LONGVIEW FIBRE COMPANY
MAIN OFFICE AND MILLS • LONGVIEW, WASHINGTON 98632
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RELEASE # 3449

October 25, 1995

Mr. Dan Cargill
Northwest Regional Office
Washington State Department of Ecology
4350 150th Avenue N.E.
Redmond, Washington 98052

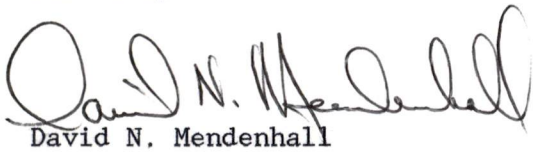
Dear Mr. Cargill:

Enclosed you will find the final report on the "Investigation and Remediation of a Diesel Fuel Leak at the Longview Fibre Company Seattle Box Plant". This report was prepared by CH2M Hill of Bellevue, Washington.

The report was written as a summery of all the events and activities that have taken place at our Seattle facility since August of 1987 when three underground storage tanks were removed from the ground and some petroleum contamination was discovered in the groundwater. After the cleanup of this material had been accomplished another release was discovered during January of 1991. The subsequent cleanup activities of this contamination is also documented in the report. As recommended in the report the first set of groundwater samples has been taken from monitoring wells MW-2 and MW-3. We are waiting the results of those samples, and another set will be taken before the end of the year. If these two sets of sample results come back with results that are lower than the action levels required by the Department of Ecology we will consider these UST sites closed and decommission the monitoring wells as per Ecology requirements. If the levels are not less than the State standards we will have to determine the best course of action by meeting with Ecology and our consultant.

If you have any comments or questions please call either Mr. Jeff Randall at CH2M Hill's office in Bellevue (206) 453-5000 or myself.

Sincerely,



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RGG/ WJD/ADW/DNM

Investigation and Remediation of Diesel Fuel Leak at the Longview Fibre Company Seattle Plant Seattle, Washington

Prepared for
Longview Fibre Company
Longview, Washington

Prepared by
CH2M HILL
Bellevue, Washington

April 1995

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1. BACKGROUND INFORMATION

Three underground storage tanks (USTs) were removed at the Longview Fibre (LFC) Seattle plant in August 1987 (CH2M HILL, 1987). One of the three USTs was determined to have leaked. Three monitoring wells were installed near the removed tanks in October 1987 to assess potential groundwater quality impacts (CH2M HILL, 1988). The locations of the removed USTs and the three monitoring wells are shown in Figure 1.

Following recovery of residual floating hydrocarbons in the vicinity of monitoring well MW-3 on the west side of the plant building in 1988 and 1989, regular measurement and sampling of the three monitoring wells was initiated in March 1990. The goal of this post-UST removal monitoring program was to confirm the decline of total petroleum hydrocarbons in groundwater to concentrations below Ecology cleanup levels (CH2M HILL, 1990).

A 5,000-gallon above-ground storage tank (AST) was installed in 1990 to store No. 2 diesel as standby fuel for the plant boiler, which was served by interruptable natural gas. This new tank replaced the UST that was formerly located near the east side of the plant building (Figure 1).

2. DISCOVERY OF DIESEL RELEASE

During the routine monitoring of the three onsite monitoring wells on January 4, 1991, LFC staff observed that the water-level probe used in MW-1 was covered with petroleum product. This monitoring well had always shown clean water prior to this date. An overflow during filling of the AST was initially suspected as the source of the release. The AST had been filled after installation and was used for first time in December 1990, when gas service to the plant was interrupted and the boiler was switched to fuel oil. Four fuel deliveries were made in December 1990, and visual evidence of spillage on the outside of the tank and surrounding snow-covered ground was present.

Product recovery from monitoring well MW-1 was initiated immediately by LFC staff on January 4, 1991 using pumping equipment on hand from prior fuel recovery efforts at MW-3. Recovered product was stored in 55-gallon drums. LFC notified Ecology of the release on January 7, 1991 and updated Ecology on January 11th regarding the product recovery efforts and source investigation.

3. FIELD INVESTIGATION

Test pit excavations were initiated on January 21, 1991 to assess the source and extent of product. Representatives of LFC and CH2M HILL were present when the excavations were made. Visible product saturation and seepage from test pit walls was observed at depths of 9 to 10 feet below grade (on top of the water table), along with a strong diesel fuel odor. Upon completion, product rapidly accumulated on top of the water table at the bottoms of the test pits. The quantity and depth distribution of the product observed in these test pits

indicated a source other than surface spillage was likely. Laboratory testing of the product confirmed it to be diesel fuel.

Given the extent of product observed in the initial test pits, the decision was made to continue tracking the product with additional test pits. Product recovery was initiated by LFC by means of a temporary perforated plywood box set in one of the test pits. LFC subsequently perforated 10-foot lengths of 36-inch diameter corrugated steel culverts with drilled holes, and the backhoe contractor installed these open-ended pipes in test pits to enhance product recovery.

The backhoe work was completed on February 7, 1991, with a total of nine test pits excavated and equipped with perforated culverts (designated as S-1 through S-9 in Figure 2). Residual soils from the test pit excavations were stockpiled and hauled to an asphalt plant for disposal by the contractor.

4. INVESTIGATION OF PRODUCT RELEASE MECHANISM

With the preliminary results of the field investigation indicating a likely product release source other than a surface spill, LFC initiated an assessment of the AST and associated fuel lines in the vicinity of the boiler. In the process of inspecting the boiler connections, a fuel bypass recirculating system was discovered consisting of a pump, a pressure-relief valve, and a discharge line that was formerly connected to the UST that was removed in 1988. The bypass piping system connection to the boiler was still active, allowing flow of fuel from the boiler into the bypass pipe.

Pressure testing of the bypass line indicated that the end formerly connected to the removed UST was not capped. As a result, when the boiler was operated using diesel fuel beginning in December 1990, diesel was pumped out the bypass line into the ground. This mechanism was determined to be the source of the diesel release.

LFC conducted boiler tests in February 1991 to measure the flow rate range of the recirculation pump and to estimate the volume of diesel pumped into ground. The amount of diesel released was estimated on the basis of the following information (Longview Fibre Company, 1991):

Duration of boiler operation

150 hours, between December 18 and 28, 1990

Range of recirculating line flow rates

0.66 gallons per minute @ 23 psi backpressure to 0.87 gallons per minute @ 0 psi backpressure

Estimated range of diesel released through recirculating line

150 hr x 60 min/hr x 0.66 gal/min = 5,940 gallons
150 hr x 60 min/hr x 0.87 gal/min = 7,830 gallons

The five pipes that formerly connected the boiler to the boiler-fuel (the recirculation pipe, two product delivery pipes, and two steam-trace pipes) were subsequently disconnected from the boiler and capped outside the building wall by LFC.

5. PRODUCT RECOVERY

As noted in Section 2 of this report, LFC started recovering product from monitoring well MW-1 on the day the product release was discovered (January 4, 1991). As the culvert product recovery sumps were installed in the nine test pits, LFC began measuring groundwater levels and product thickness, pumping diesel from each sump, and recording the cumulative amount of product recovered. Data sheets compiled by LFC for the nine test-pit culvert sumps are included in Appendix A.

Product recovery from the sumps was conducted by LFC from February 1991 through June 1992. LFC fabricated a system of suction pipes in individual sumps connected to a header and suction pump. The majority of diesel was observed in sump S-3 and S-4, closest to the uncapped recirculation pipe, and the least amount of diesel was present in sumps 1 and 6 (see Figure 2).

Recovered product was initially collected in 55-gallon drums. Above-ground holding tanks were subsequently used to allow storage of greater product volumes and more efficient separation of oil and water. Recovered diesel was taken offsite by an oil service company retained by LFC. Water drained from the bottom of the storage tank was discharged to the sanitary sewer system with approval from Ecology.

Aggregate quantities of diesel recovered from all of the sumps were recorded by LFC and are summarized in Table 1. LFC records (Longview Fibre Company, 1993) indicate that a total of 4,200 gallons of recovered diesel were transported from the area of the release through June 1992.

6. CONTAMINATED SOIL REMEDIATION

By June 1992 quantities of diesel in the sumps had diminished to intermittent thin product layers and sheens. Also at this time, LFC needed to restore the diesel release area of the plant site for use as a truck staging and unloading area. Plans were developed for removal of the sumps, excavation and offsite disposal of diesel-contaminated soils, placement of compacted backfill, and installation of new pavement.

The excavation plan required consideration of the following physical constraints: a 10-foot offset from the center of the railroad tracks bounding the release site on the east and south (required by the Union Pacific Railroad); the wall of the LFC plant building on the west; the foundation of the large starch silo on the northwest; and the edge of pavement of Fidalgo Street on the north (see Figure 2).

The remediation plan was implemented between October 13 and 15, 1992, and consisted of the following:

- Draining and temporary removal of the 5,000-gallon diesel AST
- Demolition and removal of the concrete base/containment of the AST
- Removal and disposal of the product recovery culverts from the test pits and of monitoring well MW-1, to allow access for diesel-contaminated soil removal
- Excavation of surficial (uncontaminated) and underlying diesel-contaminated soils to the water table (approximately 10 feet below grade) within the area bounded by the physical constraints (Union Pacific Railroad tracks, LFC plant building wall, LFC starch silo foundation, and edge of Fidalgo street pavement) (see Figure 2)
- Segregation of excavated soils into clean and contaminated piles on the basis of field PID and visual observations
- Covered storage of contaminated soils
- Characterization of stockpiled soils for offsite disposal (contaminated soils) or for use as backfill (clean soils)
- Placement and compaction of onsite and imported backfill in the excavation
- Restoration of the above-ground storage tank, tank base, and surrounding pavement
- Transport and disposal of diesel-contaminated soils

Church Construction of Seattle conducted the excavation, stockpiling, backfill, and above-ground tank work. Rolloff containers, transportation, and disposal of diesel-contaminated soils at the Roosevelt Regional Landfill were provided by Regional Disposal Company, Seattle. A total of 1,000 tons of diesel-contaminated soil were disposed, as documented by the certification included in Appendix B.

Soil samples from the contaminated and clean stockpiles were collected for WTPH-diesel laboratory analysis. The two samples from the contaminated stockpile had concentrations of 9,800 and 9,200 mg/kg diesel dry weight (moisture contents of 81.1% and 78.7%, respectively). The sample from the clean stockpile had a concentration of 8.9 mg/kg diesel (moisture content of 85.4%). The laboratory reports are included in Appendix C.

7. COMPARISON OF PRODUCT RELEASED TO PRODUCT RECOVERED

The volumes of diesel recovered (free product and contaminated soil) versus diesel released were estimated as follows:

Estimate of free product recovered

4,420 gal (see Section 5 of this report)

Estimate of product recovered in soil

average TPH-Diesel concentration in soil = 9,500 mg/kg (see Section 6 of this report)

1,000 tons wet x 80% solids x 9,500 ppm dry x 2,000 lb/ton = 15,200 lb TPH-D

15,200 lb TPH-D / (8.33 lb/gal x 0.85 SG) = 2,147 gallons

Estimate of total product recovered, free product + soil

4,420 gallons + 2,147 gallons = 6,567 gallons

Estimate of product released

5,940 to 7,830 gallons (see Section 4 of this report)

8. STATUS OF POST-UST REMOVAL GROUNDWATER MONITORING PROGRAM

As discussed in Section 1 of this report, regular monitoring of the three onsite monitoring wells was initiated in March 1990 to complete the post-UST removal investigation, with the goal of confirming the absence of or the decline of total petroleum hydrocarbons in groundwater to concentrations below Ecology cleanup levels. Table 2 presents a summary of product observations performed by LFC staff between March 1990 and June 1992.

The data in Table 2 show no visual detections of product in well MW-2 for the period of record. Well MW-3, where product recovery had previously been implemented, showed observable or measurable product through August 1991, followed by three consecutive events of no visual product detections through June 1992. Data for well MW-1 show no visual product detections prior to the diesel release in December 1990, and measurable product thicknesses that declined through June 1992 as the diesel recovery operation was implemented by LFC.

During the soil remediation work in the diesel release area, monitoring well MW-1 was removed, as described above in Section 6. Monitoring wells MW-2 and MW-3 have not been monitored since June 1992.

9. CONCLUSIONS

- A large quantity of diesel fuel was released into the soil at the Longview Fibre Seattle plant in December 1990, through a recirculation pipe that connected the boiler to the former boiler-fuel UST. This pipe was not capped or disconnected from the boiler when the UST was removed in 1987. Boiler fuel pump measurements by LFC indicate a likely range of product loss of 5,940 to 7,830 gallons. LFC product recovery began in January 1991, immediately upon detection of the release.

- The estimated quantity of diesel recovered by LFC from monitoring well MW-1 and from product recovery sumps (perforated culverts installed in test pits) totaled 4,420 gallons. An estimated 2,147 gallons of diesel was removed with contaminated soil excavated from the release site in October 1992, resulting in a total estimated recovered diesel volume of 6,567 gallons.

- Data from LFC cleanup indicate that the maximum practical amount of product recoverable by extraction and excavation has been removed from the site. The estimated volume of diesel recovered falls between the upper and lower range of estimated diesel released.

- The post-UST removal monitoring program involving monitoring wells MW-2 and MW-3 at the LFC Seattle plant showed no visual evidence of petroleum product during the last three recorded monitoring events (November 1991, and February and June 1992).

10. RECOMMENDATIONS

Resolve the regulatory status of the former UST locations near monitoring wells MW-2 and MW-3 by collecting water samples from these wells during two successive quarterly monitoring events. Water samples should be tested for WTPH-D, WTPH-G, and BTEX. If concentrations of these constituents for both events are less than action levels (Washington Department of Ecology, 1992), the UST sites should be declared closed and monitoring wells MW-2 and MW-3 should be decommissioned per Ecology requirements.

11. REFERENCES

CH2M HILL. 1987. Report on the Removal of Underground Storage Tanks, Longview Fibre Company, Seattle, Washington Facility. Prepared for Longview Fibre Company, Longview, Washington. November 1987.

CH2M HILL. 1988. Report on Remedial Actions, Longview Fibre Company, Seattle Washington. Prepared for Longview Fibre Company, Longview, Washington. February 1988.

CH2M HILL. 1990. Summary Report of Recent Field Investigation Results, Seattle Plant. Letter report submitted to Longview Fibre Company, Longview, Washington. January 26, 1990.

Longview Fibre Company. 1990. Letter from Gary Smith to Barbara Trejo, Department of Ecology. July 23, 1990.

Longview Fibre Company. 1991. Longview Fibre Company Interoffice Memorandum from Gary Smith to Dave Mendenhall. February 7, 1991.

Longview Fibre Company. 1992. Letter from Gary Smith to Martha Turvey, Department of Ecology. July 1, 1992.

Longview Fibre Company. 1993. Personnel communication with Jim Mantell, LFC Seattle plant. June 3, 1993.

Washington Department of Ecology. 1992. Guidance for Site Checks and Site Assessments for Underground Storage Tanks. October 1992.

Table 1. Summary of Diesel Recovery by Date

Date	Cumulative Diesel Recovered, gallons
1-9-91	13.5
1-22-91	55
1-31-91	1,100
2-7-91	2,500
2-13-91	3,100
2-18-91	4,000
6-3-92	4,420

Data provided by Longview Fibre Company Seattle Plant

Table 2. Summary of Product Observations in Monitoring Wells, March 1990 through June 1992.

