

**AP - 111**

**ANNUAL GW  
MONITORING REPORT  
(2 of 29)**

**2016**

**WESTERN REFINING - GALLUP REFINERY  
2ND QTR 2016**

<b>GWM-2</b>		<b>TEST PARAMATERS</b>								
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)	
GAUGE DATE	6/7/2016	(1)								
GAUGE TIME	1131	(2)								
DTB (feet) Depth to Bottom	18.81	(3)								
DEDICATED PUMP	N	(4)								
DTW (feet) Depth to Water	DRY	<b>WEATHER CONDITIONS</b>								
DTB - DTW		Partly cloudy, breezy, 75-80 Deg F								
Capacity per foot 2 Well Volumes	0.163	<b>WATER APPEARANCE</b>								
PURGE DATE										
PURGE TIME										
SAMPLE DAY		No water detected								
SAMPLE TIME										
Depth to Product Product Layer										
<b>SAMPLE LOG</b>										

<b>GWM-3</b>		<b>TEST PARAMATERS</b>								
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)	
GAUGE DATE	6/7/2016	(1)								
GAUGE TIME	1130	(2)								
DTB (feet) Depth to Bottom	17.80	(3)								
DEDICATED PUMP	N	(4)								
DTW (feet) Depth to Water	DRY	<b>WEATHER CONDITIONS</b>								
DTB - DTW		Partly cloudy, breezy, 75-80 Deg F								
Capacity per foot 2 Well Volumes	0.163	<b>WATER APPEARANCE</b>								
PURGE DATE										
PURGE TIME										
SAMPLE DAY		No water detected								
SAMPLE TIME										
Depth to Product Product Layer										

**SAMPLE LOG**

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

**Signature:**



Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
2ND QTR 2016**

<b>GWM-1</b>		<b>TEST PARAMATERS</b>							
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)
GAUGE DATE	6/7/2016	(1)							
GAUGE TIME	1132	(2)							
DTB (feet)									
Depth to Bottom	26.20	(3)							
DTW (feet)									
Depth to Water	21.39	(4)							
DTB - DTW	4.81	<b>WEATHER CONDITIONS</b> Partly cloudy, breezy, 75-80 Deg F							
Capacity per foot	0.163								
3 Well Volumes	1.57								
PURGE DATE		<b>WATER APPEARANCE</b>  Dark brown oily, odor							
PURGE TIME									
SAMPLE DAY									
SAMPLE TIME									
Depth to Product	21.36								
Product Layer	0.03								

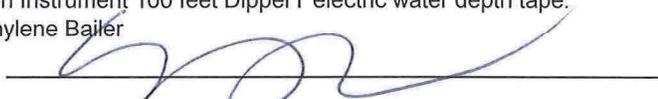
**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in a plastic container and disposed of at the bundle pad.  
NO SAMPLES COLLECTED

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**



Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY  
2ND QTR 2016

Oil Sump LDU		WEATHER CONDITIONS
GAUGE DATE	6/7/2016	Partly cloudy, breezy, 65-70 Deg F
GAUGE TIME	1342	<b>WATER APPEARANCE</b>
DTB (feet)	NA	
Depth to Bottom	NA	
DTW (feet)	DRY	
Depth to Water	NA	
DTB - DTW	NA	<b>NOTES</b>
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE		No samples collected - dry
SAMPLE TIME		

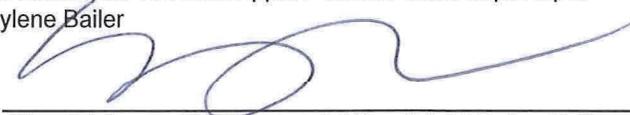
East LDU		WEATHER CONDITIONS
GAUGE DATE	6/7/2016	Partly cloudy, breezy, 65-70 Deg F
GAUGE TIME	1341	<b>WATER APPEARANCE</b>
DTB (feet)	NA	gray, odor
Depth to Bottom	NA	
DTW (feet)	4.63	
Depth to Water	NA	
DTB - DTW	NA	<b>NOTES</b>
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE	6/7/2016	Collected Grab Sample
SAMPLE TIME	1400	

West LDU		WEATHER CONDITIONS
GAUGE DATE	6/7/2016	Partly cloudy, breezy, 65-70 Deg F
GAUGE TIME	1340	<b>WATER APPEARANCE</b>
DTB (feet)	NA	Yellow tint - odor
Depth to Bottom	NA	
DTW (feet)	6.53	
Depth to Water	NA	
DTB - DTW	NA	<b>NOTES</b>
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE	6/7/2016	Collected grab sample
SAMPLE TIME	1343	

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**



Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY  
2016 QUARTERLY INSPECTION

RW-1 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	6/8/2016	Product Thickness (ft)	3.820	Rain showers
GAUGE TIME	1240	Volume of Product Purged (Gallons)	3.500	
DTB (feet) Depth to Bottom	43.04	Volume of Water Purged (Gallons)	28	WATER APPEARANCE
		PURGE DATE		Clear to yellow with sheen and odor
DTP (feet) Depth to Product	27.98	PURGE TIME		
DTW (feet) Depth to Water	31.80	SAMPLE DAY	N/A	
DTB - DTW	11.24	SAMPLE TIME	N/A	
<b>WELL PURGING</b>				<b>Notes</b>
START DATE	START TIME	END DATE	END TIME	No samples collected - bailed for product recovery only.

**ADDITIONAL NOTES:**

Purged water collected in a 55 gallon drum.

