From: Ken Shimko <kshimko.meridianenv@gmail.com>
Sent: Monday, August 12, 2019 4:39 PM
To: Stoltz, Carrie R - DNR
Subject: Ladysmith Change Order - Install downgradient well nest, install/pump extraction wells to remove diesel LNAPL
Attachments: Change Order - revision 8-11-19.pdf

Carrie.

Please see attached Change Order.

Call with questions.

Thanks

Kenneth Shimko, PG
Meridian Environmental Consulting, LLC
2711 North Elco Road
Fall Creek, Wisconsin 54742
(715)832-6608 (office)
(715)579-0723 (cell)
Email: kshimko.meridianenv@gmail.com

Meridian Environmental Consulting, LLC

August 11, 2019

Carrie Stoltz
Wisconsin Department of Natural Resources
107 Sutliff Avenue
Rhinelander, Wisconsin 54501

Subject: **Change Order:**

- **Abandon MW-102, PZ-100**
- **Install downgradient well nest (water table well, piezometer)**
- **Install 3 extraction wells**
- **Pump extraction wells with vac truck weekly for 6 weeks**

Autostop (former)
119 W. 9th Street North
Ladymith, Wisconsin 54848
BRRTS No. 03-55-282548
PECFA No. 54848-1295-19
Meridian No. 05F630

Doug's Tire (former)
811 Lake Ave W.
Ladysmith, Wisconsin 54848
BRRTS No. 03-55-000408
PECFA No. 54848-1215-11
Meridian No. 05F786

See Progress Report dated July 17, 2019 for background information. Refer to Figure 1 for reference.

Proposed Work:

Abandon MW-102, PZ-100

- MW-102

MW-102 was/is damaged by traffic. The well manway is gone and the PVC well is filled with sediment. We could try to flush this well out and replace the manway. But it is located in a high-traffic area and may be damaged again. There is enough analytical data indicating this is a clean well (see Table 5 of Progress Report). Therefore, we recommend the well be abandoned.

- PZ-100

There is bentonite plugging this well. It appears the well has frost-heaved and/or was damaged during road work a few years ago. The well should be abandoned. We will attempt to tremie-grout the well and hope to "push through" the bentonite and abandon the well throughout its depth.

Install downgradient well nest

The extent of ground water contamination is not defined to the north. We recommend installing a well nest north of MW- 4 in the location shown on Figure 1. The water table well would be screened from 15 – 30 feet and the adjacent piezometer from 35 - 40 feet.

We would sample the new wells (2x) as part of the current monitoring program.

Install extraction wells and Pump extraction wells with vac truck to remove diesel LNAPL

Diesel LNAPL was recently measured in MW-4. The LIF survey completed in 2012 identified diesel impacts at the smear zone in the northwest corner of the Doug's Tire property. The DNR recommended a remedial excavation as shown in Figure 1. The excavation was limited by the onsite building and Hwy. 27 (structural impediments).

The remaining "smear zone" impacts in that area are to be addressed with the asphalt Cap. A Cap Maintenance Plan (asphalt) will be established for the site to limit vertical infiltration of surface water.

Although this approach is still valid, we recommend additional effort be made to remove diesel LNAPL to the extent possible from the former remedial excavation and MW-4 area.

We recommend installing three extraction wells (4 inch diameter) in the former remedial excavation (see Figure). The remedial excavation was backfilled with sand and diesel LNAPL may have accumulated in the coarse backfill material. The wells would be screened from 15 – 30 feet below grade and completed flush-grade. These extraction wells would be pumped weekly for 6 weeks using a vac truck. Monitoring wells MW- 4 and MW-103 would also be pumped during these weekly events.

Prior to and after each pumping event, the depth to water and depth to product would be measured using an Interface Probe and a bailer.

COST

The Cost for this work is provided in the attached Cost Estimate.

