
North Coast Regional Water Quality Control Board

California Regional Water Quality Control Board

North Coast Region

Water Code Section 13267 Investigative Order R1-2019-0029

Directing Dean Soiland

To Submit Technical and Monitoring Reports Pertaining to Discharges from the Mark West Quarry

WDID No. 1 49I009813

Sonoma County

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) finds that:

1. Dean Soiland is the operator of the Mark West Quarry located at 4611 Porter Creek Road in Sonoma County (Site).¹
2. Dean Soiland (the Discharger) currently operates the Site, enrolled for coverage under the General Permit for Storm Water Discharges Associated with Industrial Activities, State Water Resources Control Board Order 2014-0057-DWQ, NPDES Order No. CAS000001 (Industrial General Permit).
3. Storm water from the Site discharges into Porter Creek, a tributary of the Russian River and a water of the United States.
4. The Site operations consist of hard rock mining and materials processing. The Site mines broken stone which it crushes and processes into aggregate base rock, aggregate sub-base, construction grade rock, asphaltic grade rock, and concrete grade aggregates.
5. The constituents of concern correspond to the contaminants observed, and confirmed via analytical methods, in the Site storm water, including fine-grained aggregate, silt, and dust from active mining, material shipping/handling, storage, and tracking activities.

¹ Notice of Intent submitted by Dean Soiland, June 19, 2015.

(footnote continued on next page)

6. During a storm event on December 16, 2018, Regional Water Board staff observed sediment-laden storm water in Porter Creek downstream of the Site.² On December 17, 2018, Regional Water Board staff visited the Site and observed sediment buildup below the eastern outfall that conveys storm water from the Site to Porter Creek.³
7. During a storm event on January 9, 2019, Regional Water Board staff observed sediment-laden storm water discharging from the Site's eastern culvert into Porter Creek. This discharge was consistent with the sediment buildup observed on December 17, 2018. Laboratory results of water samples collected during the inspection documented elevated total suspended solids (TSS), suspended solids concentration (SSC), and turbidity in samples collected in Porter Creek downstream of the Site discharge point as compared with levels in samples collected upstream of the discharge point.⁴
8. During a storm event on January 16, 2019, Regional Water Board staff observed sediment-laden storm water discharging from the Site's eastern culvert into Porter Creek. Laboratory results of water samples collected during the inspection documented elevated turbidity measurements in samples collected in Porter Creek downstream of the Site discharge point as compared with levels in samples collected upstream of the discharge point.⁵
9. During a storm event on February 13, 2019, Regional Water Board staff observed sediment-laden storm water discharging from the Site's eastern culvert into Porter Creek. Laboratory results of water samples collected during the inspection documented elevated turbidity measurements in samples collected in Porter Creek downstream of the Site discharge point as compared with levels in samples collected upstream of the discharge point.⁶

Legal and Regulatory Authority

10. This Water Code section 13267 Investigative Order (Order) conforms to and implements policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with California Water Code section 13000) including section 13267, and the Water Quality Control Plan for the North Coast Region (Basin Plan) adopted by the Regional Water Board including beneficial uses, water quality objectives, and implementation plans.
11. Water Code section 13267, subdivision (a), provides that the Regional Water Board may investigate the quality of any waters of the state within its region in connection with any action relating to the Basin Plan. Water Code section 13267, subdivision (b) provides that the Regional Water Board, in conducting an investigation, may require a discharger to furnish, under penalty of perjury, technical or monitoring program reports. The reports required by this Order will assist the Regional Water

² Attachment 1: Photos 1 and 2, December 17, 2018, Regional Water Board Inspection Memo.

³ Attachment 1: Photos 3 and 4, December 17, 2018, Regional Water Board Inspection Memo.

⁴ Attachment 2: January 9, 2019 Regional Water Board Inspection Memo.

⁵ Attachment 3: January 16, 2019 Regional Water Board Inspection Memo.

⁶ Attachment 4: February 13, 2019 Regional Water Board Inspection Memo.

Board in determining whether the Discharger has taken, or will take, necessary actions to protect water quality and the beneficial uses of surface waters in the Russian River watershed. The burden of compiling these reports, including the costs associated with collecting the information, bear a reasonable relationship to the benefits that will be obtained from having the necessary information for the Regional Water Board to properly regulate and monitor the Site and to protect the water quality in Porter Creek.

12. Water Code section 13383, subdivision (a) provides in part that the Regional Water Board may establish monitoring, inspection, reporting, and record keeping requirements for any person who discharges, or proposes to discharge to navigable waters. Porter Creek is a tributary of the Russian River and a water of the United States. Subdivision (b) provides that the Regional Water Board may require any person to establish and maintain monitoring equipment or methods and provide other information as may be reasonably required.

13. Industrial General Permit section XX. Special Conditions, B. Water Quality Based Corrective Actions authorizes a Regional Water Board to add requirements when a discharger is violating receiving water limitations in Permit section VI. These requirements are to identify pollutant sources and implement best management practices (BMPs) to address those sources to correct what is causing the receiving water limitation violation(s). The Water Quality Based Corrective Actions section also authorizes the Regional Water Board to require a discharger to certify and submit to the Stormwater Multiple Application and Report Tracking System (SMARTS) online database documentation demonstrating how it identified and implemented measures to meet the receiving water limitations, or how it determined no additional measures are required to meet receiving water limitations.