Date	Visual Detection of Product or Measured Product Thickness		
	MW-1	MW-2*	MW-3
3-12-90	none	none	small product droplets
3-23-90	---	---	slight product sheen
4-5-90	---	---	slight product sheen
5-5-90	---	---	slight product sheen
6-2-90	---	---	small product droplets
7-23-90	none	none	removed 7.5 mL of product
8-29-90	none	none	some product
11-16-90	none	none	small amount of product; smell noted
1-4-91	3.87 ft	none	none; slight smell
2-24-91	0.55 ft	none	none
5-7-91	0.16	none	none
8-22-91	0.575 ft	none	0.125 ft
11-15-91	0.31 ft	none	none
2-10-92	0.08 ft	none	none
6-10-92	0.04 ft	none	none

* Well MW-2 pumped prior to checking for product, per CH2M HILL, 1990.

--- = Not Measured

Data from Longview Fibre Company (1990 and 1992)

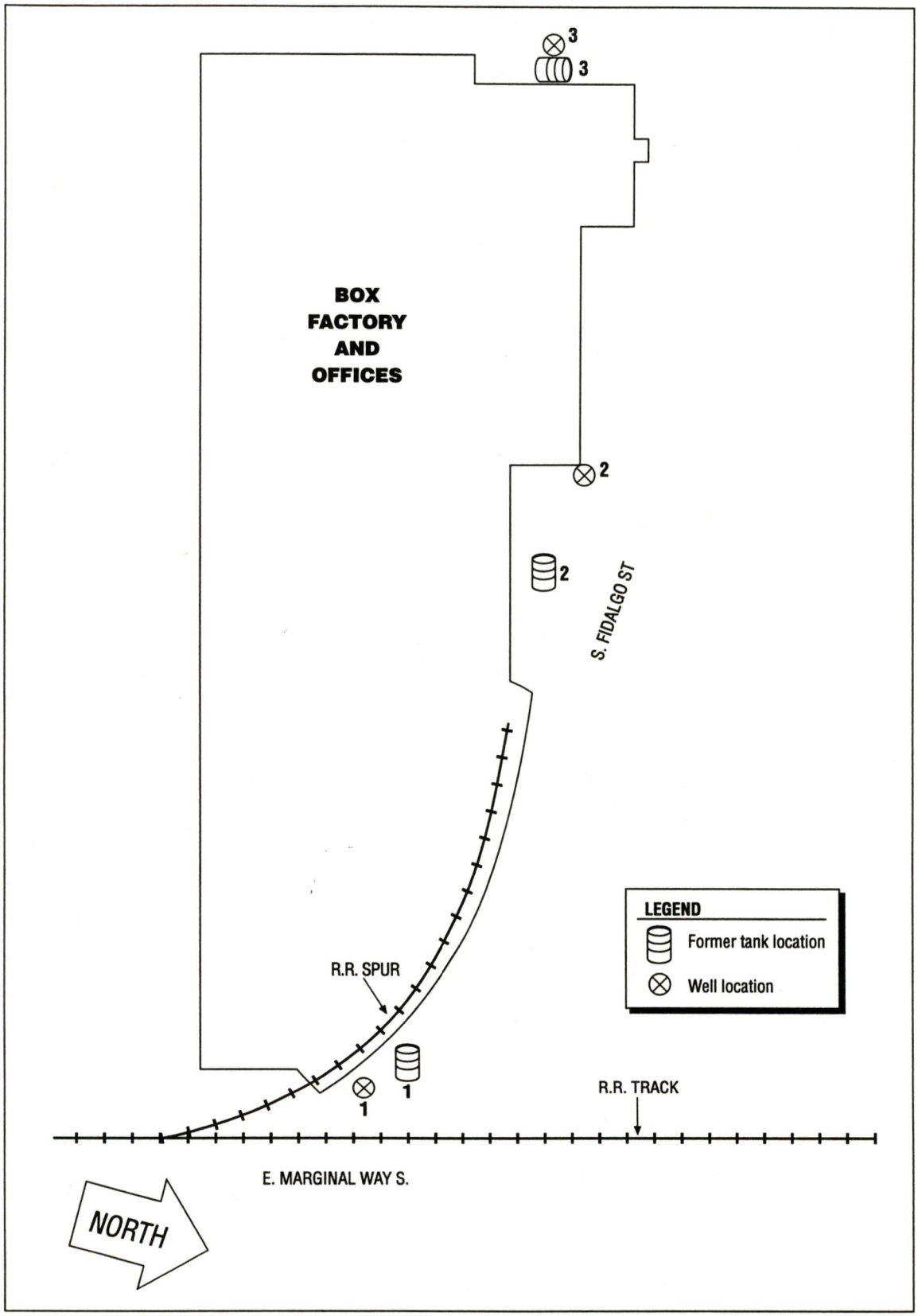

FIGURE 1
Plant Map
LONGVIEW FIBRE COMPANY
SEATTLE, WASHINGTON

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Appendix A

Product Level Measurements and Observations Performed by Longview Fibre

7.5

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LONGVIEW FIBER COMPANY

Water Level Log
Seattle, WA Plant

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MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
2	8-8-89	9:50		5'-0"	Ø	Ø	JAP
3	8-8-89	10:15		6'-2.2"	.09 ft.		JAP
1	8/8/89	1056		9.06'	Ø	Ø	SLB
2	8/15/89	10:45		5'03"	Ø	Ø	BCRG
1	8/15/89	11:00		8.97'	Ø	Ø	PAD
3	8/15/89	11:20		~~7.09~~ 5.58'	1.51'		CRG
1	8-25-89	8:06	0.0	9.00'	Ø	Ø	SLB
2	8-25-89	8:31	0.0	5.00'	Ø	Ø	SLB
3	8-25-89	8:44	0.0	5.70'	0.10	5 Gal.	SLB
2	9-7-89	7:35	6.0	5.35'	Ø	Ø	SLB

LONGVIEW FIBER COMPANY

Water Level Log
Seattle, WA Plant

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MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
~~2/2/90~~							
#3	2/2/90	3:30 PM		4.9'	Not Measurable or Visual - Can get Slight Sheen by Pouring out on to concrete		GS
#3	3/12/90	3:50 PM		5.55'	SAME AS ABOVE - some Tiny Droplets Visible Bailed 10 TIMES		GS
#2	3/12/90	4:05 PM		4.475'	NONE Clear WATER	Some Brown Fibrous material	GS
#1	3/12/90	4:11 PM		8'	NONE very Clear	Looks Like Drinking water	GS
#3	3/23	9:00 AM		5.60'	Clear with Slight Sheen		GS
#3	4/5/90			Depth Equal. Not working	Clear with Slight Sheen.		NLB
#3	5/5/90	11:AM		5.70'	Clear - Slight Sheen when poured out on concrete.		GS
#3	6/2/90	3:PM		5.60'	Some small droplets of Product on top of surface		GS
#3	7/28/90	1:50 pm		5.75'	SOME Product in well Measured 7.5 ml of Product Removed & SAVED	SAMPLE	GS

LONGVIEW FIBER COMPANY

Water Level Log
Seattle, WA Plant

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MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	7/23/90	2:15 PM		8.75'	Clear water SAVED water Sample	None	GS
#2	7/23/90	2:30 PM		4.83'	Turbid water SAVED water Sample	None	GS
#2	7/23/90	3:20		9.0'	Pumped well for 50 minutes Approx 40 Gal of water removed - No Product SAVED WATER SAMPLE		GS
#1	8-29-90	8:30 AM		8.95'	CLEAN SAVED SAMPLE		MJA
#3	8-29-90	9:15 AM		5.7'	SOME PRODUCT TURBID WATER SAVED SAMPLE		MJA
#2	8-29-90	8:20 AM		5'	TURBID WATER SAVED SAMPLE		MJA
#2	8-29-90	9:30 AM		5.15'	PUMPED WELL FOR 20 MINS APPROX 5 GALS WATER REMOVED - SAMPLE TAKEN		MJA
#1	11-16-90	4:15 PM		8.25'	WATER Very Clear Sample Taken		MJA/GS
#2	11-16-90	5:30PM		5.4'	Pumped well FOR one Hour - Sample Clear Before & AFTER		MJA/GS
#3	11-16-90	5:15 PM		5.6'	SMALL AMOUNT OF Product on TOP of Sample - Smells		MJA/GS

LONGVIEW FIBER COMPANY
Water Level Log
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MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	1-4-91	12:35 PM		11.2'	3.87' Found Fresh Diesel IN well		GS.
#2	1-4-91	1:PM	12:22	→4.55' / 10.2 AFTER Pump	WATER SAMPLE Clear Before & AFTER Pump		GS
#3	1-4-91	1:40 PM		5.4'	WATER SAMPLE Clear NO VISIBLE Product SLIGHT SMELL		GS.
#1	1-5-91	12: Noon		w=11.25' with 3.95' Product	Pumped well ½hr - water came up TO 8.8'		GS
#1	1-5-91	2:15 PM		w = 9.8' Product 1.8'			GS
#1	1-6-91	10:15 AM		w = 11.4' Product 5.65'	Pumped well 55 minutes		GS
#1	1-7-91	2:15 PM		water 10.9' Product 3.25'	Pumped well one hour.		GS
#1	1-8-91	12:25 AM		w = 11.95' Product = 2.8'	Pumped well 10 minutes		B/ N/ LB
#1	1-9-91	12 Noon		w = 10.9' Product = 3.15'	Pumped well 10 min.		GS
#1	1-9-91	3:50 PM		w = 9.8' Prod. = 2.1'	Pumped well 10 min water level 8.2' AFTER Pumping		GS
#1	1-10-91	11:20 AM		w - 10.7' Prod 3.0'	Pumped well 10 min		GS
#1	1-10-91	2: PM		w - 9.5' Prod - 1.7'	Pumped 10 min — water level AFTER pumping 8.25.		GS
#1	1-12-91	11:20 AM		water 9.9' Prod 2.8'	Pumped 10 min — AFTER Pump w = 8.9'		GS

LONGVIEW FIBER COMPANY
Water Level Log
Seattle, WA Plant

MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	1-14-91	2:05 PM		12.1'	5.1'	Pumped 10 min	NLB
#1	1-16-91	1:20 PM		10.3'	2.9'	Pumped 10 min	GS
	1-16-91	Pumped OIL OUT OF SAND TRAP					GS
#1	1-18-91	1:25 pm		11.2'	3.2'	Pumped well down	GS
#1	1-21-91	8:30 AM		11.0'	3.4'	Began digging Pit	GS
#1	1-22-91	Dug Pit South side of well to Stand Pit trap Depth down to 8½-9' - Removed 3 @ 55gal Drums Product					GS
#1	1-23-91	9:30 AM		10.25'	2.4'	REMOVED 6 BARRELS @ 55 GALS	GS
#1	1-24-91	9:45 AM / 11:12 AM		10.2' / 10.1'	2.5' / 2.3'	@ 11:12 AM REMOVED 4 BARRELS @ 55 GALS	GS
#1	1-25-91	12:00 NOON		9.9'	2.5'	REMOVED 3 BARRELS @ 55 GALS	GS
#1	1-26-91	9:00 AM / 4:30 PM		10.1' / 9.8'	2.2' / 2.0'	@ 4:30 PM REMOVED 3 BARRELS @ 55 GALS	GS
#1	1-27 91	9:05 AM / 3:30 PM		10.0' / 9.7'	2.15' / 1.9'	@ 3:30 PM REMOVED 3 BARRELS @ 55 GALS	GS
#1	1-28 91	9:05 AM / 3:30 PM		10.0' / 9.5'	2.1' / 1.7'	@ 3:30 PM REMOVED 3 BARREL @ 55 GALS	
#1	1-29-91	4:05 PM		9.6'	1.7'	REMOVED 1 BARREL @ 55 GALS	
#1	1-30-91	4:00 PM		9.7'	1.7'	REMOVED 1 BARREL @ 55 GALS	
#1	1-31-91	8:00 AM		9.7'	1.7'		
#1	2-1-91						
#1	2-2-91	8:40 AM		9.3'	1.5'		

LONGVIEW FIBER COMPANY
Water Level Log
Seattle, WA Plant

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MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	2-3-91	10:00 AM		8.85'	1.0'		
#1	2-4-91	3:20 PM		8.6'	0.9'		"
#1	2-5-91	9:40 AM		8.45	0.9		"
#1	2-6-91	10:55 AM		8.35'	0.7'		"
#1	2-7-91			8.45'	.75'		"
#1	2-8-91			8.95'	.7'		"
#1	2-9-91	10:00 AM		8.75'	.65'		"
#1	2-10-91	9:00 AM		8.80'	.65'		"
#1	2-11-91	3:30 PM		8.45'	.55'		"
#1	2-12-91	6:00 PM		8.5'	.65'		"
#1	2-13-91	1:00 PM		8.5'	.75'		"
#1	2-14-91	1:10 PM		8.4'	.85'		"
#1	2-15-91	12:15 PM		8.25	.65		"
#1	2-16-91	10: AM		8.3'	0.60		"
#1	2-18-91	8: AM		8.4	0.40		"
#1	2-20-91	10:30 AM		8.25	0.75		"
#1	2-22-91	3:40 PM		8.7'	?		MTA
#1	2-23-91	9: AM		8.3'	0.60'		

LONGVIEW FIBER COMPANY
Water Level Log
Seattle, WA Plant

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NITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	2-24-91	10:AM		8.3'	0.55'		CS
#2	2-24-91	1:30PM		4.4	—	Before Pumping	Sample clear
"	"	2:50		8.0	Clear Sample	After Pumping	CS
#3	2-24-91	3:PM		5.3	Clear Sample	—	CS
#1	2-25-91	8:50AM		8.4	0.7	—	CS
#1	3-7-91	3:PM		8.15	0.75	—	CS
#1	3-18-91	8:30AM		8.10	0.50	—	CS
#1	3-22-91	10:30AM		8.60	0.50	—	R.P.
#1	4-12-91	12:21		8.50	0.75	—	CS
#1	4-29-91	1:PM		8.90	0.80	Pumped all Product From well	CS
#1	4-30-91	8:30 AM		8.20	0.05	Pump all Product	JM
#1	5-1-91	8:00AM		8.20	0.05	Pumped all Product	JM
#1	5-2-91	8:45		8.20	—	Pump Well	JM
#1	5-3-91	9:15		8.275	—	Baled out well	JM
#1	5-6-91	10:30		8.525	.45	Pumped out well	JM
#1	5-7-91	8:15		8.35	.16	Pumped out well	JM
2	5-7-91	1:45		4.5	—	Before Pumping	JM

LONGVIEW FIBER COMPANY
Water Level Log
Seattle, WA Plant

Page No.

NITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#2	5-7-91	3:10PM		4.75	sample clear	after Pumping	JM
#3	5-8-91	7:25		5.5	sample clear		JM
#1	5-8-91	8:30		8.375	.28'	Pumped Well	JM
#1	5-15-91	9:20		8.45	.36'	Pumped Well	JM
#1	5-21-91	12:10PM		8.95	.7'	Pump Well	JM
#1	5-25-91	11:00AM		9.225	.825'	Pump Well	JM
#1	5-30-91	9:30AM		9.17	.74'	Pump Well	JM
#1	6-10-91	8:30AM		9.125	.7'	Pump Well	JM
#1	6-13-91	10:45AM		8.925	.475	Pump Well	JM
#1	6-17-91	8:30AM		8.95	.425	Pump well	JM
#1	6-19-91	8:00AM		8.975	.45	Pump Well	JM
#1	6-26-91	1:30PM		9.275	.65	Pump Well	JM
#1	7-9-91	12:00PM		9.45	.74	Pumped Well	JM
#1	7-25-91	1:00PM		9.49	.75	Pumped Well	JM
#1	8-1-91	1:00PM		9.3	.625	Pump Well	JM
#1	8-6-91	4:00PM		9.1	.475	Pumped Well	JM
#1	8-16-91	1:00 PM		9.175	.575	Pumped Well	JM

LONGVIEW FIBER COMPANY
Water Level Log
Seattle, WA Plant

Page No.

NITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
# 1	8-22	5:00PM		9.27'	.575	Pumped Well	JM
# 2	8-23	5:30PM		4.9'	—	Pumped Well	JM
# 3	8-23	6:30PM		5.6'	.125	Sampled Well	JM
# 1	8-30	12:30AM		8.875	.375	Pumped Well	JM
# 1	9-20-91			9.55'	.725	Pumped Well	JM
# 1	9-27-91			9.12'	.375'	Pumped Well	JM
# 1	10-29-91			9.11'	.31'	Pumped Well	JM
# 1	11-15-91			8.9'	3.7"	Pumped Well	mja
# 1	12-26-91			8.5	2"		mja
# 2	11-15-91			4.7'	—	Pumped well	mja
# 2	11-15-91			4.1'	—	After 1hr Pumping	mja
# 3	11-15-91			5.6'	—	Sample taken	mja
# 1	11-18-91	12:30 PM		8.775'	0.2'	Pumped Well	JM
# 1	11-25-91	2:15PM		8.675'	0.25'	Pumped Well	JM
# 1	12-2-91	1:30PM		8.36'	0.13'	Pumped Well	JM
# 1	12-23-91	1:00 PM		8.5'	0.2'	checked well after Pumping Culvert	
# 1	1-6-92	4:00PM		8.35'	0.05'	Pumped Well	JM
# 1	1-13-92	1:30 PM		8.170'	0.75'	Pumped Well	JM
# 1	1-20-92	2:PM		8.36'	0.07'	Pumped Well	JM

LONGVIEW FIBER COMPANY
Water Level Log
Seattle, WA Plant

Page No.

MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	1-28-92	12:00 PM		7.875'	—	Pumped Well	J M
#1	2-7-92	12:30 PM		7.95'	0.2'	Pumped Well	J M
#1	2-10-92	12:30 PM		7.55'	.08'	Took sample of Well and Pumped Well	J M
#2	2-10-92	11:00 AM		4.04'	—	took sample of Water before and after Pumping for 1 hr	J M
#3	2-10-92	10:00 AM		4.72'	—	took sample of Water Pumped Well	J M
#1	2-19-92	10:00 AM		7.64'	.09'	Pumped well	J M
#1	2-24-92	10:30 AM		7.82'	.124'	Pumped Well	J M
#1	3-4-92	9:50 AM		7.86'	.122'	Pumped Well	J M
#1	3-17-92	8:45 AM		8.29'	.2'	Pumped Well	J M
#1	3-25-92	1:30 PM		8.2'	.07'	Pumped Well	J M
#1	4-3-92	1:30 PM		8.52'	.15'	Pumped Well	J M
#1	4-10-92	1:10 PM		8.17'	0.02'	Pumped Well	J M
#1	4-21-92	1:00 PM		8.47'	.1'	Pumped Well	J M
#1	5-15-92	2:45 PM		8.82'	.15'	Pumped Well	J M
#1	5-27-92	7:30 AM		8.625'	.09'	Pumped Well	J M
#1	6-10-92	8.55 AM		8.74'	.04'	Pumped Well	J M
#2	6-10-92	10: AM		4.5'	—	Took sample before & after Pumping	J M
#3	6-10-92	10:55 AM		5.43'	—	Took Water sample	J M
#1	6-23-92	2:30 PM		8.9'	.125'	Pumped Well	J M

LONGVIEW FIBRE COMPANY
Water Level Log
Seattle, WA Plant

Page No.

MONITORING WELL NUMBER	DATE	TIME	TIDE STAGE	DEPTH OF WATER	QUANTITY OF PRODUCT	PRODUCT REMOVE	MEASURED BY
#1	7-6-92	5:05PM		8.87'	.08'	Pumped Well	JM
#1	7-8-92	5:50PM		8.82'	.11'	Pumped Well	JM
#1	7-27-92	5:45PM		9.02'	.13'	Pumped Well	JM
#1	7-31-92	5:15PM		8.98'	.05'	Pumped Well	JM
#1	8/11/92	2:40PM		9.04'	.07'	Pumped Well	JM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #1

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-2-91				7"	5"	
2-3-91	100"	112½"	12½"	10½"	2"	
2-4-91	96"	110"	14"	11"	3"	
2-5-91	94"	113"	19"	14"	5"	
2-6-91	96"	113"	17"	13½	3½	
2-7-91	96"	112"	16"	13"	3"	
2-8-91	96"	112"	16"	11½"	4½"	
2-9-91	96"	112"	16"	9"	7"	
2-10-91	97"	112"	15"	12"	7"	
2-11-91	96"	113"	17"	13"	4"	
2-12-91	96"	113"	17"	13"	4"	
2-13-91	97"	112"	15"	11"	4"	
2-14-91	97"	112"	15"	11"	4"	
2-15-91	97"	112"	14"	10½"	3½"	
2-16-91	97"	113	16	12½	3½	
2-17-91	98	113½	15½	9½	6"	
12:25	Started FAP Pump					
2 PM	99½	113½	14"	13½	Stopped Pump	
2-21-91	97	111½	14½	12	2½	Start 10:30 AM
2:45 PM	97½	112	14½	14½	—	Stop FAP
2-22-91	97	111½	14½	13½	1"	Start 10:15 AM
2-22-91						Stop 2:40 PM
2-19-91	96	111½	15½	12½	3"	Start 2:30 PM
~	97	111½	14½	12½	2	Stop 6:50
2-24-91	97½	109				
2-25-91	99	112	13	8½	5½	Start 6:40 PM
2-26-91	100	112	12	12	0	Stop 8:10 AM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL #1

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-27-91	96½	110½	14	12	2	START 12'10
2-28-91	98	111	13	13	—	Stop 9'50
3-1-91	99	113	14	11¼	2¾	Start 7:00
3-1-91	97	113	16	15	1	Stop 10'00
3-4-91	92½	112	19½	17	2½	Start 10:00
3-4-91	94	111	17	15	2	Stop 11 20
3-12-91	97	113	16	14	2	Start 7a m
3-12-91	97	113	16	15½	½	Stop 10:15a
3-19-91	97	112	15	12	3	Start 7:15a
3-19-91	98	112	14	14	~~0~~	Stop 1:50p
3-21-91	99	112	13	11	2	Start 6'15p
3-22-91	99	112	13	11	~~0~~	Stop 8:30A
3-26-91	99	112	13	9	4	Start 7:00p
3-26-91	100	112	12	11½	½	Stop 10:30p
4-3-91	101	112	11	9½	1½	Start 12:00p
4-3-91					~~0~~	Stop 4:20p
4-10-91	95	112	17	15	~~0~~	Start 8:00A
4-10-91					~~0~~	Stop 12:30p
4-14-91	95	112	14	12	2	Start 5:50p
4-15-91					~~0~~	Stop 8:30A
4-17-91	99½	111½	12	10	2	Start 6:15p
4-17-91					~~0~~	Stop 8:45p
4-23-91	99	111½	12½	10½	2	Start 9:50a
4-24-91						Stop 12:20

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 1

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-29-91	101 1/2	111 1/2	10	9 1/2	1/2	
4-30-91	101	111 1/2	10 1/2	10 1/2	—	
5-1-91	102	111 1/2	9 1/2	9 1/2	—	
5-2-91	101	111 3/4	10 3/4	10 1/4	1/4	
5-3-91	101 1/2	111 3/4	10 1/4	10 1/4	—	
5-6-91	103	112 1/2	9 1/2	9 1/2	—	
5-7-91	103	112 1/4	9 1/4	9 1/4	—	
5-8-91	102 3/4	113	10 1/4	10 1/4	—	
5-15-91	102	111 1/4	9 1/4	8 1/2	.75"	
5-21-91	104 1/2	111 1/2	7	6 1/4	.75"	
5-25-91	106 1/2	112 1/4	5 3/4	5	.75"	
5-31-91	106 1/2	112	5 1/2	5	.5"	
6-10-91	106 1/2	112 1/4	5 3/4	5 1/2	.25"	
6-13-91	105 3/4	111 3/4	6	5 1/2	.50"	
6-17-91	107 1/4	112	4 3/4	4 3/4	—	
6-19-91	107 1/4	111 3/4	4 1/2	4 1/2	—	
6-26-91	106 1/2	111 1/2	5	4 3/4	.25"	
7-09-91	107	109 3/4	2 3/4	2 1/2	.25	
7-22-91	108	110 1/2	2 1/2	2	.50	
7-25-91	107 1/4	110	2 3/4	2 1/4	.5	
8-1-91	107	108 1/2	1 1/2	1	.5	
8-6-91	109 1/4	112 1/2	3 1/4	3 1/4	—	
8-16-91	106 3/4	111 3/4	5	4 1/4	.75	
8-19-91	107	111 1/4	4 1/4	3 3/4	.50	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # /

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
8-22-91	108 3/4	111 3/4	3	2.75	.25	
8-30-91	106 1/2	112 1/4	5 3/4	5	.75	
9-20-91	110 1/2	124 1/4	13 3/4	13	.75	
9-27-91	109 3/4	122 3/4	13	12	1	
10-14-91	113	122	9	8	1	
10-29-91	109 1/2	120	10 1/2	10	.5	
11-18-91	107 1/2	121 1/2	14	13 1/2	.5	
11-25-91	105 1/4	120 1/4	15	15	—	
12-2-91	104 1/2	119 3/4	15 1/4	15 1/4	—	
12-10-91	102 1/4	119 3/4	17 1/2	17 1/4	.25	
12-23-91	102	118	16	13 1/2	2 1/2	
1-2-92	101	119 1/2	18 1/2	18 1/4	.25	
1-6-92	101 1/2	120 1/2	19	19	—	
1-8-92	102	118 3/4	16 3/4	16 3/4	—	
1-13-92	102 1/2	120 1/2	18	18	—	
1-20-92	100 1/2	116	15 1/2	15 1/2	—	
1-28-92	97 1/2	119 3/4	22 1/4	22 1/4	—	
2-3-92	91 1/2	119 1/2	28	26 1/2	1.5	
2-5-92	92	115 1/2	23 1/2	23 1/2	—	
2-7-92	91 3/4	113 1/4	21 1/2	21 1/2	—	
2-10-92	91 1/4	113 1/4	22	22	—	
2-19-92	91 3/4	113 1/2	21 3/4	21 3/4	—	
2-24-92	90 3/4	112 1/4	21 1/2	21 1/2	—	
3-4-92	93 1/2	112 1/4	18 3/4	18 3/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 1

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
3-17-92	96	112 1/4	16 1/4	16 1/4	—	
3-25-92	95 3/4	112	16 1/4	16 1/4	—	
4-3-92	98 1/2	112	13 1/2	13 1/2	—	
4-10-92	98 1/4	112 1/4	14	14	—	
4-21-92	98 1/2	112 1/2	14	14	—	
5-15-92	103	112 1/4	9 1/4	9 1/4	—	
5-26-92	104 1/4	113 1/4	9	9	—	
6-10-92	103 3/4	112 1/2	8 3/4	8 3/4	—	
6-23-92	104 1/2	111	6 1/2	6 1/4	.25	
7-6-92	109 1/4	112 1/2	3 1/4	3 1/4	—	
7-8-92	105 1/2	112 1/2	7	7	—	
7-27-92	107 1/2	112	4 1/2	4 1/2	—	
7-31-92	107	111 1/2	4 1/2	4 1/2	—	
8-11-92	107 1/4	111 1/2	4 1/4	4 1/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #2

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-2-91					12"	
2-3-91	100"	112"	12"	2"	10"	
2-4-91	97"	111"	14"	5"	9"	
2-5-91	97"	113"	16"	6"	10"	
2-6-91	96"	111	15"	6"	9"	
2-7-91	96.5"	1125"	16"	8"	8"	
2-8-91	97"	112"	15"	7"	8"	
2-9-91	97"	112"	15"	8"	7"	
2-10-91	97½"	113"	16"	9½"	6½"	
2-11-91	96"	112"	16"	8½"	7½"	
2-12-91	96"	112"	16"	8½"	7½"	
2-13-91	97"	113"	16"	9½"	6½"	
2-14-91	97"	109"	12"	7"	5"	
2-15-91	98"	111"	13"	8"	5"	
2-16-91	98"	113	15"	10"	5"	
2-17-91	99"	113	14"	8"	6"	
Started FAP Pump			8:40 AM			
10:55 AM	101"	113	12"	9½"	2½"	
12:20	101"	113	12"	12"	Stoped	Pump
2-21-91	98"	114	16	12	4	Start 2:45 PM
8:PM	101	114	13	12½	½"	STOP.
2-22-91	98	113½	15½	12½	3	Start 2:40 PM
✓	101	113½	12½	12	½"	OFF 6:50 PM
2-14-91	99	115	16	9	7	START 6:50 PM
"	100	115	15	13½	1½	STOP 12 AM
2-26-91	101	113½	12½	7½	5	START 8:15 AM
2-26-91	102½	113½	11	9½	1½	STOP 11:30 AM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 2

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-28-91	99	111½	9	12½	3	START 9:50A
2-28-91	100	112	12	11½	½	Stop 1:45P
3-4-91	94	113	19	13	6	START 1:30
3-4-91	96½	113½	17	16½	½	Stop 5:30P
3-10-91	96	112	16	12	4	Start 10:00 A
3-10-91					1	Stop 2:00 P
3-12-91	99	117	18	14½	3½	START 10:20
3-12-91	99	111	12	14	2	Stop 6:25 p
3-18-91	99	110	11	8	3	Start 8:35 p
3-18-91	98	112	14	13	1	Stop 7:05 PM
3-21-91	99	112	13	7	6	Start 2:20p
3-21-91	100	110	10	10	0	Stop 6:15 p
3-26-91	101	112	11	6	5	START 10:30p
3-26 91	102½	112½	10	10	—	Stop 10:10 pm
3-28-91	102	113½	11½	10½	1	START 9:55 a
3-28-91					0	Stop 1:15 pm
4-9-91	94½	113½	19	12	7	Start 11:00 A.M
4-10-91					0	Stop 8:00 A.M
4-14-91	99	112	13	11	2	Start 11:00am
4-14-91					0	Stop 5:30pm
4-15-91	99	113½	14½	8½	6	Start 8:30 am
4-15-91					0	Stop 3:30 pm
4-17-91	101	115	14	10	4	Start 8:45 pm
4-18-91					0	Stop 2:40 pm