Sincerely,
MERIDIAN ENVIRONMENTAL CONSULTING, LLC

Kenneth Shimko, PG
Project Manager

C: Gary Gilbert, P.E.– Project Engineer

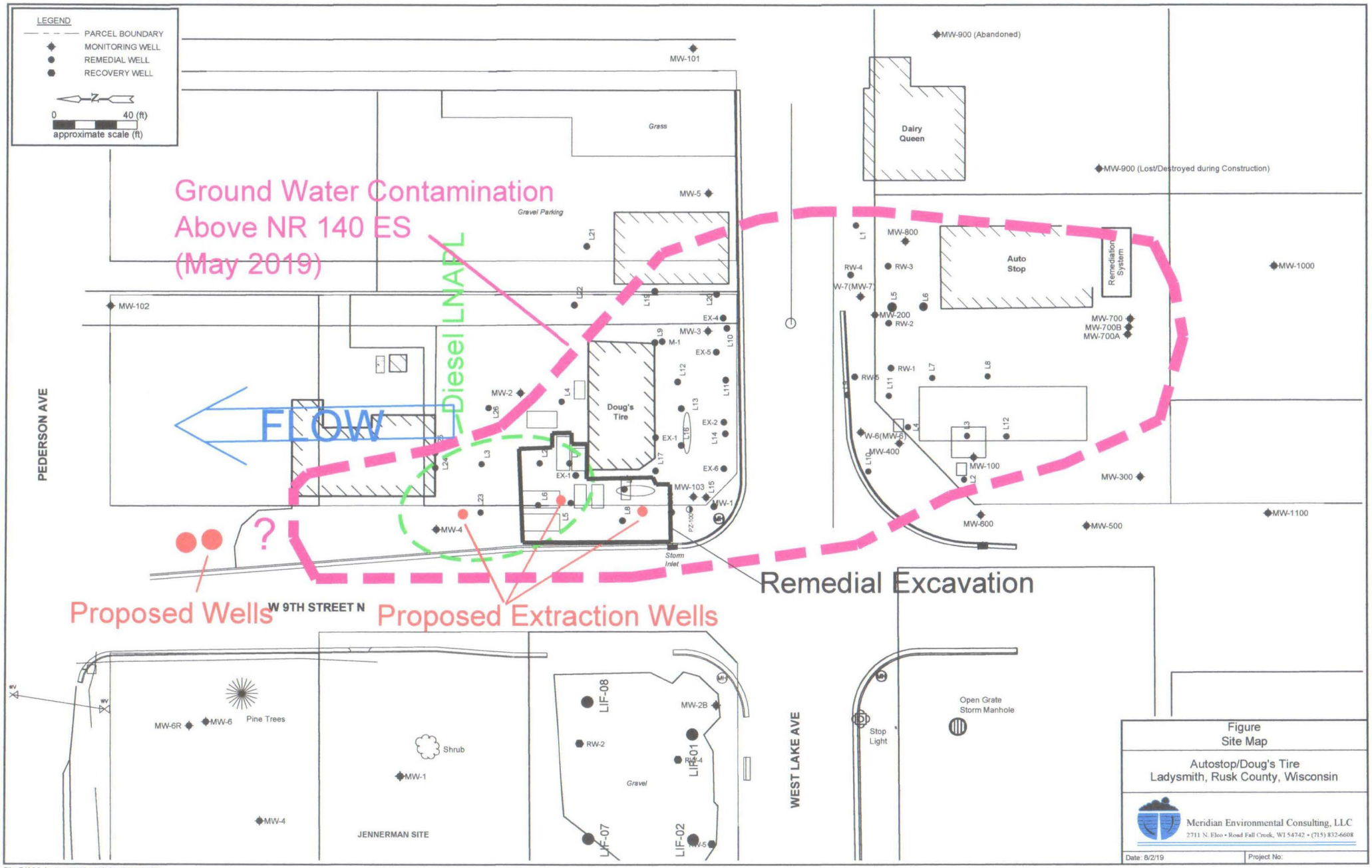


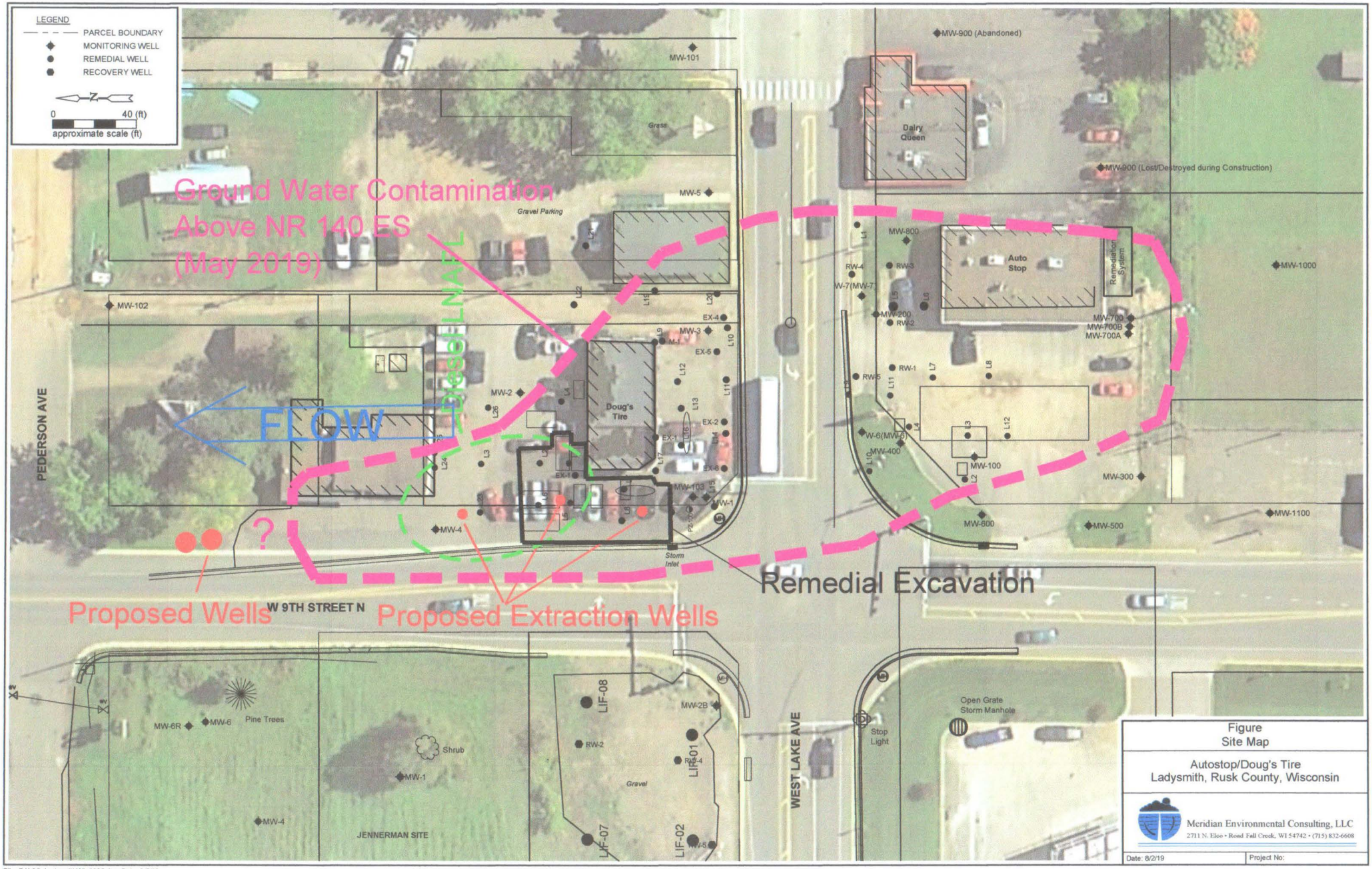
Figure
Site Map

Autostop/Doug's Tire
Ladysmith, Rusk County, Wisconsin

Meridian Environmental Consulting, LLC
2711 N. Eleo • Road Fall Creek, WI 54742 • (715) 832-6608

Date: 8/2/19 | Project No:

File: FJASS_LadysmithWI_2000.dwg Date: 8/2/19



File: FJASS_LadysmithWI_2000.dwg Date: 8/2/19

Usual and Customary Standardized Invoice #26
July 2019 - December 2019

RR-111a

PECFA #: 54848-1295-19/-1215-11
BRRTS #: 03-55-282548/-000408
Site Name: Autostop/Dougs
Site Address: Ladysmith

Vendor Name: Change Order
Invoice #: Change Order
Invoice Date: August 2019
Check #: Change Order