14. Based on the elevated turbidity measurements in samples collected in Porter Creek downstream of the Site discharge point as compared with turbidity levels in samples collected upstream of the discharge point, storm water discharges from the Site violated the receiving water limitations in section VI. in the Industrial General Order. Therefore, this Order requires additional monitoring as specified below pursuant to the Industrial General Permit section XX. Special Conditions.

THEREFORE, IT IS HEREBY ORDERED that, pursuant to Water Code sections 13267 and 13383, the Discharger shall provide the following information:

A. Water Quality Based Corrective Actions

- 1.** By **May 15, 2019**, the Discharger shall conduct a Site evaluation to identify the source(s) of sediment observed discharging to Porter Creek from all Site drainage areas and to evaluate whether BMPs described in the Site's storm water pollution prevention plan (SWPPP) have been properly implemented to eliminate the discharge of sediment from all Site drainage areas to Porter Creek;
- 2.** By **May 15, 2019**, identify any additional and/or advanced BMPs necessary to prevent the discharge of sediment from the Site to Porter Creek;

3. By **May 15, 2019**, the Discharger shall prepare, and submit via SMARTS, documentation, including a current clearly labeled Site map(s), Site evaluation results conducted per Item A.1 that includes additional and/or advanced BMPs identified per Item A.2 necessary to prevent the discharge of sediment to Porter Creek;
4. By **May 31, 2019**, the Discharger shall prepare and submit via SMARTS a technical report documenting the implementation of the additional and/or advanced BMPs and/or SWPPP implementation measures that have been employed in response to Items A.1, A.2 and A.3, above. Tributary areas must be verified based on current site conditions and all necessary evaluation, calculations, and design must be conducted by the appropriately licensed professional to ensure BMPs are adequately sized and designed.

B. Receiving Water Monitoring and Reporting

1. Precipitation-Based Receiving Water Monitoring

The Discharger shall perform precipitation-based receiving water monitoring for all rain events of 0.1 inches or more that produce storm water discharge from at least one drainage area. The Discharger shall monitor during daylight hours seven days a week. The Discharger shall continue the precipitation-based receiving water monitoring described below until this Order is rescinded in writing by the Regional Water Board Assistant Executive Officer. The following points summarize the monitoring requirements for the Site:

- a) The Discharger shall collect three (3) storm water samples per 24- hour period from each monitoring location while storm water is discharging. The samples shall be collected at a frequency of no less than one sample every two hours until there is no storm water discharge.
- b) All samples shall be analyzed for turbidity and pH using calibrated field meters and the data recorded on field sampling sheets. The sample from each sampling location exhibiting the highest turbidity measurement during the 24-hour period shall be submitted to a certified laboratory for chemical analysis of suspended sediment concentration (SSC), and total suspended solids (TSS), except for the samples collected at monitoring location 1 (Discharge), as described below.
- c) The Discharger shall collect water quality samples at the seven specified monitoring locations as indicated below and shown on Figures 1 and 2, enclosed:
 - 1) Discharge (turbidity and pH, field measurement only) – Collected from settling tank discharge;
 - 2) Upstream (turbidity, pH, SSC, and TSS) – Within Porter Creek, 1,000 feet upstream of the eastern culvert;
 - 3) Mixed (turbidity, pH, SSC, and TSS) – Within Porter Creek, in the mixing zone of Porter Creek and the culvert discharge;
 - 4) Culvert (turbidity, pH, SSC, and TSS) – From culvert outfall;

- 5) Downstream (turbidity, pH, SSC, and TSS) – Within Porter Creek downstream of culvert;
- 6) West Culvert (turbidity, pH, SSC, and TSS) – From settling structure at quarry entrance;
- 7) East Drainage (turbidity, pH, SSC, and TSS) – From drainage location approximately 1,200 feet southeast from quarry entrance on Porter Creek Road.

The monitoring shall include photographic documentation of the storm water discharges and sampling activities. All samples shall be collected by personnel trained by a Qualified Industrial Storm Water Practitioner (QISP) and submitted to a state of California Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for chemical analysis.

2. Notification and Reporting

- a) The Discharger shall upload the field sampling sheets for turbidity and pH measurements and photographic documentation from the Site monitoring to SMARTs within **24 hours** of data collection. The TSS and SSC results shall be uploaded **24 hours** after analytical reports are made available from the laboratory.
- b) The Discharger shall notify the Regional Water Board by email at Paul.Nelson@waterboards.ca.gov and by telephone at 707-576-2686 promptly and in no case more than **24 hours** after an unauthorized discharge or if a water quality problem arises. Water quality problems include, but are not limited to:
 - 1) Sediment, or any other unauthorized discharges to waters of the state;
 - 2) Any exceedance of the turbidity objective (20 percent above background/upstream samples) (Basin Plan, page 3-6, section 3.3.17); and
 - 3) Any exceedance of the Hydrogen Ion (pH) objectives for the Russian River HU (<6.5 or >8.5) (Basin Plan, page 3-11, Table 3-1 Specific Water Quality Objectives for the North Coast Region).
- c) Starting **May 31, 2019** and monthly on the last business day of the month thereafter, the Discharger shall upload monthly monitoring reports to SMARTs. The reports shall include photographic documentation of the monitoring, field sampling sheets, a description of sampling methods and handling procedures, certified analytical reports, a scaled topographic Site map showing sample locations, drainage flow pathways, detention ponds, sediment traps, permanent drainage systems and final outfalls to Porter Creek. The reports shall also document cumulative and per-event rainfall amounts and cumulative and per-event storm water discharge volumes by drainage area and discharge location for the sampling period. Additionally, the reports shall discuss Site conditions, all corrective actions implemented, additional BMPs, and any water quality exceedances or deviations from the monitoring and analysis requirements

in this Order. Only National Oceanic and Atmospheric Administration (NOAA)-sourced precipitation data shall be used and included in the reporting.

