WEEKLY PROGRESS REPORT
SEPTEMBER 19 – SEPTEMBER 25, 2005

REMOVAL ACTION
NW NATURAL "GASCO" SITE

Prepared for Submittal to

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1 INTRODUCTION

This weekly progress report is a requirement of the U.S. Environmental Protection Agency (EPA) approved Removal Action Project Plan (RAPP) and Section II.5 of the EPA Statement of Work (SOW) for the removal action at the "Gasco" site (Site). The RAPP was prepared to comply with requirements described in the EPA Administrative Order on Consent (Order) for the Site. Consistent with the schedule submitted to EPA (Appendix I of the RAPP), the construction contractor (Sevenson Environmental Services [SES]) initiated construction activities at the Site on August 22, 2005 following the pre-construction meeting. The remainder of this progress report documents the removal action activities that were conducted during the week of September 19 through September 25, 2005.

2 CONSTRUCTION ACTIVITIES

The following section describes the construction activities conducted at the Site from September 19, 2005 through September 25, 2005.

2.1 Site Construction Activities

2.1.1 In-Water Construction Activities

SES conducted the following in-water construction activities:

- Approximately 1,100 to 1,300 cubic yards of material were dredged from the inner removal area on September 19 through September 21. The dredged material was loaded on the third haul barge (183) and Portland cement was incorporated during the loading process.
- Approximately 500 to 600 cubic yards of material were dredged from the inner removal area on September 23, 2005. The material was loaded on the fourth haul barge (Chetco) and Portland cement was incorporated during the loading process.
- On September 19, Hickey marine began filtration of the water that is generated on the transfer barge. The water is now passed through an oil-water separator, a bag filter system, and a carbon vessel before being discharged within the inner containment silt curtain. Treated water was discharged on September 19, 20, 21, and 23, 2005; and samples were collected of the "pre" (i.e., influent) and "post" (i.e., effluent) treated water on each day.
- Divers from Northwest Underwater conducted an inspection of the inner silt curtain on September 19, 2005 after completing repair of a small tear in the inner silt curtain between point "B" and point "E".
- Divers from Northwest Underwater installed anchors for the outer removal area silt curtain and bedload baffle system on September 19 through 21, 2005.

2.1.2 Waste Transportation and Off-loading

- The third haul barge (183) was tarped and transported to the Transfer Facility on September 22, 2005.
- Haul barge Chetco was returned to the Site on September 22, 2005.

2.2 Problems Encountered and Proposed Solutions

2.2.1 Dewatering Treatment System

Heavy sediment loads in the water generated from the transfer barge were causing constant overload of the bag filter system during the first two days of treatment system operation. Hickey Marine staff created a settling basin by installing a dike of concrete

retaining blocks up gradient of the transfer pump inlet on the transfer barge. This revision to the treatment system has reduced the frequency of bag filter replacement.

3 MONITORING ACTIVITIES

3.1 Dredge Monitoring – Field Parameter Results

In accordance with Appendix D (i.e., Construction Water Sediment Monitoring Plan [WSMP]) of the RAPP, water quality monitoring for field parameters (turbidity, temperature, dissolved oxygen, pH, and visual monitoring for sheens) occurred during dredging operations at the Site and during offloading operations at the Transfer Facility in the Port of Morrow. During dredging, field parameters were monitored every four hours at one upstream station 300 feet from the inner containment area and three downstream stations 150 feet from the inner containment area. During offloading at the Transfer Facility, field parameters were monitored every four hours at one upstream station 300 feet from the offloading barge and three downstream stations 150 feet from the offloading barge. At both locations, samples were collected at three depths—one foot below the surface, mid-depth, and one foot above the bottom.

The field parameter results are summarized for the Site and the Transfer Facility in Tables 1 and 2 and compared to the triggers (from Table E-1 of the Removal Action Environmental Protection Plan [RAEPP]). At the Site and the Transfer Facility, no exceedances of the Table E-1 triggers were identified for any of the field parameters for this time period.

During one monitoring event on September 19, 2005 and one event on September 23, 2005, the flow of the river was reversed due to flood tide conditions. As a result, the up-current background station was re-located downriver and the down-current compliance stations were re-located upriver.

3.2 Dredge Monitoring – Laboratory Parameter Results

In accordance with the WSMP, water quality monitoring at the Site for laboratory parameters (PAHs [anthracene, benzo(b)anthracene, benzo(a)pyrene, dibenzofuran, fluoranthene, fluorene, naphthalene, and phenanthrene] and cyanide) also occurred during the dredging operation. As a result of chemical exceedances identified during previous monitoring events, EPA required samples for laboratory analyses to be collected on a daily basis (during this week) during dredging at one up-current station and one down-current station. At each station, samples were collected at three different depths--one foot below the

surface, mid-depth, and one foot above the bottom. The final unvalidated results for the samples collected on September 12, 2005 are presented in Table 3.

3.3 Transfer Barge Dewater Monitoring – Laboratory Parameter Results

In addition to the water column monitoring for laboratory parameters, EPA directed NW Natural to conduct testing (same analyte list as water column laboratory parameters) of the barge dewatering filtration system influent and effluent water. The influent water is the raw water that accumulated within the transfer barge and the effluent water is the filtered water that was subsequently discharged within the inner-containment curtain. This sampling was performed to at the direction of EPA. EPA directed that this sampling be performed on a daily basis but indicated that the sampling frequency could be lowered if sampling reflects that the treatment system changeout frequencies are working effectively. No final results of this sampling were received from the laboratory during this time period.

3.4 Dredge Monitoring – Silt Curtain-Mudline Interface

In addition to the collection of water samples for field and laboratory parameters, water samples were collected at the inner containment silt curtain-mudline interface on September 19, 20, 21, and 23, 2005 to monitor the effectiveness of the curtain at the mudline interface. One water sample was collected downstream just outside of the primary containment silt curtain. Sample descriptions on three days (September 19, 20, and 21) indicated clear and colorless water with some particulate matter and algae suspended in the water. The sample description on September 23, 2005 indicated dark gray turbid water with suspended particulates settling over time. No solid materials were identified in the sample. None of the samples collected during the time period contained evidence of any tar or sheen.

3.5 Fish Casualties within the Inner Containment

There were no fish casualties to report during this time period.

4 PROPOSED WORK FOR WEEK OF SEPTEMBER 26, 2005

The following activities are proposed for the week beginning September 26, 2005:

- Complete the loading of the fourth haul barge (Chetco), and transport to Port of Morrow for off-loading.
- Complete the installation of the anchor system for the outer containment configuration of silt curtain and bedload baffle.
- Deliver the fifth haul barge (B-10) to the Site and begin loading of this barge with dredged material.
- Continue daily sample collection of influent and effluent from the transfer barge water treatment system.
- Continue water quality monitoring at the Site and Transfer Facility.

TABLES

Table 1.
Water Quality Field Parameters Monitoring Results Compared to Triggers—Gasco Site
September 19 through 25, 2005

							DO Triggers[2]			Temperature Triggers[2]			Turbidity Triggers[2]			pH Triggers[2]	
Station ID	Date	Time	Latitude (dd)[1]	Longitude (dd)	Depth (ft)	DO (mg/L)	Event Specific Background	Pre-construction Background	Temp (deg C)	Event Specific Background	Pre-construction Background	Turbidity (NTU)	Event Specific Background	Pre-construction Background	pH	Event Specific Background	Pre-construction Background
RAA-WCU[3,4]	9/19/2005	1646	45.58091	122.75964	1	9.92	NA	NA	18.65	NA	NA	1	NA	NA	7.43	NA	NA
RAA-WCU	9/19/2005	1646	45.58091	122.75964	23	9.20	NA	NA	18.26	NA	NA	4	NA	NA	7.21	NA	NA
RAA-WCU	9/19/2005	1646	45.58091	122.75964	45	8.90	NA	NA	17.92	NA	NA	6	NA	NA	7.15	NA	NA
RAA-WCD1	9/19/2005	1600	45.57937	122.75626	1	9.85	<6.5	<6.5	18.75	18.95	22.59	2	4	11.29	7.57	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD1[5]	9/19/2005	1600	45.57937	122.75626	9	8.95	<6.5	<6.5	17.98	18.56	22.32	4	7	12.63	7.32	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/19/2005	1606	45.57959	122.75603	1	9.21	<6.5	<6.5	18.04	18.95	22.59	4	4	11.29	7.29	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/19/2005	1606	45.57959	122.75603	17	9.06	<6.5	<6.5	17.94	18.56	22.32	4	7	12.63	7.28	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/19/2005	1606	45.57959	122.75603	34	8.87	<6.5	<6.5	17.88	18.22	21.84	6	9	18.56	7.27	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/19/2005	1633	45.57986	122.75613	1	9.28	<6.5	<6.5	18.14	18.95	22.59	6	4	11.29	7.17	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/19/2005	1633	45.57986	122.75613	21	9.21	<6.5	<6.5	18.08	18.56	22.32	7	7	12.63	7.16	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/19/2005	1633	45.57986	122.75613	41	9.12	<6.5	<6.5	18.07	18.22	21.84	6	9	18.56	7.17	<6.5 or >8.5	<6.5 or >8.5
RAA-WCU	9/20/2005	950	45.57954	122.75578	1	9.07	NA	NA	17.77	NA	NA	5	NA	NA	7.21	NA	NA
RAA-WCU	9/20/2005	950	45.57954	122.75578	11	9.01	NA	NA	17.75	NA	NA	6	NA	NA	7.24	NA	NA
RAA-WCU	9/20/2005	950	45.57954	122.75578	22	8.97	NA	NA	17.74	NA	NA	6	NA	NA	7.25	NA	NA
RAA-WCD2[6]	9/20/2005	1045	45.58085	122.75897	1	9.12	<6.5	<6.5	17.79	18.07	22.59	8	8	11.29	7.24	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/20/2005	1045	45.58085	122.75897	23	9.06	<6.5	<6.5	17.79	18.05	22.32	8	9	12.63	7.24	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/20/2005	1045	45.58085	122.75897	45	9.00	<6.5	<6.5	17.78	18.04	21.84	9	9	18.56	7.24	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/20/2005	1105	45.58096	122.75883	1	9.11	<6.5	<6.5	17.87	18.07	22.59	7	8	11.29	7.26	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/20/2005	1105	45.58096	122.75883	23	9.04	<6.5	<6.5	17.83	18.05	22.32	8	9	12.63	7.24	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/20/2005	1105	45.58096	122.75883	45	8.93	<6.5	<6.5	17.82	18.04	21.84	9	9	18.56	7.25	<6.5 or >8.5	<6.5 or >8.5
RAA-WCU	9/21/2005	1150	45.57954	122.75578	1	9.24	NA	NA	17.95	NA	NA	4	NA	NA	7.32	NA	NA
RAA-WCU	9/21/2005	1150	45.57954	122.75578	8	9.27	NA	NA	17.89	NA	NA	4	NA	NA	7.42	NA	NA
RAA-WCU	9/21/2005	1150	45.57954	122.75578	15	9.17	NA	NA	17.80	NA	NA	4	NA	NA	7.41	NA	NA
RAA-WCD2[6]	9/21/2005	1218	45.58085	122.75897	1	9.20	<6.5	<6.5	17.77	18.25	22.59	8	7	11.29	7.32	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/21/2005	1218	45.58085	122.75897	23	9.15	<6.5	<6.5	17.74	18.19	22.32	8	7	12.63	7.30	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/21/2005	1218	45.58085	122.75897	45	9.06	<6.5	<6.5	17.73	18.10	21.84	10	7	18.56	7.17	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/21/2005	1212	45.58096	122.75883	1	9.14	<6.5	<6.5	17.81	18.25	22.59	5	7	11.29	7.37	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/21/2005	1212	45.58096	122.75883	23	9.08	<6.5	<6.5	17.73	18.19	22.32	7	7	12.63	7.30	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/21/2005	1212	45.58096	122.75883	45	9.04	<6.5	<6.5	17.73	18.10	21.84	7	7	18.56	7.17	<6.5 or >8.5	<6.5 or >8.5
RAA-WCU[4]	9/23/2005	1020	45.58091	122.75964	1	9.12	NA	NA	17.55	NA	NA	5	NA	NA	7.33	NA	NA
RAA-WCU	9/23/2005	1020	45.58091	122.75964	23	9.01	NA	NA	17.49	NA	NA	6	NA	NA	7.32	NA	NA
RAA-WCU	9/23/2005	1020	45.58091	122.75964	44	8.93	NA	NA	17.49	NA	NA	5	NA	NA	7.15	NA	NA
RAA-WCD1	9/23/2005	930	45.57937	122.75626	1	9.20	<6.5	<6.5	17.57	17.85	22.59	7	8	11.29	7.43	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD1	9/23/2005	930	45.57937	122.75626	6	9.25	<6.5	<6.5	17.53	17.79	22.32	7	9	12.63	7.40	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD1	9/23/2005	930	45.57937	122.75626	12	9.18	<6.5	<6.5	17.49	17.79	21.84	7	8	18.56	7.43	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/23/2005	945	45.57959	122.75603	1	9.23	<6.5	<6.5	17.59	17.85	22.59	7	8	11.29	7.37	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/23/2005	945	45.57959	122.75603	19	9.16	<6.5	<6.5	17.51	17.79	22.32	7	9	12.63	7.35	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/23/2005	945	45.57959	122.75603	37	9.11	<6.5	<6.5	17.51	17.79	21.84	8	8	18.56	7.32	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/23/2005	1015	45.57986	122.75613	1	9.13	<6.5	<6.5	17.54	17.85	22.59	2	8	11.29	7.35	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/23/2005	1015	45.57986	122.75613	22	9.14	<6.5	<6.5	17.49	17.79	22.32	6	9	12.63	7.31	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/23/2005	1015	45.57986	122.75613	42	9.10	<6.5	<6.5	17.51	17.79	21.84	8	8	18.56	7.18	<6.5 or >8.5	<6.5 or >8.5
RAA-WCU	9/23/2005	1254	45.57954	122.75578	1	9.31	NA	NA	17.89	NA	NA	4	NA	NA	7.42	NA	NA
RAA-WCU	9/23/2005	1254	45.57954	122.75578	19	9.07	NA	NA	17.55	NA	NA	6	NA	NA	7.34	NA	NA
RAA-WCU	9/23/2005	1254	45.57954	122.75578	37	8.96	NA	NA	17.51	NA	NA	9	NA	NA	7.25	NA	NA
RAA-WCD1	9/23/2005	1305	45.58060	122.75912	1	9.28	<6.5	<6.5	17.63	18.19	22.59	9	7	11.29	7.34	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD1	9/23/2005	1305	45.58060	122.75912	16	9.18	<6.5	<6.5	17.61	17.85	22.32	10	9	12.63	7.36	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD1	9/23/2005	1305	45.58060	122.75912	32	9.09	<6.5	<6.5	17.59	17.81	21.84	11	12	18.56	7.31	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/23/2005	1315	45.58085	122.75897	1	9.24	<6.5	<6.5	17.61	18.19	22.59	7	7	11.29	7.33	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/23/2005	1315	45.58085	122.75897	22	9.20	<6.5	<6.5	17.61	17.85	22.32	11	9	12.63	7.32	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD2	9/23/2005	1315	45.58085	122.75897	40	9.13	<6.5	<6.5	17.60	17.81	21.84	11	12	18.56	7.26	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/23/2005	1325	45.58096	122.75883	1	9.22	<6.5	<6.5	17.60	18.19	22.59	7	7	11.29	7.34	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/23/2005	1325	45.58096	122.75883	24	9.19	<6.5	<6.5	17.57	17.85	22.32	9	9	12.63	7.30	<6.5 or >8.5	<6.5 or >8.5
RAA-WCD3	9/23/2005	1325	45.58096	122.75883	45	9.07	<6.5	<6.5	17.55	17.81	21.84	8	12	18.56	7.25	<6.5 or >8.5	<6.5 or >8.5