U&C Total $ 37,258.80
Variance to U&C Total $ -
Grand Total $ 37,258.80

TASK	TASK DESCRIPTION	SERVICES	ACTIVITY CODE	ACTIVITY REFERENCE CODE DESCRIPTION	UNIT	MAX UNIT COST	UNITS	TOTAL MAX
Abandon MW-102 (28 ft), PZ0-100 (68 ft - tremie grout)(Total 96). Install downgradient well nest (water table well (30 ft) & piezometer (35-40 ft)(sample PZ (40 ft), earth drill adjacent water table well (30 ft)). Survey. Sample new wells 2X (PVOC+Naph)(with current monitoring program). Install 3 extraction wells (4 in. - screen 15 - 30 ft)(90 ft - no sampling) in diesel LNAPL area. Pump extraction wells with vac truck weekly for 6 weeks).								
1	GW Sampling		GS05	Sample Collection	Well	$ 74.62	4	$ 298.48
4	Waste Disposal	Consultant	WD05	Consultant Coordination	Site	$ 141.24	1	$ 141.24
4	Waste Disposal	Commodity	WD10	GW Sample and/or Purge **(development water)**	Drum	$ 43.37	1	$ 43.37
4	Waste Disposal	Commodity	WD15	Drill Cuttings **(70 ft 2in. dia + 90 ft 4 in. dia. wells - estimate 20 drums)**	Drum	$ 111.39	20	$ 2,227.80
4	Waste Disposal	Commodity	WD17	Landfill Environmental Fee (provide documentation)	ACTUAL COST			
4	Waste Disposal	Commodity	WD25	Primary Mob/Demob **(Drill Cuttings)**	Site	$ 316.47	1	$ 316.47
8	Well Abandonment	Consultant	WAB05	Coordination	Site	$ 162.86	1	$ 162.86
8	Well Abandonment	Commodity	WAB40	Well Abandonment (2 inch)	Ft	$ 5.74	96	$ 551.04
10	Initial Site Survey	Consultant	IS10	Subsequent Surveys **(2 new wells+3 extraction wells)**	Well	$ 113.45	5	$ 567.25
Water table well + three extraction wells (4x30= 120 - no sample). Piezometer (40 ft sampled). PVC = 4x30+1x40 = 160 ft.								
13.a	Drilling In Unconsolidated Soils - With Soil Sampling	Consultant	DR05	0 - 25 ft bgs **(piezometer)**	Ft	$ 5.56	25	$ 139.00
13.a	Drilling In Unconsolidated Soils - With Soil Sampling	Consultant	DR10	26 - 50 ft bgs **(piezometer)**	Ft	$ 5.84	15	$ 87.60
13.a	Drilling In Unconsolidated Soils - With Soil Sampling	Consultant	DR20	Primary Mob/Demob	Site	$ 652.34	1	$ 652.34
13.b	Drilling In Unconsolidated Soils - Without Soil And/Or GW Sampling	Consultant	DR25	Consultant Oversight **(30 ft water table well + 3 extraction wells (3x30=90). 3x30+1x30=120)**	Ft	$ 1.63	120	$ 195.60
13.d	Drilling In Unconsolidated Soils - With Soil Sampling	Commodity	DR45	0 - 25 ft bgs **(piezometer)**	Ft	$ 17.20	25	$ 430.00
13.d	Drilling In Unconsolidated Soils - With Soil Sampling	Commodity	DR50	26 - 50 ft bgs **(piezometer)**	Ft	$ 18.93	15	$ 283.95
13.e	Drilling In Unconsolidated Soils - Without Soil And/Or GW Sampling	Commodity	DR60	Drilling in Unconsolidated Soils (wt well + 3 ex wells)	Ft	$ 12.33	120	$ 1,479.60
14	Monitoring Well Installation	Consultant	MWI05	0 - 25 ft bgs **(water table well(30)+piezometer(40) + 3 extraction wells(30) =5x25=125)**	Ft	$ 4.01	125	$ 501.25
14	Monitoring Well Installation	Consultant	MWI10	26 - 75 ft bgs **(15+4x5=35)**	Ft	$ 2.81	35	$ 98.35
14	Monitoring Well Installation	Commodity	MWI15	2 inch PVC Casing **(wt (30)+pz(40)+3 ex (3x30)=1x30+1x40+3x30=160**	Ft	$ 17.20	160	$ 2,752.00
14	Monitoring Well Installation	Commodity	MWI20	Well Development	Well	$ 152.06	2	$ 304.12
14	Monitoring Well Installation	Commodity	MWI25	Mob/Demob (For development of grout or slurry sealed wells	Site	$ 603.49	1	$ 603.49
15	Misc. Drilling Activities & Supplies		MDT05	Drill Rig Mob/Demob	Mob/Demob	$ 1,059.72	1	$ 1,059.72
15	Misc. Drilling Activities & Supplies		MDT10	Well Cover/flushmount	Each	$ 208.73	5	$ 1,043.65
15	Misc. Drilling Activities & Supplies		MDT25	Commodity Service Provider Per Diem (drilling and direct push)	Person	$ 209.38	6	$ 1,256.28
15	Misc. Drilling Activities & Supplies		MDT41	Private Utility Locate	ACTUAL COST		1	Actual
20	Soil Boring/Monitoring Well Permits		SBMWP05	Soil Boring/Monitoring Well Permit **(DOT, City of Ladysmith**	Permit	$ 253.50	1	$ 253.50
20	Soil Boring/Monitoring Well Permits		SBMWP10	Permit Fee (copy of permit & fee receipt required)	Permit Fee			
31	Consultant Overnight Per Diem		COPD05	Overnight	Night	$ 125.09	3	$ 375.27
33	Schedule Of Laboratory Maximums	Commodity		Laboratory (see task 33 total on Lab Schedule)	Lab Schedule			$ 125.04
36	Change Order Request		COR05	Change Order Request (cost cap exceedance requests)	Change Order	$ 393.23	1	$ 393.23
Variance				Pump extraction wells, MW-4, MW-103 with Vac Truck 4 hours (weekly for 6 weeks)(see enclosed budget)				$ 20,916.30
Variance								

