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June 2013 Quarterly Groundwater Monitoring Report

**Former Whitty's Minimart
485 South Main Street
Colville, WA 99114**

Prepared for:

**Jeff Whitten
Whitten Oil Company
P.O. Box 150
Colville, WA 99114**

Prepared by:

**West Central Environmental Consultants, Inc.
1030 South Ave. West
Missoula, MT 59801**

August 6, 2013

WCEC Project No. 99-2940-90

WCEC

West Central Environmental Consultants, Inc.

Nationwide Services
www.wcec.com

Environmental



Emergency Response



Industrial Services

August 6, 2013

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DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

Jeff Whitten
Whitten Oil Company
P.O. Box 150
Colville, WA 99114

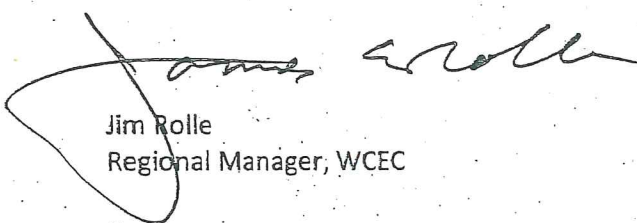
Re: **June 2013 Quarterly Groundwater Monitoring Report** for the Former Whitty's Minimart, Colville, WA.

Dear Mr. Whitten:

Enclosed for your review is the **June 2013 Quarterly Groundwater Monitoring Report** for the Former Whitty's Minimart located in Colville, Washington. Groundwater monitoring was conducted on June 27, 2013.

Please call or email me at jrolle@wcec.com if you have any questions regarding the report or sampling activities. Thank you for your time and consideration of this report.

Sincerely,



Jim Rolle
Regional Manager, WCEC

Enclosure

cc: Michael Boatsman, WDOE, Spokane, WA

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1.0 Introduction

1.1 General

This report documents the quarterly groundwater monitoring event conducted on June 27, 2013 by West Central Environmental Consultants (WCEC) at the former Whitty's Minimart in Colville, Washington [Figure 1]. WCEC prepared this report on behalf of Whitten Oil Company, Inc., (Whitten Oil) and Federated Service Insurance Company (Federated) pursuant to the requirements of the Final Cleanup Action Plan (Washington State Department of Ecology [Ecology], 1997), which describes final cleanup action requirements at the site. WCEC has conducted groundwater monitoring and reporting since these duties were transferred from Summit Envirosolutions, Inc. (Summit), in February of 2000. This report was prepared in accordance with Washington Administrative Code (WAC) sections 173-340-410 and 173-340-820, which describe the requirements for compliance monitoring, sampling, and analysis plans, respectively.

1.2 Constituents of Concern

The groundwater constituents of concern (COC) for this site and the corresponding cleanup levels are listed in Section 8.1 of the Final Cleanup Action Plan (Ecology, 1997). The COCs include total petroleum hydrocarbons in the gasoline and diesel ranges (TPH-G and TPH-D, respectively), and the following volatile constituents of gasoline: benzene, toluene, ethylbenzene, and total xylenes (BTEX). The COCs and points of compliance are summarized in Table 1 of the Final Cleanup Action Plan (Ecology, 1997).

1.3 Report Contents

The sections of this compliance monitoring report describe:

- The scope of work performed during the June 2013 compliance monitoring event;
- Field and laboratory methods and protocol used for groundwater compliance monitoring;
- The inferred groundwater flow direction and gradient based on groundwater elevation measurements;
- The results of the laboratory analysis of the water samples;
- An evaluation of COC concentrations with respect to site specific cleanup levels; and,
- WCEC conclusions and recommendations regarding COC concentrations and future remedial activities.

2.0 Field Activities

2.1 Scope of Work

The scope of work performed during this quarterly compliance monitoring event included:

- Measuring the depth to groundwater at each of the groundwater compliance points;
- Collecting groundwater samples at the compliance points;
- Submitting the groundwater samples to an independent laboratory for chemical analysis;
- Evaluating WCEC field observations, field measurements, and chemical analyses results for comparison to historical data for the site; and,
- Summarizing the results of field activities, chemical analyses, data evaluation, and our conclusions and recommendations in this report.

2.2 Groundwater Measurements and Sampling

Groundwater samples were collected by WCEC on June 27, 2013 at monitoring well compliance points MW-7, MW-8, MW-10, MW-11, MW-12R, and MW-14. Groundwater sampling locations are shown on Figure 2.

Groundwater sampling methods and protocol (sampling methods, decontamination methods, documentation methods, etc.) are described in the Cleanup Action Work Plan (Summit, 1997). Field water quality parameters were measured and recorded, and are available in project files.

2.3 Storm Water Sampling

Upon approval from Ecology, sampling of the storm water compliance point has been suspended.

2.4 Field Quality Control Methods

In accordance with the requirements described in the Cleanup Action Work Plan (Summit, 1997), field quality control methods consist of submitting at least one duplicate sample per event. One duplicate groundwater sample labeled MW-9 was collected during the June 2013 sampling event. The sample was a duplicate sample of MW-8.

2.5 Decontamination

Decontamination procedures used during the June 2013 compliance monitoring event were performed in accordance with those described in the Cleanup Action Work Plan (Summit, 1997).

3.0 Laboratory Methods and Protocol

3.1 Chemical Analyses Methods

Groundwater samples were submitted to Pace Analytical Services, Inc. (Pace) in Seattle, Washington. A copy of the laboratory analytical report is included in this report as Appendix A. Samples were submitted for the following chemical analyses:

- Total petroleum hydrocarbons quantified as gasoline (TPH-G) using Ecology method NWTPH-Gx;
- Total petroleum hydrocarbons quantified as diesel (TPH-D) using Ecology method NWTPH-Dx; and,
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) using Environmental Protection Agency (EPA) Method 5030B/8260.

Chemical analysis methods, method reporting limits, sample containers, preservation methods, and holding times are summarized in Table 1 of the Final Cleanup Action Plan (Ecology, 1997).

3.2 Laboratory Quality Control Methods

Quality control (QC) methods are used to assist in producing data of known and acceptable quality. Laboratory QC methods were performed to verify data accuracy and validity. Laboratory QC methods included the following:

- Analysis of method blanks;
- Analysis of laboratory duplicates;
- Analysis of matrix spike and matrix spike duplicates; and,
- Surrogate analyses.

Laboratory QC methods used during chemical analyses of the groundwater samples collected on June 27, 2013 were performed in accordance with the requirements described in the Cleanup Action Work Plan (Summit, 1997).

4.0 Results

4.1 Groundwater Elevations, Flow Direction, and Gradient

Groundwater elevations, flow direction, and gradient were calculated using water levels measured by WCEC on June 27, 2013 and the reference elevation data for the compliance points. Reference elevations, water level measurements, and calculated groundwater elevations are summarized in Table 1.

Groundwater elevations at compliance points are used to evaluate groundwater flow direction and gradient. The calculated groundwater flow direction was to the southwest under a hydraulic gradient of 0.05 during the June 2013 event. A potentiometric surface plot is included as Figure 3. The groundwater elevation contours shown on Figure 3 were interpolated using the kriging estimation method.

4.2 Groundwater Chemical Analyses Results

The COCs for groundwater at the site include TPH-G, TPH-D, and BTEX. The COC concentrations in the groundwater samples collected during the June 2013 event are summarized in Table 2 and are described in the following paragraphs.

4.2.1 TPH-G

TPH-G was detected in groundwater sampled from monitoring well MW-8 (248 µg/L). All other site monitoring wells had TPH-G concentrations below the method detection limits. The site cleanup level for TPH-G (1,000 µg/L) was met at all compliance points during the June 2013 event.

4.2.2 TPH-D

All site monitoring wells had TPH-D concentrations below the method detection limits and the site cleanup level for TPH-D (1,000 µg/L) was met at all compliance points during the June 2013 event. The TPH-D analysis includes motor oil range contaminants present in the sample. Motor oil range hydrocarbons are not COCs at the site, and were not detected above the method detection limits in any compliance points sampled during the June 2013 event.