Notes: [1]Datum for coordinates is NAD 83.

[2]Trigger is exceeded where downstream conditions exceed the specified amounts relative to both the event-specific background and the pre-construction background survey (95% upper confidence limit on the mean for

[3]RAA-WCU is the upstream event-specific background station.

[4]Flow was reversed during this round of sampling; therefore the upstream station was located downriver and the downstream locations were located upriver.

[5]Depth at this station was less than 12 feet; therefore only two depths were monitored.

[6]Not all downstream locations could be monitored due to the presence of a barge at the FAMM dock.

BOLD indicates an exceedance

Table 2.
Water Quality Field Parameters Monitoring Results Compared to Triggers—Transfer Facility
September 19 through 25, 2005

							DO Triggers[2]			Temperature Triggers[2]			Turbidity Triggers[2]			pH Triggers[2]	
Station ID	Date	Time	Latitude (dd)[1]	Longitude (dd)	Depth (ft)	DO (mg/L)	Event Specific Background	Pre-construction Background	Temp (deg C)	Event Specific Background	Pre-construction Background	Turbidity (NTU)	Event Specific Background	Pre-construction Background	pH	Event Specific Background	Pre-construction Background
TF-WCU	9/19/2005	1005	45.85347	119.67043	1	9.13	NA	NA	18.77	NA	NA	2.00	NA	NA	7.95	NA	NA
TF-WCU	9/19/2005	1005	45.85347	119.67043	8	9.04	NA	NA	18.76	NA	NA	2.25	NA	NA	8.02	NA	NA
TF-WCU	9/19/2005	1005	45.85347	119.67043	14	9.05	NA	NA	18.76	NA	NA	2.20	NA	NA	8.02	NA	NA
TF-WCD1	9/19/2005	949	45.85352	119.67284	1	9.03	<6.5	<6.5	18.80	19.07	21.78	1.82	5	6.33	7.92	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/19/2005	949	45.85352	119.67284	11	8.90	<6.5	<6.5	18.78	19.06	21.48	1.99	5.25	6.58	8.01	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/19/2005	949	45.85352	119.67284	21	8.91	<6.5	<6.5	18.78	19.06	21.42	1.98	5.2	6.64	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/19/2005	1403	45.85347	119.67043	1	9.32	NA	NA	19.09	NA	NA	1.87	NA	NA	7.99	NA	NA
TF-WCU	9/19/2005	1403	45.85347	119.67043	6.5	9.33	NA	NA	19.06	NA	NA	1.89	NA	NA	8.04	NA	NA
TF-WCU	9/19/2005	1403	45.85347	119.67043	12	9.33	NA	NA	19.01	NA	NA	1.99	NA	NA	8.01	NA	NA
TF-WCD1	9/19/2005	1339	45.85352	119.67284	1	9.25	<6.5	<6.5	19.02	19.39	21.78	2.06	4.87	6.33	7.97	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/19/2005	1339	45.85352	119.67284	12	9.17	<6.5	<6.5	18.97	19.36	21.48	2.09	4.89	6.58	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/19/2005	1339	45.85352	119.67284	23	9.21	<6.5	<6.5	18.87	19.31	21.42	2.64	4.99	6.64	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/19/2005	1720	45.85347	119.67043	1	8.40	NA	NA	19.20	NA	NA	1.56	NA	NA	8.01	NA	NA
TF-WCU	9/19/2005	1720	45.85347	119.67043	6.5	9.36	NA	NA	19.20	NA	NA	2.50	NA	NA	8.03	NA	NA
TF-WCU	9/19/2005	1720	45.85347	119.67043	12	9.39	NA	NA	19.20	NA	NA	1.69	NA	NA	8.01	NA	NA
TF-WCD1	9/19/2005	1655	45.85352	119.67284	1	9.36	<6.5	<6.5	19.15	19.50	21.78	1.68	4.56	6.33	7.99	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/19/2005	1655	45.85352	119.67284	11.5	9.38	<6.5	<6.5	19.13	19.50	21.48	1.77	5.50	6.58	8.00	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/19/2005	1655	45.85352	119.67284	22	9.29	<6.5	<6.5	19.10	19.50	21.42	2.07	4.69	6.64	7.98	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/20/2005	1100	45.85347	119.67043	1	9.25	NA	NA	19.18	NA	NA	1.51	NA	NA	8.05	NA	NA
TF-WCU	9/20/2005	1100	45.85347	119.67043	6.5	9.06	NA	NA	18.96	NA	NA	1.98	NA	NA	8.15	NA	NA
TF-WCU	9/20/2005	1100	45.85347	119.67043	12	9.12	NA	NA	18.87	NA	NA	2.26	NA	NA	8.19	NA	NA
TF-WCD1	9/20/2005	955	45.85352	119.67284	1	9.05	<6.5	<6.5	19.05	19.48	21.78	2.01	4.51	6.33	8.01	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/20/2005	955	45.85352	119.67284	8	9.03	<6.5	<6.5	18.99	19.26	21.48	1.81	4.98	6.58	8.13	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/20/2005	955	45.85352	119.67284	16	9.02	<6.5	<6.5	18.98	19.17	21.42	2.05	5.26	6.64	8.14	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1028	45.85359	119.67266	1	9.17	<6.5	<6.5	19.14	19.48	21.78	1.94	4.51	6.33	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1028	45.85359	119.67266	11.5	8.92	<6.5	<6.5	18.98	19.26	21.48	1.79	4.98	6.58	8.13	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1028	45.85359	119.67266	22	8.94	<6.5	<6.5	18.88	19.17	21.42	2.62	5.26	6.64	8.09	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1046	45.85361	119.67239	1	9.16	<6.5	<6.5	19.16	19.48	21.78	1.59	4.51	6.33	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1046	45.85361	119.67239	12.5	8.95	<6.5	<6.5	18.99	19.26	21.48	1.89	4.98	6.58	8.13	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1046	45.85361	119.67239	24	9.00	<6.5	<6.5	18.92	19.17	21.42	2.39	5.26	6.64	8.10	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/20/2005	1446	45.85347	119.67043	1	8.94	NA	NA	20.00	NA	NA	1.51	NA	NA	7.96	NA	NA
TF-WCU	9/20/2005	1446	45.85347	119.67043	6.5	9.02	NA	NA	19.36	NA	NA	1.73	NA	NA	8.13	NA	NA
TF-WCU	9/20/2005	1446	45.85347	119.67043	12	9.00	NA	NA	19.09	NA	NA	2.11	NA	NA	8.13	NA	NA
TF-WCD1	9/20/2005	1400	45.85352	119.67284	1	9.11	<6.5	<6.5	20.10	20.30	21.78	1.53	4.51	6.33	7.94	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/20/2005	1400	45.85352	119.67284	6	9.11	<6.5	<6.5	19.79	19.66	21.48	1.46	4.73	6.58	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/20/2005	1400	45.85352	119.67284	11	8.90	<6.5	<6.5	19.05	19.39	21.42	1.81	5.11	6.64	8.10	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1417	45.85359	119.67266	1	9.05	<6.5	<6.5	20.32	20.30	21.78	1.86	4.51	6.33	7.94	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1417	45.85359	119.67266	11.5	9.14	<6.5	<6.5	19.19	19.66	21.48	1.76	4.73	6.58	8.12	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1417	45.85359	119.67266	23.5	8.95	<6.5	<6.5	18.88	19.39	21.42	2.09	5.11	6.64	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1427	45.85361	119.67239	1	8.99	<6.5	<6.5	20.40	20.30	21.78	1.30	4.51	6.33	7.96	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1427	45.85361	119.67239	12	9.16	<6.5	<6.5	19.20	19.66	21.48	1.65	4.73	6.58	8.12	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1427	45.85361	119.67239	23	8.98	<6.5	<6.5	18.84	19.39	21.42	2.32	5.11	6.64	8.00	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/20/2005	1828	45.85347	119.67043	1	9.01	NA	NA	20.02	NA	NA	1.28	NA	NA	8.11	NA	NA
TF-WCU	9/20/2005	1828	45.85347	119.67043	7	8.96	NA	NA	19.08	NA	NA	1.77	NA	NA	8.09	NA	NA
TF-WCU	9/20/2005	1828	45.85347	119.67043	13	8.59	NA	NA	18.96	NA	NA	2.39	NA	NA	8.04	NA	NA
TF-WCD1	9/20/2005	1750	45.85352	119.67284	1	9.25	<6.5	<6.5	19.48	20.32	21.78	1.87	4.28	6.33	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/20/2005	1750	45.85352	119.67284	9.5	9.22	<6.5	<6.5	19.20	19.38	21.48	1.72	4.77	6.58	8.12	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/20/2005	1750	45.85352	119.67284	18	8.93	<6.5	<6.5	19.01	19.26	21.42	2.07	5.39	6.64	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1802	45.85359	119.67266	1	9.24	<6.5	<6.5	19.66	20.32	21.78	1.69	4.28	6.33	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1802	45.85359	119.67266	11.5	8.95	<6.5	<6.5	19.10	19.38	21.48	1.82	4.77	6.58	8.15	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/20/2005	1802	45.85359	119.67266	22.5	8.79	<6.5	<6.5	18.94	19.26	21.42	2.02	5.39	6.64	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1812	45.85361	119.67239	1	9.04	<6.5	<6.5	19.94	20.32	21.78	1.38	4.28	6.33	8.16	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1812	45.85361	119.67239	14	9.02	<6.5	<6.5	19.09	19.38	21.48	1.77	4.77	6.58	8.12	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/20/2005	1812	45.85361	119.67239	26.5	8.78	<6.5	<6.5	18.94	19.26	21.42	2.27	5.39	6.64	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/21/2005	1025	45.85347	119.67043	1	8.79	NA	NA	18.74	NA	NA	1.84	NA	NA	7.93	NA	NA
TF-WCU	9/21/2005	1025	45.85347	119.67043	6.5	8.62	NA	NA	18.64	NA	NA	2.16	NA	NA	8.06	NA	NA
TF-WCU	9/21/2005	1025	45.85347	119.67043	12.5	8.84	NA	NA	18.55	NA	NA	2.65	NA	NA	8.13	NA	NA
TF-WCD1	9/21/2005	933	45.85352	119.67284	1	8.66	<6.5	<6.5	18.71	19.04	21.78	1.98	4.84	6.33	7.61	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/21/2005	933	45.85352	119.67284	7.5	8.91	<6.5	<6.5	18.71	18.94	21.48	1.72	5.16	6.58	7.95	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/21/2005	933	45.85352	119.67284	14	8.67	<6.5	<6.5	18.61	18.85	21.42	2.03	5.65	6.64	8.09	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/21/2005	947	45.85359	119.67266	1	8.83	<6.5	<6.5	18.74	19.04	21.78	2.12	4.84	6.33	7.93	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/21/2005	947	45.85359	119.67266	11.5	8.79	<6.5	<6.5	18.70	18.94	21.48	2.20	5.16	6.58	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/21/2005	947	45.85359	119.67266	22.5	8.77	<6.5	<6.5	18.53	18.85	21.42	2.57	5.65	6.64	8.10	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/21/2005	1000	45.85361	119.67239	1	8.87	<6.5	<6.5	18.90	19.04	21.78	1.94	4.84	6.33	7.88	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/21/2005	1000	45.85361	119.67239	13	8.78	<6.5	<6.5	18.80	18.94	21.48	2.18	5.16	6.58	8.00	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/21/2005	1000	45.85361	119.67239	25.5	8.90	<6.5	<6.5	18.60	18.85	21.42	2.26	5.65	6.64	8.08	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/21/2005	1647	45.85347	119.67043	1	9.27	NA	NA	19.61	NA	NA	1.79	NA	NA	8.13	NA	NA
TF-WCU	9/21/2005	1647	45.85347	119.67043	7.5	8.73	NA	NA	19.21	NA	NA	1.82	NA	NA	8.10	NA	NA
TF-WCU	9/21/2005	1647	45.85347	119.67043	14	8.73	NA	NA	19.00	NA	NA	2.62	NA	NA	8.04	NA	NA
TF-WCD1	9/21/2005	1702	45.85352	119.67284	1	9.19	<6.5	<6.5	19.66	19.91	21.78	1.84	4.79	6.33	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/21/2005	1702	45.85352	119.67284	9	8.94	<6.5	<6.5	19.10	19.51	21.48	2.03	4.82	6.58	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/21/2005	1702	45.85352	119.67284	17.5	8.74	<6.5	<6.5	19.01	19.30	21.42	2.50	5.62	6.64	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/21/2005	1718	45.85359	119.67266	1	9.26	<6.5	<6.5	19.63	19.91	21.78	1.58	4.79	6.33	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/21/2005	1718	45.85359	119.67266	12	8.56	<6.5	<6.5	19.04	19.51	21.48	2.16	4.82	6.58	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/21/2005	1718	45.85359	119.67266	23.5	8.79	<6.5	<6.5	18.98	19.30	21.42	2.37	5.62	6.64	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/21/2005	1731	45.85361	119.67239	1	9.24	<6.5	<6.5	19.62	19.91	21.78	1.34	4.79	6.33	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/21/2005	1731	45.85361	119.67239	12	8.67	<6.5	<6.5	19.01	19.51	21.48	2.57	4.82	6.58	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/21/2005	1731	45.85361	119.67239	23.5	8.63	<6.5	<6.5	18.95	19.30	21.42	2.63	5.62	6.64	7.99	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/22/2005	1100	45.85347	119.67043	1	8.79	NA	NA	18.81	NA	NA	1.46	NA	NA	7.93	NA	NA
TF-WCU	9/22/2005	1100	45.85347	119.67043	8	8.57	NA	NA	18.62	NA	NA	2.09	NA	NA	8.04	NA	NA