Usual and Customary Standardized Invoice #26
July 2019 - December 2019 (Interim)

RR-111a

TOTAL LAB CHARGES	$ 125.04	TASK 33	4	$ 125.04	TASK 24	0	$ -

MATRIX	REF CODE	REIMBURSABLE ANALYTE	UNITS	MAX COST	SAMPLES	TOTAL	MAX COST	SAMPLES	TOTAL
AIR	A1	Benzene	SAMPLE	$ 46.29		$ -			
AIR	A2	BETX	SAMPLE	$ 50.94		$ -			
AIR	A3	GRO	SAMPLE	$ 47.48		$ -			
AIR	A4	VOC's	SAMPLE	$ 74.09		$ -			
WATER	W1	GRO/PVOC	SAMPLE	$ 30.07		$ -			
WATER	W2	PVOC	SAMPLE	$ 27.80		$ -			
WATER	W3	PVOC + 1,2 DCA	SAMPLE	$ 45.10		$ -			
WATER	W4	PVOC + Naphthalene	SAMPLE	$ 31.26	4	$ 125.04			
WATER	W5	VOC	SAMPLE	$ 74.09		$ -			
WATER	W6	PAH	SAMPLE	$ 75.17		$ -			
WATER	W7	Lead	SAMPLE	$ 12.76		$ -			
WATER	W8	Cadmium	SAMPLE	$ 13.96		$ -			
WATER	W9	Hardness	SAMPLE	$ 12.76		$ -			
WATER	W10	BOD, Total	SAMPLE	$ 24.34		$ -			
WATER	W11	Nitrate	SAMPLE	$ 11.58		$ -			
WATER	W12	Total Kjeldahl	SAMPLE	$ 20.88		$ -			
WATER	W13	Ammonia	SAMPLE	$ 17.42		$ -			
WATER	W14	Sulfate	SAMPLE	$ 10.50		$ -			
WATER	W15	Iron	SAMPLE	$ 10.50		$ -			
WATER	W16	Manganese	SAMPLE	$ 10.50		$ -			
WATER	W17	Alkalinity	SAMPLE	$ 10.50		$ -			
WATER	W18	methane	SAMPLE	$ 47.48		$ -			
WATER	W19	Phosphorous	SAMPLE	$ 18.60		$ -			
WATER	W20	VOC Method 524.2	SAMPLE	$ 181.59		$ -			
WATER	W21	EDB Method 504	SAMPLE	$ 98.31		$ -			
SOILS	S1	GRO	SAMPLE	$ 25.52		$ -	$ 25.52		$ -
SOILS	S2	DRO	SAMPLE	$ 31.26		$ -	$ 31.26		$ -
SOILS	S3	GRO/PVOC	SAMPLE	$ 28.98		$ -	$ 28.98		$ -
SOILS	S4	PVOC	SAMPLE	$ 26.60		$ -	$ 26.60		$ -
SOILS	S5	PVOC + 1,2 DCA + Naphthalene	SAMPLE	$ 50.94		$ -	$ 50.94		$ -
SOILS	S6	PVOC + Naphthalene	SAMPLE	$ 37.10		$ -	$ 37.10		$ -
SOILS	S7	VOC	SAMPLE	$ 74.09		$ -	$ 74.09		$ -
SOILS	S8	SPLP Extraction VOC only	SAMPLE	$ 52.13		$ -	$ 52.13		$ -
SOILS	S9	PAH	SAMPLE	$ 75.17		$ -	$ 75.17		$ -
SOILS	S10	Lead	SAMPLE	$ 12.76		$ -	$ 12.76		$ -
SOILS	S11	Cadmium	SAMPLE	$ 15.04		$ -		TASK 24 TOTAL	$ -
SOILS	S12	Free Liquid	SAMPLE	$ 11.58		$ -			
SOILS	S13	Flash Point	SAMPLE	$ 26.60		$ -			
SOILS	S14	Grain Size - dry	SAMPLE	$ 44.02		$ -			
SOILS	S15	Grain Size - wet	SAMPLE	$ 59.05		$ -			
SOILS	S16	Bulk Density	SAMPLE	$ 13.96		$ -			
SOILS	S17	Permeability	SAMPLE	$ 42.83		$ -			
SOILS	S18	Nitrogen as Total Kjeldahl	SAMPLE	$ 20.88		$ -			
SOILS	S19	Nitrogen as Ammonia	SAMPLE	$ 17.42		$ -			
SOILS	S20	% Organic Matter	SAMPLE	$ 30.07		$ -			
SOILS	S21	TOC as NPOC	SAMPLE	$ 59.05		$ -			
SOILS	S22	Soil Moisture Content	SAMPLE	$ 7.03		$ -			
SOILS	S23	Air Filled Porosity	SAMPLE	$ 26.60		$ -			
SOILS	S24	% Total Solids	SAMPLE	$ 7.03		$ -			
SOILS	S25	Field Capacity	SAMPLE	$ 28.98		$ -			
SOILS	S26	TCLP Lead	SAMPLE	$ 85.65		$ -			
SOILS	S27	Cation Exchange (Ca, MG, & K)	SAMPLE	$ 27.80		$ -			
SOILS	S28	TCLP Cadmium	SAMPLE	$ 85.65		$ -			
SOILS	S29	TCLP Benzene	SAMPLE	$ 85.65		$ -			
LNAPL	LFPS01	Viscosity + Density Interfacial tension I (LNAPL/water [dyne/cm]) Interfacial tension II (LNAPL/air [dyne/cm]) Interfacial tension III (water/air) [dyne/cm])	SAMPLE	$ 578.17		$ -			
					TASK 33 TOTAL	$ 125.04			