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL #2

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-22-91	101	112 1/2	11 1/2	9	2 1/2	Start 5:30p
4-23-91					~~0~~	Stop 9:50a
4-29-91	102 1/2	112 1/2	10	8 1/4	1 3/4	
4-30-91	102 3/4	111 1/4	8 1/2	8 1/2	—	
5-1-91	103	111 1/2	8 1/2	8 1/2	—	
5-2-91	102 3/4	111 1/4	8 1/2	8 1/2	—	
5-3-91	103 1/4	112	8 3/4	8 3/4	—	
5-6-91	105	112 1/2	7 1/2	7 1/2	—	
5-7-91	104 3/4	112 1/2	7 3/4	7 1/2	1/4 (.25")	
5-8-91	103 3/4	111 1/2	7 3/4	7 3/4	—	
5-15-91	105	113	8	7.5	.5"	
5-21-91	106 3/4	112 1/2	5 3/4	5	.75"	
5-25-91	107 3/4	111 3/4	4	4	—	
5-31-91	106 3/4	111 1/4	4 1/2	4 1/4	.25"	
6-10-91	107 1/2	111 1/4	3 3/4	3	.25"	
6-13-91	107 1/2	112 1/4	4 3/4	4 3/4	—	
6-17-91	108	111 1/4	3 1/4	3	0.25"	
6-19-91	109	112 1/4	3 1/4	3 1/4	—	
6-26-91	107 1/2	111 1/2	4	3 3/4	.25"	
7-9-91	109 1/4	112 1/4	3	2 3/4	.25"	
7-22-91	110 1/2	112	1 1/2	1 1/2	—	
7-25-91	109 1/2	112	2.5	2.0	.5"	
8-1-91	111 1/4	112 3/4	1 1/2	1 1/4	.25	
8-6-91	110	112 1/2	2 1/2	2 1/2	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 2

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
8-16-91	110 1/4	113 1/4	3	3	—	
8-19-91	111 1/4	113 1/2	2 1/4	2 1/4	—	
8-22-91	111	114	3	3	—	
8-30-91	109 3/4	114	4 1/4	4 1/4	—	
9-20-91	113 3/4	125 1/4	11 1/2	8	3.5	
9-27-91	112 1/2	122 3/4	10 1/4	8 1/4	2	
10-14-91	114	123	9	5 1/2	3.5	
10-29-91	111 1/2	121 1/2	10	7 1/2	2.5	
11-18-91	109 1/2	122 1/4	12 3/4	10 1/2	2.25	
11-25-91	107	120	13	12 3/4	.25	
12-2-91	105 3/4	118 1/2	12 3/4	12	.75	
12-10-91	104	119 1/2	15 1/2	12 1/2	3	
12-23-91	104	116	12	11	1	
1-2-92	103 1/2	117 1/2	14	14	—	
1-6-92	102 1/2	117 1/4	14 3/4	14 1/2	.25	
1-8-92	103 1/2	117 1/4	13 3/4	13 3/4	—	
1-13-92	104 1/4	118	13 3/4	13 3/4	—	
1-20-92	103 1/2	115 1/2	12	12	—	
1-28-92	97 1/2	115 1/2	18	18	—	
2-3-92	92	115 3/4	23 3/4	23 3/4	—	
2-5-92	94	114 1/4	20 1/4	20 1/4	—	
2-7-92	95	113 3/4	18 3/4	18 3/4	—	
2-10-92	94 1/4	113	18 3/4	18 3/4	—	
2-17-92	94 1/2	111 3/4	17 1/4	17 1/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 2

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-24-92	94 1/4	113 1/2	19 1/4	19 1/4	—	
3-4-92	97 1/4	114	16 3/4	16 3/4	—	
3-17-92	99 1/2	113 1/4	13 3/4	13 3/4	—	
3-25-92	99 1/2	113 1/4	13 3/4	13 3/4	—	
4-3-92	101 1/2	112 1/2	11	11	—	
4-10-92	101 3/4	113 1/2	11 3/4	11 3/4	—	
4-21-92	101 3/4	113 1/2	11 3/4	11 3/4	—	
5-15-92	106 1/2	113 1/2	7	7	—	
5-26-92	107 1/2	113 1/2	6	6	—	
6-10-92	107 1/4	113	5 3/4	5 3/4	—	
6-23-92	108 1/2	112 1/2	4	4	—	
7-6-92	108 1/2	114	5 1/2	5 1/2	—	
7-8-92	109 1/4	114 1/4	5	5	—	
7-27-92	111	114 1/4	3 1/4	3 1/4	—	
7-31-92	110 1/2	113 1/2	3	3	—	
8-11-92	110 3/4	113 1/2	2 3/4	1 3/4	1	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #3

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-2-91					16"	
2-3-91	98"	113"	15	1"	14"	
2-4-91	94½"	114	19½	1½"	17"	
2-5-91	95"	112"	17"	9"	8"	
2-6-91	93"	114"	21"	6"	15	
2-7-91	94"	113"	19"	7½"	11½"	
2-8-91	94½"	113"	18½"	9½	9"	
2-9-91	94½	114"	19½	9"	10½"	
2-10-91	95"	113½"	17½	9"	8½"	
2-11-91	94"	113"	19"	9½"	9½"	
2-12-91	94"	113"	19"	9½"	9½"	
2-13-91	95"	113"	18"	10"	8"	
2-14-91	95"	112"	17"	9"	8"	
2-15-91	95"	113"	18"	11"	7"	
2-16-91	97"	113½	16½	10½	6"	
Westinghouse FAP - ON 2-16-91 @ 5:45 PM — OFF 8:30 AM · 5-17-91						
2-17-91	98"	113	15"	15"	—	
2-18-91	97½	113	15½	7"	8½	1:45 PM START FAP.
2-22-91	99	114½	17½	10	7½	START 6:50PM
11	99	114½	15½	12	3½	OFF 10:PM
2-19-91	96	115	19	13	6	START 12 AM
2-20-91	97	114	17	16½	½	STOP 7:15AM
2-26-91	98	114	16	6	10	START 11:30 AM
2-26-91	97½	113	15½	15½	~~5~~	STOP 6:40 PM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 3

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-27-91	98	114	16	13	3	START 2:0P
2-27-91	96	112 1/2	16 1/2	16	1/2	Stop 7:00P
2-28-91	98	113 1/2	15 1/2	11	4 1/2	START 1:50
2-28-91	98	113	15	15	0	Stop 6:00P
3-2-91	96	113	17	13	4	START 8:45A
3-2-91	93	113	20	18 1/2	2 1/2	Stop 11:00 A
3-4-91	93 1/2	113 1/2	20	14	6	Start 5:30 p
3-4-91	96	113	17	17	—	Stop 10 pm
3-9-91	92	113	21	15	6	Start 5:30 p
3-10-91	94	113	19	19	—	Stop 10 pm
3-12-91	96	113	17	16 1/2	1/2	Start 6:35 p
3-13-91	96	114	18	18	0	Stop 8:[illegible]
3-18-91	96	113	17	12	5	Start 1:30 p
3-18-91	99	112	13	13	0	Stop 8:30 p
3-21-91	97	113	16	13	3	START 7:35a
3-21-91	97	113	16	16	0	Stop 2:00 p
3-26-91	98 1/2	114	15 1/2	12 1/2	3	Start 8:00 a
3-26-91					—	Stop 12:14 p
3-28-91	99	113	14	12	2	Start 1:20 p
3-28-91					0	Stop 5:10 p
3-29-91	101	114	13	12	1	Start 2:00 p
3-29-91					0	Stop 5:30 p
3-30-91	101	114	13	11	2	START 12:30
4-1-91					0	Stop 8:30 A

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 3.

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-2-91	102	113	11	10	1	Start 4:30 pm
4-3-91					~~0~~	Stop 7:30 am
4-4-91	97 1/2	114	16 1/2	16	1/2	Start 10.00 AM
4-4-91					~~0~~	Stop 8:50 pm
4-5-91	91	113	23	19	4	Start 6:00 pm
	Problem w/ Pump.					
4-8-91	93	113	20	18	2	Start 1:30 pm
4-9-91					~~0~~	Stop 8:00 AM
4-13-91	Locked Out					Start 5:00 pm
4-14-91						Stop 11:00 AM
4-15-91	98	113	15	14	1	Start 3:30 pm
4-15-91					~~0~~	Stop 5:30 pm
4-18-91	97 1/2	113 1/2	16	14 1/2	1 1/2	Start 12:40 pm
4-18-91					~~0~~	Stop 3:20 pm
4-24-91	99	112 1/2	13 1/2	11	2 1/2	Start 12:20 am
4-24-91					~~0~~	Stop 9:40 AM
4-29-91	101	113 1/2	12 1/2	10 3/4	1 3/4	
4-30-91	102	114 1/2	12 1/2	12 1/2	—	
5-1-91	101 1/2	114	12 1/2	12 1/4	1/4	
5-2-91	101 1/2	113 1/2	12	11 1/2	1/2	
5-3-91	101 3/4	114 1/4	12 1/2	12 1/4	1/4	
5-3-91	104	114 1/4	10 1/4	10 1/4	—	Start 12:40 pm
5-6-91	102 1/2	114	11 1/2	11 1/2	—	Stop 10:30
5-6-91	102 1/2	114	11 1/2	11 1/2	—	Start 3:30 pm

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 3

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
5-7-91	102 3/4	114 1/4	11 1/2	11 1/2	—	Stop 7:45 am
5-7-91	102 3/4	114 1/4	11 1/2	11 1/2	—	
5-8-91	102 1/4	114	11 3/4	11 1/4	.5"	
5-15-91	102 1/2	113 1/2	11	6 3/4	4.25"	
5-21-91	104 1/4	113 1/2	9 1/4	4 3/4	4.5"	
5-22-91	105	113 3/4	8 3/4	8 1/2	.25"	Start 8:40
5-25-91	105 1/4	114	8 3/4	6	2.75"	Stop 10:30
* 5-25-91	105 1/4	114	8 3/4	6	2.75"	
5-31-91	105 1/4	113	7 3/4	4	3.75"	
6-10-91	105 1/4	113 1/4	8	3	5"	
6-13-91	105 3/4	113 1/4	7 1/2	6	1.5"	
6-19-91	107	113 3/4	6 3/4	4 3/4	2.0"	
6-19-91	107	113	6	5	1.0"	
6-26-91	105 1/2	112 1/2	7	3	4	
7-9-91	108 1/2	112 1/4	3 3/4	3 3/4	—	
7-22-91	106 1/2	112	5 1/2	—	5 1/2	
7-24-91	108	112	4	3	1.0	START 11:21
7-25-91	109	113 1/2	4.5	3.5	1.0	Stop 12:30
8-1-91	109	112 3/4	3 3/4	3/4	3.0	
8-6-91	108 1/2	112 3/4	4 1/4	2	2.25	
8-16-91	107 3/4	113	5 1/4	0	5.25	
8-19-91	108 3/4	112	3 1/4	1 3/4	1.50	
8-22-91	109 3/4	113 1/4	3 1/2	2	1.5"	
8-30-91	107 1/2	113 1/4	5 3/4	3 1/2	2.25	

* Coil poly tube tangled in string/lead - unable to measure any deeper in well

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 3

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
9-20-91	111 1/2	125	13 1/2	9	4.5	
9-27-91	109 3/4	123 1/2	13 3/4	8 1/2	5.25	
10-14-91	110	122	12	5	7	
10-29-91	110	122 1/2	12 1/2	5 1/2	7	
11-18-91	107 1/4	122 1/2	15 1/4	12	3.25	
11-25-91	105	122	17	15 1/2	1.50	
12-2-91	105 3/4	120 3/4	15	14 1/4	.75	
12-10-91	103 1/2	120 1/2	17	15 3/4	1.25	
12-23-91	101	117	16	13	3	
1-2-92	101 1/4	118 1/4	17	16	1	
1-6-92	100 1/4	119	18 3/4	17 1/4	1.5	
1-8-92	102 1/4	120 1/4	18	17 1/2	.50	
1-13-92	102 1/4	120	17 3/4	17 3/4	—	
1-20-92	101 3/4	117	15 1/4	15	.25	
1-28-92	97 1/2	119 1/2	22	21	1	
2-3-92	91 1/2	119 3/4	28 1/4	28	.25	
2-5-92	92 3/4	118	25 1/4	24 1/2	.75	
2-7-92	93 1/2	117 1/2	24	24	—	
2-10-92	93 1/4	117 1/2	24 1/4	24 1/4	—	
2-19-92	93 1/2	116 3/4	23 1/4	22 3/4	.5	
2-24-92	92 1/2	117	24 1/2	24 1/4	.25	
3-4-92	95 1/2	116 3/4	21 1/4	19 3/4	1.5	
3-17-92	97 3/4	116 1/2	18 3/4	18	.75	
3-25-92	97 1/2	116 1/4	18 3/4	18 1/2	.25	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 3

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-3-92	99 1/2	115 3/4	16 1/4	15 1/4	1	
4-10-92	98 1/4	112 1/4	14	14	—	
4-21-92	99 1/2	115 3/4	16 1/4	16	.25	
5-15-92	103 3/4	116	12 1/4	12 1/4	—	
5-26-92	105	115 1/2	10 1/2	10 1/4	.25	
6-10-92	104 1/4	115 1/2	11 1/4	11	.25	
6-23-92	106	113	7	6 1/4	.75	
7-6-92	105 1/2	115 1/4	9 3/4	9	.75	
7-8-92	106 3/4	114 1/2	7 3/4	7 1/4	.5	
7-27-92	108 1/4	116	7 3/4	7	.75	
7-31-92	107 1/2	116	8 1/2	8 1/4	.25	
8-11-92	107 3/4	115 3/4	8	7	1	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #4

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-2-91				1"	19"	
2-3-91	99"	115"	16"		16"	
2-4-91	95"	118"	23"	2"	21"	
2-5-91	97½	118"	20½"	6½"	13½"	
2-6-91	96"	117½"	21½"	4½	17	
27-91	97½"	118"	20½"	7½"	13"	
2-8-91	97"	117"	20"	9"	11"	
2-9-91	98"	116"	18"	10"	8"	
2-10-91	98"	117"	19"	12"	7"	
2-11-91	97"	116"	19"	11½"	7½"	
2-12-91	97"	116"	19"	11½"	7½"	
2-13-91	98"	116½"	18½"	15"	3½"	
2-14-91	98"	115"	17"	8½"	8½"	
2-15-91	98"	117"	19"	9¼"	9¾"	
2-16-91	98	116	18"	14"	4"	
2-20-91	98	113½	15½	11½	4"	START FAP 7:20 AM
"	99	113	14	12	2	STOP FAP 10:30 AM
2-22-91	99	114	15	12	3	START 10:PM
2-23-91	98	112½	14½	10½	4"	NO AER O/T FAP-START
2-23-91	99	113	14	13½	½"	OFF - 2:30PM
2-18-91	97	113	16	9½	6½	START 5:35PM
"	102	113	11	9½	1½	STOP 9:45PM
2-25-91	99	115	16	11	5	START 6:40PM
2-25-91	101	113½	12½	113/4	3/4	STOP 10:15PM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 4

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-28-91	98	114	16	12	4	Start 6:00
2-28-91	104	114	10	10½	½	Stop 9:30P
3-2-91	96½	112½	16	11	5	Start 12 AM
3-2-91	99	113	14	13	1	Stop 4:30
3-4-91	94	113	19	15	4	Start 10PM
3-5-91	97	113	16	18	2	Stop 9:30A
3-8-91	94	112	18	16½	1½	Start 5:30
3-13-91	97	113	16	14½	1½	Start 8:15a
3-13-91	98	113	15	15	~~0~~	Stop 5:00p
3-14-91	94	113	19	15	4"	Start 5:00p
3-16-91	97	112	15	15	~~0~~	Stop 7:30a
3-18-91	99½	113	13½	12	1½	Start 2:30a
3-18-91	98	113	15	14½	½	Stop 1:20pm
3-20-91	99	112	13	12	1	Start 8:00p
3-21-91	99	113	14	14	~~0~~	Stop 7:25a
3-26-91	101	112½	11½	10½	1	Start 7:35a
3-28-91					~~0~~	Stop 9:45 AM
3-29-91	102	113	11	10	1	Start 7:10 AM
3-29-91	102	113	11	11	~~0~~	Stop 1:45 pm
4-2-91	102	113	11	10	1	Start 6:30am
4-2-91	108	113	5	5	~~0~~	Stop 4:15pm
4-5-91	90	113	23	21	2	Start 9:45am
4-5-91					~~0~~	Stop 6:00pm
—	—	—	—	—	—	—