Table 2.
Water Quality Field Parameters Monitoring Results Compared to Triggers—Transfer Facility
September 19 through 25, 2005

							DO Triggers[2]			Temperature Triggers[2]			Turbidity Triggers[2]			pH Triggers[2]	
Station ID	Date	Time	Latitude (dd)[1]	Longitude (dd)	Depth (ft)	DO (mg/L)	Event Specific Background	Pre-construction Background	Temp (deg C)	Event Specific Background	Pre-construction Background	Turbidity (NTU)	Event Specific Background	Pre-construction Background	pH	Event Specific Background	Pre-construction Background
TF-WCU	9/22/2005	1100	45.85347	119.67043	15	8.53	NA	NA	18.51	NA	NA	2.58	NA	NA	8.08	NA	NA
TF-WCD1	9/22/2005	1020	45.85352	119.67284	1	8.67	<6.5	<6.5	18.70	19.11	21.78	1.78	4.46	6.33	7.87	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/22/2005	1020	45.85352	119.67284	8.5	8.47	<6.5	<6.5	18.68	18.92	21.48	1.70	5.09	6.58	7.99	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/22/2005	1020	45.85352	119.67284	16	8.43	<6.5	<6.5	18.65	18.81	21.42	1.87	5.58	6.64	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1035	45.85359	119.67266	1	8.91	<6.5	<6.5	18.78	19.11	21.78	1.92	4.46	6.33	7.90	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1035	45.85359	119.67266	12	8.57	<6.5	<6.5	18.62	18.92	21.48	2.02	5.09	6.58	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1035	45.85359	119.67266	23	8.56	<6.5	<6.5	18.32	18.81	21.42	1.82	5.58	6.64	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1045	45.85361	119.67239	1	8.71	<6.5	<6.5	18.83	19.11	21.78	1.97	4.46	6.33	7.93	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1045	45.85361	119.67239	12	8.66	<6.5	<6.5	18.64	18.92	21.48	1.81	5.09	6.58	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1045	45.85361	119.67239	23.5	8.56	<6.5	<6.5	18.60	18.81	21.42	1.93	5.58	6.64	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/22/2005	1408	45.85347	119.67043	1	8.87	NA	NA	19.27	NA	NA	1.64	NA	NA	7.99	NA	NA
TF-WCU	9/22/2005	1408	45.85347	119.67043	7	8.69	NA	NA	19.14	NA	NA	1.66	NA	NA	8.06	NA	NA
TF-WCU	9/22/2005	1408	45.85347	119.67043	12.5	8.77	NA	NA	19.02	NA	NA	1.55	NA	NA	8.10	NA	NA
TF-WCD1	9/22/2005	1336	45.85352	119.67284	1	8.69	<6.5	<6.5	19.28	19.57	21.78	2.01	4.64	6.33	7.97	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/22/2005	1336	45.85352	119.67284	8	8.84	<6.5	<6.5	19.25	19.44	21.48	1.76	4.66	6.58	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/22/2005	1336	45.85352	119.67284	14.5	8.48	<6.5	<6.5	19.25	19.32	21.42	1.56	4.55	6.64	8.07	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1345	45.85359	119.67266	1	8.77	<6.5	<6.5	19.21	19.57	21.78	1.98	4.64	6.33	7.98	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1345	45.85359	119.67266	7.5	8.56	<6.5	<6.5	19.18	19.44	21.48	1.83	4.66	6.58	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1345	45.85359	119.67266	13.5	8.69	<6.5	<6.5	19.18	19.32	21.42	1.48	4.55	6.64	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1354	45.85361	119.67239	1	8.83	<6.5	<6.5	19.28	19.57	21.78	1.38	4.64	6.33	7.96	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1354	45.85361	119.67239	12.5	8.86	<6.5	<6.5	19.13	19.44	21.48	1.63	4.66	6.58	8.07	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1354	45.85361	119.67239	24	8.78	<6.5	<6.5	19.03	19.32	21.42	1.64	4.55	6.64	8.09	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/22/2005	1645	45.85347	119.67043	1	9.26	NA	NA	19.56	NA	NA	1.61	NA	NA	8.17	NA	NA
TF-WCU	9/22/2005	1645	45.85347	119.67043	6.5	8.91	NA	NA	19.49	NA	NA	1.43	NA	NA	8.18	NA	NA
TF-WCU	9/22/2005	1645	45.85347	119.67043	12	8.78	NA	NA	18.95	NA	NA	2.15	NA	NA	8.16	NA	NA
TF-WCD1	9/22/2005	1611	45.85352	119.67284	1	8.85	<6.5	<6.5	19.45	19.86	21.78	1.72	4.61	6.33	8.02	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/22/2005	1611	45.85352	119.67284	10	8.91	<6.5	<6.5	19.42	19.79	21.48	1.57	4.43	6.58	8.10	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/22/2005	1611	45.85352	119.67284	19	8.64	<6.5	<6.5	18.80	19.25	21.42	2.51	5.15	6.64	8.09	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1623	45.85359	119.67266	1	8.98	<6.5	<6.5	19.49	19.86	21.78	2.10	4.61	6.33	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1623	45.85359	119.67266	12	8.85	<6.5	<6.5	18.95	19.79	21.48	1.98	4.43	6.58	8.10	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/22/2005	1623	45.85359	119.67266	22.5	8.60	<6.5	<6.5	18.85	19.25	21.42	2.27	5.15	6.64	8.07	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1632	45.85361	119.67239	1	8.94	<6.5	<6.5	19.47	19.86	21.78	1.79	4.61	6.33	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1632	45.85361	119.67239	12.5	8.64	<6.5	<6.5	19.10	19.79	21.48	1.48	4.43	6.58	8.13	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/22/2005	1632	45.85361	119.67239	24	8.46	<6.5	<6.5	18.78	19.25	21.42	2.20	5.15	6.64	8.03	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/23/2005	858	45.85347	119.67043	1	8.43	NA	NA	18.38	NA	NA	3.05	NA	NA	7.84	NA	NA
TF-WCU	9/23/2005	858	45.85347	119.67043	7.5	8.30	NA	NA	18.39	NA	NA	2.73	NA	NA	7.94	NA	NA
TF-WCU	9/23/2005	858	45.85347	119.67043	14	8.54	NA	NA	18.34	NA	NA	2.84	NA	NA	7.94	NA	NA
TF-WCD1	9/23/2005	827	45.85352	119.67284	1	8.48	<6.5	<6.5	18.50	18.68	21.78	2.77	6.05	6.33	7.80	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/23/2005	827	45.85352	119.67284	9	8.38	<6.5	<6.5	18.52	18.69	21.48	2.73	5.73	6.58	7.93	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/23/2005	827	45.85352	119.67284	17	8.45	<6.5	<6.5	18.52	18.64	21.42	2.86	5.84	6.64	7.92	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	839	45.85359	119.67266	1	8.51	<6.5	<6.5	18.52	18.68	21.78	2.83	6.05	6.33	7.84	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	839	45.85359	119.67266	12.5	8.32	<6.5	<6.5	18.53	18.69	21.48	2.93	5.73	6.58	7.95	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	839	45.85359	119.67266	24	8.41	<6.5	<6.5	18.52	18.64	21.42	2.50	5.84	6.64	7.92	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	848	45.85361	119.67239	1	8.49	<6.5	<6.5	18.51	18.68	21.78	2.70	6.05	6.33	7.84	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	848	45.85361	119.67239	12.5	8.32	<6.5	<6.5	18.51	18.69	21.48	2.72	5.73	6.58	7.94	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	848	45.85361	119.67239	24	8.40	<6.5	<6.5	18.50	18.64	21.42	2.65	5.84	6.64	7.92	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/23/2005	1440	45.85347	119.67043	1	9.09	NA	NA	18.89	NA	NA	1.85	NA	NA	8.02	NA	NA
TF-WCU	9/23/2005	1440	45.85347	119.67043	7	8.92	NA	NA	18.69	NA	NA	2.12	NA	NA	8.10	NA	NA
TF-WCU	9/23/2005	1440	45.85347	119.67043	14.5	8.25	NA	NA	18.58	NA	NA	2.41	NA	NA	8.16	NA	NA
TF-WCD1	9/23/2005	1318	45.85352	119.67284	1	9.03	<6.5	<6.5	18.69	19.19	21.78	2.06	4.85	6.33	7.98	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/23/2005	1318	45.85352	119.67284	8	8.99	<6.5	<6.5	18.67	18.99	21.48	2.08	5.12	6.58	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/23/2005	1318	45.85352	119.67284	15	8.98	<6.5	<6.5	18.66	18.88	21.42	2.03	5.41	6.64	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	1345	45.85359	119.67266	1	9.13	<6.5	<6.5	18.70	19.19	21.78	1.69	4.85	6.33	8.02	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	1345	45.85359	119.67266	12	9.07	<6.5	<6.5	18.65	18.99	21.48	2.09	5.12	6.58	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	1345	45.85359	119.67266	23	9.02	<6.5	<6.5	18.62	18.88	21.42	1.95	5.41	6.64	8.04	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	1405	45.85361	119.67239	1	9.06	<6.5	<6.5	18.80	19.19	21.78	1.92	4.85	6.33	7.99	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	1405	45.85361	119.67239	12.5	9.03	<6.5	<6.5	18.66	18.99	21.48	1.64	5.12	6.58	8.07	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	1405	45.85361	119.67239	24	9.05	<6.5	<6.5	18.64	18.88	21.42	1.78	5.41	6.64	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCU	9/23/2005	1700	45.85347	119.67043	1	9.12	NA	NA	19.16	NA	NA	1.98	NA	NA	8.08	NA	NA
TF-WCU	9/23/2005	1700	45.85347	119.67043	7	8.86	NA	NA	18.90	NA	NA	2.15	NA	NA	8.16	NA	NA
TF-WCU	9/23/2005	1700	45.85347	119.67043	13	8.96	NA	NA	18.71	NA	NA	2.75	NA	NA	8.16	NA	NA
TF-WCD1	9/23/2005	1620	45.85352	119.67284	1	9.02	<6.5	<6.5	19.18	19.46	21.78	2.16	4.98	6.33	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/23/2005	1620	45.85352	119.67284	9	8.73	<6.5	<6.5	18.89	19.20	21.48	2.09	5.15	6.58	8.10	<6.5 or >8.5	<6.5 or >8.5
TF-WCD1	9/23/2005	1620	45.85352	119.67284	16.5	8.73	<6.5	<6.5	18.78	19.01	21.42	2.33	5.75	6.64	8.07	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	1636	45.85359	119.67266	1	9.13	<6.5	<6.5	19.19	19.46	21.78	1.99	4.98	6.33	8.07	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	1636	45.85359	119.67266	12	9.02	<6.5	<6.5	18.79	19.20	21.48	2.31	5.15	6.58	8.11	<6.5 or >8.5	<6.5 or >8.5
TF-WCD2	9/23/2005	1636	45.85359	119.67266	23.5	8.74	<6.5	<6.5	18.71	19.01	21.42	2.80	5.75	6.64	8.05	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	1650	45.85361	119.67239	1	9.01	<6.5	<6.5	19.14	19.46	21.78	2.09	4.98	6.33	8.06	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	1650	45.85361	119.67239	12.5	8.65	<6.5	<6.5	18.82	19.20	21.48	2.13	5.15	6.58	8.12	<6.5 or >8.5	<6.5 or >8.5
TF-WCD3	9/23/2005	1650	45.85361	119.67239	24	8.88	<6.5	<6.5	18.69	19.01	21.42	2.90	5.75	6.64	8.06	<6.5 or >8.5	<6.5 or >8.5