4.2.3 BTEX

All monitoring wells had BTEX concentrations below the method detection limits during the June 2013 sampling event, meeting site cleanup goals at all compliance points.

5.0 Summary

WCEC performed quarterly compliance monitoring activities on June 27, 2013 at the former Whitty's Minimart in Colville, Washington. Field activities included measuring the groundwater elevation at each compliance point and collecting groundwater samples at each compliance point.

The Final Cleanup Action Work Plan states that data from each groundwater sampling and analysis event will be used to evaluate the following:

- Groundwater flow direction and gradient;
- COC concentrations at compliance points; and,
- Reactivation of the air sparge (AS)/soil vapor extraction (SVE) system.

Chemical analyses results for groundwater samples collected during the June 2013 groundwater monitoring event indicate that:

- TPH-G: Concentrations of TPH-G did not exceed the site cleanup level at any compliance points;
- TPH-D: Concentrations of TPH-D did not exceed the site cleanup level at any compliance points; and,
- BTEX: Concentrations of BTEX did not exceed the site cleanup level at any compliance points.

The analytical results from the June 2013 event indicate that the historical trend of decreasing contaminant concentrations is continuing at the site. All of the monitoring points were in compliance with the site specific cleanup levels. The flow direction and gradient measured during the June 2013 event were consistent with previous monitoring events.

Ecology's Final Cleanup Action Plan (Ecology, 1997) states that the AS/SVE system should be reactivated if "significant increases in contaminant levels are observed." Based on the clearly defined downward concentration trends at the facility and with the approval of Ecology, WCEC decommissioned the AS/SVE system and abandoned all associated subsurface piping on March 15, 2010.

6.0 Recommendations

To obtain closure for the site, all Final Cleanup standards must be met for four consecutive quarterly sampling events. All compliance monitoring points have now remained below the Final Cleanup standards for four consecutive quarterly events. Based on this information, WCEC recommends that quarterly groundwater monitoring be suspended and that the process to obtain "No Further Action" (NFA) status for the site should be initiated.

All compliance monitoring points have now met the site specific cleanup goals as stated in the Final Cleanup Action Plan (Ecology, 1997) and further groundwater monitoring is no longer warranted. However, additional actions will be necessary to satisfy Ecology's Agreed Order closure criteria. These may include deed restrictions and/or environmental covenants associated with the subject property. In addition, according to WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840, all environmental monitoring data generated during contaminated site investigations are required to be submitted electronically to the Environmental Information Management System (EIM) database. WCEC will work with Ecology and all other interested parties to fulfill the necessary Agreed Order closure requirements and bring the site to NFA status.

7.0 References

Summit Evirosolutions, Inc. (Summit, 1997). *Cleanup Action Work Plan, Former Whitty's Minimart, Colville, Washington*. Summit Project No. 0946-001. June 9, 1997.

Washington Department of Ecology. (Ecology, 1997). *Final Cleanup Action Plan (CAP) for the Former Whitty's Minimart, 485 South Main Street, Colville, Washington*. Washington State Department of Ecology, Eastern Regional Office, March 1997.

Washington State Department of Ecology. (Ecology, 2007). *Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC*. Revised November, 2007. Washington State Department of Ecology Toxics Cleanup Program, Publication No. 94-06.

West Central Environmental Consultants. (WCEC, 2001). *Semi-Annual Groundwater Monitoring Report, March 2001 Monitoring Event, Former Whitty's Minimart, Colville, Washington*. April 2001.

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- Figure 1: Site Location Map
- Figure 2: Site Details Map
- Figure 3: Potentiometric Surface Plot