3. Storm Water Discharge Volume Estimates

By **May 31, 2019**, provide a calculation of the total volume of storm water discharged by drainage area, discharge location, and storm event from the Site to Porter Creek from August 2017 (beginning of Level 2) until the receipt of this Order. The calculations shall be performed using TR-55⁷ or equivalent. These estimates shall include, but not be limited to, the following:

- a) A current topographic Site map clearly showing drainage flow pathways, tributary areas and size, any detention ponds, sediment traps, permanent drainage systems and all outfalls to surface waters.
- b) Engineering methods, diagrams, models, calculations and assumptions used to estimate the total volume including, at a minimum, the following:
 - 1) Site area run-on and direct precipitation volume;
 - 2) Surface infiltration/evaporation volume;
 - 3) Rainfall data used for calculations;
 - 4) Design, capacity and estimated efficiency of detention ponds/sediment traps, including an explanation of the storm event size such structures are designed to accommodate; and
 - 5) Other features that would have retained storm water at the Site.

C. Provisions

1. **Use of Registered Professionals:** The Discharger shall provide documentation that each technical report required by this Order was prepared under the direction of appropriately qualified professionals. In preparing each technical report required by this Order, any engineering or geologic evaluations and judgments must be performed by or under the direction of registered professionals pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. A statement of qualifications and registration numbers of the responsible lead professional shall be included in the report submitted by the Discharger. The lead professional shall sign and affix his or her registration stamp to the report.
2. **Qualified Professionals:** The Discharger's reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals shall be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities.

⁷ United States Department of Agriculture NRCS, Urban Hydrology for Small Watersheds.

3. **Signatory Requirements:** The technical reports shall be signed and certified by either a principal executive officer, ranking elected official, or the person with overall responsibility for environmental matters for the Discharger. Additional reports submitted in support of the technical report must be signed by the principal author.
4. **Certification Statement:** Any report submitted in response to this Order shall include the following perjury statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. **Report Submittal:** The technical reports shall be submitted electronically to:

North Coast Regional Water Quality Control Board at
NorthCoast@waterboards.ca.gov
and, the State Water Resources Control Board Stormwater Multiple Application and Report Tracking System (SMARTS)

D. Notifications

1. **Enforcement Discretion:** The Regional Water Board reserves its rights to take any enforcement action authorized by law for violations of the terms and conditions of this Order. Furthermore, compliance with this Order is wholly distinct from any possible enforcement that may follow from the discharges themselves, pursuant to violations of the Water Code or other orders issued by the Regional Water Board.
2. **Enforcement Notification:** Pursuant to Water Code section 13268, failure to submit the required technical reports as required by Water Code section 13267(b), or falsifying any information provided therein, may result in the imposition of administrative civil liability of up to \$1,000 per violation per day. Any actual unauthorized discharge to waters of the United States may subject the Discharger to up to \$10,000 for each day of discharge, and \$10 for each gallon over 1,000 gallons not cleaned up pursuant to Water Code section 13385. The Regional Water Board reserves its rights to take any further enforcement action authorized by law.
3. **California Environmental Quality Act Compliance:** The issuance of this Order is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations, section 15306. The submission of technical information does not constitute a project with environmental impacts.

- 4. Appeal Notification:** Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00pm, 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00pm on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

https://www.waterboards.ca.gov/public_notices/petitions/water_quality/

or will be provided upon request.

It is hereby ordered.