Pumping of LNAPL with Vac Truck (6 events)

Autostop/Dougs
Ladysmith, Wisconsin
Meridian Nos.

Scope of Work:

Coordinate pumping of extraction wells at Doug's. Includes coordinate with tenant, contractor. Open and close wells. Monitor and record pumping performance and totals. Proj. Mgmt

Task	Units	#Units	Cost/unit	Cost
Each Event				
Meridian				
Travel to/from	hr	3	$94.13	$282.39
Mileage	mi	150	$0.50	$75.00
Prep/Deprep	hr	1	$94.13	$94.13
Oversight/Open/Close Wells. Measure LNAPL before/after.	hr	5	$94.13	$470.65
Project Mgmt	hr	1	$112.96	$112.96
			Subtotal:	*$1,035.13*
Contractor				
Mob/Demob	event	1	$1,475.00	$1,475.00
Dispose Product/Water*	gallon	1000	$0.75	$750.00
			Subtotal:	*$2,225.00*
		Total per pumping event		$3,260.13
		x 6 weeks (events)		$19,560.78
Report (PG,PE)	hr	12	$112.96	$1,355.52
			Total:	$20,916.30

* use 1000 gallons for budgeting. Actual likely less.

Meridian Environmental Consulting, LLC

2711 N. Elco Road • Fall Creek, WI 54742 • (715) 832-6608 • Fax (715) 832-6797

Bid Form: Pump Monitoring Wells

Doug's Tire (former) (NE corner of Hwy. 27 & 8)
Ladysmith, Wisconsin

Scope of Work:

Use vacuum truck to pump test wells at former gas station in Ladysmith (NE corner of Hwy. 27 & 8)
There will be 16 weekly pumping events over 4 months
Each pumping event will last 4 hours or 1000 gallons (whichever is less)
Dispose of product/water mixture
Measure product in truck before dispose of water
Provide necessary piping/hose/etc for pumping
Test wells are 2-inch and 4-inch diameter at grade PVC pipes
Meridian will be onsite to assist/supervise each pumping event