WCEC
ENVIRONMENTAL CONSULTANTS

Site Location Map

Former Whitty's Minimart
485 South Main Street
Colville, WA

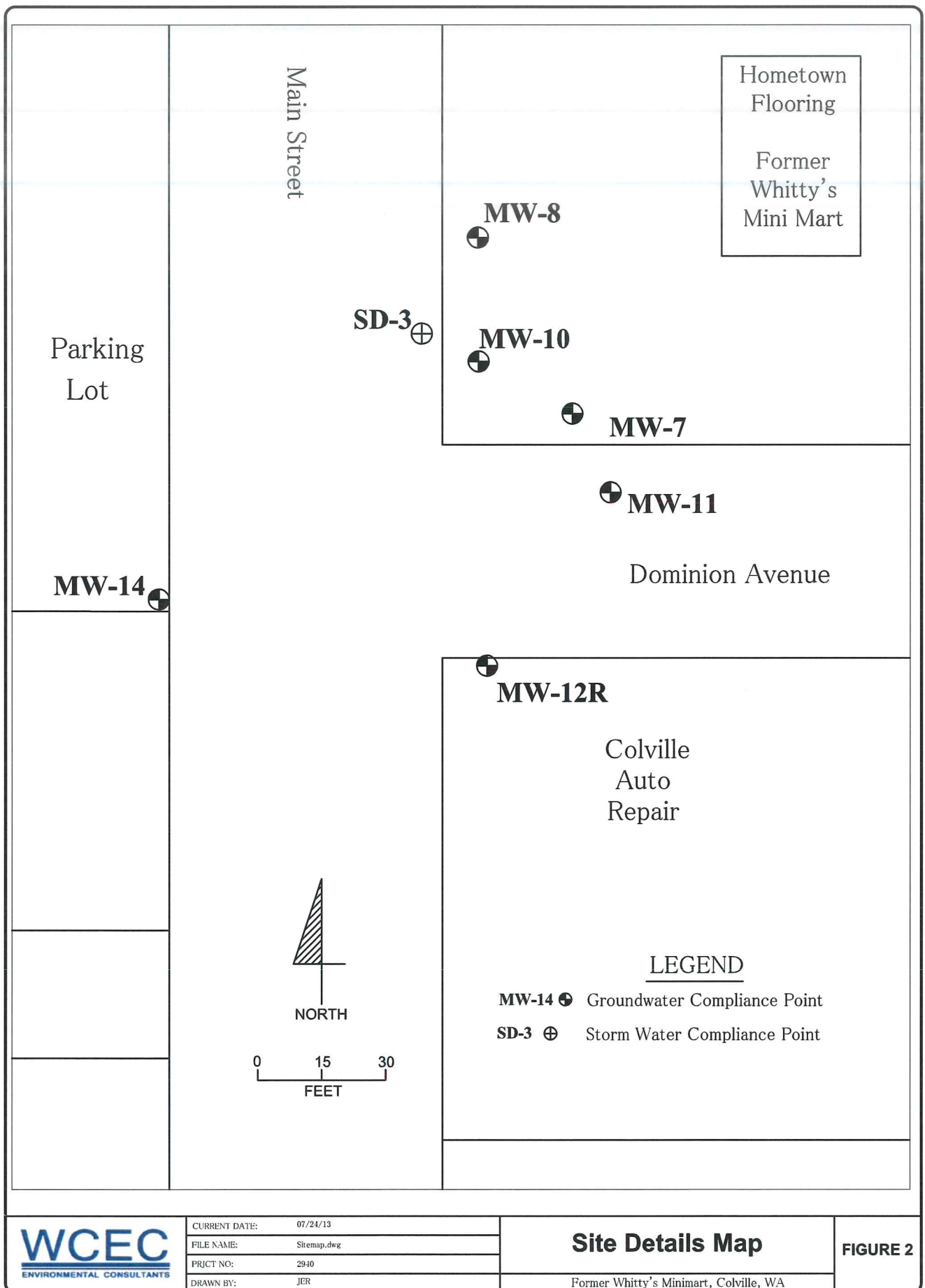
FIGURE 1

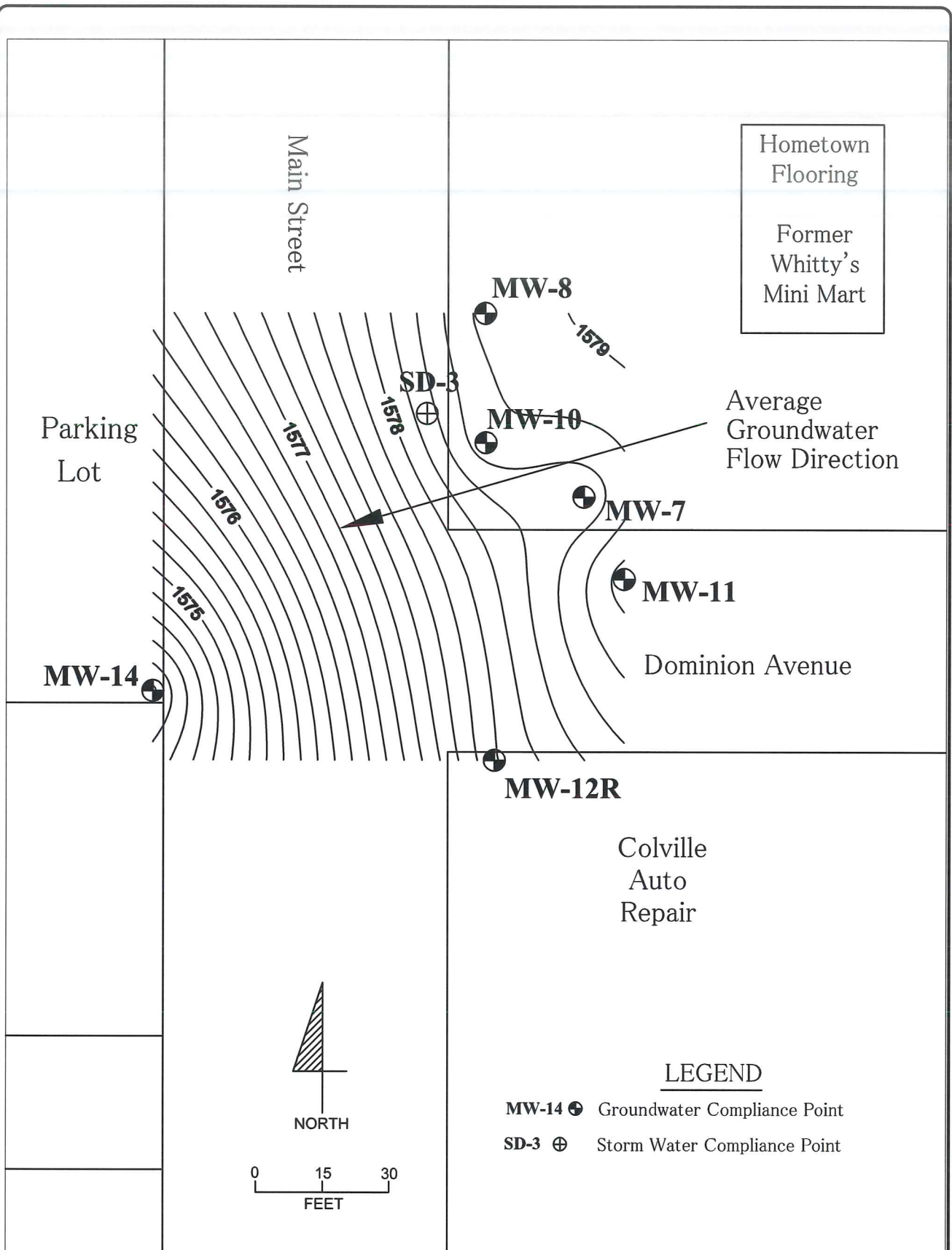
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Table 1: Groundwater Elevation

Table 2: Cumulative Groundwater Analytical Results

TABLE 1
Groundwater Elevation
Former Whitty's Minimart, Colville, WA

Monitor Well	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation
MW-7				
	03/15/01	1583.79	4.32	1579.47
	08/27/01	1583.79	5.71	1578.08
	03/22/02	1583.79	4.97	1578.82
	09/11/02	1583.79	6.29	1577.50
	03/05/03	1583.85	5.62	1578.23
	09/02/03	1583.85	6.32	1577.53
	03/09/04	1583.85	5.84	1578.01
	09/02/04	1583.85	6.18	1577.67
	03/09/05	1583.85	5.67	1578.18
	09/06/05	1583.85	6.20	1577.65
	03/20/06	1583.85	5.68	1578.17
	09/13/06	1583.85	6.26	1577.59
	03/09/07	1583.85	5.57	1578.28
	09/24/07	1583.66	6.12	1577.54
	03/18/08	1583.66	5.55	1578.11
	09/03/08	1583.66	5.93	1577.73
	03/02/09	1583.66	5.32	1578.34
	09/02/09	1583.66	5.74	1577.92
	03/15/10	1583.66	5.28	1578.38
	09/07/10	1583.66	5.70	1577.96
	03/16/11	1583.66	5.05	1578.61
	09/28/11	1583.66	5.67	1577.99
	03/28/12	1583.66	4.98	1578.68
	09/12/12	1583.66	5.59	1578.07
	12/12/12	1583.66	5.19	1578.47
	03/06/13	1583.66	5.11	1578.55
	06/27/13	1583.66	5.25	1578.41
MW-8				
	03/15/01	1584.88	5.81	1579.07
	08/27/01	1584.88	6.91	1577.97
	03/22/02	1584.88	6.11	1578.77
	09/11/02	1584.88	7.70	1577.18
	03/05/03	1584.88	6.39	1578.49
	09/02/03	1584.88	7.67	1577.21
	03/09/04	1584.88	6.72	1578.16
	09/02/04	1584.88	7.53	1577.35
	03/09/05	1584.88	6.44	1578.44
	09/06/05	1584.88	7.32	1577.56
	03/20/06	1584.88	6.21	1578.67
	09/13/06	1584.88	7.38	1577.50
	03/09/07	1584.88	6.08	1578.80
	09/24/07	1584.95	7.53	1577.42
	03/18/08	1584.62	5.75	1578.87
	09/03/08	1584.62	6.87	1577.75
	03/02/09	1584.62	5.77	1578.85
	09/02/09	1584.62	6.61	1578.01
	03/15/10	1584.62	5.71	1578.91
	09/07/10	1584.58	6.06	1578.52
	03/16/11	1584.58	5.06	1579.52
	09/28/11	1584.58	6.38	1578.20
	03/28/12	1584.58	5.29	1579.29
	09/12/12	1584.58	6.27	1578.31
	12/12/12	1584.58	5.45	1579.13
	03/06/13	1584.58	5.42	1579.16
	06/27/13	1584.58	5.70	1578.88

All measurements in feet (ft).