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 4

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-9-91	94	112	18	16	2	Start 8:00AM
4-9-91					~~0~~	Stop 11:00am
4-11-91	96	113	17	15	2	Start 10:30 am
4-11-91					~~0~~	Stop 1:30pm
4-13-91	97	113	16	12 1/2	4 1/2	Start 8:50AM
4-13-91					~~0~~	Stop 5:00pm
4-17-91	99	113	14	12	2	Start 12:15am
4-17-91					~~0~~	Stop 2:50pm
4-18-91	98 1/2	112 1/2	14	13	1	Start 3:20pm
4-18-91					~~0~~	Stop 6:00 pm
4-24-91	100	112	12	10 1/2	1 1/2	Start 9:40 am
4-24-91					~~0~~	Stop 11:55 am
4-29-91	101 1/2	112	10 1/2	10 1/4	1/4	
4-30-91	102 1/4	112 3/4	10 1/2	10 1/2	—	
5-1-91	102	112	10	10	—	
5-2-91	102	111 1/2	9 1/2	9 1/2	—	
5-3-91	102 3/4	112 1/2	9 3/4	9 3/4	—	
5-6-91	103	112	9	9	—	
5-7-91	103 1/2	113	9 1/2	9 1/2	—	
5-8-91	102 1/4	110 1/4	8	8	—	
5-15-91	103	111	8	7	1.0"	
5-21-91	104	110 3/4	6 3/4	6	.75"	
5-25-91	105 1/2	112	6 1/2	5 1/4	1.25"	
5-31-91	106	112 1/4	6 1/4	5 3/4	.5"	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 4

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
6-10-91	106 1/2	112 1/4	5 3/4	4 1/4	1.5"	
6-13-91	106 3/4	112	5 1/4	5	.25"	
6-17-91	107 1/2	111 3/4	4 1/4	4	0.25"	
6-19-91	107	111 1/2	4 1/2	4 1/2	—	
6-26-91	107	112 3/4	5 3/4	5	.75"	
7-9-91	107 1/2	110 1/4	2 3/4	2	.75"	
7-22-91	108 1/2	112	3 1/2	2 1/2	1	
7-25-91	107 3/4	111 1/2	3 3/4	3	.75	
8-1-91	109	111 3/4	2 3/4	2 1/2	.25	
8-6-91	108 1/2	112	3 1/2	3 1/4	.25	
8-16-91	108	111 3/4	3 3/4	2 3/4	1.0	
8-19-91	108 1/4	111 3/4	3 1/2	2 3/4	.75	
8-22-91	109 1/4	112 1/2	3 1/4	3	.25	
8-30-91	108	112	4	3	1.0	
9-20-91	111 1/2	126	14 1/2	9	5.5	
9-27-91	110 1/2	123 3/4	13 1/4	8 1/2	4.75	
10-14-91	112	123	11	5	6	
10-29-91	110 1/2	123	12 1/2	7 1/2	5	
11-18-91	106 1/2	121 3/4	15 1/4	11	4.25	
11-25-91	105 1/2	121 3/4	16 1/4	13 1/2	2.75	
12-2-91	105 3/4	119 1/2	13 3/4	13 1/2	.25	
12-10-91	103 1/2	119 1/4	15 3/4	14 1/2	1.25	
12-23-91	102	115	13	10	3	
1-2-92	102 3/4	118 1/2	15 3/4	15	.75	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 4

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
1-6-92	102	118 1/2	16 1/2	16 1/4	.25	
1-8-92	102 1/2	117 1/2	15	14 3/4	.25	
1-13-92	103 1/4	118	14 3/4	14 3/4	—	
1-20-92	103	117	14	14	—	
1-28-92	98 3/4	117 1/2	18 3/4	18 3/4	—	
2-3-92	92 3/4	117 1/2	24 3/4	24 1/2	.25	
2-5-92	94	113	19	19	—	
2-7-92	94 1/4	112 1/4	18	18	—	
2-10-92	92	112	20	20	—	
2-19-92	93	111 3/4	18 3/4	18 1/2	.25	
2-24-92	91 3/4	111 1/2	19 3/4	19 3/4	—	
3-4-92	96 1/4	112	15 3/4	15 1/4	.5	
3-17-92	98 3/4	112 1/2	13 3/4	13 1/2	.25	
3-25-92	98 3/4	112	13 1/4	13 1/4	—	
4-3-92	100 3/4	111 1/2	10 3/4	10 3/4	—	
4-10-92	101	111 1/2	10 1/2	10 1/2	—	
4-21-92	99 1/4	111 1/4	12	12	—	
5-15-92	105	111 3/4	6 3/4	6 3/4	—	
5-26-92	106 1/4	112 1/4	6	6	—	
6-10-92	106 1/4	112	5 3/4	5 3/4	—	
6-23-92	108	112 9/4	4 3/4	4 3/4	—	
7-6-92	107 1/4	112	4 3/4	4 3/4	—	
7-8-92	107 3/4	111 3/4	4	4	—	
7-27-92	109 1/2	112 1/4	2 3/4	2 3/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 4

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
7-31-92	108 1/4	111 1/2	3 1/4	3 1/4	—	
8-11-92	109 1/4	112	2 3/4	2 3/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #5

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-2-91					10"	
2-3-91	102"	117"	15"	8"	7"	
2-4-91	102"	119"	17"	7"	10"	
2-5-91	101½"	120"	18½	12"	6½"	
2-6-91	100¼"	118½"	18¼"	13"	5¼"	
2-7-91	100½"	119"	18½"	13"	5½"	
2-8-91	100"	118"	18"	12"	6"	
2-9-91	100"	117"	17"	13"	4"	
2-10-91	99"	118"	19"	13"	6"	
2-11-91	99"	118"	19"	13½"	5½"	
2-12-91	98"	118"	20"	13½"	6½"	
2-13-91	96"	117"	21"	12"	9"	
2-14-91	101"	118"	17"	13½"	3½"	
2-15-91	100"	117"	17"	12"	5"	
2-16-91	100	118	18"	15"	3"	
2-17-91	100	118	18"	12.5	5.5"	4:30 PM START FAP
2-18-91	101	117	16"	15½	STOP FAP	8:AM
2-20-91	99	118	19	14	5	START FAP 10:35 AM
"	100	118	18	15½	2½	STOP FAP 3:20 PM
2-21-91	100	117½	17½	13½	4	START - 8:PM
11:50PM	100	117½	17½	15	2½	STOP-
2-23-91	99½	117½	18	11½	6½	START 2:30PM
2-24-91	101	118	17	14	1"	STOP - 10:AM
2-25-91	100½	118	17½	12	5½	START - 10:15PM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 5

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-25-91	103	118½	15½	15½	0	Stop 4:00 A
2-28-91	100	116	16	12½	3½	START 9:5
3-1-91	102½	118½	16½	12	4½	Stop 4:00 A
3-2-91	99	118	19	14½	4½	START 4:30 P
3-3-91	98	118	20	20	~~0~~	Stop 9:00 A
3-7-91	96	118	22	7	15.	START 11:10 P
3-7-91	96	117½	21½	21	½	Stop 6:00 p
3-10-91	95½	116	20½	17	3½	Start 4pm
3-11-91	97	117	20	19½	½	Stop 7am
3-15-91	98	118	20	17	3	START 10:25
3-15-91	99	115½	16½	16½	~~0~~	Stop 1:45 p
3-19-91	101	119	18	NO PASTE		START 6:15 p
3-19-91	101	119	18	18	~~0~~	Stop 11:10 pm
3-23-91	100	118	18	15	3	Start 4 pm
3-24-91	101	118	17	17	—	Stop 8 AM
3-28-91	104	118	14	11	3	START 11:20 p
3-29-91	105	119	14	14	~~0~~	Stop 7:00 H
3-30-91	104	119½	15½	14½	1	START 11:00 A
3-30-91					~~0~~	Stop 12:20 p
4-4-91	94	117	23	20	3	START 9:00 p
4-5-91					~~0~~	Stop 9:45 A
4-12-91	98½	118	19½	17	2½	START 2:00 p
TRUCK DRIVER MIXED PUMP OUT OF WELL OVERNIGHT						
4-15-91	99½	117½	18	16	2	Start 5:30 pm

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL #5

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-15-91					~~0~~	Stop 7:30pm
4-19-91	101	117	16	14 1/2	1 1/2	Start 8:00pm
4-20 91					~~0~~	Stop 12:25A.
4-26-91	102 1/2	117	14 1/2	12 1/2	2	Start 1:50pm
4-29-91	103 1/2	117	13 1/2	13 1/2	0	
4-30-91	103	117 1/2	14 1/2	13 3/4	3/4	
5-1-91	103 1/2	117	13 1/2	12 1/2	1	
5-2-91	104	117 1/2	13 1/2	13 1/2	—	
5-3-91	104 1/2	118	13 1/2	13 1/2	—	
5-6-91	105	118	13	13	—	
5-7-91	105	117 1/2	12 1/2	12 1/2	—	
5-8-91	104 1/4	118 1/4	14	14	—	
5-15-91	105	117 3/4	12 3/4	12	.75"	
5-21-91	106 1/2	118 1/4	11 3/4	11	.75"	
5-25-91	106 3/4	117 3/4	11	8 9/4	2.25"	
5-31-91	107	117 1/4	10 1/4	8 3/4	1.5"	
6-10-91	108 1/2	117 3/4	9 1/4	7 3/4	1.5"	
6-13-91	108 1/2	117 1/2	9	8 1/4	.75"	
6-17-91	109 1/2	117 1/2	8	7 1/2	.50"	
6-19-91	109	117 1/2	8 1/2	8 1/2	—	
6-26-91	108 1/2	117 1/4	8 3/4	8	.75	
7-9-91	109 1/2	117	7 1/2	6 1/4	1.25	
7-22-91	109	116 1/2	7 1/2	6 1/2	1	
7-25-91	110	117 1/2	7 1/2	5 3/4	1.75	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 5.

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
5-1-91	111	117	6	5 1/4	.75	
8-6-91	110 1/2	117 1/4	6 3/4	6 1/2	.25	
8-16-91	110	117	7	5 1/2	1.50	
8-19-91	110 1/4	117 1/4	7	7	—	
8-22-91	110 1/2	116 1/2	6	5	1.0	
8-30-91	109 1/2	117	7 1/2	6 3/4	.75	
9-20-91	112 1/2	130 1/4	17 3/4	17 1/2	.25	
9-27-91	113	128 3/4	15 3/4	15 1/2	.25	
10-18-91	114	129	15	11 1/2	3.5	
10-29-91	112 1/2	127 1/2	15	14 1/4	.75	
11-18-91	108 1/2	127 1/4	18 3/4	18 1/4	.5	
11-25-91	107 1/2	129 1/2	22	21 1/4	.75	
12-2-91	108 1/2	129 1/2	21	20 3/4	.25	
12-10-91	106 1/2	130 1/4	23 3/4	23 1/4	.5	
12-23-91	107	128	21	18	3	
1-2-92	105 1/2	129 1/2	24	23 1/4	.75	
1-6-92	104 1/2	128 1/2	24	24	—	
1-8-92	105 1/4	129	23 3/4	22 3/4	1	
1-13-92	107	129 1/4	22 1/4	22	.25	
1-20-92	105 1/2	127	21 1/2	20 1/2	1.0	
1-28-92	101 1/2	128 1/2	27	26 3/4	.25	
2-3-92	95	128 1/2	33 1/2	33 1/2	—	
2-5-92	95 3/4	126	30 1/4	30	.25	
2-7-92	96	125 1/2	29 1/2	29 1/2	.25	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 5

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-10-92	95 3/4	126 3/4	31	31	—	
2-19-92	96 1/4	125 1/4	29	29	—	
2-24-92	96 1/2	126	29 1/2	29 1/2	—	
3-4-92	98	124 3/4	26 3/4	26 3/4	—	
3-17-92	101 1/4	125 1/2	24 1/4	24	.25	
3-25-92	101 1/2	124 3/4	23 1/4	23 1/4	—	
4-3-92	103	125 1/2	22 1/2	22 1/2	—	
4-10-92	103 1/2	125	21 1/2	21 1/2	—	
4-21-92	102 1/2	125 1/2	23	23	—	
5-15-92	107	124 3/4	17 3/4	17 3/4	—	
5-26-92	108 1/2	125 1/2	17	16 3/4	.25	
6-10-92	108 1/4	124 1/2	16 1/4	16	.25	
6-23-92	110	124 1/2	14 1/2	14 1/4	.25	
7-6-92	109 1/2	124 3/4	15 1/4	15	.25	
7-8-92	110 1/2	123	12 1/2	12 1/4	.25	
7-27-92	111	125	14	13 1/2	.5	
7-31-92	110 1/2	124	13 1/2	13 1/2	—	
8-11-92	111	123 1/2	12 1/2	12	.5	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #6

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-2-91				11	12"	
2-3-91	96"	116"	20"	9"	11"	
2-4-91	93"	118"	25	13"	12"	
2-5-91	94½"	118"	23½"	15½"	8"	
2-6-91	93½"	118½	25"	16"	9"	
2-7-91	94"	118"	24"	17½"	6½"	
2-8-91	93"	117"	24"	14½"	9½"	
2-9-91	93½	118"	24½"	15½"	9"	
2-10-91	93"	117½"	24½"	17"	7½"	
2-11-91	93"	115"	22"	14½"	7½"	
2-12-91	96"	115"	19"	14½"	4½"	
2-13-91	94"	117"	23"	17"	6"	
2-14-91	93"	117"	24"	12"	12"	
2-15-91	94"	116"	22"	15"	7"	
2-16-91	94	117	23"	18"	5"	
STARTED RAP Pump @ 2:40PM 2/16/91 - STOP-D 5:30PM 2-16-9						
NO PASTE - LIQUID Level = 95"						
2-20-91	94"	116	22	15½	6½	START 10:30PM
2-21-91	94	116	22	15	7	STOP Fgl 4:30 AM
2-21-91	94½	117	22½	19½	3	START 11:50PM
2-22-91	94	115	21	21	0	STOP 9:30AM
2-24-91	95	116	21	15½	5½	START 10:AM
"	95	114	20"	17	3"	STOP 3:55 PM
2-18-91	95	116	21	16½	5½	START 9:45PM
2-19-91	95	116½	21½	20½	1"	STOP 7:50AM
2-25-91	95½	114	19½	17	2½	START 4:15 AM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 6