RW-2 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	6/8/2016	Product Thickness (ft)	0.000	Clear, calm
GAUGE TIME	850	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	39.80	Volume of Water Purged (Gallons)	26	WATER APPEARANCE
		PURGE DATE	N/A	Clear - cloudy - brown at end of purge
DTP (feet) Depth to Product	0.00	PURGE TIME	N/A	
DTW (feet) Depth to Water	22.31	SAMPLE DAY	6/8/2016	
DTB - DTW	17.49	SAMPLE TIME	920	
<b>WELL PURGING</b>				<b>Notes</b>
START DATE	START TIME	END DATE	END TIME	Bailed 26 gallons - samples collected.
N/A				

**ADDITIONAL NOTES:**

Purged water disposed of upstream of WWTP.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
WaterMark oil Water Interface Meter (100 ft), Model 101L/SMOIL, S/N 01-5509  
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
5 gallon buckets to catch purge water.  
Dedicated portable pump used for RW-1

SIGNATURE: /s/  / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY  
2016 QUARTERLY INSPECTION**

<b>RW-5 (Recovery Well)</b>				<b>WEATHER CONDITIONS</b>
GAUGE DATE	6/7/2016	Product Thickness (ft)	0.000	Ptly cloudy, breezy
GAUGE TIME	1547	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	39.59	Volume of Water Purged (Gallons)	17	<b>WATER APPEARANCE</b>
DTP (feet) Depth to Product	0.00	PURGE DATE		Clear - cloudy - gray - sheen - odor. No measurable layer.
DTW (feet) Depth to Water	28.22	PURGE TIME		
DTB - DTW	11.37	SAMPLE DAY	6/7/2016	
		SAMPLE TIME	1605	
<b>WELL PURGING</b>				<b>Notes</b>
START DATE	START TIME	END DATE	END TIME	No measurable product layer - bailed 17 gallons - samples collected.

**ADDITIONAL NOTES:**

Purged water disposed of upstream of the WWTP.

<b>RW-6 (Recovery Well)</b>				<b>WEATHER CONDITIONS</b>
GAUGE DATE	6/7/2016	Product Thickness (ft)	0.000	Ptly cloudy, breezy
GAUGE TIME	1545	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	40.90	Volume of Water Purged (Gallons)	18	<b>WATER APPEARANCE</b>
DTP (feet) Depth to Product	0.00	PURGE DATE		Clear - cloudy - sheen - odor
DTW (feet) Depth to Water	28.24	PURGE TIME		
DTB - DTW	12.66	SAMPLE DAY	6/7/2016	
		SAMPLE TIME	1630	
<b>WELL PURGING</b>				<b>Notes</b>
START DATE	START TIME	END DATE	END TIME	Bailed 18 gallons - samples collected.

**ADDITIONAL NOTES:**

Purged water disposed of upstream of the WWTP.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
 5 gallon buckets to catch purge water.  
 3 foot disposable bailer.

SIGNATURE: /s/ *Cheryl Johnson* Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY  
2ND QTR 2016**

<b>OW-13</b>		<b>TEST PARAMATERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	6/6/2016	(1)	1337	8.10	14.09	64.850	42.150	43.83	57.6	-21.9
GAUGE TIME	1245	(2)	1339	8.07	14.50	64.940	42.210	43.93	32.8	-17.7
DTB (feet)										
Depth to Bottom	99.15	(3)	1341	7.96	14.53	65.260	42.420	44.20	24.6	-1.4
DEDICATED PUMP	Y	(4)	1343	7.93	15.05	65.410	42.520	44.33	20.8	9.1
DTW (feet)	21.45	<b>WEATHER CONDITIONS</b> Overcast, breezy, 80-85 Deg F.								
Depth to Water	77.70									
DTB - DTW	0.740									
Capacity per foot	172.49									
3 Well Volumes		<b>WATER APPEARANCE</b> Clear, no odor								
PURGE DATE	6/6/2016									
PURGE TIME										
SAMPLE DAY	6/6/2016									
SAMPLE TIME	1345									
PUMP DEPTH	80 ft									
DTW (feet)										
at end of Purging	NA									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

<b>OW-14</b>		<b>TEST PARAMATERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	6/6/2016	(1)								
GAUGE TIME	815	(2)	Did not save results on the meter.							
DTB (feet)										
Depth to Bottom	46.52	(3)								
DEDICATED PUMP	Y	(4)								
DTW (feet)	23.18	<b>WEATHER CONDITIONS</b> Partly cloudy, breezy, 70-75 Deg F.								
Depth to Water	23.34									
DTB - DTW	0.740									
Capacity per foot	51.81									
3 Well Volumes		<b>WATER APPEARANCE</b> Clear, no odor								
PURGE DATE	6/6/2016									
PURGE TIME										
SAMPLE DAY	6/6/2016									
SAMPLE TIME	845									
PUMP DEPTH	30 ft									
DTW (feet)										
at end of Purging	NA									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
2ND QTR 2016**

<b>OW-29</b>		<b>TEST PARAMATERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	6/6/2016	(1)	1024	7.01	13.88	78.040	64.400	71.44	56.7	-76.3
GAUGE TIME	910	(2)	1026	7.03	14.17	78.580	64.390	71.47	24.8	-71.0
DTB (feet)										
Depth to Bottom	51.08	(3)	1028	7.03	14.47	79.260	64.480	71.62	14.8	-68.0
DEDICATED PUMP	Y	(4)	1030	7.03	14.83	79.960	64.500	71.69	11.3	-64.6
DTW (feet)		<b>WEATHER CONDITIONS</b> Partly cloudy, breezy 70-75 Deg F.								
Depth to Water	18.16									
DTB - DTW	32.92									
Capacity per foot	0.740									
3 Well Volumes	73.08									
PURGE DATE	6/6/2016	<b>WATER APPEARANCE</b>								
PURGE TIME										
SAMPLE DAY	6/6/2016	Clear, no odor detected; end of bailing - water had slight brownish tint								
SAMPLE TIME	1030									
PUMP DEPTH	NA									
DTW (feet)										
at end of Purging	NA									