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TABLE 1 Continued (Page 2 of 3 Pages)
Groundwater Elevation
Former Whitty's Minimart, Colville, WA

Monitor Well	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation
MW-10				
	03/15/01	1584.03	7.20	1576.83
	08/27/01	1584.03	5.92	1578.11
	03/22/02	1584.03	5.16	1578.87
	09/11/02	1584.03	6.85	1577.18
	03/05/03	1584.13	5.88	1578.25
	09/02/03	1584.13	6.83	1577.30
	03/09/04	1584.13	6.18	1577.95
	09/02/04	1584.13	6.69	1577.44
	03/09/05	1584.13	5.90	1578.23
	09/06/05	1584.13	6.55	1577.58
	03/20/06	1584.13	5.58	1578.55
	09/13/06	1584.13	6.65	1577.48
	03/09/07	1584.13	5.40	1578.73
	09/24/07	1583.93	6.63	1577.30
	03/18/08	1583.93	5.31	1578.62
	09/03/08	1583.93	6.26	1577.67
	03/02/09	1583.93	5.25	1578.68
	09/02/09	1583.93	5.97	1577.96
	03/15/10	1583.93	5.09	1578.84
	09/07/10	1583.78	5.60	1578.18
	03/16/11	1583.78	4.28	1579.50
	09/28/11	1583.78	5.76	1578.02
	03/28/12	1583.78	4.54	1579.24
	09/12/12	1583.78	5.60	1578.18
	12/12/12	1583.78	4.72	1579.06
	03/06/13	1583.78	4.71	1579.07
	06/27/13	1583.78	5.04	1578.74
MW-11				
	03/15/01	1583.32	4.31	1579.01
	08/27/01	1583.32	5.11	1578.21
	03/22/02	1583.32	4.62	1578.70
	09/11/02	1583.32	5.36	1577.96
	03/05/03	1583.39	5.14	1578.25
	09/02/03	1583.39	5.32	1578.07
	03/09/04	1583.39	5.18	1578.21
	09/02/04	1583.39	5.32	1578.07
	03/09/05	1583.39	5.21	1578.18
	09/06/05	1583.39	5.32	1578.07
	03/20/06	1583.39	5.14	1578.25
	09/13/06	1582.78	4.90	1577.88
	03/09/07	1582.78	4.46	1578.32
	09/24/07	1582.78	4.96	1577.82
	03/18/08	1582.78	4.47	1578.31
	09/03/08	1582.78	4.94	1577.84
	03/02/09	1582.78	4.50	1578.28
	09/02/09	1582.78	3.88	1578.90
	03/15/10	1582.78	3.60	1579.18
	09/07/10	1582.78	3.94	1578.84
	03/16/11	1582.78	3.62	1579.16
	09/28/11	1582.78	3.93	1578.85
	03/28/12	1582.78	3.51	1579.27
	09/12/12	1582.78	3.83	1578.95
	12/12/12	1582.78	3.54	1579.24
	03/06/13	1582.78	3.51	1579.27
	06/27/13	1582.78	3.67	1579.11

All measurements in feet (ft).

99-2940-90

TABLE 1 Continued (Page 3 of 3 Pages)
Groundwater Elevation
Former Whitty's Minimart, Colville, WA

Monitor Well	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation
MW-12				
	03/15/01	1582.00	4.13	1577.87
	08/27/01	1582.00	4.25	1577.75
	03/22/02	1582.00	4.23	1577.77
	09/11/02	1582.00	4.61	1577.39
	03/05/03	1581.88	4.40	1577.48
	09/02/03	1581.88	4.41	1577.47
	03/09/04	1581.88	3.68	1578.20
	09/02/04	1581.88	4.44	1577.44
	03/09/05	1581.88	4.42	1577.46
	09/06/05	1581.88	4.49	1577.39
	03/20/06	1581.88	3.61	1578.27
	09/13/06	1581.88	4.35	1577.53
	03/09/07	1581.88	2.44	1579.44
	09/24/07	1581.85	3.87	1577.98
	03/18/08	1581.85	3.18	1578.67
	09/03/08	1581.85	3.71	1578.14
	03/02/09	1581.85	3.10	1578.75
	03/15/10	1581.85	3.93	1577.92
MW-12R				
	09/07/10	1581.90	3.92	1577.98
	03/16/11	1581.90	3.69	1578.21
	09/28/11	1581.90	4.06	1577.84
	03/28/12	1581.90	3.89	1578.01
	09/12/12	1581.90	4.00	1577.90
	12/12/12	1581.90	3.98	1577.92
	03/06/13	1581.90	3.94	1577.96
	06/27/13	1581.90	3.92	1577.98
MW-14				
	03/15/01	1582.41	7.32	1575.09
	08/27/01	1582.41	7.44	1574.97
	03/22/02	1582.41	6.46	1575.95
	03/05/03	1582.68	8.42	1574.26
	09/02/03	1582.68	8.71	1573.97
	03/09/04	1582.68	8.45	1574.23
	09/02/04	1582.68	8.57	1574.11
	03/09/05	1582.68	8.48	1574.20
	09/06/05	1582.68	8.59	1574.09
	03/20/06	1582.68	8.40	1574.28
	09/13/06	1582.68	8.66	1574.02
	03/09/07	1582.68	8.37	1574.31
	09/24/07	1582.68	8.73	1573.95
	03/18/08	1582.68	8.48	1574.20
	09/03/08	1582.68	8.67	1574.01
	03/02/09	1582.47	7.54	1574.93
	09/02/09	1582.47	8.48	1573.99
	03/15/10	1582.47	8.43	1574.04
	09/07/10	1582.40	8.36	1574.04
	03/16/11	1582.40	7.68	1574.72
	09/28/11	1582.40	8.45	1573.95
	03/28/12	1582.40	8.32	1574.08
	09/12/12	1582.40	8.47	1573.93
	12/12/12	1582.40	8.38	1574.02
	03/06/13	1582.40	8.39	1574.01
	06/27/13	1582.40	8.45	1573.95

All measurements in feet (ft).

99-2940-90

TABLE 2
Cumulative Groundwater Analytical Results
Former Whitty's Minimart, Colville, WA

Monitor Well	Sample Date	WTPH-Gas (µg/L)	WTPH-Diesel (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-7							
	06/05/92	42000	14000	3500	3500	1500	8400
	09/23/92	39000	3300	2600	1400	1300	7600
	12/15/92	14000	3600	600	540	520	3100
	03/10/93	43000	3300	740	1700	1600	9300
	06/17/93	57000	3500	570	700	1800	11000
	08/26/93	27000	1900	320	210	890	4000
	03/19/94	37000	1600	280	380	1200	6300
	08/04/94	22000	1200	110	37	1100	4100
	11/18/94	13000	2300	65	ND	410	2200
	02/22/95	29000	2500	85	8109	9.6	2000
	05/23/95	21000	2900	95	0.5	720	16000
	08/23/95	10000	960	80	4.3	410	650
	09/16/97	4550	2620	35.8	<2.5	273	183
	03/23/98	8840	820	25.8	<10	290	433
	10/10/98	4540	714	11.5	5.41	140	132
	03/27/99	7077	621	17.8	<5	261	311
	09/28/99	4130	645	10.3	0.843	121	108
	03/17/00	2860	399	5.15	<2.35	63.1	63.4
	09/21/00	597	309	4.25	<0.75	3.53	2.72
	03/15/01	1580	673	3.57	<1.03	47.2	46.5
	08/27/01	143	<250	1.56	1.61	1.62	4.71
	03/22/02	2220	325	14.7	<2	45.7	24.4
	09/11/02	872	861	11.1	<2	4.5	<1.5
	03/05/03	720	1090	7.38	<2	19.8	8.89
	09/02/03	684	3490	7.04	<2	<1	<1.5
	03/09/04	1300	1040	4.57	<2	20.1	7.06
	09/02/04	589	1640	7.05	<2	1.78	<1.5
	03/09/05	1640	1550	6.56	<2	21.3	<1.5
	09/06/05	505	1110	<0.5	<2	1.31	<1.5
	03/20/06	<50	561	<0.5	<0.5	<0.5	<1
	09/13/06	694	601	7.72	<2	2.24	<1.5
	03/09/07	420	938	5.17	<2	6.16	<1.5
	09/24/07	420	691	6.42	<2	1.22	<1.5
	03/18/08	947	1430	6.78	<2	5.82	3.16
	09/03/08	295	609	6.76	<2	<1	<1.5
	03/02/09	159	450	1.03	<2	<1	<1.5
	09/02/09	<100	<255	<0.5	<2	<1	<1.5
	03/15/10	178	<260	0.99	<2	<1	<1.5
	09/07/10	417	622	5.86	<2	1.15	1.66
	03/16/11	<50	<78	<1	<1	<1	<3
	09/28/11	148	110	<1	<1	<1	<3
	03/28/12	<50	<76	<1	<1	<1	<3
	09/12/12	82.3	<76	<1	<1	<1	<3
	12/12/12	<100	<110	<1	<1	<1	<3
	03/06/13	<100	<430	<1	<1	<1	<3
	06/27/13	<100	<380	<1	<1	<1	<3
Clean Up Level		1000	1000	43	17500	6900	16000

Bold indicates that the constituent exceeds the site cleanup level.