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
3-1-91	92	111½	19½	17	2½	Start 4:10
3-1-91	95	116	21	20½	½	Stop 12:50
3-3-91	92	116	24	21½	2½	Start 9:40A
3-3-91	92	115½	23½	23½	—	Stop 3PM
3-7-91	90	117	27	22	5	Start 7:3
3-8-91	93	114	21	19½	2½	Stop 7:30A
3-11-91	82	117	35	10½	24½	Start 8:40
3-12-91	91	114	23	22	1	Stop 7a
3-15-91	92	116½	24½	20½	4	Start 1:45
3-15-91	94	116	22	22	0	Stop 7:00
3-19-91	95	116	21	18½	2½	Start 11:10
3-19-91	95	116	21	21	0	Stop 6:55a
3-22-91	94	116	24	19½	4½	Start 6:00
3-23-91					0	Stop 4:00p
3-27-91	94	114½	20½	16	4½	Start 7:00p
3-28-91	97	115½	18½	16½	2	Stop 6:30a
3-28-91	96	116	20	16	4	Start 6:10p
3-28-91					0	Stop 11:15p
3-30-91	97	116	19	18	1	Start 8:30A
3-30-91					0	Stop 11:00A
4-2-91	97	116	19	17	2	Start 9:30A
4-3-91					0	Stop 12:00p
4-6-91	88	115	28	24	4"	Start 4:00pm
4-7-91					0	Stop 7:20A.M

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 6

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-12-91	92 1/2	116 1/2	24	20	4	Start 11:15 A.M
4-12-91					~~0~~	Stop 2:00 p.m
4-14-91	93	115	22	21	1"	measure only 5:50 pm
4-15-91	94	116 1/2	22 1/2	21 1/2	1	Start 7:30 pm
4-16-91					~~0~~	Stop 10:00 A.M
4-18-91	94	116	22	20	2	Start 6:00 pm
4-19-91					~~0~~	Stop 10:15 AM
4-29-91	97	113 1/2	16 1/2	14 1/2	2	Start 8:30 A.
4-29-91	97	116	18 1/2	17 1/2	1	Stop 10:30 A.
4-30-91	96	112 1/2	14 1/2	14 1/2	—	
5-1-91	97 1/2	114 1/2	17	17	—	
5-2-91	99	117	18	18	—	
5-3-91	96 1/4	113 1/2	17 1/4	17 1/4	—	
5-6-91	99 1/2	116 1/4	16 3/4	16 3/4	—	
5-7-91	97	114 1/4	17 1/4	17 1/4	—	
5-8-91	99 1/4	116 3/4	17 1/2	17	.5"	
5-15-91	97 3/4	114 1/4	16 1/2	14 1/2	2.0"	
5-21-91	99 1/4	113 3/4	14 1/2	13 1/2	1.0	
5-25-91	100 1/2	114 1/2	14	14	—	
5-31-91	100 1/2	114 1/4	13 3/4	12	1.75"	
6-10-91	101 1/4	113	11 3/4	11	.75"	
6-13-91	103	115 3/4	12 3/4	12 3/4	—	
6-17-91	102 1/4	113 1/2	11 1/4	11 1/4	—	
6-19-91	103 3/4	115	11 1/4	11 1/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 6

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
6-26-91	103	114 1/4	11 1/4	11 1/4	—	
7-9-91	104 3/4	114 3/4	10	10	—	
7-22-91	102	112	10	9 1/2	1/2	
7-25-91	104 1/4	113	8 3/4	7 3/4	1	
8-1-91	104 1/4	112 1/2	8 1/4	8 1/4	—	
8-6-91	105	113 1/2	8 1/2	6 1/2	2.0	
8-16-91	104 3/4	113 3/4	9	8	1.0	
8-19-91	103 3/4	113 1/4	9 1/2	9 1/2	—	
8-22-91	103 1/2	112 1/2	9	8 3/4	.25	
8-30-91	103 1/2	112 1/2	9	7	2.0	
9-20-91	105 1/2	124 1/4	18	18	—	
9-27-91	107	124	17	16 1/2	.5	
10-18-91	108	123	15	10 1/2	4.5	
10-29-91	106 1/2	122 1/2	17	14 3/4	2.25	
11-18-91	103 1/2	122 1/2	19	18	1	
11-25-91	101 3/4	122 3/4	21	20 3/4	.25	
12-2-91	101 1/4	121 3/4	20 1/2	20 1/2	—	
12-10-91	99 3/4	122	22 1/4	22 1/4	—	
12-23-91	98	119	21	19	2	
1-2-92	99	122 3/4	23 3/4	23 1/2	.25	
1-6-92	98 1/4	121 1/2	23 1/4	23 1/4	—	
1-8-92	100 1/4	123	22 3/4	22 1/2	.25	
1-13-92	101 1/2	121 3/4	20 1/4	20 1/4	—	
1-20-92	97 1/2	118 1/2	21	21	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 6

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
1-28-92	93 1/4	118 1/2	25 1/4	25	.25	
2-3-92	89 1/2	121 1/2	32	32	—	
2-5-92	90 1/2	120 1/2	30	29 3/4	.25	
2-7-92	90 1/2	120	29 1/2	29 1/2	—	
2-10-92	90 1/2	120 1/2	30	30	—	
2-19-92	90 3/4	119 3/4	29	29	—	
2-24-92	89 3/4	119 3/4	30	30	—	
3-4-92	92 3/4	120 1/2	27 3/4	27 3/4	—	
3-17-92	95	120 1/2	25 1/2	25 1/2	—	
3-25-92	96 1/4	120 1/4	24	24	—	
4-3-92	97 1/4	119 1/4	22	22	—	
4-10-92	97 3/4	120 1/4	22 1/2	22 1/2	—	
4-21-92	97	120 1/4	23 1/4	23 1/4	—	
5-15-92	101 1/2	120 1/4	18 3/4	18 3/4	—	
5-26-92	103 1/4	119 3/4	16 1/2	16 1/2	—	
6-10-92	102 1/2	120	17 1/2	17 1/4	.25	
6-23-92	104 1/2	120	14 1/2	14 1/2	—	
7-6-92	103 1/2	119 3/4	16 1/4	15 1/2	.75	
7-8-92	104 1/2	119 1/2	15	14 1/2	.5	
7-27-92	105 1/2	119 1/2	14	13 1/2	.5	
7-31-92	105	119 1/2	14 1/2	14 1/2	—	
8-11-92	105 1/2	118 3/4	13 1/4	12 1/2	.75	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #7

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-8-91	114"	92"	22"	16"	6"	
2-9-91	88"	112"	24"	13"	11"	
2-10-91	88"	112"	24"	13"	11"	
2-11-91	87"	116"	29"	9"	20"	
2-12-91	87"	116	29"	19"	10"	
2-13-91	88"	108"	20"	11"	9"	
2-14-91	89"	111"	22"	12½"	9½"	
2-15-91	88"	111"	23"	14"	9"	
2-16-91	89	112	23"	16½	6½	
START FAP Pump 11:20 AM - STOPPED @ 2:40 PM 2-16-91						
2:40PM	91	112	21"	21"		
2-21-91	88	110	22"	15"	7"	START 4:30 AM
10:30 AM	90	110	20	20	-	STOP
2-22-91	89	107	18	20	⊖·2	START 4:30 AM
"	—	—	—	—	2	STOP 10:AM
2-24-91	87.5	109	21.5	13½	8.0	START 5:10 PM
2-25-91	91	110	19	19	0	Stop 8:55 AM
2-27-91	90	109	19	14½	4½	START 7:55 AM
2-27-91	92	113	21	21	0	Stop 11:45 PM
3-1-91	89	112	23	17½	5½	START 1:00 PM
3-1-91	91	114	23	22½	½	Stop 7:00 PM
3-3-91	86	111½	25½	20½	5	START 3 pm
3-4-91	85	111	26	21	5	Restart 12:45 PM
3-4-91	87	114	27	26½	½	Stop 3:40 pm

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 7

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
3-6-91	86	110	24	9½	15½	START 9:45p
3-7-91	88	110	22	20½	2½	Stop 11:00 A
3-11-91	88	114½	26	19	7	Start 12:45
3-11-91	88	110	22	18½	4½	Stop 8:30
3-16-91	87	112½	25½	15	10	Start 3pm
* 3-17-91	88	113	25	16½	8½	Stop 8:30a
3-17-91	88	113	25	16½	8½	Start 8:30
3-18-91	91	113	22	21	1	Stop 7:15a
3-20-91	89	111	22	19	3	Start 7:00a
3-20-91	89	112	23	22	1	Stop 12:30
3-22-91	90	111	21	18	3	Start 8:45 a
3-22-91	92	114	22	22	~~0~~	Stop 6:00 p
3-25-91	90	113	23	18	5	Start 7:15a
3-25-91	90	111	21	21	~~0~~	Stop 2:20 p
3-27-91	90	109	19	17	2	START 1:50p
3-27-91					~~0~~	Stop 7:00p
3-29-91	94	114	20	18	2	START 10:30p
3-30-91					~~0~~	Stop 8:30 A
4-1-91	94	112	18	14	4	Start 7:15p
4-2-91					0	Stop 6:30 A
4-3-91	93	112	19	18	1	START 7:30A
4-3-91					~~0~~	Stop 9:30 a
4-5-91	84	112	28	28	DID NOT PUMP	
4-8-91	85	112	27	24½	2½	Start 7:30a

* Pump NOT WORKING WELL @ 8:30 a.m. — Air Probably off overnite.

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL #7

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-8-91					~~0~~	Stop 12:30 pm
4-11-91	88	112	24	22	2	Start 1:30 pm
4-12-91					~~0~~	Stop 11:15 am
4-16-91	91	113	22	19	3	Start 10:00 AM
4-16-91					~~0~~	Stop 1:45 pm
4-19-91	89	108	19	17	2	Start 10:15 am
4-19-91					~~0~~	Stop 4:00 pm
4-25-91	92	111 1/2	19 1/2	16 1/2	3	Start 11:55 a
4-26-91					~~0~~	Stop 10:50 a
4-29-91	94	111	17	17	0	
4-30-91	92	108 1/2	16 1/2	16 1/2	—	
5-1-91	93 1/4	110 1/2	17 1/4	17	1/4	
5-2-91	94 1/2	110 1/2	16	16	—	
5-3-91	94	109 3/4	15 3/4	15 3/4	—	
5-6-91	93 1/2	109	15 1/2	15 1/2	—	
5-7-91	94 1/2	110 1/2	16	16	—	
5-8-91	94 1/4	110 1/2	16 1/4	16 1/4	—	
5-15-91	94 3/4	110 1/4	15 1/2	13 1/2	2.0	
5-21-91	95 3/4	110 1/4	14 1/2	14	.5"	
5-25-91	96 3/4	109 3/4	13	13	0	
5-31-91	96	108	12	10.5	1.5"	
6-10-91	97 1/2	108 3/4	11 1/4	9 3/4	1.5"	
6-13-91	97 1/2	109 3/4	12 1/4	11 1/2	0.75"	
6-17-91	97 3/4	107 1/2	9 3/4	9	.75"	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 7

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
6-19-91	98 1/2	109	10 1/2	10 1/4	.25"	
6-26-91	97 3/4	108 1/2	10 3/4	9 3/4	1.0"	
7-9-91	100 1/2	109 3/4	9 1/4	7 1/2	1.75	
7-22 91	99	108	9	6 1/2	2 1/2	
7-25-91	99 3/4	108 1/2	8 3/4	8 1/4	.5	
8-1-91	100 3/4	109	8 1/4	8	.25	
8-6-91	100	108 1/4	8 1/4	8	.25	
8-16-91	99 1/4	107 3/4	8 1/2	6 3/4	1.75	
8-19-91	99 1/4	107	7 3/4	7 3/4	—	
8-22-91	100 1/2	108 3/4	8 1/4	8	.25	
8-30-91	99 1/2	110 1/4	10 3/4	10	.75	
9-20-91	101 3/4	119 3/4	18	16 1/2	2.5	
9-27-91	101	119 3/4	18 3/4	17	1.75	
10-18-91	104	121	17	15	2	
10-29-91	102 1/2	119 1/2	17	13 3/4	3.25	
11-18-91	97	119 1/2	22 1/2	19 3/4	2.75	
11-25-91	95 3/4	119 1/4	23 1/2	23 1/4	.25	
12-2-91	95 3/4	116 1/4	20 1/2	20 1/4	.25	
12-10-92	94 3/4	118 3/4	24	23 1/2	.5	
12-23-92	93	115	23	20	3	
1-2-92	94 1/2	119	24 1/2	24 1/2	—	
1-6-92	94 1/4	119 1/2	25 1/4	25 1/4	—	
1-8-92	93 3/4	116	22 1/4	22	.25	
1-13-92	93 1/2	117	23 1/2	23 1/2	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 7

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
1-20-92	94 1/4	116 1/4	22	22	—	
1-28-92	88 3/4	116	27 1/4	27	.25	
2-3-92	81 1/2	114 3/4	33 1/4	33 1/4	—	
2-5-92	84	115 3/4	31 3/4	31 3/4	—	
2-7-92	83 1/2	114 3/4	31 1/4	31 1/2	—	
2-10-92	82 1/4	110 1/2	28 1/4	28 1/4	—	
2-19-92	82 3/4	112 3/4	30	30	—	
2-24-92	82 1/4	113 3/4	31 1/2	31 1/2	—	
3-4-92	86	113 3/4	27 3/4	27 3/4	—	
3-17-92	88 1/2	114 1/2	26	26	—	
3-25-92	89 3/4	115 3/4	26	26	—	
4-3-92	91 1/4	114	22 3/4	22 3/4	—	
4-10-92	89 3/4	113 3/4	24	24	—	
4-21-92	89 3/4	114 1/4	24 1/2	24 1/2	—	
5-15-92	94 1/4	113 3/4	19 1/2	19 1/2	—	
5-26-92	95 1/2	113 1/2	18	18	—	
6-10-92	96 3/4	114 3/4	18	18	—	
6-23-92	98	112	14	13 1/2	.5	
7-6-92	96 1/2	113 1/4	16 3/4	16 1/4	.5	
7-8-92	97	113 1/2	16 1/2	16 1/2	—	
7-27-92	97 1/2	111 1/4	13 3/4	12 1/2	1.25	
7-31-92	97 3/4	112 1/2	14 3/4	14 3/4	—	
8-11-92	99 1/4	113 1/4	14	13 1/2	.5	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #8

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-8-91	98"	120½"	22½"	17"	5½"	
2-9-91	97"	118"	21"	14½"	6½"	
2-10-91	96"	123½"	27½"	21"	6½"	
2-11-91	96"	119"	23"	18"	5"	
2-12-91	96"	119"	23"	8"	15"	
2-13-91	98"	119"	21"	13"	8"	
2-14-91	94"	112½"	18½"	5½"	13"	
2-15-91	99"	120"	21"	16½"	4½"	
2-16-91	99	122	23	19"	4"	
2-18-91	101	119½	18½	16	2½	10:30 AM START FAP
1:40PM	101	120	19"	19"	STOP FAP	
2-20-91	102½	124	21½	15½	6"	START 3:25PM
"	105	124	19	18½	1½"	STOP FAP 6:50
2-25-91	103	123	20	13	7"	START 8:55 AM
	99½	120	20½	19½	1"	STOP 6:40 PM
2-27-91	98	116	18	14	4	START 11:00PM
2-27-91	103	119½	16½	17½	1	Stop 12:00PM
3-4-91	93½	119½	23½	21	2½	START 3:40PM
3-4-91	96	121	25	24½	½	Stop 7:00 PM
3-7-91	96	119	23	21½	1½	START 6:00 pm
3-7-91	98½	120	21½	21½	—	Stop 9:30pm
3-8-91	101	121	20	11½	8½	START 7:45 AM
3-8-91	96½	121	24½	24	½	Stop 6:00 pm
3-11-91	100	123	23	21½	1½	START 10:00AM