Notes: [1]Datum for coordinates is NAD 83.

[2]Trigger is exceeded where downstream conditions exceed the specified amounts relative to both the event-specific background and the pre-construction background survey (95% upper confidence limit on the mean for

[3]TF-WCU is the upstream event-specific background station.

BOLD indicates an exceedance

Table 3.
Water Quality Laboratory Parameters Monitoring Results Compared to Triggers—Gasco Site
September 12, 2005

Location ID Location Sample ID Sample Date	WQ Trigger Table E-1 RAPP Chronic	 Acute	Background Preconstruction Survey Results 9/17-19/2005	RAA-WCD2 Downstream Surface Depth 9/12/2005	RAA-WCD2 Downstream Mid Depth 9/12/2005	RAA-WCD2 Downstream Bottom Depth 9/12/2005
Conventionals (mg/L)						
Cyanide	0.0052	0.02	0.05 U	***0.025 J***	0.05 U	0.05 U
SVOCs (µg/L)						
Anthracene	0.73	13	0.02 U	0.00715 J	0.0256	0.055
Benzo(a)anthracene	0.02	0.49	0.02 U	0.02 U		0.0444 *
Benzo(a)pyrene	0.01	0.24	0.0532	0.0164 J *	0.0342 *	0.0479 *
Dibenzofuran	3.7	66	0.2 U	0.02 U	0.2 U	0.02 U
Fluoranthene	6.16	3980	0.0425	0.027	0.09	0.151
Fluorene	3.9	70	0.02 U	0.0126 J	0.0269	0.0319
Naphthalene	12	190	0.148	0.0281 J	0.0665	0.0858
Phenanthrene	N/AV	N/AV	0.0382	0.0367	0.0835	0.133

Notes:

* = Exceeds chronic criteria

= Exceeds acute criteria

Bold, italics - exceeds both chronic and background survey concentrations

J = Estimated value

U = Not detected

APPENDIX A

GASCO SITE WQ MONITORING LOG SHEETS

Reverse Flow

ANCHOR ENVIRONMENTAL, L.L.C.

1423 3rd Ave., Suite 300
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Phone 206.287.9130
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www.anchorenv.com

Water Quality Monitoring Form

Station ID: RAA-WCU~~#~~-050919	Date: 9-19-05	Time: 4:46 pm
Project Name: Gasco	Project Number:	
Coordinates Datum:		
Lat/Northing: same	Long/Easting: same	

Weather/River Stage/Flow Observations: Slack tide - low @ 4:25 pm

Status/Description of Operation at Time of Sampling: dredging.

Depth to Bottom: 46.5 (~~m~~)'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (~~m~~)'	9.92	18.65	1
Depth 2: 23 (~~m~~)'	9.20	18.~~35~~26	4
Depth 3: 45 (~~m~~)'	8.90.	17.92	6
Other:	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	No sheen
Discoloration and Turbidity:	—
Velocity at stated depth:	—
Color:	Greenish brown
Odor:	None
Other Observations:	—

Comments:

	Surface	middle	bottom
pH:	1 7.43	2 7.21	3 7.15
Cond	92	2 94	3 92

Recorded by: AW

Other Monitoring Personnel: AW, KT

REVERSE FLOW

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Water Quality Monitoring Form

Station ID: RAA-WCDF050919	Date: 9-19-05	Time: ~~0400~~ 4:00pm
Project Name: Gasco	Project Number:	
Coordinates Datum:		
Lat/Northing: same	Long/Easting: same	

Weather/River Stage/Flow Observations: Ebbing - low @ 4:25pm. (-REVERSE FLOW-)

Status/Description of Operation at Time of Sampling: dredging.

Depth to Bottom: 10.4 ~~(m)~~'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~'	9.85	18.75	2.0
Depth 2: 9 ~~(m)~~'	8.95	17.98	4.0
Depth 3: ____ ~~(m)~~'	N/A	N/A	N/A
Other:	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	~~None~~ Yes slight sheen patchy
Discoloration and Turbidity:	Slightly turbid
Velocity at stated depth:	reversed flow - upriver - wind-related? 0.33 fps
Color:	Greenish brown —
Odor:	—
Other Observations:	None

Comments: surface

pH: 1 7.57

Cond 1 97

Mid

2 ~~7.57~~

Mid

2 ~~94~~

bottom

3 7.32

3 94

No mid-station

Recorded by: AW

Other Monitoring Personnel: KT AW

REVERSE FLOW

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Water Quality Monitoring Form

Station ID: RAA-WCD2-050919	Date: 9-19-05	Time: 4:06 pm
Project Name: Gasco	Project Number:	
Coordinates Datum: 45 yards from containment boom, first red round buoy on S end of		
Lat/Northing: same	Long/Easting: same	

Weather/River Stage/Flow Observations: Ebbing - low @ 4:25 pm

Status/Description of Operation at Time of Sampling: dredging.

Depth to Bottom: 37 ~~(m)~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~'	9.21.	18.04	4
Depth 2: 17 ~~(m)~~'	9.06.	17.94	4
Depth 3: 39 ~~(m)~~ 34'	8.87.	17.88	6
Other:	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	slightly turbid / No sheen
Discoloration and Turbidity:	
Velocity at stated depth:	—
Color:	Greenish brown
Odor:	—
Other Observations:	None

Comments:

pH: 1 Surface 7.29 2 Mid 7.28 3 bottom 7.27

Cond 1 92 2 92 3 91

Recorded by: AW

Other Monitoring Personnel: KT, AW

REVERSE FLOW

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Water Quality Monitoring Form

Station ID: RAA-WCD3-050919		Date: 9-19-05	Time: 4:33 pm
Project Name: Gasco		Project Number: —	
Coordinates Datum:			
Lat/Northing:	same	Long/Easting:	same

Weather/River Stage/Flow Observations: Ebbing - low @ 4:25 pm.

Status/Description of Operation at Time of Sampling: dredging.

Depth to Bottom: 43 ~~(m)~~'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~'	9.28	18.14	6
Depth 2: 21 ~~(m)~~'	9.21	18.08	7
Depth 3: 41 ~~(m)~~'	9.12	18.07	6
Other:	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	~~None~~ Slight patches (1-5 cm)
Discoloration and Turbidity:	slightly turbid
Velocity at stated depth:	—
Color:	Greenish brown
Odor:	None
Other Observations:	—

Comments:

	Surface		mid		bottom
pH:	1 7.17	2	7.16	3	7.17
Cond	93	2	93	3	~~7.17~~ 93

Recorded by: AW

Other Monitoring Personnel: KT, AW

WATER CHEMISTRY GRAB
REVERSE FLOW

ANCHOR ENVIRONMENTAL, L.L.C.

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Water Quality Monitoring Form

Station ID: RAA-WCU-050919		**Date:** 9/19/05	**Time:** 446pm
Project Name: GASCO		**Project Number:**	
Coordinates Datum:			
Lat/Northing:	Same	Long/Easting:	Same

Weather/River Stage/Flow Observations: REVERSE FLOW

Status/Description of Operation at Time of Sampling: DREDGING

Depth to Bottom: 465 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft			
Depth 2: 23 (m)			
Depth 3: 45 (m)			
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NO SHEEN
Discoloration and Turbidity:	—
Velocity at stated depth:	—
Color:	GREENISH BROWN
Odor:	NONE
Other Observations:	—

Comments:

Recorded by: AW

Other Monitoring Personnel: KT

ANCHOR ENVIRONMENTAL, L.L.C.