Task	Units	#Units*	Cost/Unit	Cost
Pump test wells 4 hours or 1000 gallons (whichever is less)	event	16	1475	23600
Dispose of product/water mixture (price per gallon)	gallon	1000	0.75	750
			Total Cost:	24350

* actual volume of fluid may be less than 1000 gallons

Company Name: Minnesota Petroleum Service
Signature: [signature]
Telephone: 763 780 5191
Date: 8/5/2019

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of Wisconsin
tment of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☐ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

ity/Project Name: DOUG'S AUTO CENTER
ity License, Permit or Monitoring No.:
ity ID:
of Well — Well Code ___/___
nce from Waste/ ___ ft. | Enf. Stds. Apply ☐

Local Grid Location of Well ☐N. ☐S. ___ ft. ☐E. ☐W. ___ ft.
Local Grid Origin ☐ (estimated: ☐) or Well Location ☐
Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or
St. Plane ___ ft. N, ___ ft. E. S/C/N
Section Location of Waste/Source ☐E ☐W
SW 1/4 of SW 1/4 of Sec. 34 T. 35 N, R. 6
Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
Gov. Lot Number:

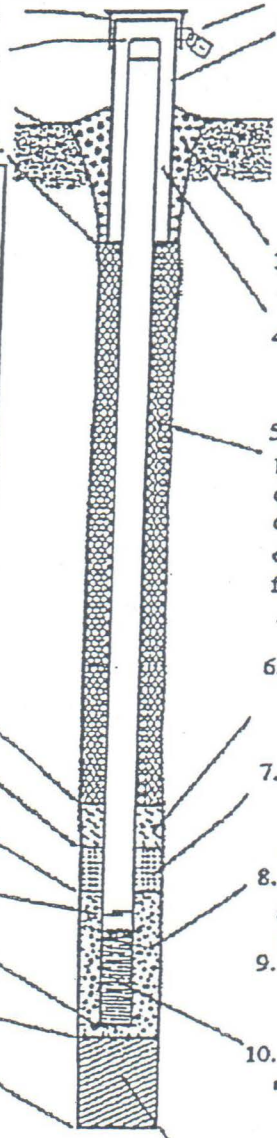
Well Name: MW-102
Wis. Unique Well No.: PC 556
DNR Well ID No.:
Date Well Installed: 06/26/2001 (m m d d y y y y)
Well Installed By: Name (first, last) and Firm
SHAUN ABEL
BOART-LONGYEAR

ɔtective pipe, top elevation ___ ft. MSL
ell casing, top elevation ___ ft. MSL
ad surface elevation ___ ft. MSL
rface seal, bottom ___ ft. MSL or ___ ft.

USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐
ieve analysis performed? ☐ Yes ☒ No
rilling method used: Rotary ☐ 50 | Hollow Stem Auger ☒ 41 | Other ☐
rilling fluid used: Water ☐ 02 | Air ☐ 01 | Drilling Mud ☐ 03 | None ☒ 99
rilling additives used? ☐ Yes ☒ No
escribe:
ource of water (attach analysis, if required):

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
   a. Inside diameter: 9.0 in.
   b. Length: 4.0 ft.
   c. Material: Steel ☒ 04 | Other ☐
   d. Additional protection? ☐ Yes ☒ No — If yes, describe:
3. Surface seal: Bentonite ☐ 30 | Concrete ☒ 01 | Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30 | Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
   b. ___ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
   c. ___ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
   d. ___ % Bentonite ..... Bentonite-cement grout ☐ 50
   e. 2.80 Ft³ volume added for any of the above
   f. How installed: Tremie ☐ 01 | Tremie pumped ☐ 02 | Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
   b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☐ 32
   c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
   a. ___
   b. Volume added 0.70 Ft³
8. Filter pack material: Manufacturer, product name & mesh size
   a. ___
   b. Volume added 5.95 Ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 | Flush threaded PVC schedule 80 ☐ 24 | Other ☐
10. Screen material: ___
    a. Screen type: Factory cut ☒ 11 | Continuous slot ☐ 01 | Other ☐
    b. Manufacturer ___
    c. Slot size: 0.010 in.
    d. Slotted length: 15.2 ft.
11. Backfill material (below filter pack): None ☒ 14 | Other ☐

tonite seal, top	___ ft. MSL or	1.0 ft.
sand, top	___ ft. MSL or	9.0 ft.
r pack, top	___ ft. MSL or	11.0 ft.
en joint, top	___ ft. MSL or	13.0 ft.
bottom	___ ft. MSL or	28.0 ft.
r pack, bottom	___ ft. MSL or	28.0 ft.
hole, bottom	___ ft. MSL or	28.0 ft.
hole, diameter	6.1/4 in.	
). well casing	2.40 in.	
well casing	2.06 in.	



certify that the information on this form is true and correct to the best of my knowledge.
e: Benjamin Wilke
Firm: ENVIROGEN, INC.

mplete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, ,291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file ns may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable on on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

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ns of Wisconsin
partment of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

cility/Project Name: DOUG'S AUTO CENTER

Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.