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 8

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
3-11-91	100	123	23	23	0	Stop 12:30p
3-15-91	96	118	22	20	2"	Start 7:30am
3-15-91	102	121	19	19	0	Stop 10:20am
3-20-91	101	122	21	20	1	Start 12:40p
3-20-91	102	121	19	19	0	Stop 5:00pm
3-25-91	101	122	21	18	3	Start 2:30p
3-26-91	98½	118½	20	16	4	Stop 7:50AM
3-26-91	98	118	20	18	4	Start 12:15pm
3-26-91	99	119	20	20	0	Stop 7:00p
3-27-91	101	120	19	17½	2½	Start 10:30a
3-27-91	104	123	19	19	—	Stop 1:45pm
3-29-91	106	122½	16½	15½	1	Start 5:30p
3-29-91					0	Stop 8:30p
4-1-91	101	119	18	13	5	Start 8:30AM
4-1-91	101	121	20	18	2	Stop 7:05PM
4-6-91	91	118	27	25	2	Start 10:00AM
4-6-91					0	Stop 4:00pm
4-10-91	89	118	29	27	2	Start 12:30pm
4-11-91					0	Stop 10:30AM
4-16-91	101½	121½	20	18	2"	Start 1:45pm
4-17-91					0	Stop 12:15am
4-19-91	99	117	19	16½	2½	Start 4:00pm
4-19-91					0	Stop 8:00pm
4-26-91	104	121	16	15	1	Start 10:50am

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 8

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-26-91					0	Stop 1:45 pm
4-29-91	102 1/2	119 1/2	17	15 1/2	1 1/2	
4-29-91	102	119	17	15	2	Start 10:40 a
4-30-91	102 1/2	119 1/2	17	16 3/4	1/4	
5-1-91	102	119 1/2	17 1/2	16 1/2	1	
5-2-91	102 1/2	119 1/2	17	16 1/2	1/2	
5-3-91	102 1/2	119	16 1/2	16 1/2	—	
5-6-91	105	120 1/4	15 1/4	15 1/4	—	
5-7-91	104 1/4	118 1/4	14	14	—	
5-8-91	102 1/2	119 1/4	17	17	—	
5-15-91	102 1/2	118	15.5	13 1/4	2.25"	
5-21-91	103 1/4	119	15 3/4	15	.75"	
5-25-91	104 1/2	118	13 1/2	13	.5"	
5-31-91	105	117 3/4	12 3/4	11.5	1.25"	
6-10-91	105 3/4	119 1/2	13 3/4	11 1/4	2.5"	
6-13-91	106 1/4	118	11 3/4	11 1/4	0.50"	
6-17-91	106 1/2	118 1/2	12	11 1/2	.50"	
6-19-91	106 1/2	118	11 1/2	11	.5	
6-26-91	106	118 1/2	12 1/2	11 1/4	1.25	
7-9-91	109	118 1/2	9 1/2	7 3/4	1.75	
7-22-91	109	117 1/2	8 1/2	7	1 1/2	
7-25-91	109 1/2	118 3/4	9 1/4	7 1/2	1.75	
8-1-91	110 1/4	119 1/4	9	7 3/4	1.25	
8-6-91	110 1/2	118 3/4	8 1/4	8 1/4	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 8

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
8-16-91	110 1/4	118 1/2	8 1/4	7	1.25	
8-19-91	110 3/4	117 3/4	7	7	—	
8-22-91	109 3/4	117	7 1/4	6.75	.5	
8-30-91	106 1/2	117 1/2	11	10 1/2	.5	
9-20-91	112 3/4	127 1/2	14 3/4	13 3/4	1.0	
9-27-91	110 1/2	128 3/4	18 1/4	17 1/2	.75	
10-18-91	117	127	10	8	2	
10-29-91	110 3/4	126 1/2	15 3/4	14 1/2	1.25	
11-18-91	110 1/2	129 1/4	18 3/4	18 3/4	—	
11-25-91	106 1/2	127 1/2	21	20 3/4	.25	
12-2-91	106 3/4	125	18 1/4	17 3/4	.5	
12-10-92	99 1/2	125 3/4	26 1/4	26	.25	
12-23-92	104	127	23	18 1/2	4 1/2	
1-2-92	102 1/2	127 1/4	24 3/4	20	4.75	
1-6-92	102 3/4	125	22 1/4	20	2.25	
1-8-92	103 3/4	125	21 1/4	20 3/4	.50	
1-13-92	103 1/2	124 3/4	21 1/4	19 1/2	1.75	
1-20-92	104 1/2	123 1/4	18 3/4	18 3/4	—	
1-28-92	100 1/2	125	24 1/2	24	.50	
2-3-92	94 1/2	124	29 1/2	29	.50	
2-5-92	95 1/4	124 1/4	29	28 1/2	.50	
2-7-92	95 3/4	124 1/2	28 3/4	28 1/2	.25	
2-10-92	95 1/4	124 1/4	29	28	1	
2-19-92	95 1/2	123 1/2	28	26 1/4	1.75	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 8

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-24-92	94 3/4	125 1/4	30 1/2	29	1.5	
3-4-92	97 1/2	124 3/4	27 1/4	24 3/4	2.5	
3-17-92	101 1/2	125 1/2	24	22 3/4	1.25	
3-25-92	100 1/2	123	22 1/2	22 1/2	—	
4-3-92	103 1/2	123 3/4	20 1/4	20 1/4	—	
4-10-92	103 1/2	123 3/4	20 1/4	20 1/4	—	
4-21-92	102 3/4	125	22 1/4	22	.25	
5-15-92	108 1/4	123 1/4	15	14	1.0	
5-26-92	108 1/2	123	14 1/2	14	.5	
6-10-92	107 1/2	123 1/2	16	15 1/4	.75	
6-23-92	109 1/2	123 1/2	14	12 3/4	1.25	
7-6-92	109 1/4	124	14 3/4	14	.75	
7-8-92	110 1/4	123 1/4	13	12 1/4	.75	
7-27-92	112 1/4	123 1/2	11 1/4	10 1/2	.75	
7-31-92	111 3/4	122 3/4	11	10 1/4	.75	
8-11-92	112 1/4	123 3/4	11 1/2	11	.5	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # #9

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-8-91	100"	120"	20"			
2-9-91	100½"	117"	17"	16"	1"	
2-10-91	100"	120"	20"	18½"	1½"	
2-11-91	100"	119"	19"	17"	2"	
2-12-91	100"	119"	19"	17"	2"	
2-13-91	100"	116"	16"	12"	4"	
2-14-91	103"	119"	16	15"	1"	
2-15-91	103"	121"	18"	17½"	½"	
2-16-91	102"	120	18"	14"	4"	
2-17-91	102	119½	17½	15½	2" -	Started Pump.
4:30PM	102	120	18"	17¼	Stoped & Pump.	
2-20-91	102	119	17"	15"	2"	Start 6:50 PM
10:30 PM	103	119	16	15½	½"	Stop Pump
2-27-91	103	118½	15½	13	2½	START 11:50 AM
2-27-91	104	120	16	15½	½	STOP 2:05 PM
3-4-91	91½	119½	22	19½	2½	Start 7:00 PM
3-4-91	100	122	22	22	—	Stop 10:00 PM
3-11-91	98½	117½	19	17	2	START 7:00 AM
3-11-91	99	118	19	19	0	Stop 10:00 AM
3-19-91	99	120	21	19½	1½	Start 2:00 pm
3-19-91	100	117	17	NO PAGE		Stop 6:15 pm
3-20-91	100	119½	19½	18	1	Start 5:00 pm
3-20-91	101	118	17	17	0	Stop 8:00 pm
3-29-91	103	119	16	15	1	Start 8:30 pm
3-29-91					0	Stop 10:30 pm

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 9

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
2-3-92	97 3/4	126	28 1/4	28 1/4	—	
2-5-92	99 1/4	124 1/2	25 1/4	25 1/4	—	
2-7-92	99	125 1/4	26 1/4	26	—	
2-10-92	99	125	26	26	—	
2-19-92	99 1/2	123 1/4	23 3/4	23 3/4	—	
2-24-92	98 1/4	123	24 3/4	24 3/4	—	
3-4-92	101 1/4	125 3/4	24 1/2	24 1/2	—	
3-17-92	104 1/4	122 1/2	18 1/4	18 1/4	—	
3-25-92	104 1/2	124 1/4	23 3/4	23 3/4	—	
4-3-92	106 1/2	123 3/4	17 1/4	17 1/4	—	
4-10-92	106 1/2	124 1/4	17 3/4	17 3/4	—	
4-21-92	105	122 1/2	17 1/2	17 1/2	—	
5-15-92	110	125 1/2	15 1/2	15 1/2	—	
5-26-92	111 1/2	126	14 1/2	14 1/2	—	
6-10-92	111 1/2	123 1/2	12	12	—	
6-23-92	113	123 1/4	10 1/4	10 1/4	—	
7-6-92	112	123 1/2	11 1/2	11 1/2	—	
7-8-92	112 1/2	121	8 1/2	8 1/2	—	
7-27-92	114	123 3/4	9 3/4	7	2.75	
7-31-92	113 1/2	122 1/2	9	8 1/4	.75	
8-11-92	113 3/4	123 1/2	9 3/4	9 1/4	.5	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL #9

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
7-9-91	112	119½	7½	6¾	.75	
7-22-91	111	119	8	7½	½	
7-25-91	111½	119½	8	8	—	
8-1-91	113¼	120	6¾	6¾	—	
8-6-91	112¼	118½	6¼	6	.25	
8-16-91	112½	120	7½	7½	—	
8-29-91	112	119½	7½	7½	—	
8-[illegible]-91	112¼	118½	6¼	5	1.25	
8-29-91	112½	120¾	8¼	8¼	—	
9-20-91	114	128¾	14¾	12¼	2.5	
9-[illegible]-91	113	128¾	15¾	14½	1.25	
9-18-91	117	129	12	11	1	
10-29-91	114½	127	12½	12	.5	
11-18-92	112	128	16	6	10	
11-25-92	109¾	126¾	17	16¾	.25	
12-2-92	110	126½	16½	16½	—	
12-10-91	109¼	125½	16¼	16	.25	
12-23-91	108	125	17	17	0	
1-2-92	107½	126½	19	19	—	
1-6-92	106½	128	21½	21½	—	
1-8-92	107½	124½	17	17	—	
1-13-92	107½	123¼	15¾	15¾	—	
1-20-92	108	123	15	15	—	
1-28-92	103	125¼	22¼	22¼	—	

LIQUID/PRODUCT LEVELS - CULVERT WELLS

CULVERT WELL # 9

DATE	-1- TOP OF LIQUID	-2- BOTTOM MEASURE-MENT	-3- NET (COLUMN 1 MINUS 2)	-4- WATER DEPTH	-5- PRODUCT DEPTH (COLUMN 3 MINUS 4)	-6- TOTAL VOLUME
4-3-91	92	120	28	25	3	Start 4:30 pm
4-4-91	76	118½	42½	42½	~~0~~	Stop 9:40 AM
4-17-91	102½	121	18½	18	½	Start 2:50 pm
4-17-91					~~0~~	Stop 6:15 pm
4-22-91	104	119	15	14½	½	Start 12:25 pm
4-22-91					~~0~~	Stop 5:45 pm
4-26-91	104	119½	15½	15½	~~0~~	
4-29-91	104½	118	13½	13½	0	
4-30-91	106	120	14	14	—	
5-1-91	106	119½	13½	13½	—	
5-2-91	105½	119½	14	14	—	
5-3-91	106¼	120¼	14	14	—	
5-6-91	107	121½	14½	14½	—	
5-7-91	107¼	120½	13¼	13¼	—	
5-8-91	105¼	119¾	14½	14½	—	
5-15-91	107½	119½	12	12	—	
5-21-91	108½	119¾	11¼	11¼	—	
5-25-91	109	120	11	11	—	
5-31-91	109¼	120½	11¼	11¼	—	
6-10-91	110½	120	9½	9½	—	
6-13-91	110	120½	10½	10½	—	
6-17-91	111	120½	9½	9½	—	
6-19-91	1103/4	1193/4	9	9	—	
6-26-91	110¼	120¼	10	10	—	

Appendix B

Certification of Soil Disposal from Regional Disposal Company

No. 92-2502

BILL OF LADING
PETROLEUM-CONTAMINATED SOIL

REGIONAL DISPOSAL COMPANY
4730 32nd Avenue South
Seattle, WA 98118
Ph: (206) 725-1100 / Fax: (206) 723-9591

This Bill of Lading augments the Master Service Agreement entered into by Longview Fibre ("Customer") and Regional Disposal Company("RDC") on _____, 19__ ("Agreement"). The terms herein are made a part of the Agreement. In the event of conflict between this Bill of Lading and the Agreement, the terms of the Agreement prevail.

RDC hereby authorizes the Wastes described in PSC Certification No. 92-2502, signed by Customer on _____, 19____ ("Waste"), for disposal at Roosevelt Regional Landfill. Customer shall present a copy of this Bill Of Lading with each shipment delivered.

Location of Waste: 5901 E Marginal Way South

Method of Shipment: Meridian Excavating

Additional Fees (e.g., laboratory, transport or special handling fee; if none, so state): None

PERFORMANCE DATE

For RDC Transportation: Customer shall make the Waste available for shipment no later than 11/30/92. RDC shall transport the Waste no later than 11/30/92, unless RDC notifies Customer in writing that Waste transport shall be suspended or canceled due to RDC's exercise of its right to inspect or analyze the Waste (as provided in the Agreement).

For Customer Transportation: Customer shall begin delivery of the Waste at (Roosevelt Regional Landfill☐) or (Third & Lander Intermodal Facility☒) no later than 11/30/92, and shall complete delivery of the Waste no later than 11/30, 1992 unless RDC notifies Customer in writing to suspend or cancel the Waste delivery due to RDC's exercise of its right to inspect or analyze the Waste(as provided in the agreement). Return of containers after delivery completion date stated above shall be charged rent at $ n/a per week.
(Fill in per Master Service Agreement)

Signature of Authorized Agent — Date: 10-14-92

For: V.P.
Regional Disposal Company

Signature of Authorized Agent — Date: 10-14-92

For: Longview Fibre Co.
Customer

Revised 7/92

92-2502

REGIONAL DISPOSAL COMPANY
MASTER SERVICES AGREEMENT
PETROLEUM CONTAMINATED SOIL
TRANSPORT/DISPOSAL

1. Purpose of Agreement. Longview Fibre ("Customer") and Regional Disposal Company ("RDC") (the "Parties") enter into this Agreement to establish terms for disposal or transport and disposal of Customer's petroleum-contaminated soil at RDC's Roosevelt Regional Landfill, near Roosevelt, Washington ("Landfill"). This Agreement provides general terms for all shipments of Customer's waste soil to the Landfill. Terms which vary with respect to Customer's different sources of soil (for example, fees, shipment dates and testing requirements) are established in supplemental documents which become part of this Agreement when they are completed.

2. Customer's Responsibilities.

A. Acceptable Waste. Customer shall tender only Acceptable Wastes to RDC for transport or disposal. "Acceptable Waste" means petroleum-contaminated soils which are not Dangerous or Extremely Hazardous Wastes under Ch. 173-303 WAC (as now provided or as hereafter amended) and which are not precluded from disposal at the Landfill by other law, regulation or governmental restriction.