WQ SAMPLES

REVERSE FLOW

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Water Quality Monitoring Form

Station ID: RAA-WCD2~~b~~c 050919		Date: 9/19/05	Time: 1619
Project Name: GASCO		Project Number:	
Coordinates Datum:			
Lat/Northing:	SAME	Long/Easting:	SAME

Weather/River Stage/Flow Observations: REVERSE FLOW

Status/Description of Operation at Time of Sampling: DREDGING

SAMPLES COLLECTED AT UPRIVER, DOWN CURRENT STATION

Depth to Bottom: 35 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft			
Depth 2: 17 (m)			
Depth 3: 34 (m)			
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	
Discoloration and Turbidity:	SLIGHTLY TURBID / NO SHEEN
Velocity at stated depth:	—
Color:	GREENISH BROWN
Odor:	—
Other Observations:	NONE

Comments:

pH: 1 ____ 2 ____ 3 ____

Recorded by: AW

Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCU-050920		Date: 9-20-05	Time: 0950
Project Name: Gasco		Project Number:	
Coordinates Datum:			
Lat/Northing:	Same	Long/Easting:	same

Weather/River Stage/Flow Observations: Downriver flow @ 0.5 fps. Ebb till 5.20pm

Status/Description of Operation at Time of Sampling: Dredging & pulling piles.

DUPLICATE PARAMETERS MEASURED AT: MID-station (Depth 11ft.)

Depth to Bottom: ~~22.5 (m)~~ 24.3

	Dissolved Oxygen (mg/L)		Temperature (C)		Turbidity (NTU)	
Depth 1: 1 ~~(m)~~	9.07	—	17.77	—	5	—
Depth 2: 11 ~~(m)~~	9.01	9.01	17.75	17.76	6	6
Depth 3: 22 ~~(m)~~	8.97	—	17.74	—	6	—
Other:	—	—	—	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	No sheen.
Discoloration and Turbidity:	~~Greenish~~ ~~Slightly~~ Slight (normal) turbidity
Velocity at stated depth:	—
Color:	Greenish
Odor:	None at sampling location.
Other Observations:	—

Comments:

		Surface		Middle		Bottom	
pH:	1	7.21	—	2 7.24	7.23	3 7.25	—
Cond	1	88	—	2 88	88	3 88	—

Recorded by: AW

Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAI-WCD-2A/B/C 050920		Date: 9/20/05	Time: 1045
Project Name: Gasco		Project Number:	
Coordinates Datum:			
Lat/Northing:	same	Long/Easting:	same

Weather/River Stage/Flow Observations: Downriver flow @ 0.5 fps. Ebb till 5:20pm

Status/Description of Operation at Time of Sampling: Dredging..

Depth to Bottom: 46.7 (m)'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m)'	9.12	17.~~80~~79	8
Depth 2: 23 (m)'	9.06.	17.79	8
Depth 3: 45 (m)'	9.00.	17.78	9
Other:	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	None
Velocity at stated depth:	—
Color:	Greenish
Odor:	None
Other Observations:	—

Comments:

pH: 1 7.24 2 7.24 3 7.24

Cond 1 87 2 87 3 87

Recorded by: AW Other Monitoring Personnel: KT.

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Water Quality Monitoring Form

Station ID: RAA WCD3-050920		Date: 9/20/05	Time: 1105
Project Name: Basco		Project Number:	
Coordinates Datum:			
Lat/Northing:	Same	Long/Easting:	Same

Weather/River Stage/Flow Observations: Downriver flow @ 0.5 fps Ebb till 5:20 pm

Status/Description of Operation at Time of Sampling: Dredging

Depth to Bottom: 46.1 (m)'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m)'	9.11	17.87	~~8~~ 7
Depth 2: 23 (m)'	9.04	17.83	8
Depth 3: 45 (m)'	8.93	17.82	9
Other:	—	—	—

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	—
Color:	Greenish
Odor:	None
Other Observations:	—

Comments:

pH: 1 7.26 2 7.24 3 7.25

Cond 1 87 2 87 3 87

Recorded by: AW Other Monitoring Personnel: KT, AS

WATER CHEMISTRY

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Water Quality Monitoring Form

Station ID: RAA-WCU-050920		Date: 9-20-05	Time: ~~1010~~ 1013
Project Name: Gasco		Project Number:	
Coordinates Datum:			
Lat/Northing:	same	Long/Easting:	same

Weather/River Stage/Flow Observations: same as WQ mon. Ebb till 5:20pm

Status/Description of Operation at Time of Sampling: same WQ · mon.

Depth to Bottom: ~~(m)~~ 24.6'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' (m)			N/A
Depth 2: 11' (m)			
Depth 3: 22' (m)			
Other:			

Evidence of floating or suspended materials:	same as WQ mon
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	
Discoloration and Turbidity:	
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 _____ 2 _____ 3 _____

* water sample taken for analysis - (PAHs, CN)

Recorded by: AW

Other Monitoring Personnel: AW, KT

WATER CHEMISTRY

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Water Quality Monitoring Form

Station ID: RAA-WCD-2 A/B/C - 050920		Date: 9/20/05	Time: 1050
Project Name: Gasco		Project Number:	
Coordinates Datum:			
Lat/Northing:	same	Long/Easting:	same

Weather/River Stage/Flow Observations: same as WQ mon
Ebb till 5:20pm

Status/Description of Operation at Time of Sampling: same as WQ mon

Depth to Bottom: _____ (~~m~~)'

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (~~m~~)'	N/A	N/A	N/A
Depth 2: 23 (~~m~~)'	↓	↓	↓
Depth 3: 45 (~~m~~)'	↓	↓	↓
Other:	↓	↓	↓

Evidence of floating or suspended materials:	same as WQ mon
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	↓
Discoloration and Turbidity:	↓
Velocity at stated depth:	↓
Color:	↓
Odor:	↓
Other Observations:	↓

Comments:

pH: 1 _____ 2 _____ 3 _____

* water sample taken for analysis. (PAHs, CN.)

Recorded by: AW

Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCU ~~1~~-050921	Date: 9/21/05	Time: 1150
Project Name: GASCO	Project Number:	
Coordinates Datum: NAD 83		
Lat/Northing: 45.57877	Long/Easting: 122.75517	

Weather/River Stage/Flow Observations: Ebb Tide - downriver = downstr
Sunny slight breeze 60°F
Status/Description of Operation at Time of Sampling: Dredging began @ 10:47 w/ clamshell

Depth to Bottom: 16 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	9.24	17.95	4
Depth 2: 8 ~~(m)~~ Ft	9.27	17.89	4
Depth 3: 15 ~~(m)~~ ↓	9.17	17.80	4
Other:			

Evidence of floating or suspended materials:	No
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	No sheen
Discoloration and Turbidity:	No
Velocity at stated depth: At 3 ft below surface = 0.37/0.39 fps	
Color:	Greenish brown
Odor:	None Detected
Other Observations:	—

Comments:
pH: 1 7.52 2 7.42 3 7.41
Cond 1 96 2 96 3 96
* Moved station upstream due to divers in H2O at original station

Recorded by: EA Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD2A 050921		Date: 9/21/05	Time: 1218
Project Name: GASCO		Project Number:	
Coordinates Datum:			
Lat/Northing:	SAME	Long/Easting:	SAME

Weather/River Stage/Flow Observations: SUNNY EBB TIDE 65°F Slight breeze

Status/Description of Operation at Time of Sampling: STOPPED DREDGING

Depth to Bottom: 46 (m)/Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) Ft	9.20	17.77	8
Depth 2: 23 (m)	9.15	17.74	8
Depth 3: 45 (m)	9.06	17.73	10
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	—
Color:	GREENISH BROWN
Odor:	NONE DETECTED
Other Observations:	FAMM DOCK - BARGE IN

Comments:

pH: 1 7.32 2 7.30 3 7.17

COND 1 96 2 97 3 96

Recorded by: EA Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD3 #2 - 050921		Date: 9/21/05	Time: 1212
Project Name: GASCO		Project Number:	
Coordinates Datum:			
Lat/Northing:	SAME	Long/Easting:	SAME

Weather/River Stage/Flow Observations: SUNNY Ebb TIDE 65°F

Status/Description of Operation at Time of Sampling: Dredging had stopped ~ 10-15 minutes ago

Depth to Bottom: 46 (m/ft)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m/ft)	9.14	17.81	5
Depth 2: 23 (m)	9.08	17.73	7
Depth 3: 45 (m)	9.04	17.73	7
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	—
Color:	Greenish Brown
Odor:	NONE DETECTED
Other Observations:	FAMM-BARGE @ DOCK

Comments:

pH: 1 7.37 2 7.30 3 7.17

Cond 1 91 2 97 3 96

Recorded by: EA Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCDU 050921		Date: 9/21/05	Time: 1200-1205
Project Name: GASCO		Project Number:	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: Ebb

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 16 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ~~Ft~~	1200		
Depth 2: 8 (m)	1202		
Depth 3: 15 (m)	1205		
Other:			

Evidence of floating or suspended materials:	No
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	No sheen
Discoloration and Turbidity:	None
Velocity at stated depth:	—
Color:	Greenish Brown
Odor:	None Detected
Other Observations:	—

Comments:
pH: 1 NA 2 NA 3 NA

Recorded by: EA Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD2-A-050921		Date: 9/21/05	Time: 1220
Project Name: GASCO		Project Number:	
Coordinates Datum:			
Lat/Northing:	SAME	Long/Easting:	SAME

Weather/River Stage/Flow Observations: Ebb tide sunny 65°F Slight breeze

Status/Description of Operation at Time of Sampling: Not dredging - stopped ~15 min AGO

Depth to Bottom: 46 m 54

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) 54	1220		
Depth 2: 23 (m)	1225		
Depth 3: 45 (m)	1230		
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	No sheen
Discoloration and Turbidity:	Greenish Brown
Velocity at stated depth:	—
Color:	
Odor:	None Detected
Other Observations:	—

Comments:

pH: 1 ____ 2 ____ 3 ____

Recorded by: TA Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCU-A,B,C		Date: 050923	Time: 1020
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	45.58080	Long/Easting:	122.75936

Weather/River Stage/Flow Observations: Mod wind from ~~E~~ W. Sunny. Mid 60's. Semi-Rough surface current.

Status/Description of Operation at Time of Sampling: Dredging inner Containment area. Transfer material to haul barge.