99-2940-90

(ND) Not detected above the method detection limit.

TABLE 2

Continued (Page 2 of 6 Pages)

Cumulative Groundwater Analytical Results

Former Whitty's Minimart, Colville, WA

Monitor Well	Sample Date	WTPH-Gas (µg/L)	WTPH-Diesel (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-8							
	06/05/92	100000	19000	3500	19000	2600	19000
	09/23/92	130000	2400	3100	17000	2600	19000
	12/15/92	96000	3200	1100	8700	2600	18000
	03/10/93	160000	2900	910	8900	3200	22000
	06/17/93	70000	3700	460	3900	2100	13000
	09/16/97	13500	2100	79.7	<10	430	228
	03/23/98	13400	1540	38.9	<10	263	274
	10/10/98	11400	1690	41.3	29.7	341	139
	03/27/99	12500	1130	55	<14	278	176
	09/28/99	9260	1080	43.4	<7	328	46.1
	03/17/00	9320	885	20.1	<13.8	145	93.2
	09/21/00	7040	1360	51.4	<7.25	197	<7.5
	03/15/01	5970	1610	19.6	<7.1	117	70.3
	08/27/01	7080	599	45.2	6.98	110	23.7
	03/22/02	2760	824	21.3	<2	41.7	11
	09/11/02	5870	1970	39.3	9.88	73.3	4.33
	03/05/03	6310	1480	35.8	11.9	31.7	2.07
	09/02/03	5170	3080	27.9	2.32	30.8	2.67
	03/09/04	5580	2850	27.7	<2	22.7	11
	09/02/04	3090	3280	22.3	2.44	16.2	5.4
	03/09/05	8000	680	19.1	<2	15.3	14
	09/06/05	3030	1890	<0.5	4.83	7.83	4.77
	03/20/06	3350	654	7.96	<2.5	3.89	<5
	09/13/06	3170	1560	8.34	3.3	5.24	4.94
	03/09/07	492	941	2.48	<2	<1	<1.5
	09/24/07	2110	3910	11.9	6.47	1.48	6.66
	03/18/08	412	20800	1.5	2.31	<1	1.64
	09/03/08	486	9300	2.68	<2	<1	<1.5
	03/02/09	1880	2140	9.55	<2	2.37	3.06
	09/02/09	385	1600	1.38	<2	<1	<1.5
	03/15/10	141	614	0.707	<2	<1	<1.5
	09/07/10	1300	1040	6.8	<2	2.57	3.9
	03/16/11	109	260	<1	<1	<1	<3
	09/28/11	1010	170	<1	<1	<1	<3
	03/28/12	<50	<77	<1	<1	<1	<3
	09/12/12	688	130	<1	<1	<1	<3
	12/12/12	<100	<120	<1	<1	<1	<3
	03/06/13	216	<440	<1	<1	<1	<3
	06/27/13	248	<430	<1	<1	<1	<3
Clean Up Level		1000	1000	43	17500	6900	16000

Bold indicates that the constituent exceeds the site cleanup level.

99-2940-90

(ND) Not detected above the method detection limit.

TABLE 2 Continued (Page 3 of 6 Pages)
Cumulative Groundwater Analytical Results
Former Whitty's Minimart, Colville, WA

Monitor Well	Sample Date	WTPH-Gas (µg/L)	WTPH-Diesel (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-10							
	06/05/92	6500	1500	870	1100	75	950
	09/23/92	3500	790	900	72	160	340
	12/15/92	16000	5700	2100	1700	390	2100
	03/10/93	31000	8100	2600	4400	680	4900
	06/17/93	22000	6000	2500	5600	1100	8800
	08/26/93	26000	3400	1400	2800	500	3000
	03/19/94	33000	2200	1800	3000	850	5100
	08/04/94	34000	2700	1600	1400	1500	6900
	11/18/94	12000	1800	640	150	370	2400
	02/22/95	7100	2200	320	180	36	800
	05/23/95	4500	2100	300	7.5	200	340
	08/23/95	2400	750	270	3.8	130	71
	09/16/97	1110	1050	114	3	63.3	10.2
	03/23/98	544	546	39.4	0.68	17.5	2.91
	10/10/98	1030	540	61.7	4.83	9.17	8.72
	03/27/99	473	333	21.9	<0.7	5.67	2.83
	09/28/99	410	377	28.4	<0.5	2.53	1.25
	03/17/00	128	<250	7.09	<0.65	2.1	<1
	09/21/00	205	284	9.92	<0.5	1.13	1.37
	03/15/01	63.6	341	1.74	<0.5	<0.5	<1
	08/27/01	232	<250	7.63	0.937	0.961	2.02
	03/22/02	110	<250	1.6	<2	<1	<1.5
	09/11/02	519	662	12.4	<2	3.69	<1.5
	03/05/03	189	278	2.76	<2	1.25	<1.5
	09/02/03	188	<250	1.67	<2	<1	<1.5
	03/09/04	164	<250	1.31	<2	<1	<1.5
	09/02/04	<100	<250	1.45	<2	<1	<1.5
	03/09/05	107	<250	<0.5	<2	<1	<1.5
	09/06/05	104	<250	<0.5	<2	<1	<1.5
	03/20/06	<50	<245	<0.5	<0.5	<0.5	<1
	09/13/06	<100	<250	<0.5	<2	<1	<1.5
	03/09/07	<100	<250	<0.5	<2	<1	<1.5
	09/24/07	<100	<250	<0.5	<2	<1	<1.5
	03/18/08	<100	<250	<0.5	<2	<1	<1.5
	09/03/08	<100	<250	<0.5	<2	<1	<1.5
	03/02/09	<100	<258	<0.5	<2	<1	<1.5
	09/02/09	<100	<253	<0.5	<2	<1	<1.5
	03/15/10	<100	<258	<0.5	<2	<1	<1.5
	09/07/10	<100	<238	<0.5	<2	<1	<1.5
	03/16/11	516	120	<1	<1	<1	<3
	09/28/11	<50	<76	<1	<1	<1	<3
	03/28/12	153	96	<1	<1	<1	<3
	09/12/12	<50	<76	<1	<1	<1	<3
	12/12/12	<100	<110	<1	<1	<1	<3
	03/06/13	<100	<440	<1	<1	<1	<3
	06/27/13	<100	<400	<1	<1	<1	<3
Clean Up Level		1000	1000	43	17500	6900	16000

Bold indicates that the constituent exceeds the site cleanup level.

99-2940-90

(ND) Not detected above the method detection limit.