B. Waste Certification. For each discrete source of petroleum-contaminated soil, Customer shall arrange for tests as described in the "Certification" form, and send the completed form and test documentation to RDC. Customers must satisfy all testing procedures listed on the Certification for unless RDC indicates otherwise upon the Certification form blank provided to the Customer. Consultants or their contractors working with Customer may complete and sign the Certification form as Customer's agent. When completed and signed by the Customer or the Customer's agent, the Certification for shall become part of this Agreement.

C. Bill of Lading and Tender. Upon receipt of the completed Certification Form, RDC will provide the Customer a signed "Bill of Lading" form authorizing acceptance of a designated number of shipments and specifying additional fees (if any) and dates. Customer shall return a signed original Bill of Lading to RDC. When signed by both parties, the Bill of Lading shall become part of this Agreement. Customer shall further present a copy of the signed Bill of Lading when tendering each shipment of waste for transport or disposal. Tender shall occur during the dates specified on the Bill of Lading.

D. Fees. For services provided under this Agreement, Customer shall pay RDC 40.50 dollars per ton delivered to Rabanco's inter modal facility at Third and Lander in Seattle, n/a dollars per ton delivered to the Roosevelt Regional Landfill or n/a dollars per ton with RDC providing transportation from site. Customer shall also pay additional fees, if any, specified on the Bill of Lading. Except as otherwise, specifically stated herein, all prices and charges set forth herein and on Bills of Lading are exclusive of sales tax, use tax, and other federal, state, and local taxes and applicable duties and royalties.

E. Payment, Services Charges and Late Fees.

(1) Advance Payment. Unless RDC provides written authorization for Customer to use the credit arrangements specified in paragraph (2) below, payment terms are as follows: advance payment in certified funds of twenty-five percent (25%) of the original contract estimate. When this advance payment is depleted, the Customer must reinstate the amount in successive increments until all actual fees (not estimated fees) and other charges are paid in full.

(2) **Credit**. If RDC authorizes credit terms for the Customer, fee payment for each shipment is due thirty (30) days after RDC accepts the waste either for transport or disposal. RDC shall charge and Customer shall pay a service charge of one and one-half percent per month or the maximum rate permitted by law, whichever is less, on any amounts paid after such (30(day period. Customer acknowledges that late payment by Customer to RDC of sums due hereunder will cause RDC to incur costs not contemplated by this Agreement, the exact amount of which will be extremely difficult to ascertain. Such costs included, but are not limited to, processing and accounting charges. Accordingly, if any payment from Customer shall not be received by RDC on or before the date such sum is due, in addition to the interest charge stated above, Customer shall pay automatically to RDC a late charge equal to five percent (5%) of the amount past due, but in no event more than the maximum rate permitted by law. Customer shall also pay all reasonable costs of collection, including attorney's fees, incurred by RDC in the collection of amounts owing but not paid by Customer within such thirty (30) day period.

F. Use of RDC Containers. Fees specified above include the intended use of RDC's waste shipping containers for the period from container deliver to the waste deliver completion date. Customer is responsible for any damage to RDC's containers which occurs during Customer's use or possession of them, excluding damage normally resulting from ordinary use. To compensate RDC for delayed return of its shipping containers, Customer shall pay RDC a use fee of n/a dollars for each day during which it retains the containers beyond the date for delivery completion established in the applicable Bill of Lading.

G. Maximum Weight in Containers/Fees. RDC will accept loaded containers having a net weight of up to twenty-five (25) tons. If Customer tenders loaded containers exceeding twenty-five (25) tons net weight, Customer shall pay RDC a fee equal to twenty-five percent (25%) of the container charge specified herein to compensate RDC for the wear resulting from excess weight.

3. RDC's Responsibilities. RDC shall transport or dispose of the waste pursuant to the terms herein, except in instances where: (A) RDC rejects shipments of soil under Paragraph 5 below ("RDC Inspection of Waste"); or (B) RDC rejects shipments because Customer has breached a term of this Agreement.

4. Assurances. Customer agrees to defend, indemnify and hold RDC harmless from and against any and all claims, demands, causes of action, damages, liabilities, losses, expenses, penalties and all costs of defense relative thereto, including legal fees, caused by or resulting from breach of this agreement by the Customer, specifically including any breach of Customer's obligation to tender only Acceptable Waste to RDC for transport or disposal. RDC agrees to defend, indemnify and hold Customer harmless from and against any and all claims, demands, causes of action, damages, liabilities, losses, expenses, penalties and costs of defense relative thereto, including legal fees, caused by or resulting from any breach of this agreement by RDC. Notwithstanding any other provision herein, obligations created by this provision shall survive the Agreement.

5. RDC Inspection of Waste. RDC shall be entitled to inspect and analyze each shipment of petroleum-contaminated soil tendered by Customer for transportation or disposal. RDC's right to verify tests under this paragraph is entirely discretionary and imposes no duty on RDC; Customer bears sole responsibility under this Agreement for tendering only Acceptable Wastes. If RDC tests Customer's waste, Customer shall pay RDC's cost incurred in testing the wastes. If RDC determines that the waste is not Acceptable Waste, using the testing procedures and criteria referenced in the RDC Certification form, it may reject the waste by providing written notice, with documented test results, to the Customer. Removal (of necessary) and disposal of wastes rejected according to these standards shall be the responsibility of the Customer. If RDC rejects waste as unacceptable, RDC reserves the right to transport the waste to an alternate disposal site or to return it to Customer's site, and to collect from Customer any expenses or damages incurred thereby, including but not limited to transport, storage or disposal costs.

6. Title to Waste. Title and ownership to wastes shall pass to RDC after RDC has accepted the waste for disposal and received payments of all amounts due.

7. Restrictions on Transportation Routes. The Landfill's permits preclude trucking of Landfill-bound wastes via US 97 between Toppenish and Goldendale, and via routes through the Columbia River Gorge National Scenic Area (unless the waste originates in these areas). To comply with these restrictions, neither Customer nor RDC shall transport Customer's wastes by truck on these routes.

8. Term and Notices. This Agreement shall remain in effect until canceled. Either party may cancel with or without cause upon thirty days' written notice. All notice or payment provided to RDC under this Agreement shall be by U.S. mail to RDC (Attn: Lin Grindle), 4730 32nd Avenue South, Seattle, WA 98118. All notices or correspondence due to Customer under this Agreement shall be by U.S. mail to:

_____

_____

9. Unenforceability. If any provision contained in this Agreement is held to be unenforceable by a court of law or equity, this Agreement shall be construed as if such provision did not exist, and the unenforceability of such provision shall not be held to render any other provision of this Agreement unenforceable.

10. Cost or Attorney Fees. If either Party finds it necessary to retain an attorney to interpret or enforce this Agreement as a result of any default or breach of this Agreement, the prevailing party shall be entitled to recover, in addition to all other relief, all attorney fees, costs and expenses incurred by the prevailing party in connection with such default or breach.

11. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Washington.

12. Entire Agreement. This Agreement constitutes the entire agreement between Customer and RDC relating to the transport or disposal of petroleum-contaminated soils and supersedes any and all prior agreements, whether written or oral, that may exist between Customer and RDC. This Agreement shall control in the event of conflict with terms which may be contained in Certification or Bill of Lading forms signed by RDC or Customer prior to or subsequent to this Agreement.

Signature — Date

Printed Name and Title

For: Longview Fibre Co.
Customer

Signature — 10-14-92 Date

Printed Name and Title

For: Regional Disposal Company

No. 92-2502

CERTIFICATION

REGIONAL DISPOSAL CO.
4730 32nd Avenue S.
Seattle, WA 98118-1702
Ph: (206) 725-1700 / Fax (206) 723-9591

GENERAL INFORMATION FOR PETROLEUM CONTAMINATED SOIL

1. Customer's name and address: Longview Fibre
   Phone:_____ Fax:_____
2. Owner's name and address *(owner of property where soil originated, if different from #1)* Same
   Phone:_____ Fax:_____
3. Hauler's name and address: Meridian Excavating
   Phone:_____ Fax:_____
4. Consultant's name and address: CH2M Hill, 777 108th Ave NE, Bellevue WA 98004
   Phone:_____ Fax:_____
5. Amount of Waste: 1000 tons
6. Waste's current location *(include nearest road and railhead access, if known)*: 5901 E Marginal Way South
7. Original location of contaminated soil: Same
8. Activity which generated Waste: leaking diesel fuel
9. Please check appropriate boxes describing activities which occurred on or near the soil's current and original locations:

	Current location	Original location		Current location	Original location
a. Tank Storage: petroleum products	☐	☒	g. Wrecking/materials recovery	☐	☐
b. Tank storage: waste oil or other	☐	☐	h. Manufacturing	☐	☐
c. Fuel handling or transfer	☐	☐	i. painting/sealing	☐	☐
d. Handling or transfer of other liquids	☐	☐	j. Waste disposal	☐	☐
e. Wood preservative handling	☐	☐	k. Other (please describe)	☐	☐
f. Use of solvents	☐	☐			

PETROLEUM CONTAMINATED SOIL WASTE ANALYSIS

Customer shall indicate completion of the following by initial:

✓ 1. Waste samples were collected in accordance with WAC 173-303-110 (2).
✓ 2. Lab analytical procedures complied with WAC 173-303-110 (3).
✓ 3. Waste has been analyzed in accordance with RDC's latest waste acceptance protocols.
✓ 4. Chain of custody and lab analytical data for required waste analyses is attached.

Customer certifies that:

1. The Waste sampled and intended for disposal under this Certification is neither Dangerous nor Extremely Hazardous Waste as determined by Ch. 173-303-WAC.
2. The Waste has no free liquids per WAC 173-303-110 (3)(c)(i).
3. Customer further certifies that to the best of its knowledge, there have been no alterations to the Waste that would affect the accuracy of the analyses performed above; that there have been no material changes in the character of the Waste after the analyses were performed which would render those analyses inaccurate; and that the samples analyzed are representative of the Waste to be tendered to Regional Disposal Company.

This document (including its attachments) is hereby incorporated into the MASTER SERVICE AGREEMENT for PETROLEUM CONTAMINATED SOIL executed by Longview Fibre and Regional Disposal Company on_____, 19___ ("Agreement").
If there are conflicts between this Certification and the Agreement, the Agreement's terms shall prevail.

Michael R. Warfel
Signature of Authorized Agent

10-19-92
Date

Printed Name and Title Michael R. Warfel CH2M HILL

For: Longview Fibre
Customer

Revised 9/92
CDL5p2/lj/s

Appendix C

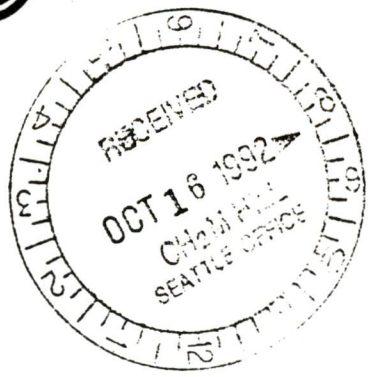
Laboratory Reports for Soil Samples

ANALYTICAL RESOURCES INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

15 October 1992



Mike Warfel
CH2M Hill
P.O. Box 91500
Bellevue, WA 98009

RE: Client Project: #SEA 31443.AA Longview Fiber
ARI Project: #B957

Dear Mr. Warfel:

Please find enclosed the original chain-of-custody record and results for samples from the above referenced project. Three soil samples were received, in good condition, on 10/13/92 for WTPH-diesel analysis. Preliminary results were faxed to you yesterday; there were no changes to these values upon final review.

A copy of this package and all the associated raw data and benchsheets will be kept on file with ARI should you require any additional information, or copies of any of the paperwork. Also, if you have questions, please feel free to call me any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kate Stegemoeller
Project Coordinator
206-340-2866, ext. 117

KAS/ks

Enclosures

cc: file #B957

ANALYTICAL RESOURCES INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

SOIL DIESEL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: B957

Client: CH2M Hill
Project: SEA 31443.AA
Longview Fiber

Sample No: Spike Blank

COMPOUND	SPIKE ADDED (mg/Kg)	SAMPLE CONC (mg/Kg)	SB CONC (mg/Kg)	SB % REC	QC LIMITS REC
Diesel	125	NA	138	111	50-150

Surrogate % recovery	
Diesel	**111%**

Comments: Advisory QC limits

FORM III Diesel

Chain of Custody Record & Laboratory Analysis Request

Date: 10-13-92

Page 1 of 1

Number of coolers: —

ANALYTICAL RESOURCES INCORPORATED
333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ARI Client: CH2M HILL Phone #: 453-5000

Client Contact: Mike Warfel

Client Project ID: SEA 31443.AA

Samplers: Tim McCormack

	Sample ID	Date	Time	Matx	No Cont	Lab ID	Analysis Required: WTPH-D 24hr	Notes/Comments
1	LFCO-CO-10/13-03	10-13-92		Soil	1		X	hold for possible additional testing
2	LFCO-CO-10/13-02	10-13-92		Soil	1		X	
3	LFCO-CO-10/13-04	10-13-92		Soil	1		X	
4								
5								
6								
7								
8								

Comments/Special Instructions:

Relinquished by: (Signature)	Michael R. Warfel	Relinquished by: (Signature)		Relinquished by: (Signature)	
Printed Name:	Michael R. Warfel	Printed Name:		Printed Name:	
Company:	CH2M HILL	Company:		Company:	
Date:	10-13-92 Time: 10:45am	Date:	Time:	Date:	Time:
Received by: (Signature)	Jan Felkins	Received by: (Signature)		Received by: (Signature)	
Printed Name:	JAN FELKINS	Printed Name:		Printed Name:	
Company:	A.R.I.	Company:		Company:	
Date:	10/13/92 Time: 10:45	Date:	Time:	Date:	Time:

A.R.I. # B957

ANALYTICAL RESOURCES INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

TOTAL DIESEL RANGE HYDROCARBONS
WA TPHD Method by GC/FID

Matrix: Soil

QC Report No: B957-CH2M Hill
Project: SEA 31443.AA
Longview Fiber
VTSR: 10/13/92

Data Release Authorized:
Data Prepared: 10/14/92 - MAC:K kas

Date extracted: 10/13/92
Dates Analyzed: 10/13-10/14/1992

Lab ID	Client Sample ID	Dilution Factor	Diesel Range Hydrocarbons †	Diesel ID *	Surrogate Recovery
B957 MB	*Method Blank*	-	5.0 U	-	85.9%
B957 A	LFCO-CO-10/13-03	-	8300 X	Yes	101%
B957 B	LFCO-CO-10/13-02	-	8400 X	Yes	103%
B957 Bdup	LFCO-CO-10/13-02	-	8400 X	Yes	108%
B957 Bms	LFCO-CO-10/13-02	-	7900 X	Yes	96.4%
B957 Bmsd	LFCO-CO-10/13-02	-	8700 X	Yes	117%
B957 C	LFCO-CO-10/13-04	-	8.9	Yes	99.3%
B957 Adl	LFCO-CO-10/13-03	50	9800	Yes	D
B957 Bdl	LFCO-CO-10/13-02	50	9200	Yes	D
B957 Bdupdl	LFCO-CO-10/13-02	50	8700	Yes	D
B957 Bmsdl	LFCO-CO-10/13-02	50	8500	Yes	D
B957 Bmsddl	LFCO-CO-10/13-02	50	9100	Yes	D

Surrogate is Me-Arachidate.

Values reported in ppm (mg/Kg).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
S Indicates saturation of the detector. Dilution required.
* In the opinion of the analyst, there was a pattern match for diesel (yes or no).
† Value based on total peaks in range from C12-C24.
D Indicates the surrogate was diluted out.