Depth to Bottom: 46 ~~(m)~~ '

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ '	9.12	17.55	5
Depth 2: 23 ~~(m)~~ '	9.01	17.49	6
Depth 3: 44 ~~(m)~~ '	8.93	17.49	5
Other:			

Evidence of floating or suspended materials:	
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	
Discoloration and Turbidity:	particulates
Velocity at stated depth:	—
Color:	green-brown
Odor:	none
Other Observations:	upstream = downriver

Comments:

pH: 1 7.33 2 7.32 3 7.15

Cond: 1 90 2 105 3 99

Recorded by: BP Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RRA-WCD1-A,BC		Date: 050923	Time: 0930
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	N 48.57936	Long/Easting:	W 122.75626

Weather/River Stage/Flow Observations: SLIGHT WIND. MID 60'S. SUNNY

Status/Description of Operation at Time of Sampling: DREDGING, TRANSFER TO HAUL BARGE

Depth to Bottom: 13' (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' (m)	9.20	17.57	7
Depth 2: 6' (m)	9.25	17.53	7
Depth 3: 12' (m)	9.18	17.49	7
Other:			

Evidence of floating or suspended materials:	No
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	No
Discoloration and Turbidity:	particulates
Velocity at stated depth:	.75 f/s @ 3' (offshore)
Color:	green-brown
Odor:	None
Other Observations:	downstream = up river

Comments:

pH: 1 7.43 2 7.40 3 7.43

Cond: 1 96 2 104 3 97 (variable ±10)

Recorded by: BP Other Monitoring Personnel: KT

Reverse Current

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Water Quality Monitoring Form

Station ID: RAA-WCD2, A,B,C		Date: 050923	Time: 0945
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	45.57951 N	Long/Easting:	122.75607 W

Weather/River Stage/Flow Observations:

SAME AS 0930

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 39' ~~(m)~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' ~~(m)~~	9.23	17.59	7
Depth 2: 19' ~~(m)~~	9.16	17.51	7
Depth 3: 35' ~~(m)~~	9.11	17.51	8
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	particulates
Velocity at stated depth:	same
Color:	green-brown
Odor:	None
Other Observations:	chemistry grabs at this station 0950

Comments:

pH: 1 7.37 2 7.35 3 7.32

Cond 1 129 2 115 3 110

Recorded by: BP Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD3-ABC		Date: 050923	Time: 1015
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	45.57961 N	Long/Easting:	122.75615 W

Weather/River Stage/Flow Observations: mod wind NW

Status/Description of Operation at Time of Sampling: dredging, transfer to hand barge

Depth to Bottom: 44 (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' (m)	9.13	17.54	2
Depth 2: 22' (m)	9.14	17.49	6
Depth 3: 42' (m)	9.10	17.51	8
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	particulates
Velocity at stated depth:	—
Color:	green-brown
Odor:	none
Other Observations:	bubble curtain on again

Comments:

pH: 1 7.35 2 7.31 3 7.18

Cond: 1 88 2 105 3 112

Recorded by: BP Other Monitoring Personnel: KT

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REVERSE CURRENT

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Water Quality Monitoring Form

Station ID: RAA-WCU-050923		Date: 050923	Time: 1025
Project Name: GASCO		Project Number: 00002902	
Coordinates Datum:			
Lat/Northing:	46.58085	Long/Easting:	122.75945

Weather/River Stage/Flow Observations: Same as 1015

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 46' (m)

	~~Dissolved Oxygen~~ TIME (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' ~~(m)~~ A	1025		
Depth 2: 22 (m) B	1030		
Depth 3: 44 (m) C	1035		
Other:			

Evidence of floating or suspended materials:	some trash (cig. butt)
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	particulately (turbid)
Velocity at stated depth:	—
Color:	green-brown
Odor:	none
Other Observations:	

Comments:

pH: 1 _____ 2 _____ 3 _____

Recorded by: BP Other Monitoring Personnel: KT

REVERSE CURRENT

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CHEMISTRY GRAB

Water Quality Monitoring Form

Station ID: RAA-WCD2-050923		Date: 050923	Time: 0950
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	48.57943	Long/Easting:	122.75600

Weather/River Stage/Flow Observations: SAME AS 0930

Status/Description of Operation at Time of Sampling: DREDGING, HAUL BARGE LOADING

Depth to Bottom: 34' ~~(m)~~

	~~Dissolved Oxygen~~ TIME (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' (m) A	0950		
Depth 2: 15' (m) B	1000		
Depth 3: 33' (m) C	1005		
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	green-brown particulate
Velocity at stated depth:	—
Color:	green-brown
Odor:	none
Other Observations:	bubble curtain off during grab collection (OFF FOR APPROX 10 MIN)

Comments:

pH: 1 _____ 2 _____ 3 _____

→ ANDREW CALLED CONTRACTOR'S TO LET THEM KNOW & CURTAIN CAME BACK ON.

Recorded by: BP Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCU-A,B,C		Date: 050923	Time: 1254
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	45.57928	Long/Easting:	122.75562

Weather/River Stage/Flow Observations: MOD WIND FROM NW

Status/Description of Operation at Time of Sampling: DREDGING. CEMENT MIXTURE ADDITION

Depth to Bottom: 38' (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m)	9.31	17.89	4
Depth 2: 19 (m)	9.07	17.55	6
Depth 3: 37 (m)	8.96	17.51	9
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	particulate
Velocity at stated depth:	
Color:	brown-green
Odor:	none
Other Observations:	upstream = up river

Comments:

pH: 1 7.42 2 7.34 3 7.25

Cond: 1 123 2 105 3 106

Recorded by: BP Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD1-A,B,C		Date: 050923	Time: 1305
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:	45.58053	Long/Easting:	122.75913

Weather/River Stage/Flow Observations:

Same as 1254

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 33' (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' (m)	9.28	17.63	9
Depth 2: 16' (m)	9.18	17.61	10
Depth 3: 32' (m)	9.09	17.59	11
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	same
Velocity at stated depth:	—
Color:	same
Odor:	none
Other Observations:	

Comments:

pH: 1 7.34 2 7.36 3 7.31

Cond: 1 93 2 107 3 104

Recorded by: BP Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD2-A,B,C		Date: 050923	Time: 1315
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing: ~~45.58080~~		Long/Easting: ~~122.75995~~	

Weather/River Stage/Flow Observations: 45.58078 122.75900

Status/Description of Operation at Time of Sampling: Stable on 1254

Depth to Bottom: 44' (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1' (m)	9.24	17.61	7
Depth 2: 22' (m)	9.20	17.61	11
Depth 3: 40' (m)	9.13	17.60	11
Other:			

Evidence of floating or suspended materials:	none, some wood debris
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	particulate (turbid water)
Velocity at stated depth:	—
Color:	brown-green
Odor:	none
Other Observations:	—

Comments:

pH: 1 7.33 2 7.32 3 7.26

Cond: 1 111 2 108 3 105

Recorded by: BP Other Monitoring Personnel: KT

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Water Quality Monitoring Form

Station ID: RAA-WCD3-050923		Date: 9-23-05	Time: 1325
Project Name: GASCO A,B,C		Project Number: 000029-07	
Coordinates Datum:			
Lat/Northing:	45-58104	Long/Easting:	1275900

Weather/River Stage/Flow Observations: same

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 46 (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m)	9.22	17.60	7
Depth 2: 24 (m)	9.19	17.57	9
Depth 3: 45 (m)	9.07	17.55	8
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	turbid with particulates
Velocity at stated depth:	—
Color:	brown-green
Odor:	none
Other Observations:	

Comments:

pH: 1 7.34 2 7.30 3 7.25

Cond: 1 99 2 103 3 106

Recorded by: KT Other Monitoring Personnel: BP

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Water Quality Monitoring Form

Station ID: Upstream 300 TF-WCU		Date: 9-19-05	Time: 10:05
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 68°, < 5 mph breeze from northwest Sunny

Status/Description of Operation at Time of Sampling: Waiting for trucks

Depth to Bottom: 15.5 (m) ~~ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ~~ft~~	9.13	18.77	2.00
Depth 2: 8 (m) ~~ft.~~	9.04	18.76	2.25
Depth 3: 14.5 (m) ~~ft.~~	9.05	18.76	2.20
Other:		None	

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.95 2 8.02 3 8.02

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: Downstream 150 TF-WCD1		Date: 9-19-05	Time: 0949
Project Name: Gasto		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 65°, 5 mph breeze from northwest, Sunny

Status/Description of Operation at Time of Sampling: Temorarily stopped

Depth to Bottom: 22 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ~~ft~~	9.03	18.80	1.82
Depth 2: 11 ~~(m)~~ ~~ft~~.	8.90	18.78	1.99
Depth 3: 21 (m) ~~ft~~.	8.91	18.78	1.98
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.92 2 8.01 3 8.03

Recorded by: Craig Welk

Other Monitoring Personnel: Steve Hargnail

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Water Quality Monitoring Form

Station ID: Upstream 300 TF-WCU		Date: 9-19-05	Time: 14:03
Project Name:		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: Sunny 83°, wind 10-15mph From west,

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 13 (m) ~~ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ~~ft~~	9.32	19.09	1.87
Depth 2: 6.5 (m) ~~ft~~	9.33	19.06	1.89
Depth 3: 12 (m) ~~ft~~	9.33	19.01	1.99
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.99 2 8.04 3 8.01

Recorded by: Craig Wells

Other Monitoring Personnel: Marcus Dikhoff Sevensen

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Water Quality Monitoring Form

Station ID: TF-WQD1 Downstream 150		Date: 9-19-05	Time: 13:39
Project Name: Gako		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: Sunny 83°, 10-15 mph wind from southwest

Status/Description of Operation at Time of Sampling: Temporary lull in loading

Depth to Bottom: 29 ~~(m)~~ FT

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ FT	9.25	19.02	2.06
Depth 2: 12 ~~(m)~~ FT	9.17	18.97	2.09
Depth 3: 23 ~~(m)~~ FT	9.21	18.87	2.64
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.97 2 8.04 3 8.03

Recorded by: Craig Wells

Other Monitoring Personnel: Markus Dikehut Sevensen

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Water Quality Monitoring Form

Station ID: Upstream TF-WCU 300		Date: 9-19-05	Time: 17:20
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 82°, wind 8-10 mph out of west, sunny

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 13 (m) ~~ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ~~ft~~	8.40	19.20	1.56
Depth 2: 6.5 (m) ~~ft~~	9.36	19.20	2.50
Depth 3: 12 (m) ~~ft~~	9.39	19.20	1.69
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.01 2 8.03 3 8.01

Recorded by: Craig Wells Other Monitoring Personnel: Harry Ohnmeiss Sevensen

~~Appendix A~~ ~~SE~~ ~~SE~~ ~~A~~ ~~[illegible]~~

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Water Quality Monitoring Form

Station ID: TF-WCDP 1 Downstream 150		Date: 9-19-05	Time: 16:55
Project Name:		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 83°, 10-15 mph from the southwest sunny

Status/Description of Operation at Time of Sampling: loading

Depth to Bottom: 23 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ~~ft~~	9.36	19.15	1.68
Depth 2: 11.5 ~~(m)~~ ~~ft~~	9.38	19.13	1.77
Depth 3: 22 ~~(m)~~ ~~ft~~	9.29	19.10	2.07
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.99 2 8.00 3 7.98

Recorded by: Craig Wells Other Monitoring Personnel: Harry Ohmeiss Sevensen

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Water Quality Monitoring Form

Station ID: TF-WCU -1		Date: 9-20-05	Time: 11.00 AM
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 64° Calm Sunny

Status/Description of Operation at Time of Sampling: Unloading barge

Depth to Bottom: 13 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C) [redacted]	Turbidity (NTU) [redacted]
Depth 1: 1 ~~(m)~~ Ft	9.25	19.18	1.51
Depth 2: 6.5 ~~(m)~~ Ft	9.06	18.96	1.98
Depth 3: 12 ~~(m)~~ Ft	9.12	18.87	2.26
Other:			

Evidence of floating or suspended materials:	
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	
Discoloration and Turbidity:	
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.05 2 8.15 3 8.19

Recorded by: Craig Wells

Other Monitoring Personnel: Mark Chaney
Steve Sen

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-20-05	Time: 09:55
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: Sunny 60°, < 3 mph wind out of NW

Status/Description of Operation at Time of Sampling: Unloading barge

Depth to Bottom: 17 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	9.05	19.05	2.01
Depth 2: 8.5 ~~(m)~~ Ft	9.03	18.99	~~2.01~~ 1.81
Depth 3: 16 ~~(m)~~ Ft.	9.02	18.98	2.05
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.01 2 8.13 3 8.14

Recorded by: Craig Wells

Other Monitoring Personnel: Mark Clancy, Severson

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-20-05	Time: 10:28
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 64°, slight breeze, sunny

Status/Description of Operation at Time of Sampling: Unloading barge

Depth to Bottom: 23 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ~~ft~~	9.17	19.14	1.94
Depth 2: 11.5 ~~(m)~~ ~~ft~~	8.92	18.98	1.79
Depth 3: 22 ~~(m)~~ ~~ft~~	8.94	18.88	2.62
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 8.03 2 8.13 3 8.09

Recorded by: Craig Wells Other Monitoring Personnel: Mark Clancy, Seven Sea

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-20-05	Time: 10.46
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 64° Calm Sunny

Status/Description of Operation at Time of Sampling: Unloading barge

Depth to Bottom: 25 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	9.16	19.16	1.59
Depth 2: 12.5 ~~(m)~~ Ft	8.95	18.99	1.89
Depth 3: 24 ~~(m)~~ Ft	9.00	18.92	2.39
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 8.03 2 8.13 3 8.10