TABLE 2

Continued (Page 4 of 6 Pages)

Cumulative Groundwater Analytical Results

Former Whitty's Minimart, Colville, WA

Monitor Well	Sample Date	WTPH-Gas (µg/L)	WTPH-Diesel (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-11							
	06/05/92	2500	950	150	36	77	580
	09/23/92	11000	610	110	3.9	52	38
	12/15/92	12000	3900	470	50	340	2300
	03/10/93	8000	1400	200	46	170	890
	06/17/93	14000	2400	510	75	420	2500
	08/26/93	950	940	130	5.3	23	100
	03/19/94	3300	1000	90	8.7	110	460
	11/18/94	12000	5500	120	ND	59	2200
	02/22/95	7300	2100	34	4	150	730
	05/23/95	6100	2200	37	2.9	130	590
	08/23/95	1300	1100	16	0.68	24	87
	09/16/97	877	936	5.84	<0.5	24.7	77.9
	03/23/98	52.8	331	1.32	<0.5	0.544	<1
	10/10/98	158	491	3.29	<1	3.29	6.2
	03/27/99	360	317	1.48	<0.5	8.3	26.1
	09/28/99	177	363	2.7	<0.5	3.99	7.58
	03/17/00	<50	513	1.65	<0.5	0.537	<1
	09/21/00	69.7	385	2.18	<0.5	1.16	1.4
	03/15/01	<50	489	<0.5	<0.5	<0.5	<1
	08/27/01	61.5	<250	0.763	<0.5	<0.5	1.28
	03/22/02	<100	286	0.946	<2	<1	<1.5
	09/11/02	206	925	3.07	<2	<1	<1.5
	03/05/03	107	564	0.834	<2	<1	<1.5
	09/02/03	<100	<250	<0.5	<2	<1	<1.5
	03/09/04	<100	284	<0.5	<2	<1	<1.5
	09/02/04	<100	<250	<0.5	<2	<1	<1.5
	03/09/05	<100	<500	<0.5	<2	<1	<1.5
	09/06/05	<100	<250	<0.5	<2	<1	<1.5
	03/20/06	<50	347	<0.5	<0.5	<0.5	<1
	09/13/06	<100	<250	<0.5	<2	<1	<1.5
	03/09/07	<100	344	<0.5	<2	<1	<1.5
	09/24/07	<100	329	<0.5	<2	<1	<1.5
	03/18/08	<100	275	<0.5	<2	<1	<1.5
	09/03/08	<100	<251	1.88	<2	<1	<1.5
	03/02/09	<100	<243	<0.5	<2	<1	<1.5
	09/02/09	<100	297	2.32	<2	12.4	2.6
	03/15/10	<100	<259	<0.5	<2	2.7	<1.5
	09/07/10	<100	346	<0.5	<2	<1	<1.5
	03/16/11	<50	<78	<1	<1	<1	<3
	09/28/11	<50	<76	<1	<1	<1	<3
	03/28/12	<50	77	<1	<1	<1	<3
	09/12/12	<50	<75	<1	<1	<1	<3
	12/12/12	142	<110	<1	<1	<1	<3
	03/06/13	<100	<430	<1	<1	<1	<3
	06/27/13	<100	<400	<1	<1	<1	<3
Clean Up Level		1000	1000	43	17500	6900	16000

Bold indicates that the constituent exceeds the site cleanup level.

99-2940-90

(ND) Not detected above the method detection limit.

TABLE 2 Continued (Page 5 of 6 Pages)
Cumulative Groundwater Analytical Results
Former Whitty's Minimart, Colville, WA

Monitor Well	Sample Date	WTPH-Gas (µg/L)	WTPH-Diesel (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-12							
	06/05/92	300	ND	41	12	7.9	60
	09/23/92	ND	ND	28	ND	0.72	ND
	12/15/92	400	2900	50	14	21	67
	03/10/93	ND	300	1.3	1.5	1.5	4.8
	06/17/93	1900	360	220	70	80	330
	08/26/93	130	ND	52	2.5	6.9	18
	03/19/94	110	ND	32	4.5	5	15
	08/04/94	89	430	30	0.57	3.7	2.8
	11/18/94	610	520	70	2	30	100
	02/22/95	80	ND	12	1.9	0.54	4.6
	05/23/95	100	480	21	0.98	4.5	13
	08/23/95	ND	ND	11	ND	ND	ND
	09/16/97	<50	407	0.719	<0.5	<0.5	<1
	03/23/98	<50	<250	<0.5	<0.5	<0.5	<1
	10/10/98	<50	<250	<0.5	<0.5	<0.5	<1
	03/27/99	<50	<250	<0.5	<0.5	<0.5	<1
	09/28/99	<50	<250	<0.5	<0.5	<0.5	<1
	03/17/00	<50	<250	<0.5	<0.5	<0.5	<1
	09/21/00	<50	<250	<0.5	<0.5	<0.5	<1
	03/15/01	<50	<250	<0.5	<0.5	<0.5	<1
	08/27/01	<50	<250	<0.5	<0.5	<0.5	<1
	03/22/02	<100	<250	<0.5	<2	<1	<1.5
	09/11/02	<100	<250	<0.5	<2	<1	<1.5
	03/05/03	<100	312	<0.5	<2	<1	<1.5
	09/02/03	<100	366	<0.5	<2	<1	<1.5
	03/09/04	<100	560	<0.5	<2	<1	<1.5
	09/02/04	<100	1280	0.834	<2	<1	4.74
	03/09/05	<100	385	<0.5	<2	<1	<1.5
	09/06/05	<100	1080	<0.5	<2	<1	<1.5
	03/20/06	<50	819	<0.5	<0.5	<0.5	<1
	09/13/06	<100	953	<0.5	<2	<1	<1.5
	03/09/07	<100	951	<0.5	<2	<1	<1.5
	09/24/07	<100	926	<0.5	<2	<1	<1.5
	03/18/08	<100	585	<0.5	<2	<1	<1.5
	09/03/08	<100	702	<0.5	<2	<1	<1.5
	03/02/09	<100	1180	<0.5	<2	<1	<1.5
MW-12R							
	03/15/10	142	498	1.59	<2	<1	<1.5
	09/07/10	112	511	1.93	<2	<1	<1.5
	03/16/11	<50	98	<1	<1	<1	<3
	09/28/11	<50	<77	<1	<1	<1	<3
	03/28/12	<50	86	<1	<1	<1	<3
	09/12/12	<50	<77	<1	<1	<1	<3
	12/12/12	<100	<110	<1	<1	<1	<3
	03/06/13	<100	<440	<1	<1	<1	<3
	06/27/13	<100	<400	<1	<1	<1	<3
Clean Up Level		1000	1000	43	17500	6900	16000

Bold indicates that the constituent exceeds the site cleanup level.

99-2940-90

(ND) Not detected above the method detection limit.

TABLE 2

Continued (Page 6 of 6 Pages)

Cumulative Groundwater Analytical Results

Former Whitty's Minimart, Colville, WA

Monitor Well	Sample Date	WTPH-Gas (µg/L)	WTPH-Diesel (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-14							
	06/05/92	ND	ND	ND	ND	ND	ND
	09/23/92	ND	ND	ND	ND	ND	ND
	12/15/92	ND	1600	ND	ND	ND	ND
	03/10/93	ND	530	ND	ND	ND	ND
	06/17/93	ND	ND	4.2	ND	7.3	ND
	09/16/97	55.2	1870	<0.5	0.678	0.565	<1
	03/23/98	<50	1550	<0.5	1.61	<0.5	<1
	10/10/98	<50	1420	<0.5	2.35	<0.5	<1
	03/27/99	<50	1020	<0.5	<0.5	<0.5	<1
	09/28/99	<50	989	<0.5	<0.5	<0.5	<1
	03/17/00	<50	<250	<0.5	<0.5	<0.5	<1
	09/21/00	<50	645	<0.5	<0.5	<0.5	<1
	03/15/01	<50	751	<0.5	<0.5	<0.5	<1
	08/27/01	<50	<250	<0.5	<0.5	<0.5	<1
	03/22/02	<100	<250	<0.5	<2	<1	<1.5
	03/05/03	<100	267	<0.5	<2	<1	<1.5
	09/02/03	<100	<250	<0.5	<2	<1	<1.5
	03/09/04	<100	<250	<0.5	<2	<1	<1.5
	09/02/04	<100	<250	<0.5	<2	<1	<1.5
	03/09/05	<100	<250	<0.5	<2	<1	<1.5
	09/06/05	<100	<250	<0.5	<2	<1	<1.5
	03/20/06	<50	<245	<0.5	<0.5	<0.5	<1
	09/13/06	<100	<250	<0.5	<2	<1	<1.5
	03/09/07	<100	<250	<0.5	<2	<1	<1.5
	09/24/07	<100	<250	<0.5	<2	<1	<1.5
	03/18/08	<100	<250	<0.5	<2	<1	<1.5
	09/03/08	<100	<250	<0.5	<2	<1	<1.5
	03/02/09	<100	<253	<0.5	<2	<1	<1.5
	09/02/09	<100	<266	<0.5	<2	<1	<1.5
	03/15/10	<100	<260	<0.5	<2	<1	<1.5
	09/07/10	<100	<239	<0.5	<2	<1	<1.5
	03/16/11	<50	<78	<1	<1	<1	<3
	09/28/11	<50	<76	<1	<1	<1	<3
	03/28/12	<50	<76	<1	<1	<1	<3
	09/12/12	<50	<76	<1	<1	<1	<3
	12/12/12	<100	<110	<1	<1	<1	<3
	03/06/13	<100	<430	<1	<1	<1	<3
	06/27/13	<100	<400	<1	<1	<1	<3
Clean Up Level		1000	1000	43	17500	6900	16000

Bold indicates that the constituent exceeds the site cleanup level.