Claudia Villacorta, P.E.
Assistant Executive Officer

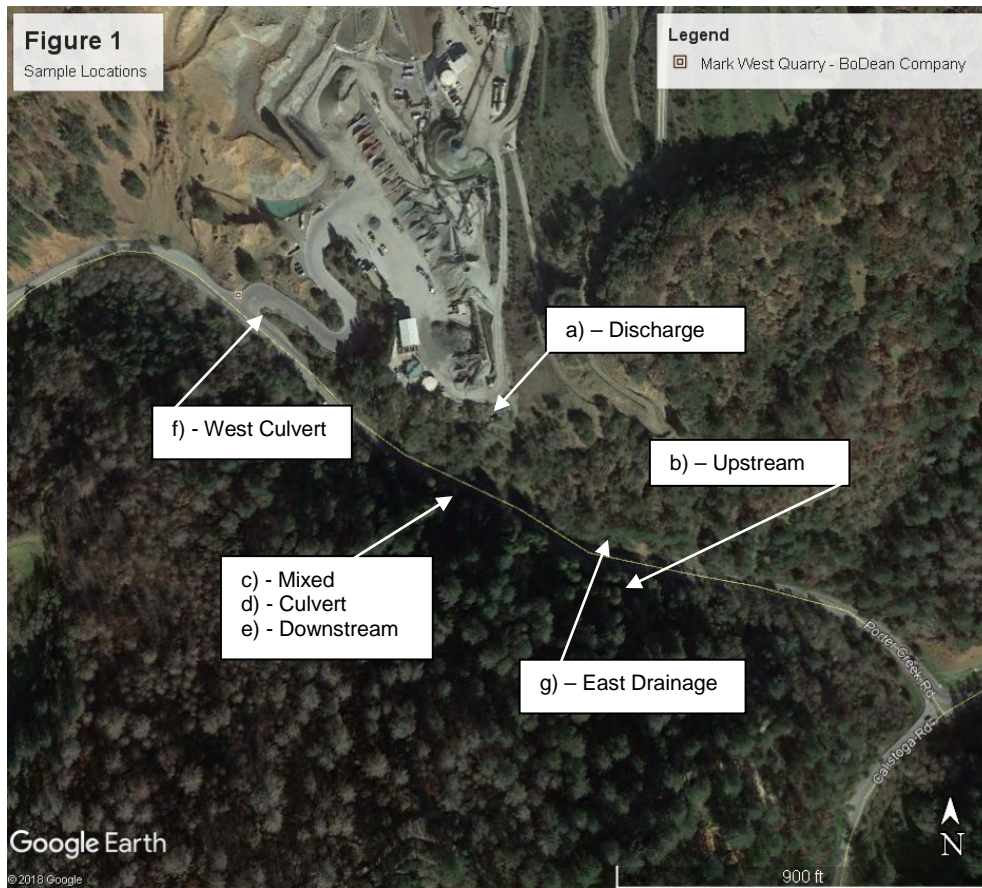


Figure 2: Site map and sampling location photograph

Attachment 1

December 17, 2018

Inspection Memo

Name and Location of Facility Inspected Mark West Quarry, 4611 Porter Creek Road, Santa Rosa CA		Inspection Date December 17, 2018	Inspection Time 9:30 am-12:30 pm
Industrial General Permit WDID #: 1 49I009813 App ID: 178843			
Names & Titles of Operator and Site Contact Dean Soiland Anthony Boyle Bryan Goodrich		Consent Provided? Yes X No <input type="checkbox"/>	Notified of Inspection? Yes <input type="checkbox"/> No X
Inspector Name & Title Paul Nelson Engineering Geologist, Regional Water Board Josh Luders Water Resources Control Engineer, Regional Water Board *Referred to as inspection team			
Weather Conditions at the Time of the Inspection: Overcast		Facility Receiving Water Names: Porter Creek	
Prepared By: Paul Nelson, 12/17/2018			

I. Background

The Mark West Quarry is on an unincorporated 120-acre site located at 4611 Porter Creek Road in eastern Sonoma County, California. The latitude and longitude is 38.55256°N and 122.65312°W. The facility operations consist of hard rock mining and materials processing.

This project is a Level 2 site for Total Suspended Solids under the Industrial General Permit due to a high sediment risk factor for discharges to tributaries of the Russian River. The Russian River is identified as impaired on the Clean Water Act Section 303(d) list for sediment and temperature.

II. Inspection Narrative

On December 16, 2018, Kason Grady, a Regional Water Board Supervisor, notified the Stormwater Unit of a discharge of sediment to Porter Creek. Kason Grady sent photographs to Regional Water Board staff indicating highly turbid water in Porter Creek near the facility.



Site map with photo locations.



Photos 1 and 2: Photographs of Porter Creek approximately 2,000 feet downstream of the Mark West Quarry taken by Kason Grady and sent to Regional Board staff on December 16, 2018, prior to the December 17, 2018 inspection documented in this memo.

Based in the photographs supplied by Kason Grady, Regional Water Board staff Josh Luders and I visited the site at approximately 9:40 am on December 17, 2018, to inspect the outfalls to Porter Creek. At the time of the inspection, water at each of the three outfalls from the quarry appeared relatively clear. However, sediment was observed at the Porter Creek outfall to the east of the quarry entrance.



Photo 3: Eastern outfall from Mark West Quarry to Porter Creek showing turbid water in pool below pipe. Photograph taken by Paul Nelson.



Photo 4: Photograph of sediment below eastern outfall pipe from Mark West Quarry to Porter Creek taken by Paul Nelson.

At approximately 12:00 pm Regional Water Board staff signed in at the main facility office and met with site representative, Bryan Goodrich, to inspect the area above the discharge location.

Regional Water Board staff and Bryan Goodrich inspected the stormwater settling structures and drainage location. All of the tanks in the settling system were full of turbid water. The water discharging from the last tank appeared relatively clear. Bryan Goodrich indicated that the pump in the last tank had failed over the weekend. The system is designed to transfer water from the last tank to a larger clean water tank for use in processing operations. Bryan Goodrich stated that when the pump failed, sediment-laden water overwhelmed the settling system and discharged to Porter Creek at the eastern outfall location. The pump was scheduled to be repaired at the time of this inspection.



Photo 5: Photograph of settling tanks. Tank at upper right discharges to eastern outfall.
Photograph taken by Paul Nelson.