**SAMPLE LOG**

Pump lost suction at 36 gallons - allowed to recharge - purged a total of 48 gallons. Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

<b>OW-30</b>		<b>TEST PARAMATERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	6/6/2016	(1)	1104	7.08	13.26	79.280	66.430	74.03	66.4	-26.9
GAUGE TIME	1045	(2)	1103	7.01	13.51	79.830	66.480	74.13	33.9	-15.4
DTB (feet)										
Depth to Bottom	49.90	(3)	1105	6.97	13.83	80.540	66.550	74.27	23.8	-10.4
DEDICATED PUMP	Y	(4)								
DTW (feet)		<b>WEATHER CONDITIONS</b> Partly cloudy, breezy, 70-75 Deg F.								
Depth to Water	22.64									
DTB - DTW	27.26									
Capacity per foot	0.740									
3 Well Volumes	60.52									
PURGE DATE	6/6/2016	<b>WATER APPEARANCE</b>								
PURGE TIME										
SAMPLE DAY	6/6/2016	Clear, No odor detected								
SAMPLE TIME	1110									
PUMP DEPTH	38 ft									
DTW (feet)										
at end of Purging	NA									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
2ND QTR 2016**

<b>STP1-NW</b>		<b>TEST PARAMATERS</b>								
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)	
GAUGE DATE	6/7/2016	(1)								
GAUGE TIME	1415	(2)								
DTB (feet)		(3)								
Depth to Bottom	50.00	(4)								
DTW (feet)			<b>WEATHER CONDITIONS</b>							
Depth to Water	20.89		Partly cloudy, breezy							
DTB - DTW	29.11		<b>WATER APPEARANCE</b>							
Capacity per foot	0.163		Clear to cloudy, no odor detected							
3 Well Volumes	14.23									
PURGE DATE	6/7/2016									
PURGE TIME										
SAMPLE DAY	6/7/2016									
SAMPLE TIME	1500									
Depth to Product	NONE									
Product Layer										

**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in a plastic container and disposed of at the bundle pad.

<b>STP1-SW</b>		<b>TEST PARAMATERS</b>								
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)	
GAUGE DATE	6/7/2016	(1)								
GAUGE TIME	1505	(2)								
DTB (feet)		(3)								
Depth to Bottom	29.10	(4)								
DTW (feet)			<b>WEATHER CONDITIONS</b>							
Depth to Water	DRY		Partly cloudy, breezy							
DTB - DTW	N/A		<b>WATER APPEARANCE</b>							
Capacity per foot	0.163		No water detected							
3 Well Volumes	N/A									
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										
Depth to Product										
Product Layer										

**SAMPLE LOG**

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016**

<b>OW-1</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/6/2016	(1)	1244	6.85	15.23	71773	46.653	49.260	27	-18.8
GAUGE TIME	815	(2)	1246	6.77	15.35	71762	46.645	49.250	60	-14.6
DTB (feet)										
Depth to Bottom	94.55	(3)	1248	6.68	15.54	71667	46.583	49.190	47.7	-8.3
DEDICATED PUMP	Y	(4)	1250	6.63	15.67	71776	46.654	19.280	42.4	-4.5
DTW (feet)		<b>WEATHER CONDITIONS</b> Clear, calm 55-60 deg F								
Depth to Water	FULL									
DTB - DTW	94.55									
Capacity per foot	0.740									
3 Well Volumes	209.90									
PURGE DATE	9/6/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	900									
SAMPLE DAY	9/6/2016	Clear, no odor - slight brownish tint at end of purge.								
SAMPLE TIME	1300									

**SAMPLE LOG**

Water level full (to top of casing). Pump lost suction at 65 gallons - stopped at 9am. Allowed to recharge - restarted with purge at 950 - lost suction again after 20 gallons, shut down pump and allowed to recharge. Came back at 1300 hours to collect sample. Purged water collected in 55 gallon drums and disposed of upstream of the WWT plant.

<b>OW-10</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/6/2016	(1)	1132	7.39	14.64	209077	135.9	184.24	329	5.1
GAUGE TIME	1030	(2)	1134	6.53	13.46	212529	138.14	187.94	83.5	-7.3
DTB (feet)										
Depth to Bottom	60.33	(3)	1136	6.33	13.63	212873	138.37	188.45	46.7	-7.1
DEDICATED PUMP	Y	(4)	1138							
DTW (feet)		<b>WEATHER CONDITIONS</b> Overcast, breezy, 65-70 deg F.								
Depth to Water	0.38									
DTB - DTW	59.95									
Capacity per foot	0.740									
3 Well Volumes	133.09									
PURGE DATE	9/6/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	1032									
SAMPLE DAY	9/6/2016	Clear, no odor detected.								
SAMPLE TIME	1140									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
bailer.

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016

OW-11		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/9/2016	(1)	1427	12.26	16.01	2675	1.739	1.39	17.3	-375.3
GAUGE TIME	1340	(2)	1429	12.17	16.28	2676	1.739	1.39	16.9	-357.3
DTB (feet) Depth to Bottom	65.79	(3)	1431	12.12	16.51	2678	1.741	1.39	16.6	-351.4
DEDICATED PUMP	N	(4)	1433	12.12	16.90	2671	1.736	1.39	16.2	-360.0
DTW (feet) Depth to Water	18.79	<b>WEATHER CONDITIONS</b>  Clear, calm, 65-70 deg								
DTB - DTW	47.00									
Capacity per foot	0.740									
3 Well Volumes	104.34									
PURGE DATE	9/9/2016									
PURGE TIME	1345	<b>WATER APPEARANCE</b>  Clear, no odor								
SAMPLE DAY	9/9/2016									
SAMPLE TIME	1435									

**SAMPLE LOG**

Purged approximately 110 gallons into tote for disposal upstream of the WWTP. Samples collected.