Recorded by: Craig Walls Other Monitoring Personnel: Mark Clowly Severson

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Water Quality Monitoring Form

Station ID: TF-WCU-1		Date: 09-20-05	Time: 14:46
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 73F, CALM, Sunny

Status/Description of Operation at Time of Sampling: LOADING TRUCKS

Depth to Bottom: 13 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft	8.94	20.00	1.51
Depth 2: 6.5 (m) ft	9.02	19.36	1.73
Depth 3: 12 (m) ft	9.00	19.09	2.11
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.96 2 8.13 3 8.13

Recorded by: CRAIG WELLS

Other Monitoring Personnel: HARRY OHNMEISE SEVENSON

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 09-20-05	Time: 14:00
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 73°, calm, sunny

Status/Description of Operation at Time of Sampling: loading Trucks

Depth to Bottom: 12 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft.	9.11	20.10	1.53
Depth 2: 6 ~~(m)~~ ft	9.11	19.79	1.96
Depth 3: 11 ~~(m)~~ ft.	8.90	19.05	1.81
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.94 2 8.05 3 8.10

Recorded by: Craig Wells Other Monitoring Personnel: Harry Ohnmeiss Sevensen

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 09-20-05	Time: 14:17
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 73°F, CALM, SUNNY

Status/Description of Operation at Time of Sampling: LOADING TRUCKS

Depth to Bottom: 24.5 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft	9.05	20.32	1.86
Depth 2: 11.5 (m) ft	9.14	19.19	1.76
Depth 3: 23.5 (m) ft	8.95	18.88	2.09
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.94 2 8.12 3 8.04

Recorded by: CRAIG WELLS Other Monitoring Personnel: HARRY OHNMEISS SEVENSON

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 09-20-05	Time: 14:27
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 73°F, CALM, SUNNY

Status/Description of Operation at Time of Sampling: LOADING TRUCKS

Depth to Bottom: 24 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	8.99	20.40	1.30
Depth 2: 12 ~~(m)~~ ft	9.16	19.20	1.65
Depth 3: 23 ~~(m)~~ ft	8.98	18.84	2.32
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.96 2 8.12 3 8.00

Recorded by: CRAIG WELLS Other Monitoring Personnel: HARRY OHNMEISS SEVENSON

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Water Quality Monitoring Form

Station ID: TF-WC4-1		Date: 09-20-05	Time: 18:28
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 76°F, CALM, SUNNY

Status/Description of Operation at Time of Sampling: SIGNIFICANT TUG/BARGE TRAFFIC OVER THE LAST 2HRS. LOADING TRUCKS

Depth to Bottom: 14 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft	9.01	20.02	1.28
Depth 2: 7 (m) ft	8.96	19.08	1.77
Depth 3: 13 (m) ft	8.59	18.96	2.39
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.11 2 8.09 3 8.04

Recorded by: CRAIG WELLS Other Monitoring Personnel: HARRY OHNMEISS, SEVENSON

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 09-20-05	Time: 17:50
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 76F, CALM, SUNNY

Status/Description of Operation at Time of Sampling:
LOADING TRUCKS - SIG. BARGE AND TUG TRAFFIC OVER LAST 2 HRS

Depth to Bottom: 19 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft	9.25	19.48	1.87
Depth 2: 9.5 (m) ft	9.22	19.80	1.72
Depth 3: 18 (m) ft	8.93	19.01	2.07
Other:			

Evidence of floating or suspended materials:	WOOD CHIPS / DEBRIS
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 8.06 2 8.12 3 8.06

Recorded by: CRAIG WELLS Other Monitoring Personnel: HARRY CHAMBERS SEVENSON

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Water Quality Monitoring Form

Station ID: TF - WCD - 2		Date: 09 - 20 - 05	Time: 18:02
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 76°F, CALM, SUNNY

Status/Description of Operation at Time of Sampling:
LOADING TRUCKS SIGNIFICANT BARGE AND TUG TRAFFIC OVER THE LAST 2hrs.

Depth to Bottom: 23.5 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft	9.24	19.66	1.69
Depth 2: 11.5 (m) ft	8.95	19.10	1.82
Depth 3: 22.5 (m) ft	8.79	18.94	2.02
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 8.04 2 8.15 3 8.05

Recorded by: CRAIG WELLS Other Monitoring Personnel: HARRY DAMMEISS SEVENSON

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 09-20-05	Time: 18:12
Project Name: GASCO		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 76 F, CALM, SUNNY

Status/Description of Operation at Time of Sampling:
LOADING TRUCKS, SIGNIFICANT TUG + BARGE TRAFFIC OVER THE LAST 2 HRS.

Depth to Bottom: 27.5 (m) ~~ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ~~ft~~	9.04	19.94	1.38
Depth 2: 14 (m) ~~ft~~	9.02	19.09	1.77
Depth 3: 26.5 (m) ~~ft~~	8.78	18.94	2.27
Other:			

Evidence of floating or suspended materials:	NONE
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	NONE
Discoloration and Turbidity:	NONE
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 8.16 2 8.12 3 8.05

Recorded by: CRAIG WELLS Other Monitoring Personnel: HARRY Ohnmeiss Stevenson

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Water Quality Monitoring Form

Station ID: TF-WCU-		Date: 9-21-05	Time: 10:25
Project Name:		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 56° Sunny Calm

Status/Description of Operation at Time of Sampling:
Barge arrived, tying up to dolphins

Depth to Bottom: 13.5 ~~(m)~~ FT

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ FT	8.79	18.74	1.84
Depth 2: 6.5 ~~(m)~~ FT	8.62	18.64	2.16
Depth 3: 12.5 ~~(m)~~ FT	8.84	18.55	2.65
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 7.93 2 8.06 3 8.13

Recorded by: Craig Wells Other Monitoring Personnel: Mark Clowy Sevensen

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-21-05	Time: 9:33
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 56° Calm Sunny

Status/Description of Operation at Time of Sampling:
B-10 Barge in sight approx. 2-3 miles downstream

Depth to Bottom: 15.5 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	8.66	18.71	1.98
Depth 2: 7.5 ~~(m)~~ Ft	8.91	18.71	1.72
Depth 3: 14.5 ~~(m)~~ Ft	8.67	18.61	2.03
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 7.61 2 7.95 3 8.09

Recorded by: Craig Wells Other Monitoring Personnel: Mark Clancy Sevensen

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Water Quality Monitoring Form

Station ID: TF-WCD-2	Date: 9-21-05	Time: 9.47 AM
Project Name: GASCO	Project Number: 000029-02	
Coordinates Datum:		
Lat/Northing:	Long/Easting:	

Weather/River Stage/Flow Observations: 56° Calm Sunny

Status/Description of Operation at Time of Sampling:
B-10 Barge approaching Facility

Depth to Bottom: 23.5 ~~(m)~~ FT

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ FT	8.83	18.74	2.12
Depth 2: 11.5 ~~(m)~~ FT	8.79	18.76	2.20
Depth 3: 22.5 ~~(m)~~ FT	8.77	18.53	2.57
Other:			

Evidence of floating or suspended materials:	Floating water Plants
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 7.93 2 8.05 3 8.10

Recorded by: Craig Wells Other Monitoring Personnel: MARK Chanly Sevensen

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Water Quality Monitoring Form

Station ID: TF-WCD-3	Date: 9-21-05	Time: 10:00 AM
Project Name: GASCO	Project Number: 000029-02	
Coordinates Datum:		
Lat/Northing:	Long/Easting:	

Weather/River Stage/Flow Observations: 56° Calm Sunny

Status/Description of Operation at Time of Sampling: Barge arrived

Depth to Bottom: 26.5 ~~(m)~~ FT

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	8.87	18.90	1.94
Depth 2: 13 ~~(m)~~ Ft	8.78	18.80	2.18
Depth 3: 25.5 ~~(m)~~ Ft	8.90	18.60	2.26
Other:			

Evidence of floating or suspended materials:	Floating water plants
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.88 2 8.00 3 8.08

Recorded by: Craig Wells Other Monitoring Personnel: mark Clancy Sevensen

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Water Quality Monitoring Form

Station ID: TF-WDU-1		Date: 9-21-05	Time: 16:47
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 75°, sunny, calm

Status/Description of Operation at Time of Sampling: unloading 2nd Barge

Depth to Bottom: 15 ~~(m) Ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) Ft~~	9.27	19.61	1.79
Depth 2: 7.5 ~~(m) Ft~~	8.73	19.21	1.82
Depth 3: 14 ~~(m) Ft~~	8.73	19.00	2.62
Other:			

Evidence of floating or suspended materials:	Some aquatic vegitation
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.13 2 8.10 3 8.04

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargrave

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Water Quality Monitoring Form

Station ID: TF-WCD-1	Date: 9-21-05	Time: 17:02
Project Name: Gasco	Project Number: 000029-02	
Coordinates Datum:		
Lat/Northing:	Long/Easting:	

Weather/River Stage/Flow Observations: 75°, sunny, and calm

Status/Description of Operation at Time of Sampling: Unloading

Depth to Bottom: 18.5 ~~(m) ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) ft~~	9.19	19.66	1.84
Depth 2: 9 ~~(m) ft~~	8.94	19.10	2.03
Depth 3: 17.5 ~~(m) ft~~	8.74	19.01	2.50
Other:			

Evidence of floating or suspended materials:	Some aquatic vegitation
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.03 2 8.05 3 8.03

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-21-05	Time: 17:18
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 70°, sunny, calm

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 24.5 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	9.26	19.63	1.58
Depth 2: 12 ~~(m)~~ Ft	8.56	19.04	2.16
Depth 3: 23.5 ~~(m)~~ Ft	8.79	18.98	2.37
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.04 2 8.04 3 8.04

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-21-05	Time: 17:31
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 70°, sunny, calm

Status/Description of Operation at Time of Sampling: loading trucks

Depth to Bottom: 24.5 ~~(m) ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) ft.~~	9.24	19.62	1.34
Depth 2: 12 ~~(m) ft.~~	8.67	19.01	2.57
Depth 3: 23.5 ~~(m) ft.~~	8.63	18.95	2.63
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.06 2 8.04 3 7.99

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCU-1		Date: 9-22-05	Time: 11:00
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 64°, calm, sunny

Status/Description of Operation at Time of Sampling: Loading Trucks

Depth to Bottom: 16 ~~(m) Ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) Ft~~	8.79	18.81	1.46
Depth 2: 8 ~~(m) Ft~~	8.57	18.62	2.09
Depth 3: 15 ~~(m) Ft~~	8.53	18.51	2.58
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 7.93 2 8.04 3 8.08

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargrave

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-22-05	Time: 10:20
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 62°, slight breeze, sunny

Status/Description of Operation at Time of Sampling: Loading Trucks

Depth to Bottom: 17 (m) ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ft.	8.67	18.70	1.78
Depth 2: 8.5 (m) ft.	8.47	18.68	1.70
Depth 3: 16 (m) ft.	8.43	18.65	1.87
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 7.87 2 7.99 3 8.03

C

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargnwill

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Water Quality Monitoring Form

Station ID: TF-WCD-2	Date: 9-22-05	Time: 10:35
Project Name: Gasco	Project Number:	
Coordinates Datum:		
Lat/Northing:	Long/Easting:	

Weather/River Stage/Flow Observations: 62°, slight breeze, sunny

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 24 (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ~~ft~~	8.91	18.78	1.92
Depth 2: 12 ~~(m)~~ ~~ft~~	8.57	18.62	2.02
Depth 3: 23 ~~(m)~~ ~~ft~~	8.56	18.32	1.82
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.90 2 8.05 3 8.04

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargunai

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-22-05	Time: 10:45
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 63°, sunny, slight breeze

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 24.5 ~~(m) ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) ft~~	8.71	18.83	1.97
Depth 2: 12 ~~(m) ft~~	8.66	18.64	1.81
Depth 3: 23.5 ~~(m) ft~~	8.56	18.60	1.93
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.93 2 8.05 3 8.04

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCU-1		Date: 9-22-05	Time: 14:08
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, sunny