Attachment 2

January 9, 2019

Inspection Memo

North Coast Regional Water Quality Control Board

Name and Location of Facility Inspected Mark West Quarry, 4611 Porter Creek Road, Santa Rosa CA Industrial General Permit WDID #: 1 491009813 App ID: 178843		Inspection Date January 9, 2019	Inspection Time 13:30 pm
Names & Titles of Operator and Site Contact Dean Soiland Anthony Boyle Bryan Goodrich		Consent Provided? Yes X No <input type="checkbox"/>	Notified of Inspection? Yes <input type="checkbox"/> No X
Inspector Name & Title Paul Nelson, P.G., C.Hg. Engineering Geologist, Regional Water Board Josh Luders Water Resources Control Engineer, Regional Water Board Jeremiah Puget Senior Environmental Scientist, Regional Water Board Heidi Bauer, P.G. Engineering Geologist, Regional Water Board *Referred to as inspection team			
Weather Conditions at the Time of the Inspection: Raining		Facility Receiving Water Names: Porter Creek	
Prepared By: Paul Nelson, P.G., C.Hg., 1/22/2019			

I. Background

The Mark West Quarry is on an unincorporated 120-acre site located at 4611 Porter Creek Road in eastern Sonoma County, California. The latitude and longitude are 38.55256°N and 122.65312°W. The facility operations consist of hard rock mining and materials processing.

This project is a Level 2 site for Total Suspended Solids under the Industrial General Permit due to a high sediment risk factor for discharges to tributaries of the Russian River. The Russian River is identified as impaired on the Clean Water Act Section 303(d) list for sediment and temperature.

II. Inspection Narrative

On January 9, 2019, Regional Water Board staff (inspection team) arrived at the site and observed turbid water discharging from the eastern culvert to Porter Creek. The water was a greyish tan color indicative of elevated levels of suspended sediment. Porter Creek at the discharge location was discolored (compared to upstream) at the zone of mixing.

The inspection team proceeded to collect water samples from the area of discharge (see site map below). The water samples were collected directly from the settling tanks, culvert discharge and Porter Creek using a sample dipper and laboratory-supplied sample containers. The samples were logged on a chain of custody form and placed under secured refrigerated conditions pending delivery to Delta Labs, a state certified analytical laboratory located in Benicia, California. The samples were analyzed for total suspended solids (TSS) and suspended sediment concentration

(SSC) by the laboratory. The samples were also analyzed by the Regional Water Board for turbidity using a Hach 2100N laboratory meter.

The analytical results for the water samples are summarized in the following table and included in the certified analytical report attached to this report.

TABLE A

Sample ID	Location Description	TSS (mg/L)	SSC (mg/L)	TURBIDITY ⁽¹⁾ (NTU)
CULVERT	Discharge from eastern outfall to Porter Creek	613	599	1,068
UPSTREAM	Receiving water approx. 40' upstream of eastern outfall	85.0	84.0	61.7
MIXED	Within discharge/receiving water mixing zone	856	955	1,684
DOWN 1	Receiving water approx. 50' downstream of eastern outfall	120	121	93.9
DOWN 2	Receiving water approx. 200' downstream of eastern outfall	102	108	79.0
DISCHARGE	Discharge from settling tanks prior to entering drainage to eastern outfall	2,890	2,880	>4,000