OW-12		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	1741	8.36	36.48	3921.000	2.549	2.03	202.9	-18.9
GAUGE TIME	1700	(2)								
DTB (feet) Depth to Bottom	128.85	(3)								
DEDICATED PUMP	N	(4)								
DTW (feet) Depth to Water	47.23	<b>WEATHER CONDITIONS</b>  partly cloudy, breezy								
DTB - DTW	81.62									
Capacity per foot	0.740									
3 Well Volumes	181.20									
PURGE DATE	9/8/2016									
PURGE TIME	1705	<b>WATER APPEARANCE</b>  Clear, no odor detected.								
SAMPLE DAY	9/8/2016									
SAMPLE TIME	1745									

**SAMPLE LOG**

Purged 30 gallons, pump lost suction. Allowed to recharge and collected samples. Purged water collected in 55 gallon drums and disposed of upstream of the WWTP plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016**

<b>OW-13</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	8/31/2016	(1)	1038	7.38	13.17	65350.000	42.477	44.17	560.5	-19.5
GAUGE TIME	950	(2)	1040	7.58	13.95	64476.000	41.909	43.55	28	-19.2
DTB (feet)										
Depth to Bottom	99.15	(3)	1042	7.61	14.34	64512.000	41.933	43.59	22.2	-20.1
DEDICATED PUMP	Y	(4)	1044	7.65	14.67	64240.000	41.756	43.40	19.4	-21.6
DTW (feet)		<b>WEATHER CONDITIONS</b> Clear, calm, 55-60 deg F.								
Depth to Water	21.94									
DTB - DTW	77.21									
Capacity per foot	0.740									
3 Well Volumes	171.41									
PURGE DATE	8/31/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	955									
SAMPLE DAY	8/31/2016	Clear, no odor								
SAMPLE TIME	1045									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

<b>OW-14</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	8/31/2016	(1)	831	5.97	13.65	108842	70.748	79.85	95.7	-111.6
GAUGE TIME	814	(2)	833	6.33	13.75	108303	70.397	79.39	57.8	-126.9
DTB (feet)										
Depth to Bottom	46.52	(3)	835	6.47	13.73	108404	70.462	79.48	41.6	-119.9
DEDICATED PUMP	Y	(4)	837	6.51	13.78	108391	70.454	79.47	33.0	-110.6
DTW (feet)		<b>WEATHER CONDITIONS</b> Clear, calm, 55-60 deg F.								
Depth to Water	23.50									
DTB - DTW	23.02									
Capacity per foot	0.740									
3 Well Volumes	51.10									
PURGE DATE	8/31/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	825									
SAMPLE DAY	8/31/2016	Clear, no odor								
SAMPLE TIME	842									

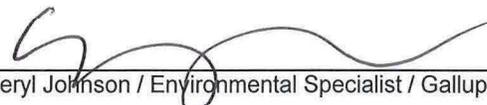
**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
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<b>OW-29</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	8/31/2016	(1)	931	6.64	13.28	97435.000	63.333	69.98	83.9	-48.2
GAUGE TIME	855	(2)	933	6.67	13.44	97478.000	63.361	70.04	48.2	-49.7
DTB (feet)	51.08	(3)	935	6.69	13.57	97507.000	63.380	70.08	32.4	-49.6
Depth to Bottom		(4)	937	6.71	13.68	97617.000	63.451	70.18	24.4	-48.5
DEDICATED PUMP	Y	<b>WEATHER CONDITIONS</b> Clear, calm, 55-60 deg F.								
DTW (feet)	18.94									
Depth to Water	32.14									
DTB - DTW	0.740									
Capacity per foot	71.35									
3 Well Volumes		<b>WATER APPEARANCE</b> Clear, No odor detected								
PURGE DATE	8/31/2016									
PURGE TIME	905									
SAMPLE DAY	8/31/2016									
SAMPLE TIME	940									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

<b>OW-30</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	8/31/2016	(1)	1141	7.57	15.69	97330	63.264	70.14	127.4	2.7
GAUGE TIME	1115	(2)	1143	6.92	13.46	101484	65.965	73.45	73.0	-8.5
DTB (feet)	49.90	(3)	1145	6.89	13.77	101519	65.988	73.52	40.1	-9.4
Depth to Bottom		(4)	1147	6.86	14.20	101484	65.965	73.54	25.6	-7.5
DEDICATED PUMP	Y	<b>WEATHER CONDITIONS</b> Clear, breezy, 55-60 deg F.								
DTW (feet)	23.30									
Depth to Water	26.60									
DTB - DTW	0.740									
Capacity per foot	59.05									
3 Well Volumes		<b>WATER APPEARANCE</b> Clear, No odor detected								
PURGE DATE	8/31/2016									
PURGE TIME	1120									
SAMPLE DAY	8/31/2016									
SAMPLE TIME	1150									

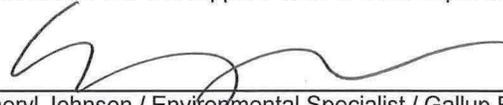
**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
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<b>OW-50</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/9/2016	(1)	1025	6.01	13.67	61743.000	40.133	41.45	445.5	16.0
GAUGE TIME	1015	(2)	1027	5.57	13.85	60072.000	39.047	40.20	86.4	-32.1
DTB (feet) Depth to Bottom	64.00	(3)	1029	5.55	14.17	59745.000	38.835	39.97	48.2	-42.3
DEDICATED PUMP	N	(4)	1031	5.53	14.25	59911.000	38.942	40.10	31.7	-47.2
DTW (feet) Depth to Water	16.19	<b>WEATHER CONDITIONS</b>  Clear, calm, 55-60 deg.								
DTB - DTW	47.81									
Capacity per foot	0.163									
3 Well Volumes	23.38									
PURGE DATE	9/9/2016	<b>WATER APPEARANCE</b>  Clear first bail, turned pink/brown and back to clear - no odor								
PURGE TIME	1020									
SAMPLE DAY	9/9/2016									
SAMPLE TIME	1040									