99-2940-90

(ND) Not detected above the method detection limit.

February 5, 2014

RECEIVED

FEB 07 2014

Department of Ecology
Eastern Regional Office

Mr. Michael Boatsman, Project Coordinator
Toxics Cleanup Program
4601 N. Monroe Street
Spokane, WA 99205-1295

Re: **Final Cleanup Report** for the Former Whitty's Minimart, Colville, WA, Facility Site ID: 38465614.

Dear Mr. Boatsman:

West Central Environmental Consultants (WCEC) is submitting this letter as the **Final Cleanup Report** for the Former Whitty's Minimart (Site) located at 485 South Main Street in Colville, Washington [Figure 1]. The purpose of this report is to document the completion of the remaining cleanup action tasks outlined in correspondence from the Washington Department of Ecology (Ecology) dated November 14, 2013. Completion of these remaining tasks was required by Ecology to satisfy the Agreed Order (AO) associated with the Site (AO No. 97TC-E101).

The following remaining tasks were required by Ecology to satisfy the terms of the AO:

- Properly decommissioning all remaining groundwater monitoring wells (MW-7, MW-8, MW-10, MW-11, MW-12R, and MW-14).
- Entering cumulative groundwater sampling data for the Site into Ecology's Environmental Information Management (EIM) database.
- Submission of a Final Cleanup Report to Ecology which summarizes and documents the completion of the remaining cleanup action tasks.

The following sections address each of the three bullets listed above.

1.0 Monitoring Well Decommissioning

As required by Ecology, WCEC supervised the decommissioning of monitoring wells MW-7, MW-8, MW-10, MW-11, MW-12R, and MW-14 on December 19, 2013. WCEC contracted Washington licensed well driller Environmental West Exploration (EWE) of Spokane, Washington to perform the monitoring well decommissioning activities. Monitoring wells were decommissioned in accordance with Section 173-160-460

Washington Administrative Code (WAC). The monitoring wells were filled with bentonite from the bottom of the well casing to the land surface. The well monument lids were removed and the decommissioned monitoring wells were capped with high strength quick-set concrete at existing grade. The entire well monument was removed from monitoring well MW-7 because it had been damaged by heaving. Photo documentation of the monitoring well decommissioning activities is attached to this report. The decommissioned well logs were submitted directly to Ecology by EWE and hard copies of the well logs are attached to this report.

2.0 EIM Database Submittal

As required by Ecology, WCEC entered the cumulative groundwater sampling data for the Site into the EIM database. The EIM data submittal process was finalized on December 9, 2013. Email correspondence from Ecology EIM staff documenting the completion of the EIM submittal is attached to this report.

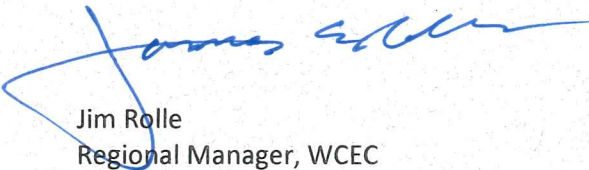
3.0 Final Cleanup Report

As required by Ecology, WCEC is submitting this letter as the **Final Cleanup Report** for the Site to document the completion of the remaining tasks which satisfy AO 97TC-E101 as outlined in Ecology correspondence dated November 14, 2013.

All of the remedial actions required by the AO have now been completed with the issuance of this report. Cleanup actions have been conducted in accordance with the Model Toxics Control Act (MTCA) Chapter 70.105D Revised Code of Washington (RCW) and Chapter 173-340 WAC. Risks to human health and the environment have been reduced to acceptable levels as a result of the cumulative remedial actions. Based on satisfactory completion of the compliance requirements of the AO, WCEC recommends that Ecology remove the Site from the Hazardous Sites List.

Thank you for your consideration of this report. Please call or email me at jrolle@wcec.com, if you have any additional questions or concerns about the Site.

Sincerely,



Jim Rolle
Regional Manager, WCEC

Enclosure

cc: Jeff Whitten, Whitten Oil Company, P.O. Box 150, Colville, WA



WCEC
ENVIRONMENTAL CONSULTANTS

FIGURE 1

Site Location Map

Former Whitty's Minimart
485 South Main Street
Colville, WA

Date: 01/06/14

File: 2940\locmap.mxd

Prjct No: 99-2940-90

Drawn by: MM



PHOTO NO. 1: Monitoring well MW-11, casing is filled with bentonite.



PHOTO NO. 2: Monitoring well MW-7, capped with concrete at surface.

PHOTOGRAPHIC LOG

Former Whitty' Minimart
485 South Main Street, Colville, WA
Facility ID: 38465614

DATE: 01/06/14

SCALE: N/A

PROJECT NO: 99-2940-90

WCEC
ENVIRONMENTAL CONSULTANTS

Myles Morris

From: Newell, Evan (ECY) <enew461@ecy.wa.gov>
Sent: Monday, December 09, 2013 1:29 PM
To: mmorris@wcec.com
Cc: Boatsman, Michael R. (ECY)
Subject: EIM data loaded for FS38465614 (Whitty's Minimart 2, Colville, WA)

All *submitted* data was successfully loaded into EIM for the following study:

EIM Study ID: **FS38465614**

Facility Site ID: 38465614

Study Name: Whitty's Minimart 2, Colville, WA

27 Soil Locations

8 Water Locations

1712 Water Results

202 Soil Results

261 Water Level Results

The Ecology Project Manager should verify the results and locations, and that the study in EIM contains the correct number of results. Review guidance for the Ecology Project Manager can be found here:

http://aww.ecology/programs/tcp/Site_Manager_Resource_Ctr/Policy_Resources/Policy_Resources_main.html

You can view the data using the following link

<https://fortress.wa.gov/ecy/eimreporting/Map/Map.aspx?MapType=EIM&StudyUserId=fs38465614&StudyUserIdSearchType=Contains&MapLocationExtent=-13125228.3046235%2c6197187.34117736%2c-13125147.8151664%2c6197517.26689191&CustomMap=y&BBox=-13126143,6196767,-13124232,6197937&Layers=0,1,2,3,4,5,6,7,8,9&Opacity=0.95&Basemap=bmHybrid&Options=v,h,h,h,h,h,h>

A. Evan Newell

Environmental Assessment Program
Washington State Department of Ecology
15 W Yakima Ave, Suite 200
Yakima, WA 98902
509 575-2825

Please print, sign and return to the Department Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. A924929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- ☐ Construction
☒ Decommission

Type of Well ("x" in box)

- ☐ Resource Protection
☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

N/A

Consulting Firm WCEC

Unique Ecology Well IDTag No. N/A

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Walston, Greg

Driller/Engineer/Trainee Signature Greg Walston

Driller or Trainee License No. 3162T

If trainee, licensed driller's Signature and License Number:

Property Owner Whitten Oil Co.

Site Address 485 S main St.