TSS = Total suspended solids

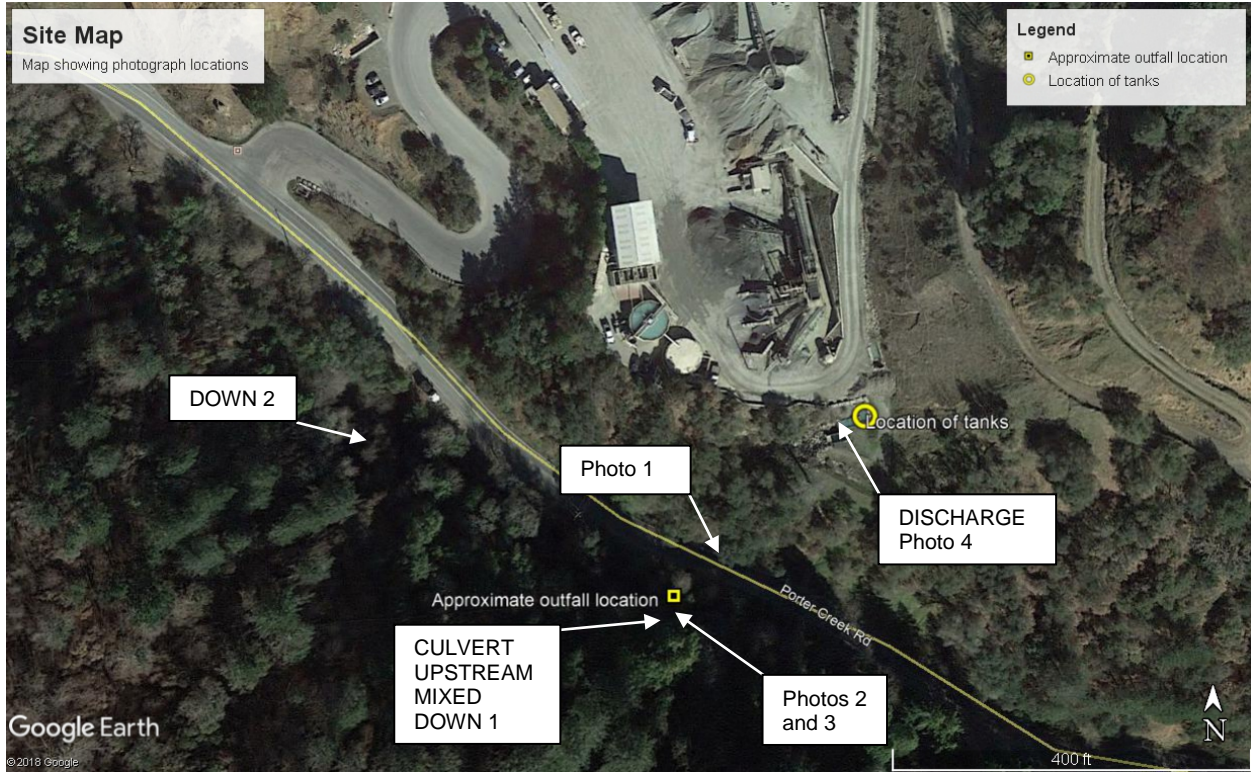
SSC = Suspended sediment concentration

mg/L = Milligrams per liter

⁽¹⁾ = Analyzed in Regional Water Board laboratory using a Hach 2100N meter

NTU – Nephelometric turbidity units

The inspection team signed in at the facility office and met with site representatives Bryan Goodrich and Anthony Boyle. We then proceeded to the eastern settling tank location and observed the discharge of stormwater from the settling tanks to the drainage on the eastern side of the site (see map and photograph below). Staff were accompanied by site representatives Anthony Boyle and Bryan Goodrich during the site inspection.



Site Map showing sample and photograph locations.



Photo 1: View of stormwater from site drainage on the north side of Porter Creek Road. Photographed by Paul Nelson.



Photo 2: East culvert discharge to Porter Creek looking south from Porter Creek Road. Elevated sediment content is evident in the discharging water and confirmed by the analytical results. Photographed by Paul Nelson.



Photo 3: East culvert discharge to Porter Creek looking downstream (west). Note mixing zone at left side of photograph. Photographed by Josh Luders.



Photo 4: View of discharge from settling tanks at the top of east culvert drainage. Runoff from the site exceeded the capacity of the collection and settling system. Photographed by Josh Luders.

February 11, 2019

Analytical Report

Client: **Water Board**
2005 Nimbus Road
Ranch Cordova, CA 95670

Attn: **Jeremiah Puget**

Work Order #: 1901061
Project: Mark West Quarry
Project #: [none]
P.O. Number:
Project Received: January 11, 2019 8:50
Project Reported: February 11, 2019 10:50

Sincerely,

Timea Majoros

Timea Majoros, Ph.D.
Laboratory Director / President

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
1901061-01	Culvert	Aqueous	January 8, 2019 13:38	January 11, 2019 8:50
1901061-02	Upstream	Aqueous	January 8, 2019 13:40	January 11, 2019 8:50
1901061-03	Mixed	Aqueous	January 8, 2019 13:42	January 11, 2019 8:50
1901061-04	Down 1	Aqueous	January 8, 2019 13:44	January 11, 2019 8:50
1901061-05	Down 2	Aqueous	January 8, 2019 13:46	January 11, 2019 8:50
1901061-06	Discharge	Aqueous	January 8, 2019 14:05	January 11, 2019 8:50

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

Sample Date: January 8, 2019 13:38

Sample: Culvert

1901061-01 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 11:13

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Wet Chemistry								
Total Suspended Solids	1.00		613	mg/L	1	1/11/19	SM 2540 D	19A0091/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:38

Sample: Culvert (Continued)
1901061-01 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 9:11

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Sediment Concentration by ASTM D3977								
Suspended Sediment Concentration, SSC	1.00		599	mg/L	1	1/11/19	ASTM D3977	19A0153/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:40

Sample: Upstream

1901061-02 (Aqueous)

Sample Type:
Prep Date: January 11, 2019 11:13

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Wet Chemistry								
Total Suspended Solids	1.00		85.0	mg/L	1	1/11/19	SM 2540 D	19A0091/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:40

Sample: Upstream (Continued)
1901061-02 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 9:11

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Sediment Concentration by ASTM D3977								
Suspended Sediment Concentration, SSC	1.00		84.0	mg/L	1	1/11/19	ASTM D3977	19A0153/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:42

Sample: Mixed

1901061-03 (Aqueous)

Sample Type:
Prep Date: January 11, 2019 11:13

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Wet Chemistry								
Total Suspended Solids	1.00		856	mg/L	1	1/11/19	SM 2540 D	19A0091/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:42

Sample: Mixed (Continued)
1901061-03 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 9:11

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Sediment Concentration by ASTM D3977								
Suspended Sediment Concentration, SSC	1.00		955	mg/L	1	1/11/19	ASTM D3977	19A0153/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:44

Sample: Down 1

1901061-04 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 11:13

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Wet Chemistry								
Total Suspended Solids	1.00		120	mg/L	1	1/11/19	SM 2540 D	19A0091/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:44

Sample: Down 1 (Continued)
1901061-04 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 9:11

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Sediment Concentration by ASTM D3977								
Suspended Sediment Concentration, SSC	1.00		121	mg/L	1	1/11/19	ASTM D3977	19A0153/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:46

Sample: Down 2

1901061-05 (Aqueous)

Sample Type:
Prep Date: January 11, 2019 11:13

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Wet Chemistry								
Total Suspended Solids	1.00		102	mg/L	1	1/11/19	SM 2540 D	19A0091/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 13:46

Sample: Down 2 (Continued)
1901061-05 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 9:11

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Sediment Concentration by ASTM D3977								
Suspended Sediment Concentration, SSC	1.00		108	mg/L	1	1/11/19	ASTM D3977	19A0153/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 14:05

Sample: Discharge
1901061-06 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 11:13

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Wet Chemistry								
Total Suspended Solids	1.00		2890	mg/L	1	1/11/19	SM 2540 D	19A0091/MG

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Sample Results

(Continued)