**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in plastic container and disposed of at the bundle pad.

<b>OW-52</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/9/2016	(1)	941	5.57	13.80	52895.000	34.382	34.85	22.1	-103.5
GAUGE TIME	7/18/1902	(2)	943	5.55	13.93	52977.000	34.435	34.92	17.3	-100.9
DTB (feet) Depth to Bottom	77.74	(3)	945	5.54	14.06	53009.000	34.456	34.94	14.7	-96.1
DEDICATED PUMP	N	(4)	947	5.54	14.19	52986.000	34.441	34.93	12.8	-90.5
DTW (feet) Depth to Water	15.28	<b>WEATHER CONDITIONS</b>  Clear, calm, 55-60 deg.								
DTB - DTW	62.46									
Capacity per foot	0.163									
3 Well Volumes	30.54									
PURGE DATE	9/9/2016	<b>WATER APPEARANCE</b>  Clear - cloudy - no odor								
PURGE TIME	932									
SAMPLE DAY	9/9/2016									
SAMPLE TIME	952									

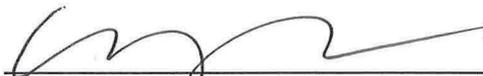
**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in plastic container and disposed of at the bundle pad.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
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<b>GWM-1</b>		<b>TEST PARAMETERS</b>							
		Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/13/2016	(1)							
GAUGE TIME	1248	(2)	None taken - has hydrocarbon level						
DTB (feet)									
Depth to Bottom	26.20	(3)							
Depth to Product	21.29	(4)							
DTW (feet)		<b>WEATHER CONDITIONS</b> Clear 0-5 mph, 20-25 Deg F							
Depth to Water	-								
PRODUCT LAYER	4.91								
Capacity per foot 2 Well Volumes	0.163								
PURGE DATE		<b>WATER APPEARANCE</b> Dark, yellow, oily, odor							
PURGE TIME									
SAMPLE DAY									
SAMPLE TIME									

**SAMPLE LOG**

No samples collected

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
\_\_\_\_\_  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
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<b>GWM-2</b>		<b>TEST PARAMETERS</b>															
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)								
GAUGE DATE	9/13/2016	(1)	None taken - well is DRY														
GAUGE TIME	1241	(2)															
DTB (feet)	18.81	(3)															
Depth to Bottom		(4)															
DEDICATED PUMP	N	<b>WEATHER CONDITIONS</b>															
DTW (feet)	DRY									Partly Cloudy, breezy							
Depth to Water																	
DTB - DTW																	
Capacity per foot	0.163	<b>WATER APPEARANCE</b>															
2 Well Volumes																	
PURGE DATE										Not Applicable							
PURGE TIME																	
SAMPLE DAY																	
SAMPLE TIME																	

**SAMPLE LOG**

<b>GWM-3</b>		<b>TEST PARAMETERS</b>															
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)								
GAUGE DATE	9/13/2016	(1)	None taken - well is DRY														
GAUGE TIME	1237	(2)															
DTB (feet)	17.80	(3)															
Depth to Bottom		(4)															
DEDICATED PUMP	N	<b>WEATHER CONDITIONS</b>															
DTW (feet)	DRY									Partly Cloudy, breezy							
Depth to Water																	
DTB - DTW																	
Capacity per foot	0.163	<b>WATER APPEARANCE</b>															
2 Well Volumes																	
PURGE DATE										Not Applicable							
PURGE TIME																	
SAMPLE DAY																	
SAMPLE TIME																	

**SAMPLE LOG**

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

**Signature:**

  
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**WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016**

<b>NAPIS-3</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/1/2016	(1)	1121	7.03	24.20	108016	70.210	79.70	18.7	-29.5
GAUGE TIME	944	(2)	1123	7.38	19.91	116825	75.936	87.56	20.4	-70.5
DTB (feet)	30.42	(3)	1125	4.50	20.04	116786	75.911	87.53	15.3	-76.3
Depth to Bottom										
DEDICATED PUMP	N	(4)	1127	7.55	20.24	116747	75.885	87.51	12.7	-79.5
DTW (feet)	9.10	<b>WEATHER CONDITIONS</b> Cloudy, calm, 70-75 Deg F.								
Depth to Water										
DTB - DTW	21.32									
Capacity per foot	0.163									
3 Well Volumes	10.43	<b>WATER APPEARANCE</b>								
PURGE DATE	9/1/2016									
PURGE TIME	944	Clear with pink tint, end of bail turned brownish								
SAMPLE DAY	9/1/2016									
SAMPLE TIME	1130									

**SAMPLE LOG**

Flush mount vaults were raised from original level and set with a concrete pad to minimize water getting inside the vault. Work was completed on August 10, 2016. Purged approximately 5 gallons when bailer was filling with brown water (sediment). Stopped purge and allowed to recharge before collecting samples. Purged water collected in 55 gal drum and disposed of