Status/Description of Operation at Time of Sampling: Just started loading trucks

Depth to Bottom: 13.5 ~~(m)~~ ~~Ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ~~Ft.~~	8.87	19.27	1.64
Depth 2: 7 ~~(m)~~ ~~Ft.~~	8.69	19.14	1.66
Depth 3: 12.5 ~~(m)~~ ~~Ft~~	8.77	19.02	1.55
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.99 2 8.06 3 8.10

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargan.l

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-22-05	Time: 13:36
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, slight breeze, sunny

Status/Description of Operation at Time of Sampling: Temporarily stopped truck loading

Depth to Bottom: 15.5 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft.	8.69	19.28	2.01
Depth 2: 8 ~~(m)~~ ft.	8.84	19.25	1.76
Depth 3: 14.5 ~~(m)~~ ft	8.48	19.25	1.56
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.97 2 8.06 3 8.07

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargrove

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-22-05	Time: 13:45
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, sunny

Status/Description of Operation at Time of Sampling: Temporary lull in truck loading

Depth to Bottom: 14.5 (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	8.77	19.21	1.98
Depth 2: 7.5 ~~(m)~~ ft	8.56	19.18	1.83
Depth 3: 13.5 ~~(m)~~ ft.	8.69	19.18	1.48
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.98 2 8.06 3 8.06

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargquail

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-22-05	Time: 13:54
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations:

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 25 ~~(m)~~ ~~Ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ~~Ft~~	8.83	19.28	1.38
Depth 2: 12.5 ~~(m)~~ ~~Ft~~	8.86	19.13	1.63
Depth 3: 24 ~~(m)~~ ~~Ft~~	8.78	19.03	1.64
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 7.96 2 8.07 3 8.09

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquard

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Water Quality Monitoring Form

Station ID: TF-WCU-1		Date: 9-22-05	Time: 16:45
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, 30% thin overcast

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 13 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	9.26	19.56	1.61
Depth 2: 6.5 ~~(m)~~ ft	8.91	19.49	1.43
Depth 3: 12.0 ~~(m)~~ ft	8.78	18.95	2.15
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.17 2 8.18 3 8.16

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargman

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-22-05	Time: 16:11
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, ~30% thin, high overcast

Status/Description of Operation at Time of Sampling: Moving material on barge, no trucks

Depth to Bottom: 20 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	8.85	19.45	1.72
Depth 2: 10 ~~(m)~~ ft	8.91	19.42	1.57
Depth 3: 19 ~~(m)~~ ft	8.64	18.80	2.51
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.02 2 8.10 3 8.09

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargwood

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-22-05	Time: 16:23
Project Name: Gasco		Project Number: 000029-D2	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, ~30% thin, high overcast

Status/Description of Operation at Time of Sampling: Moving material on barge, waiting for trucks

Depth to Bottom: 23.5 (m)

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft.	8.98	19.49	2.10
Depth 2: 12 ~~(m)~~ Ft.	8.85	18.95	1.98
Depth 3: 22.5 ~~(m)~~ Ft.	8.60	18.85	2.27
Other:			

Evidence of floating or suspended materials:	None
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.03 2 8.10 3 8.07

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargquail

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Water Quality Monitoring Form

Station ID: TF-WCD-3	Date: 9-22-05	Time: 16:32
Project Name: Gasco	Project Number: 00029-02	
Coordinates Datum:		
Lat/Northing:	Long/Easting:	

Weather/River Stage/Flow Observations:
74°, calm, ~30% Thin, high overcast

Status/Description of Operation at Time of Sampling:
Loading trucks

Depth to Bottom: 25 ~~(m)~~ ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	8.94	19.47	1.79
Depth 2: 12.5 ~~(m)~~ ft	8.64	19.10	1.48
Depth 3: 24 ~~(m)~~ ft.	8.46	18.78	2.20
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:
pH: 1 8.04 2 8.13 3 8.03

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargman

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Water Quality Monitoring Form

Station ID: TF-WCU		Date: 9-23-05	Time: 0858
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 62°, ~5 mph wind from north 50% high, thin overcast

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 15 ~~(m) Ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) Ft~~	8.43	18.38	3.05
Depth 2: 7.5 ~~(m) Ft~~	8.30	18.39	2.73
Depth 3: 14 ~~(m) Ft~~	8.54	18.34	2.84
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	River appears less clear
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	River level appears 6" to 12" higher

Comments:

pH: 1 7.84 2 7.94 3 7.94

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-23-05	Time: 0827
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 62°, 5-8 mph, 70% overcast wind from northwest

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 18 ~~m~~ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~m~~ft	8.48	18.50	2.77
Depth 2: 9 ~~m~~ft.	8.38	18.52	2.73
Depth 3: 17 ~~m~~ft	8.45	18.52	2.86
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	River appears less clear Than on 9-22
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	River levels appear to be 6" to 12" higher Than on 9-22.

Comments:

pH: 1 7.80 2 7.93 3 7.92

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargrail

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-23-05	Time: 0839
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 62°, 0-5 mph wind from north 70° overcast

Status/Description of Operation at Time of Sampling: Loading Trucks

Depth to Bottom: 25 ~~(m) ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) ft~~	8.57	18.52	2.83
Depth 2: 12.5 ~~(m) ft~~	8.32	18.53	2.93
Depth 3: 24 ~~(m) ft~~	8.41	18.52	2.50
Other:			

Evidence of floating or suspended materials:	~~None~~ Some floating natural debris.
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	River appears to be less clear than on 9-22.
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	River level appears to be 6"-12" higher than on 9-22

Comments:

pH: 1 7.84 2 7.95 3 7.92

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-23-05	Time: 08:48
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 62°, 5-8 mph wind from northwest 60% overcast

Status/Description of Operation at Time of Sampling: Loading trucks, untarping lourge

Depth to Bottom: 25 ~~(m)~~ Ft

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ Ft	8.49	18.51	2.70
Depth 2: 12.5 ~~(m)~~ Ft	8.32	18.51	2.72
Depth 3: 24 ~~(m)~~ Ft	8.40	18.50	2.65
Other:			

Evidence of floating or suspended materials:	Some floating natural debris, (Cottonwood seeds, chips, algae)
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	River appears less clear than on 9-22
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	River level appears to be 6"-12" higher than on 9-22.

Comments:

pH: 1 7.84 2 7.94 3 7.92

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargquail

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Water Quality Monitoring Form

Station ID: TF-WCU-1		Date: 9-23-05	Time: 14:40
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, partly cloudy south, clear north

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 15.5 ~~(m) Ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) Ft.~~	9.09	18.89	1.85
Depth 2: 7 ~~(m) Ft~~	8.92	18.69	2.12
Depth 3: 14.5 ~~(m) Ft.~~	8.25	18.58	2.41
Other:			

Evidence of floating or suspended materials:	Algae
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	Wind stopped

Comments:

pH: 1 8.02 2 8.10 3 8.16

Recorded by: Craig Wells

Other Monitoring Personnel: Kim Rodman Sorensen

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-23-05	Time: 1318
Project Name: Grasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 70° 5-8 mph breeze from east Scattered clouds

Status/Description of Operation at Time of Sampling: Loading trucks

Depth to Bottom: 16 ~~(m)~~ ft.

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	9.03	18.69	2.06
Depth 2: 8 ~~(m)~~ ft	8.99	18.67	2.08
Depth 3: 15 ~~(m)~~ ft	8.98	18.66	2.03
Other:			

Evidence of floating or suspended materials:	none
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	First time wind has been out of the east since project started

Comments:

pH: 1 7.98 2 8.04 3 8.04

Recorded by: Craig Wells Other Monitoring Personnel: Kim Radman, Steve Ter

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-23-05	Time: 1345
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 70°, wind ~5 mph from east scattered clouds.

Status/Description of Operation at Time of Sampling: Temporary break in operations

Depth to Bottom: 24 ~~(m)~~ ft.

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft	9.13	18.70	1.69
Depth 2: 12 ~~(m)~~ ft	9.07	18.65	2.09
Depth 3: 23 ~~(m)~~ ft	9.02	18.62	1.95
Other:			

Evidence of floating or suspended materials:	Some algae
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	None
Discoloration and Turbidity:	None
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.02 2 8.05 3 8.04

Recorded by: Craig Wells Other Monitoring Personnel: Kim Rodman Sevenson

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-23-05	Time: 14:05
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations:
Clouds south, 74°, slight breeze from east, scattered clear north,

Status/Description of Operation at Time of Sampling:
Temporary break.

Depth to Bottom: 25 ~~(m)~~ ft.

	Dissolved Oxygen (mg/L)	Temperature (C) ~~18.85~~	Turbidity (NTU) ~~1.92~~
Depth 1: 1 ~~(m)~~ ft.	9.06	18.80	1.92
Depth 2: 12.5 ~~(m)~~ ft.	9.03	18.66	1.64
Depth 3: 24 ~~(m)~~ ft.	9.05	18.64	1.78
Other:			

Evidence of floating or suspended materials:	Some algae & cottonwood seeds
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	Wind stopped

Comments:
pH: 1 7.99 2 8.07 3 8.06

Recorded by: Craig Wells Other Monitoring Personnel: Kim Rodman Sevensen

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Water Quality Monitoring Form

Station ID: TF-WCU		Date: 9-23-05	Time: 17:00
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, slight breez from north few clouds to southeast.

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 14 ~~(m)~~ ft.

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft.	9.12	19.16	1.98
Depth 2: 7 ~~(m)~~ ft.	8.86	18.90	2.15
Depth 3: 13 ~~(m)~~ ft.	8.96	18.71	2.75
Other:			

Evidence of floating or suspended materials:	algae
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.08 2 8.16 3 8.16

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail

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Water Quality Monitoring Form

Station ID: TF-WCD-1		Date: 9-23-05	Time: 16:20
Project Name: Gasco		Project Number: 00079002	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, calm, Few Clouds

Status/Description of Operation at Time of Sampling: Moving material on barge

Depth to Bottom: 17.5 ~~(m) ft.~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m) ft.~~	9.02	19.18	2.16
Depth 2: 9 ~~(m) ft.~~	8.73	18.89	2.09
Depth 3: 16.5 (m)	8.73	18.78	2.33
Other:			

Evidence of floating or suspended materials:	algae
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none (maybe Algae)
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.06 2 8.10 3 8.07

Recorded by: Craig Wells Other Monitoring Personnel: Steve Hargrave

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Water Quality Monitoring Form

Station ID: TF-WCD-2		Date: 9-23-05	Time: 16:36
Project Name: Gasco		Project Number: 000029-03	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, slight breeze from east, few clouds south, clear north

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 24.5 ~~(m)~~ ft.

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 ~~(m)~~ ft,	9.13	19.19	1.99
Depth 2: 12 ~~(m)~~ ft,	9.02	18.79	2.31
Depth 3: 23.5 ~~(m)~~ ft,	8.74	18.71	2.80
Other:			

Evidence of floating or suspended materials:	Algae
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.07 2 8.11 3 8.05

Recorded by: Craig Wells Other Monitoring Personnel: Steve Marquail

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Water Quality Monitoring Form

Station ID: TF-WCD-3		Date: 9-23-05	Time: 16:50
Project Name: Gasco		Project Number: 000029-02	
Coordinates Datum:			
Lat/Northing:		Long/Easting:	

Weather/River Stage/Flow Observations: 74°, slight breeze from northwest
Few clouds to southeast

Status/Description of Operation at Time of Sampling:

Depth to Bottom: 25 (m) ~~ft~~

	Dissolved Oxygen (mg/L)	Temperature (C)	Turbidity (NTU)
Depth 1: 1 (m) ~~ft~~	9.01	19.14	2.09
Depth 2: 12.5 (m) ~~ft~~	8.65	18.82	2.13
Depth 3: 24 (m) ~~ft~~	8.88	18.69	2.90
Other:			

Evidence of floating or suspended materials:	algae
Evidence of oil/hydrocarbon sheen: (Thickness, contiguous?, size, rate of dissipation)	none
Discoloration and Turbidity:	none
Velocity at stated depth:	
Color:	
Odor:	
Other Observations:	

Comments:

pH: 1 8.06 2 8.12 3 8.06

Recorded by: Craig Wells Other Monitoring Personnel: Steve Harquail