City Colville County Stevens

Location SE 1/4-1/4 SW 1/4 Sec 9 Twn 35N R 39E

EWM ☒ or WWM ☐

Lat/Long (s. l. r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 4" Static Level 6'

Work Decommission Start Date 12/9/13

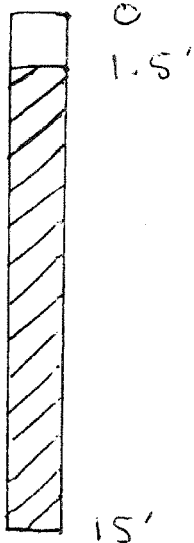
Work Decommission Completed Date 12/9/13

Construction Design

Well Data

Formation Description

mw 8



0-1.5' concrete
1.5'-15' Bentonite
cut 4" PVC 1.5'
Below surface
Filled from 15' to
1.5' with Hydrated
Bentonite with
concrete cap

Please print and sign and return to the Department Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. A224929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- ☐ Construction
☒ Decommission

Type of Well ("x" in box)

- ☐ Resource Protection
☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

N/A

Consulting Firm WCEC

Unique Ecology Well ID Tag No. N/A

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Walston Greg
Driller/Engineer/Trainee Signature Greg Walston
Driller or Trainee License No. 3162 T

If trainee, licensed driller's Signature and License Number:

Property Owner Whitten Oil Co.

Site Address 185 S Main St

City Colville County Stevens

Location SE 14-14 SW 14 Sec 9 Twn 35N R 39E

EWM ☒ or WWM ☐

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 4" Static Level 4'

Work Decommission Start Date 12/9/13

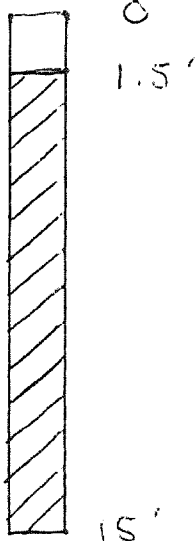
Work Decommission Completed Date 12/9/13

Construction Design

Well Data

Formation Description

MW 7



0 - 1.5' concrete
1.5' - 15' Bentonite
Cut 4" PVC 1.5'
Below Surface
Filled From 15' to
1.5' with Hydrated
Bentonite with
concrete cap

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. A224929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

☐ Construction

☒ Decommission

Type of Well ("x" in box)

☐ Resource Protection

☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

N/A

Consulting Firm WCEC

Unique Ecology Well IDTag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Walston, Greg

Driller/Engineer/Trainee Signature Greg Walston

Driller or Trainee License No. 31621

If trainee, licensed driller's Signature and License Number:

Property Owner Whitten Oil Co.

Site Address 485 S main St

City Colville County Stevens

Location SE 1/4-1/4 SW 1/4 Sec 9 Twn 35N R 39E

EWM ☒ or WWM ☐

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED)

Long Deg _____ Min _____ Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 4" Static Level 5'

Work/Decommission Start Date 12/9/13

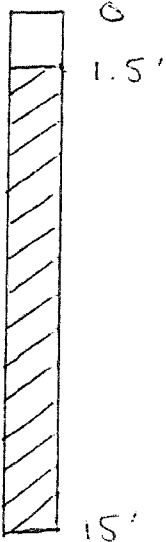
Work/Decommission Completed Date 12/9/13

Construction Design

Well Data

Formation Description

mw 10



0-1.5' concrete

1.5' - 15' Bentonite

cut 4" PVC 1.5'

Below surface

Filled from 15' to

1.5' with Hydrated

Bentonite with concrete

cap

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. A924929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

☐ Construction

☒ Decommission

Type of Well ("x" in box)

☐ Resource Protection

☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

N/A

Consulting Firm WCEC

Unique Ecology Well IDTag No. N/A

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Walston, Greg

Driller/Engineer/Trainee Signature Greg Walston

Driller or Trainee License No. 3162 T

If trainee, licensed driller's Signature and License Number:

Property Owner Whitten Oil Co.

Site Address 485 S Main St.

City Colville County Stevens

Location SE 1/4-1/4 SW 1/4 Sec 9 Twn 35 N R 39 E

EWM ☒ or WWM ☐

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 4" Static Level 5'

Work/Decommission Start Date 12/9/13

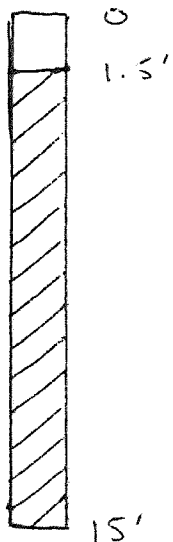
Work/Decommission Completed Date 12/9/13

Construction Design

Well Data

Formation Description

mw 11



0-1.5' concrete
1.5'-15' Bentonite
Cut 4" PVC 1.5'
Below Surface
Filled From 15' to
1.5' with Hydrated
Bentonite with
concrete cap

MW 12R

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORTCURRENT Notice of Intent No. A9 24929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- ☐ Construction
☒ Decommission

Type of Well ("x" in box)

- ☐ Resource Protection
☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

RE04323Consulting Firm WCECUnique Ecology Well IDTag No. BBH834

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ TraineeName (Print Last, First Name) Walston GregDriller/Engineer/Trainee Signature Greg WalstonDriller or Trainee License No. 3162T

If trainee, licensed driller's Signature and License Number:

Property Owner Whitten Oil Co.Site Address 485 S mainCity Colville County StevensLocation SE 1/4-1/4 SW 1/4 Sec 9 Twn 35N R 39EEWM ☒ or WWM ☐

Lat/Long (S, T, R) Lat Deg _____ Min _____ Sec _____

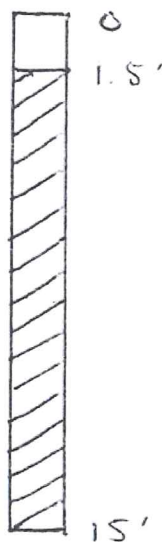
still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 20900Cased or Uncased Diameter 4" Static Level 5'Work/Decommission Start Date 12/9/13Work/Decommission Completed Date 12/9/13

Construction Design

Well Data

Formation Description



0 - 1.5' concrete
 1.5 - 15 Bentonite
 Cut 4" PVC 1.5'
 Below surface
 Filled from 15' to
 1.5' with Hydated
 Bentonite with
 concrete cap

SCALE: 1"= _____ PAGE _____ OF _____

MW 14

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORTCURRENT Notice of Intent No. A824929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("X" in box)

- ☐ Construction
☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R 63624Consulting Firm WCECUnique Ecology Well ID Tag No. AHF842

WELL CONSTRUCTION CERTIFICATION I constructed and/or
 accept responsibility for construction of this well, and its compliance with all
 Washington well construction standards. Materials used and the information reported
 above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ TraineeName (Print Last, First Name) Walston, GregDriller Engineer/Trainee Signature Greg WalstonDriller or Trainee License No. 3162 T

If trainee, licensed driller's Signature and License Number:

Type of Well ("X" in box)

- ☐ Resource Protection
☐ Geotech Soil Boring

Property Owner Woody's OilSite Address 485 S Main StCity Colville County StevensLocation SE 1/4-1/4 SW 1/4 Sec 9 Twn 35N R 39EEWM ☒ or WWM ☐

Lat Long (S, T, R) Lat Deg ___ Min ___ Sec

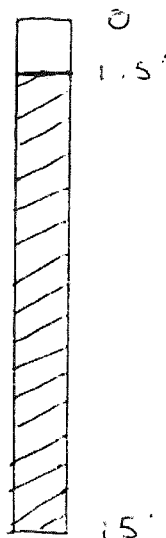
still REQUIRED) Long Deg ___ Min ___ Sec

Tax Parcel No. N/ACased or Uncased Diameter 4" Static Level 4'Work Decommission Start Date 12/9/13Work Decommission Completed Date 12/9/13

Construction Design

Well Data

Formation Description



0 - 1.5 concrete
 1.5 - 15 Bentonite
 cwt 4" PVC 1.5'
 below surface
 filled from 15' to
 1.5' with Hydrated
 Bentonite with
 Concrete cap