Sample Date: January 8, 2019 14:05

Sample: Discharge (Continued)
1901061-06 (Aqueous)
Sample Type:
Prep Date: January 11, 2019 9:11

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
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Sediment Concentration by ASTM D3977

Suspended Sediment Concentration, SSC	1.00		2880	mg/L	1	1/11/19	ASTM D3977	19A0153/MG
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WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Quality Control
Wet Chemistry
Prepared & Analyzed: Jan-11-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
Batch: 19A0091										
Analyst: MG										
Blank (19A0091-BLK1)										
Total Suspended Solids		ND		1.00	mg/L					
LCS (19A0091-BS1)										
Total Suspended Solids		1950		1.00	mg/L	2000	97.5	80-120		
LCS Dup (19A0091-BSD1)										
Total Suspended Solids		1990		1.00	mg/L	2000	99.7	80-120	2.23	20
Duplicate (19A0091-DUP1)										
Source: 1901060-01										
Total Suspended Solids	20.3	19.9		1.00	mg/L				2.04	20

WORK ORDER: 1901061
COC Number:
Water Board

 2005 Nimbus Road
 Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:
Project Manager: Jeremiah Puget

Project #: [none]

Quality Control
 (Continued)

Sediment Concentration by ASTM D3977
Prepared & Analyzed: Jan-11-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
Batch: 19A0153										
Analyst: MG										
Blank (19A0153-BLK1)										
Suspended Sediment Concentration, SSC		ND		1.00	mg/L					
LCS (19A0153-BS1)										
Suspended Sediment Concentration, SSC		1950		20.0	mg/L	2000	97.5	80-120		
LCS Dup (19A0153-BSD2)										
Suspended Sediment Concentration, SSC		1990		20.0	mg/L	2000	99.7	80-120		20

WORK ORDER: 1901061

COC Number:

Water Board

2005 Nimbus Road
Ranch Cordova, CA 95670

Project: Mark West Quarry

PO Number:

Project Manager: Jeremiah Puget

Project #:[none]

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.
%REC	Percent Recovery
DF	Dilution Factor
LCS	Lab Control Sample
LCSD	Lab Control Sample Duplicate
MDL	Minimum Detection Limit
MRL	Minimum Reporting Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated
J	Results > MDL but < MRL

Attachment 3

January 16, 2019

Inspection Memo

North Coast Regional Water Quality Control Board

Name and Location of Facility Inspected Mark West Quarry, 4611 Porter Creek Road, Santa Rosa CA Industrial General Permit WDID #: 1 491009813 App ID: 178843		Inspection Date January 16, 2019	Inspection Time 10:45 am
Names & Titles of Operator and Site Contact Dean Soiland Anthony Boyle Bryan Goodrich		Consent Provided? Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Notified of Inspection? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Inspector Name & Title Paul Nelson, P.G., C.Hg. Engineering Geologist, Regional Water Board Imtiaz-Ali Kalyan Water Resources Control Engineer, Regional Water Board *Referred to as inspection team			
Weather Conditions at the Time of the Inspection: Raining		Facility Receiving Water Names: Porter Creek	
Prepared By: Paul Nelson, P.G., C.Hg., 1/24/2019			

I. Background

The Mark West Quarry is on an unincorporated 120-acre site located at 4611 Porter Creek Road in eastern Sonoma County, California. The latitude and longitude are 38.55256°N and 122.65312°W. The facility operations consist of hard rock mining and materials processing.

This project is a Level 2 site for Total Suspended Solids under the Industrial General Permit due to a high sediment risk factor for discharges to tributaries of the Russian River. The Russian River is identified as impaired on the Clean Water Act Section 303(d) list for sediment and temperature.

II. Inspection Narrative

On January 16, 2019, Regional Water Board staff (inspection team) arrived at the site to perform a follow-up inspection. The inspection was conducted from a publicly accessible area along Porter Creek Road. The inspection team observed turbid water discharging from the eastern culvert to Porter Creek. The water was a greyish tan color indicative of elevated levels of suspended sediment. Porter Creek at the discharge location was discolored (compared to upstream) at the zone of mixing. These observations were consistent with the conditions that were observed during the January 9, 2019 inspection.

