou Plant (2)</u>
<u>No. 3 CTU</u>		
Crude	2 X 55 gal drums	---
Stabilized Light Straight Run	5 gallons	5 gallons
Npahtha	5 gallons	5 gallons
Kerosene	2 X 55 gal drum + 5 gallons	5 gallons
Diesel	5 gallons	5 gallons
Atmospheric Gas Oil	5 gallons	5 gallons
Light Vacuum Gas Oil	5 gallons	5 gallons
 <u>No. 2 CTU</u>		
Crude	2 X 55 gallons	---
Stabilized Light Straight Run	5 gallons	5 gallons
Naphtha	5 gallons	5 gallons
Kerosene	5 gallons	5 gallons
Diesel	5 gallons	5 gallons
Atmospheric Gas Oil	5 gallons	5 gallons

- NOTES: 1. In addition, we will collect a one-quart sample of #3 CTU Kerosene for the LCCP.
2. Please send sample to the following addresses: (see next page)

Chemicals R&D, Ponca City

Attention: Glen Sweany ETN 442-3392

Store Room
R&D West
Ponca City, Oklahoma

Chocolate Bayou Chemical Plant

Attention: Y. W. (George) Wei ETN 621-2430

Conoco Chemicals
Chocolate Bayou
Alvin, Texas

Lake Charles Chemical Plant

Attention: Darrell Zimmer ETN 640-5194

LCCP
Westlake, Louisiana

KCH

7-28-82

No. 4 HDS Unit (DHDS)

Distillate Feed & Product — Sulfur Types?
Carbon ?
Hydrogen ?

No. 5 HDS Unit (GO HDS) — Sulfur Types?

Samples not applicable — FIA ?

Carbon ?

Hydrogen ?

asphaltenes on gas oil's ?

I question the need for the above
data —

ASU