Well Name: PZ-100

cility License, Permit or Monitoring No.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐
Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or

Wis. Unique Well No. | DNR Well ID No.

cility ID

St. Plane _____ ft. N, _____ ft. E. S/C/N

Date Well Installed: 06/27/2001 (m m d d y y y y)

pe of Well
Well Code ____/____

Section Location of Waste/Source
SW 1/4 of SW 1/4 of Sec. 34 T. 35 N, R. 6 ☐E ☒W

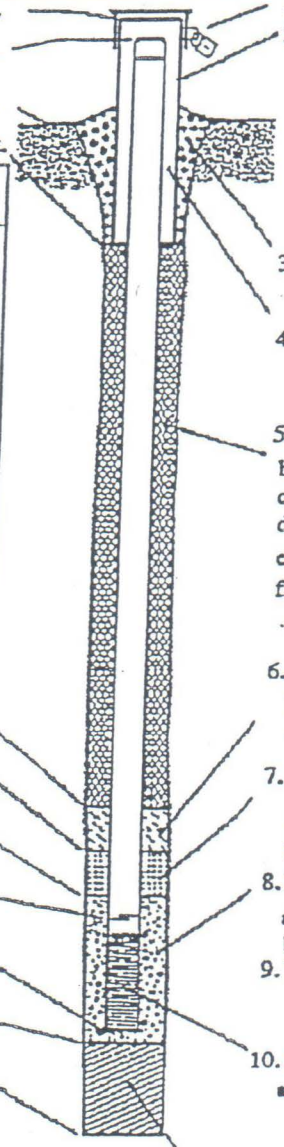
Well Installed By: Name (first, last) and Firm
SHAUN ABEL
BOART-LONGYEAR

stance from Waste/ urce _____ ft. | Enf. Stds. Apply ☐

Location of Well Relative to Waste/Source
u ☐ Upgradient s ☐ Sidegradient
d ☐ Downgradient n ☐ Not Known

Gov. Lot Number

Protective pipe, top elevation _____ ft. MSL
Well casing, top elevation _____ ft. MSL
Land surface elevation _____ ft. MSL
Surface seal, bottom _____ ft. MSL or _____ ft.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
   a. Inside diameter: 9.0 in.
   b. Length: 2.0 ft.
   c. Material: Steel ☒ 04 Other ☐
   d. Additional protection? ☐ Yes ☒ No
      If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
   b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
   c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
   d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
   e. 20.3 Ft³ volume added for any of the above
   f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
   b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
   c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
   a. _____
   b. Volume added 0.70 ft³
8. Filter pack material: Manufacturer, product name & mesh size
   a. _____
   b. Volume added 2.45 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ _____
10. Screen material: _____
    a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ _____
    b. Manufacturer _____
    c. Slot size: 0.010 in.
    d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☒ 14 Other ☐ _____

. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

. Sieve analysis performed? ☐ Yes ☒ No

Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☒ 41 Other ☐ _____

Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

Drilling additives used? ☐ Yes ☒ No

Describe _____

Source of water (attach analysis, if required):

_____

entonite seal, top _____ ft. MSL or 1.0 ft.
e sand, top _____ ft. MSL or 59.0 ft.
lter pack, top _____ ft. MSL or 61.0 ft.
reen joint, top _____ ft. MSL or 63.0 ft.
ll bottom _____ ft. MSL or 68.0 ft.
ter pack, bottom _____ ft MSL or 68.0 ft.
rehole, bottom _____ ft MSL or 70.0 ft.
rehole, diameter 6.1/4 in.
.D. well casing 2.40 in.
). well casing 2.06 in.

y certify that the information on this form is true and correct to the best of my knowledge.

me: _____ Firm: ENVIROGEN, INC.

complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 9, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file rms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable ation on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be