<b>KA-3</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/1/2016	(1)	1109	7.02	27.32	99440	64.636	72.11	9.9	-99.9
GAUGE TIME	942	(2)	1111	6.98	28.12	97784	63.559	70.65	15.0	-62.1
DTB (feet)	23.20	(3)	1113	6.97	28.04	97748	63.536	70.62	15.9	-47.9
Depth to Bottom										
DEDICATED PUMP	N	(4)	1115	6.97	27.94	97759	63.544	70.64	16.4	-38.8
DTW (feet)	8.13	<b>WEATHER CONDITIONS</b> Cloudy, calm, 70-75 Deg F.								
Depth to Water										
DTB - DTW	15.07									
Capacity per foot	0.163									
3 Well Volumes	7.37	<b>WATER APPEARANCE</b>								
PURGE DATE	9/1/2016									
PURGE TIME	1000	Clear with slight pink tint								
SAMPLE DAY	9/1/2016									
SAMPLE TIME	1120									

**SAMPLE LOG**

Flush mount vaults were raised from original level and set with a concrete pad to minimize water getting inside the vault. Work was completed on August 10, 2016. Purged water collected in 55 gal drum and disposed of upstream of the WWT Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016**

<b>NAPIS-1</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/1/2016	(1)	1035	6.82	21.56	100713	65.463	73.30	25.7	8.6
GAUGE TIME	1034	(2)	1037	6.82	21.61	100768	65.499	73.35	24.5	9.0
DTB (feet)										
Depth to Bottom	13.53	(3)	1039	6.83	21.65	100823	65.535	73.40	23.8	9.6
DEDICATED PUMP	N	(4)	1041	6.84	21.70	100887	65.577	73.45	23.3	10.0
DTW (feet)	6.99	<b>WEATHER CONDITIONS</b> Clear, calm, 70-75 deg F.								
Depth to Water	6.54									
DTB - DTW	0.163									
Capacity per foot	3.20									
3 Well Volumes		<b>WATER APPEARANCE</b>								
PURGE DATE	9/1/2016									
PURGE TIME	1037	Clear, no odor detected								
SAMPLE DAY	9/1/2016									
SAMPLE TIME	1046									

**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

<b>NAPIS-2</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/1/2016	(1)	1055	6.91	26.24	112346.00	73.025	83.53	13.2	-122.3
GAUGE TIME	940	(2)	1057	6.89	26.23	112256.00	72.967	83.45	11.7	-129.9
DTB (feet)										
Depth to Bottom	13.61	(3)	1059	6.90	26.21	112229.00	72.949	83.42	11.1	-132.5
DEDICATED PUMP	N	(4)	1101	6.90	26.18	112210.00	72.937	83.41	10.7	-132.1
DTW (feet)	8.84	<b>WEATHER CONDITIONS</b> Clear, calm, 70-75 deg F.								
Depth to Water	4.77									
DTB - DTW	0.163									
Capacity per foot	2.33									
3 Well Volumes		<b>WATER APPEARANCE</b>								
PURGE DATE	9/1/2016									
PURGE TIME	1020	Clear first bail, pink-cloudy - no odor								
SAMPLE DAY	9/1/2016									
SAMPLE TIME	1105									

**SAMPLE LOG**

Flush mount vaults were raised from original level and set with a concrete pad to minimize water getting inside the vault. Work was completed on August 10, 2016. Purged water collected in 55 gal drum and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016**

<b>OAPIS-1</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/1/2016	(1)	1209	6.53	16.17	357636.000	232.463	418.73	382.1	-136.5
GAUGE TIME	1200	(2)	1211	6.50	16.39	356965.000	232.027	417.59	65.9	-131.7
DTB (feet)	28.30	(3)	1213	6.51	16.43	357062.000	232.090	417.80	37.1	-127.4
Depth to Bottom										
DEDICATED PUMP	N	(4)	1215	6.51	16.54	356935.000	232.008	417.64	26.0	-122.9
DTW (feet)	11.32	<b>WEATHER CONDITIONS</b>  Clear, breezy, 70-75 deg F.								
Depth to Water										
DTB - DTW										
Capacity per foot										
3 Well Volumes										
PURGE DATE	9/1/2016	<b>WATER APPEARANCE</b>  Clear with slight yellow-orange tint, slight odor detected								
PURGE TIME	1205									
SAMPLE DAY	9/1/2016									
SAMPLE TIME	1220									
PUMP DEPTH	NA									
DTW (feet)										
at end of Purging										

**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in a plastic container and disposed of upstream of the WWT plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
3RD QTR 2016**

<b>Oil Sump LDU</b>		<b>WEATHER CONDITIONS</b>
GAUGE DATE	9/6/2016	Clear, breezy
GAUGE TIME	1331	<b>WATER APPEARANCE</b>
DTB (feet)	NA	NOT APPLICABLE
Depth to Bottom	NA	
DTW (feet)	DRY	<b>NOTES</b>
Depth to Water	NA	
DTB - DTW	NA	No samples collected - dry
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE	N/A	
SAMPLE TIME		

<b>East LDU</b>		<b>WEATHER CONDITIONS</b>
GAUGE DATE	9/6/2016	Clear, breezy
GAUGE TIME	1335	<b>WATER APPEARANCE</b>
DTB (feet)	NA	Not Applicable
Depth to Bottom	NA	
DTW (feet)	11.16	<b>NOTES</b>
Depth to Water	NA	
DTB - DTW	NA	Not enough water for samples. Rechecked on 9/9/16 - level still low.
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE	N/A	
SAMPLE TIME		

<b>West LDU</b>		<b>WEATHER CONDITIONS</b>
GAUGE DATE	9/6/2016	Clear, breezy
GAUGE TIME	1330	<b>WATER APPEARANCE</b>
DTB (feet)	NA	Not Applicable
Depth to Bottom	NA	
DTW (feet)	12.12	<b>NOTES</b>
Depth to Water	NA	
DTB - DTW	NA	Not enough water to collect samples - less than 1 inch of water. Rechecked on 9/9/16 - level still low.
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE	N/A	
SAMPLE TIME		