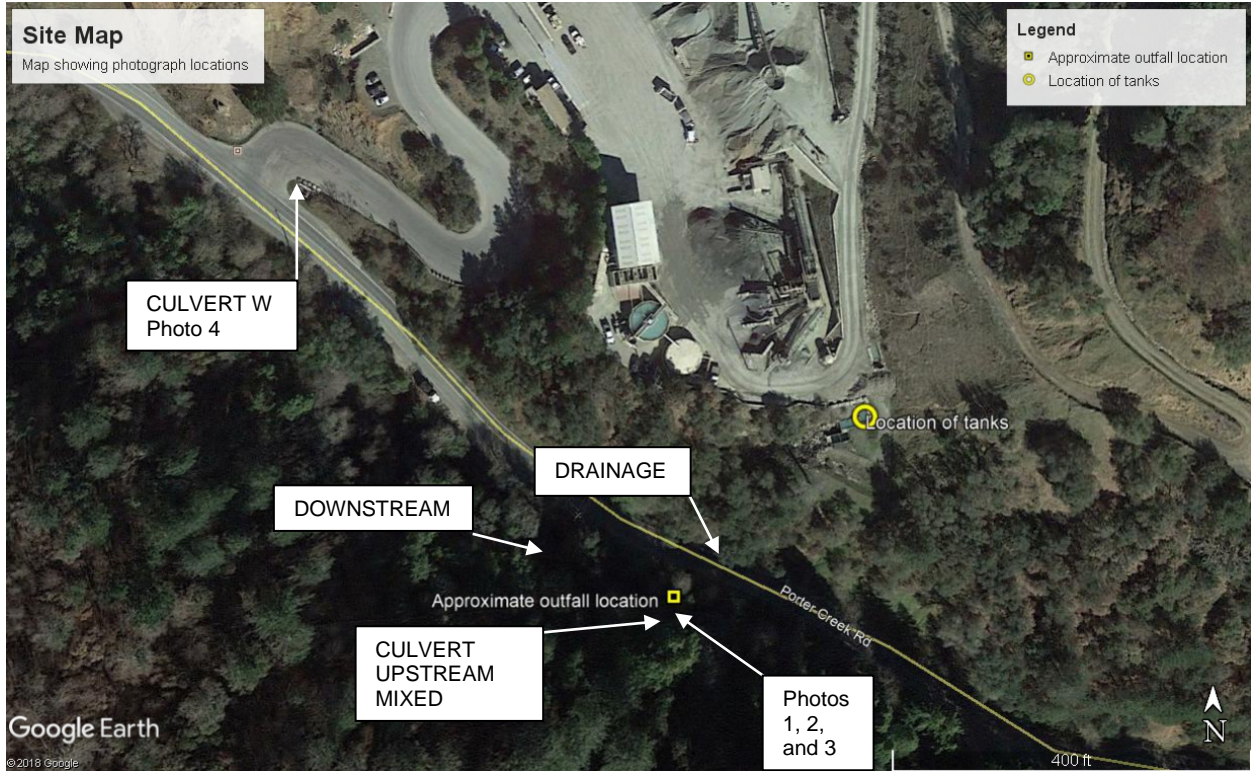
The inspection team proceeded to collect water samples from the area of discharge (see site map below) and the western discharge location (CULVERT W). The water samples were collected directly from the culvert discharges and Porter Creek using a sample dipper and laboratory-supplied sample containers. The samples were logged on a chain of custody form and placed under secured refrigerated conditions pending analysis at the Regional Water Board laboratory for turbidity.

The analytical results for the water samples are summarized in the following table.

TABLE A

Sample ID	Location Description	TURBIDITY ⁽¹⁾ (NTU)
CULVERT	Discharge from eastern outfall to Porter Creek	887
UPSTREAM	Receiving water approx. 40' upstream of eastern outfall	23.5
MIXED	Within discharge/receiving water mixing zone	164
DOWNSTREAM	Receiving water approx. 50' downstream of eastern outfall	46.2
DRAINAGE	Drainage from settling tanks upstream of CULVERT	1,002
CULVERT W	Discharge from culvert on west side of site	197

⁽¹⁾ = Analyzed in Regional Water Board laboratory using a Hach 2100N meter
NTU – Nephelometric turbidity units



Site Map showing sample and photograph locations.



Photo 1: East culvert discharge to Porter Creek looking downstream (west). Note mixing zone at left side of photograph. Photographed by Paul Nelson.



Photo 2: East culvert discharge to Porter Creek looking south from Porter Creek Road. Elevated sediment content is evident in the discharging water and confirmed by the analytical results. Photographed by Paul Nelson.



Photo 3: View downstream from east culvert (west). Turbid water mixing with streamflow. Photographed by Paul Nelson.



Photo 4: View of west culvert (CULVERT W) and settling structure. Turbid water evident in outfall and confirmed by turbidity results. Photographed by Paul Nelson.

Attachment 4

February 13, 2019

Inspection Memo

The inspection team proceeded to collect water samples from the areas of discharge (see site map below). The water samples were collected directly from the culvert discharges and Porter Creek using a sample dipper and laboratory-supplied sample containers. The samples were logged on a chain of custody form and placed under secured refrigerated conditions pending analysis at the Regional Water Board laboratory for turbidity.

The analytical results for the water samples are summarized in the following table.

TABLE A

Sample ID	Location Description	TURBIDITY ⁽¹⁾ (NTU)
CULVERT	Discharge from outfall to Porter Creek	578
UPSTREAM	Receiving water approx. 40' upstream of outfall	46
MIXED	Within discharge/receiving water mixing zone	390
DOWNSTREAM	Receiving water approx. 50' downstream of outfall	56
DRAINAGE	Drainage from settling tanks upstream of CULVERT	686
EAST DRAINAGE	Discharge from site approximately 1,100 feet southeast of entrance	586

⁽¹⁾ = Analyzed in Regional Water Board laboratory using a Hach 2100N meter
NTU – Nephelometric turbidity units



Site Map showing sample and photograph locations.



Photo 1: East culvert discharge to Porter Creek looking from Porter Creek Road. Note mixing zone in central portion of photograph. Photographed by Paul Nelson.



Photo 2: East culvert discharge to Porter Creek looking upstream. Elevated sediment content is evident in the discharging water and confirmed by the turbidity measurements. Photographed by Paul Nelson.



Photos 3 and 4: View of eastern drainage. Water bypassing drop inlet and flowing along roadway. Photographed by Paul Nelson.



Photo 5: View of culvert and confluence of water from east drainage. Turbid water evident in drainage and confirmed by turbidity results. Photographed by Paul Nelson.