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
3RD QTR/ANNUAL 2016**

<b>STP1-NW</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/9/2016	(1)	1118	7.52	13.5	371796	241.700	444.30	74.9	-26
GAUGE TIME	1100	(2)	1120	7.50	13.5	372422	242.100	445.55	53.3	-23
DTB (feet)										
Depth to Bottom	50.00	(3)	1122	7.48	13.4	372779	242.300	446.22	42.1	-21
DEDICATED PUMP	N	(4)	1124	7.48	13.4	372905	242.400	446.48	34.5	-20
DTW (feet)	21.20	<b>WEATHER CONDITIONS</b> Clear, calm 65-70 degrees								
Depth to Water	28.80									
DTB - DTW	0.163									
Capacity per foot	14.08									
3 Well Volumes		<b>WATER APPEARANCE</b> Clear with slight yellow tint - cloudy - no odor detected								
PURGE DATE	9/9/2016									
PURGE TIME	1103									
SAMPLE DAY	9/9/2016									
SAMPLE TIME	1125									

**SAMPLE LOG**

Used new bailer to purge and collect samples. Purged water collected in a plastic container and disposed of at the bundle pad.

<b>STP1-SW</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/9/2016	(1)	<b>None taken - dry well</b>							
GAUGE TIME	1135	(2)								
DTB (feet)		(3)								
Depth to Bottom	29.10	(4)								
DEDICATED PUMP	N	<b>WEATHER CONDITIONS</b> Clear, calm 65-70 degrees								
DTW (feet)	DRY									
Depth to Water										
DTB - DTW	0.163									
Capacity per foot		<b>WATER APPEARANCE</b> Not Applicable								
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY	N/A									
SAMPLE TIME										

**SAMPLE LOG**

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY  
2016 QUARTERLY INSPECTION

RW-1 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/13/2016	Product Thickness (ft)	4.140	Partly cloudy, breezy
GAUGE TIME	1305	Volume of Product Purged (Gallons)	2.500	
DTB (feet)	43.04	Volume of Water Purged (Gallons)	10	WATER APPEARANCE
Depth to Bottom				
		PURGE DATE		Clear to yellow with sheen and odor
DTP (feet)	27.90	PURGE TIME		
Depth to Product				
DTW (feet)	32.04	SAMPLE DAY	N/A	
Depth to Water	11.00	SAMPLE TIME	N/A	Notes
DTB - DTW				
WELL PURGING				Notes
START DATE	START TIME	END DATE	END TIME	Collected a sample of the product for method 8011D analysis (DRO/GRO/MRO).

**ADDITIONAL NOTES:**

Used a 2" bailer to collect the hydrocarbon layer in the well - bailed approximately 2.5 gallons of product. Bailed a total of 10 gallons of water.

RW-2 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/13/2016	Product Thickness (ft)	0.000	Partly cloudy, breezy
GAUGE TIME	830	Volume of Product Purged (Gallons)	N/A	
DTB (feet)	39.80	Volume of Water Purged (Gallons)	20	WATER APPEARANCE
Depth to Bottom				
		PURGE DATE	N/A	Clear - cloudy - brown at end of purge - slight odor
DTP (feet)	0.00	PURGE TIME	N/A	
Depth to Product				
DTW (feet)	22.47	SAMPLE DAY	9/13/2016	
Depth to Water	17.33	SAMPLE TIME	900	Notes
DTB - DTW				
WELL PURGING				Notes
START DATE	START TIME	END DATE	END TIME	Bailed 20 gallons - samples collected.
N/A				

**ADDITIONAL NOTES:**

Purged water disposed of upstream of WWTP.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
WaterMark oil Water Interface Meter (100 ft), Model 101L/SMOIL, S/N 01-5509  
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
5 gallon buckets to catch purge water.  
Dedicated portable pump used for RW-1

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

WESTERN REFINING - GALLUP REFINERY  
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RW-5 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/13/2016	Product Thickness (ft)	0.000	Ptly cloudy, breezy
GAUGE TIME	910	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	39.59	Volume of Water Purged (Gallons)	20	<b>WATER APPEARANCE</b>
DTP (feet) Depth to Product	0.00	PURGE DATE		Clear - cloudy - gray - sheen - odor. No measurable layer.
DTW (feet) Depth to Water	27.70	PURGE TIME		
DTB - DTW	11.89	SAMPLE DAY	9/13/2016	
		SAMPLE TIME	940	
WELL PURGING				Notes
START DATE	START TIME	END DATE	END TIME	No measurable product layer - bailed 20 gallons - samples collected.

**ADDITIONAL NOTES:**

Purged water disposed of upstream of the WWTP.

RW-6 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/13/2016	Product Thickness (ft)	0.000	Ptly cloudy, breezy
GAUGE TIME	950	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	40.90	Volume of Water Purged (Gallons)	20	<b>WATER APPEARANCE</b>
DTP (feet) Depth to Product	0.00	PURGE DATE		Clear - cloudy - sheen - odor
DTW (feet) Depth to Water	27.99	PURGE TIME		
DTB - DTW	12.91	SAMPLE DAY	9/13/2016	
		SAMPLE TIME	1025	
WELL PURGING				Notes
START DATE	START TIME	END DATE	END TIME	Bailed 20 gallons - samples collected.

**ADDITIONAL NOTES:**

Purged water disposed of upstream of the WWTP.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
5 gallon buckets to catch purge water.  
3 foot disposable bailer.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY  
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<b>BW-1A</b>		<b>TEST PARAMETERS</b>							
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	None taken - well is DRY						
GAUGE TIME	1025	(2)							
DTB (feet)		(3)							
Depth to Bottom	46.06	(4)							
DEDICATED PUMP	N	<b>WEATHER CONDITIONS</b>  Partly cloudy, calm, 60-65 deg F.							
DTW (feet)									
Depth to Water	DRY								
DTB - DTW									
Capacity per foot 2 Well Volumes	0.163								
PURGE DATE	NA	<b>WATER APPEARANCE</b>  DRY							
PURGE TIME	NA								
SAMPLE DAY	N/A								
SAMPLE TIME									

**SAMPLE LOG**

<b>BW-1B</b>		<b>TEST PARAMETERS</b>							
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	None taken - well is DRY						
GAUGE TIME	1030	(2)							
DTB (feet)		(3)							
Depth to Bottom	76.29	(4)							
DEDICATED PUMP	N	<b>WEATHER CONDITIONS</b>  Partly cloudy, calm, 60-65 deg F.							
DTW (feet)									
Depth to Water	DRY								
DTB - DTW									
Capacity per foot 2 Well Volumes	0.163								
PURGE DATE	NA	<b>WATER APPEARANCE</b>  DRY							
PURGE TIME	NA								
SAMPLE DAY	N/A								
SAMPLE TIME									

**SAMPLE LOG**

**INSTRUMENTS USED:**

Plastic dipper

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
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<b>BW-1C</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	1630	5.68	15.5	70075	45.549	47.94	40.5	-149
GAUGE TIME	1027	(2)	1632	5.53	15.6	70349	45.727	48.16	23.6	-152
DTB (feet)										
Depth to Bottom	141.89	(3)	1634	5.51	15.8	70575	45.874	48.34	16.5	-150
DEDICATED PUMP	Y	(4)	1636	5.51	16.0	70777	46.005	48.51	12.9	-147
DTW (feet)	12.55	<b>WEATHER CONDITIONS</b>								
Depth to Water	129.34	Partly cloudy, calm, 60-65 deg F.								
DTB - DTW	129.34	<b>WATER APPEARANCE</b>								
Capacity per foot	0.163									
3 Well Volumes	63.25	Clear - no odor detected.								
PURGE DATE	9/8/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	1605									
SAMPLE DAY	9/8/2016	Clear - no odor detected.								
SAMPLE TIME	1645									

**SAMPLE LOG**

Pump lost suction at 20 gallons - allowed to recharge and collected samples. Purged water collected in plastic container and disposed of upstreat of the WWT plant.

<b>BW-2A</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	931	4.77	13.4	70564	45.867	48.21	18.0	-104
GAUGE TIME	904	(2)	933	4.78	13.6	70558	45.863	48.21	14.9	-102
DTB (feet)										
Depth to Bottom	67.57	(3)	935	4.78	13.6	70576	45.874	48.23	12.9	-96
DEDICATED PUMP	Y	(4)	937	4.79	13.8	70564	45.866	48.23	11.8	-94
DTW (feet)	32.29	<b>WEATHER CONDITIONS</b>								
Depth to Water	35.28	Partly Cloudy, slight breeze, 60-65 Deg F.								
DTB - DTW	35.28	<b>WATER APPEARANCE</b>								
Capacity per foot	0.163									
3 Well Volumes	17.25	clear, slight yellow tint								
PURGE DATE	9/8/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	914									
SAMPLE DAY	9/8/2016	clear, slight yellow tint								
SAMPLE TIME	940									

**SAMPLE LOG**

Purged water collected in 55 gallon drum and disposed of upstream of the WWT plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Polyethylene Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery

**WESTERN REFINING - GALLUP REFINERY  
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<b>BW-2B</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	1000	4.90	14.2	117040	76.076	87.22	10.2	-65
GAUGE TIME	908	(2)	1002	4.91	14.2	117138	76.140	87.32	9.5	-61
DTB (feet)										
Depth to Bottom	92.26	(3)	1004	4.91	14.3	117206	76.184	87.39	9.2	-59
DEDICATED PUMP	Y	(4)	1006	4.91	14.3	117209	76.186	87.39	8.9	-58
DTW (feet)		<b>WEATHER CONDITIONS</b> Partly Cloudy, calm, 70-75 Deg F.								
Depth to Water	27.84									
DTB - DTW	64.42									
Capacity per foot	0.163									
3 Well Volumes	31.50									
PURGE DATE	9/8/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	935									
SAMPLE DAY	9/8/2016	Clear - no odor detected.								
SAMPLE TIME	1006									

**SAMPLE LOG**

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

<b>BW-2C</b>		<b>TEST PARAMETERS</b>								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/8/2016	(1)	1215	5.73	15.0	69933	45.456	47.81	44.3	-9
GAUGE TIME	900	(2)	1217	5.75	15.3	69991	45.494	47.87	37.1	-11
DTB (feet)										
Depth to Bottom	152.84	(3)	1219	5.77	15.5	70011	45.507	47.89	34.7	-12
DEDICATED PUMP	N	(4)	1221	5.81	15.8	70061	45.539	47.94	33.9	-12
DTW (feet)		<b>WEATHER CONDITIONS</b> Partly Cloudy, breezy, 70-75 Deg F.								
Depth to Water	20.63									
DTB - DTW	132.21									
Capacity per foot	0.163									
3 Well Volumes	64.65									
PURGE DATE	9/8/2016	<b>WATER APPEARANCE</b>								
PURGE TIME	1135									
SAMPLE DAY	9/8/2016	Clear - no odor detected.								
SAMPLE TIME	1225									

**SAMPLE LOG**

Started purge - pump lost suction after 11 gallons. Stopped - allowed well to recharge before collecting samples. Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable Bailer

**Signature:**

  
Cheryl Johnson / Environmental Specialist / Gallup Refinery